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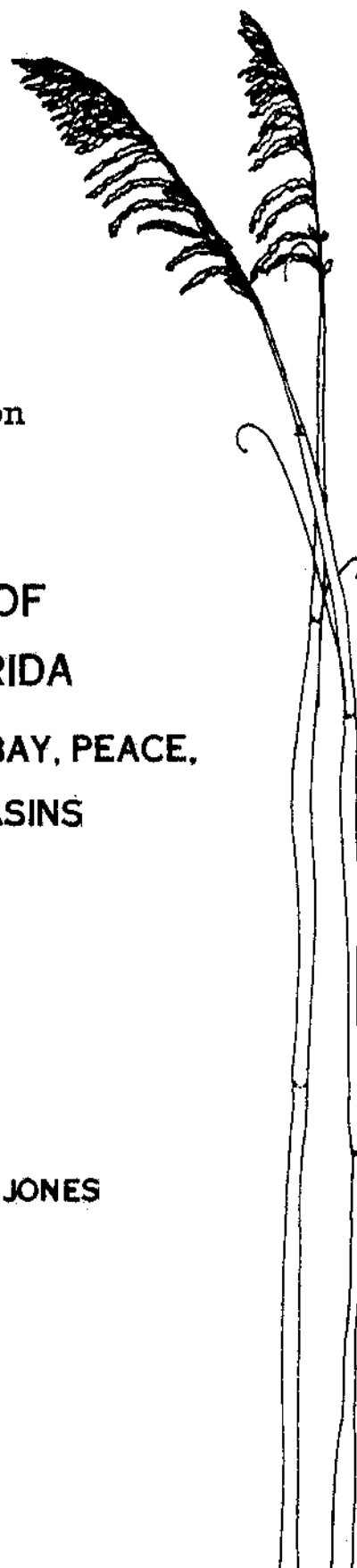
December 1979

State of Florida  
Department of  
Environmental Regulation

**BIOLOGICAL ASPECTS OF  
WATER QUALITY IN FLORIDA**

**PART III: WITHLACOOCHEE, TAMPA BAY, PEACE,  
AND KISSIMMEE DRAINAGE BASINS**

**EDITED BY  
LANDON T. ROSS AND DOUGLAS A. JONES**



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BIOLOGICAL ASPECTS OF WATER QUALITY  
IN FLORIDA

(Part III: Withlacoochee, Tampa Bay,  
Peace, and Kissimmee Drainage Basins)

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(See Part I for introduction, methods, and related material.)

## WITHLACOOCHEE DRAINAGE BASIN

The Withlacoochee Drainage Basin includes approximately 2800 square miles of the west central part of peninsular Florida. The Withlacoochee River rises in Polk County and flows northwestward to the Gulf of Mexico. Although this sub-basin includes approximately 2000 square miles of the basin, much of it lacks any well developed surface drainage. The remainder of the basin is drained by the Waccasassa River which originates in a swamp in Gilchrist County and flows southward to the Gulf. The entire basin is underlain by the Floridan aquifer which contributes groundwater to the surface streams.

### Withlacoochee River Sub-basin

Station 23.01.0458 is east of Dade City at the River Road bridge. It was sampled for natural substrate macroinvertebrates three times during 1976-78. Diversities were good, with pasture runoff the only significant pollution source. Also, large mats of waterhyacinths occasionally accumulated above the bridge.

The Withlacoochee River near Lacoochee, station 23.01.0455, at SR 575, is subject to citrus processing and domestic wastes as well as pasture runoff. The citrus plant has improved its effluent and field biologists have noted apparent water quality improvement. Macroinvertebrate diversity data indicated that this station had a fairly healthy community but trend analyses were conflicting. Natural substrate diversities showed a significant improvement during the period 1974-76 while artificial substrates had significantly declining diversities from 1975-78. Flow in this part of the stream is extremely variable; water levels can vary over 2 meters. Flow rate can range from none to quite fast - enough to scour the bottom. It is possible that more frequent and long term sampling would provide enough data to mitigate the effects of flow on the diversity numbers and confirm or deny the subjective analysis. Also, with two exceptions, bacteria counts were within Class III bacteria standards.

Station 23.01.0038 is on the Withlacoochee River near Holder (SR 200). All three macroinvertebrate sampling methods indicated generally good macroinvertebrate diversity. Trend analyses were again conflicting. Natural substrate macroinvertebrate diversities had a downward trend, artificial substrate diversities showed improvement, and Biotic Index numbers displayed no significant change. Flow was also variable at this station and probably contributed to sampling errors and inconsistent trends. Further monitoring will presumably help to clear up some of the questions about macroinvertebrates. Bacteria counts were normally low.

Blue Run, station 23.01.0054, at SR 484, flows from Rainbow Springs (and the Rainbow River) to the Withlacoochee River at Dunnellon. Macroinvertebrate analyses suggested good water quality at the station. Also, bacteria levels were acceptable.



Station 23.01.0036 is on the Withlacoochee River at US 41 in Dunnellon, downstream from the confluence with Blue Run. Macroinvertebrate diversity appeared to be generally good. Also, bacteria counts were fairly low when sampled.

Station 23.01.0030 is on the Withlacoochee River below the dam at Inglis which forms Lake Rousseau. Although the stream bed is natural at the station, water level manipulation at the dam probably affects the stream biota. Macroinvertebrate diversities were good and no significant trend was displayed by either natural or artificial substrates during the report period. Biotic Index numbers were somewhat variable, but showed a significant decline. It is possible that this reflects some loss of habitat diversity in the littoral zone of the stream since many shoreline plants require periodic extremes of high and/or low water to compete with other plants, and water level manipulation prevents these extremes. More comprehensive study would be necessary to verify this. Bacteria concentrations were usually low during the period of record.

#### Waccasassa River Sub-basin

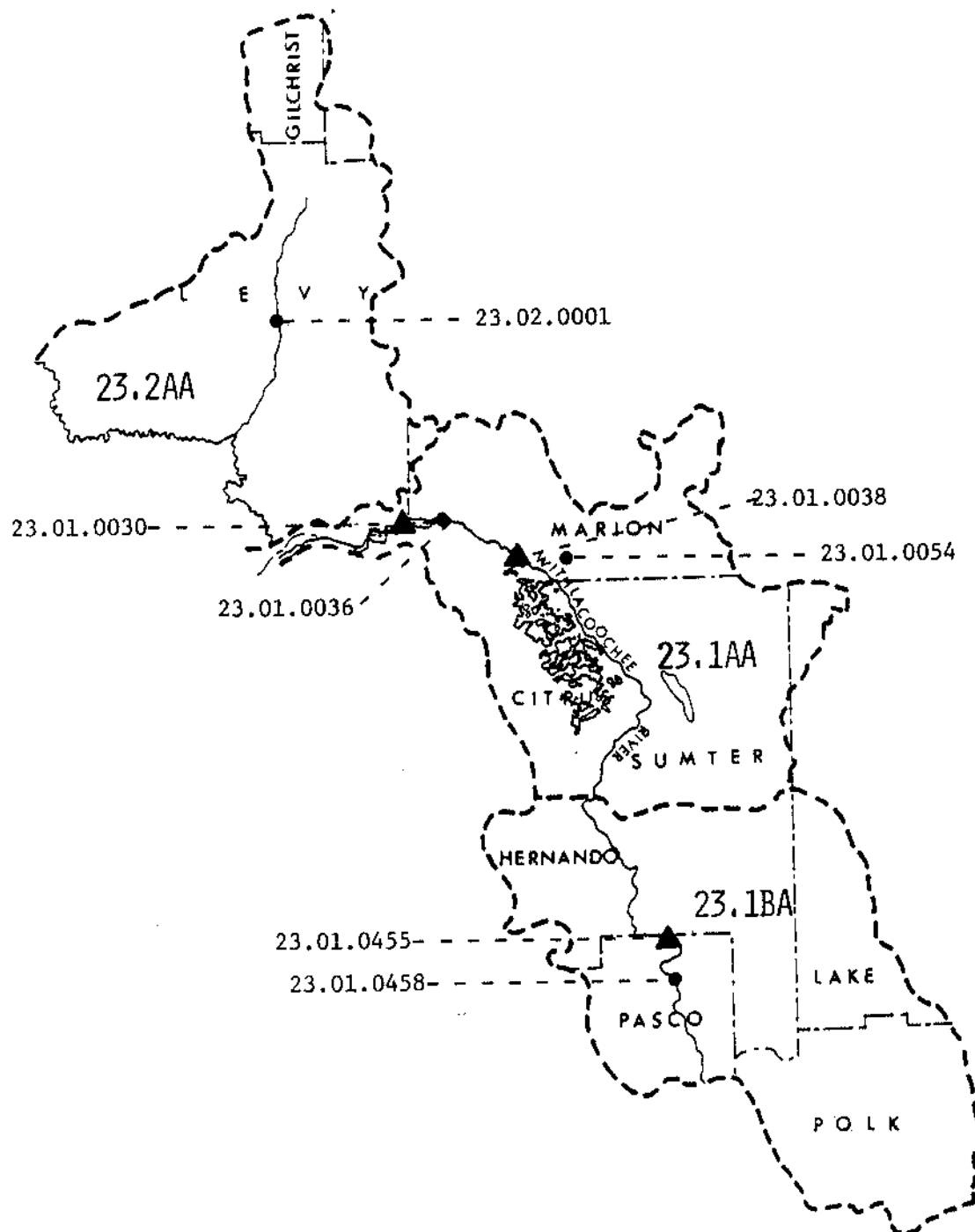
This sub-basin is represented by one station, 23.02.0001, on the Waccasassa River at US 19, near Gulf Hammock. It was sampled three times for natural substrate macroinvertebrates between December 1975 and January 1978. Diversities were fairly good, but lower than might be expected for an unpolluted river. Probably, it is a natural community associated with slow flowing swamp drainage.

#### Summary

During the report period, the Withlacoochee River exhibited apparently good water quality at all stations along its length according to biological analyses. Macroinvertebrate analyses were variable, probably due to variable flow which also may have contributed to inconclusive trend analyses. Although the Lacoochee station had apparently (i.e. visually) improved, the macroinvertebrate trends were conflicting for the three types of analyses. The Holder station also had conflicting regression results. Only Biotic Index values displayed a significant trend - downward - at the Inglis station and that may have been due to water level manipulation and loss of some littoral zone vegetation.

Waccasassa River macroinvertebrate diversity was fairly good, although perhaps a little low due to natural effects of swamp drainage (i.e., occasionally low flow, low D.O.).

# WITHLACOOCHEE RIVER BASIN



Station No. 23.01.0030 Body of Water Withlacoochee River

Location immediately downstream of Inglis Reservoir Dam

County Marion

Type Body of Water stream Classification III

Sources of Pollution none

Nearby Land Use natural

Sampling Frequency quarterly Depth 0.3 - 3.4 m

Bottom Type sand, shell % Volatile Solids

Aquatic Plants: Submerged Hydrilla verticillata, Ceratophyllum sp.,

Ludwigia sp. Emergent Eichhornia crassipes, Hydrocotyle umbellata,

Myriophyllum sp., Salix sp., Peltandra virginica, Bidens sp.

#### Macroinvertebrates:

##### Cnidaria

Cordylophora sp.

Hydra sp.

##### Platyhelminthes

###### Turbellaria

unident. sp.

##### Nematoda

unident. sp.

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri

Stylaria lacustris

unident. lumbriculid

unident. tubificid

##### Hirudinea

Batrachobdella phalera

Dina sp. 1 - Pearce

Helobdella sp.

H. papillata

unident. glossiphoniid

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Pearce  
A. militaris  
Sphaeroma sp. 1 - Pearce

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus  
unident. astacid

Insecta

Odonata

Argia fumipennis  
A. sedula  
Aphylla williamsoni  
Dromogomphus spinosus  
Enallagma sp.  
Epicordulia princeps  
Gomphus plagiatus  
G. (Gomphus) minutus  
Hetaerina titia  
Ischnura sp.  
Macromia illinoiensis  
M. taeniolata  
Libellula sp.  
cf. Nehalennia sp. 1 - Pearce  
Neurocordulia alabamensis  
Tetragoneuria sp.

Ephemeroptera

Baetis australis  
B. spinosus  
Brachycercus maculatus  
Caenis diminuta  
C. floridanus  
Centroptilum viridocularis  
Pseudocloeon parvulum  
Stenonema exiguum  
S. smithae  
Stenacron interpunctatum  
Tricorythodes albilineatus

Hemiptera

Metrobates sp. 1 - Resico  
Pelocoris sp. 1 - Howton  
Ranatra sp. 1 - Howton  
Velia sp. 1 - Howton

Trichoptera

Agraylea sp. 1 - Pearce  
Cheumatopsyche sp. 1 - Dalton  
Cyrnellus sp. 1 - Dalton  
C. fraternus  
Hydropsyche sp. 1 - Cantrell  
Hydroptila sp.  
Leptocella sp.  
Leptocerus americanus  
Neureclipsis sp.  
Oecetis sp.  
Orthotrichia sp. 1 - Dalton  
Oxyethira sp. 1 - Pearce  
Polycentropus sp.  
Simulium sp. 1 - Dalton  
Stactobiella sp.  
Triaenodes injusta

Megaloptera

Corydalus cornutus

Lepidoptera

Nymphula sp. 1 - Dalton

Diptera

Ablabesmyia sp.  
A. parajanta  
Atherix sp.  
Brillia par  
Chironomus attenuatus  
C. carus  
Cladotanytarsus sp. 1 - Cantrell  
Clinotanypus sp. 1 - Cantrell  
Coelotanypus tricolor  
C. scapularis  
C. concinnus  
Conchapelopia sp.  
Cricotopus bicinctus  
C. remus  
C. sp. 1 - Cantrell  
Cryptochironomus blarina  
C. fulvus  
Dicrotendipes modestus  
D. neomodestus  
D. lobus  
Eulalia sp. 1 - Pearce  
Harnischia sp.  
Hemerodromia sp.  
Kiefferulus dux  
Nilotanypus sp.  
Odontomyia sp.

Diptera (cont.)

Parachironomus monochromus  
P. schneideri  
Paratanytarsus sp.  
Paralauterborniella sp.  
Phaenopsectra sp.  
Pentaneura inculta  
Polypedilum halterale  
P. illinoense  
P. convictum  
Procladius sp. 1 - Cantrell  
Psectrocladius sp.  
P. vernalis  
Pseudochironomus sp. 1 - Pearce  
Rheotanytarsus exiguus  
Stenochironomus sp.  
Tanytarsus sp. 1 - Cantrell  
T. sp. 3 - Cantrell  
Thienemanniella sp.  
Tipula sp. 1 - Pearce  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 3 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell  
unident. culicid  
unident. dolichopodid

Coleoptera

Dubiraphia quadrinotata  
Hydroporus sp. 1 - Howton  
Stenelmis fuscata

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Goniobasis sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Melanoides tuberculata  
Physa sp. 1 - Pearce  
Planorbula sp.  
Pomacea sp. 1 - Pearce  
Pseudosuccinea sp.  
unident. hydrobiid sp. 1 - Pearce

Pelecypoda

Corbicula manilensis  
Mytilopsis leucophaeta  
Sphaerium sp. 1 - Pearce  
Unio merus tetralasmus  
unident. unionid

Bryozoa

unident. sp.

DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                         | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|---------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                                         |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                                         |                                              |                                  |       |          |
|                |           | Co                 |             |       |                      |             |       |              |       |                                                                                                         |                                              |                                  |       |          |
| 23.01.0030     | 30 Oct 73 |                    |             |       |                      |             |       |              |       |                                                                                                         |                                              | 580                              |       |          |
|                | 28 Nov 73 | 3.521±0.304        | 0.115±0.041 | 17    |                      |             |       | 18           | 28    | Loc BG 278<br>P11 BG 0<br>Coc Gr 0<br>Tr Flag 28<br>Other Flag 0<br>Den Dia 0<br>Pen Dia 0<br>Total 399 |                                              | 61                               | 4     |          |
|                | 11 Dec 73 |                    |             |       |                      |             |       |              |       |                                                                                                         |                                              |                                  |       |          |
|                | 15 Jan 74 |                    |             |       |                      |             |       |              |       |                                                                                                         |                                              |                                  |       |          |
|                | 5 Feb 74  |                    |             |       |                      |             |       |              |       |                                                                                                         |                                              |                                  |       |          |
|                | 20 Feb 74 | 2.561±0.037        | 0.236±0.010 | 15    | 2.244±0.044          | 0.206±0.008 | 15    | 27           | 41    |                                                                                                         |                                              |                                  | 0     |          |
|                | 5 Mar 74  |                    |             |       |                      |             |       |              |       |                                                                                                         |                                              |                                  |       |          |
|                | 2 Apr 74  |                    |             |       |                      |             |       |              |       |                                                                                                         |                                              |                                  |       |          |

See Methods for explanation of table.

**DATA SUMMARY: Withlacoochee River**

[illegible]

See Methods for explanation of table.



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| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                  | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |    | Comments |    |  |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|----|----------|----|--|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                                                  |                                              |                                  |    |          |    |  |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                  |                                              |                                  |    |          |    |  |
|                |           |                    |             |       |                      |            |       |              |       |                                                                                                                  |                                              |                                  |    |          |    |  |
| 23, 01, 00 30  | 5 Nov 74  |                    |             |       |                      |            |       |              |       |                                                                                                                  |                                              |                                  | 40 | 20       |    |  |
|                | 2 Dec 74  |                    |             |       |                      |            |       |              |       |                                                                                                                  |                                              |                                  |    | 30       |    |  |
|                | 18 Dec 74 | 3.235±0.048        | 0.110±0.006 | 22    |                      |            |       | 14           | 26    | Coc BG 0<br>Fll BG 0<br>Coc Gr 0<br>Fll Gr 0<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 0<br>Pen Dia 28<br>Total 28 |                                              |                                  |    |          |    |  |
|                | 7 Jan 75  |                    |             |       |                      |            |       |              |       |                                                                                                                  |                                              |                                  |    |          | 10 |  |
|                | 4 Feb 75  | 2.224±0.220        | 0.348±0.061 | 14    |                      |            |       | 14           | 34    | Coc BG 0<br>Fll BG 0<br>Coc Gr 0<br>Fll Gr 0<br>Gr Flag 28<br>Other Flag 0                                       |                                              |                                  |    |          |    |  |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
| 23.01.0030<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><b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|      |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number | Date                | Macroinvertebrates |             |       |                      |             |       | Biotic Index |                     | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                         | Coliform Bacteria Colonies/100ml |    | Comments |
|----------------|---------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|---------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----|----------|
|                |                     | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                     |                                                 |                                                                                                                                      |                                  |    |          |
|                |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp.               |                                                 |                                                                                                                                      |                                  |    |          |
|                |                     |                    |             |       |                      |             |       |              |                     |                                                 |                                                                                                                                      |                                  |    |          |
| 23.01.0030     | 2 Sep 75<br>(cont.) |                    |             |       |                      |             |       |              | 25<br>Pen Dia<br>92 |                                                 |                                                                                                                                      |                                  |    |          |
|                | 30 Sep 75           |                    |             |       |                      |             |       |              |                     |                                                 |                                                                                                                                      | 30                               | 10 |          |
|                | 19 Nov 75           | 2.508±0.066        | 0.161±0.010 | 12    |                      |             |       |              |                     |                                                 |                                                                                                                                      | 0                                | 0  |          |
|                | 2 Dec 75            |                    |             |       | 1.660±0.082          | 0.360±0.016 | 15    | 18           | 35                  |                                                 | Coc BG 0<br>FII BG 1700<br>Coc GR 600<br>FII Gr 600<br>Gr Flag 600<br>Other Flag 400<br>Cen Dia 3700<br>Pen Dia 60900<br>Total 68500 |                                  |    |          |
|                | 26 Feb 76           | 3.021±0.193        | 0.150±0.032 | 18    |                      |             |       |              |                     |                                                 |                                                                                                                                      |                                  |    |          |

See Methods for explanation of table.

## DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                    | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |    | Comments |
|----------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|----|----------|
|                |           | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                                                                                    |                                              |                                  |    |          |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. | B1           | #Spp. |                                                                                                                    |                                              |                                  |    |          |
|                |           |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                              |                                  |    |          |
| 23.01.0030     | 2 Mar 76  |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                              | 20                               | 40 |          |
|                | 6 Apr 76  |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                              | 30                               |    |          |
|                | 25 May 76 | 2.790±0.197        | 0.184±0.040 | 16                   |           |            |       |              |       |                                                                                                                    |                                              | 140                              |    |          |
|                | 6 Jul 76  |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                              |                                  |    |          |
|                | 13 Jul 76 | 2.794±0.170        | 0.179±0.033 | 16                   |           |            |       | 20           | 33    |                                                                                                                    |                                              | 260                              | 3  |          |
|                | 7 Sep 76  |                    |             |                      |           |            |       |              |       | Coc BG 1<br>Fil BG LTL<br>Coc Gr 1<br>Fil Gr 1<br>Gr Flag 0<br>Orth. Flag LTL<br>Zen Dia 1<br>Pen Dia 1<br>Total 5 |                                              | 70                               | 5  |          |
|                | 5 Oct 76  |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                              |                                  |    |          |

See Methods for explanation of table.

DATA SUMMARY: Withlaroochee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                      | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |                                                 |                                                                                                                                   | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |                                                 |                                                                                                                                   |                                  |       |          |
|                |           |                    |             |       |                      |             |       |                                                 |                                                                                                                                   |                                  |       |          |
| 23.01.0030     | 2 Nov 76  | 3.099±0.243        | 0.131±0.042 | 15    | 2.620±0.162          | 0.148±0.029 | 12    |                                                 |                                                                                                                                   | 125                              | 10    |          |
|                | 7 Dec 76  |                    |             |       |                      |             |       |                                                 |                                                                                                                                   | 780                              | 10    |          |
|                | 11 Jan 77 |                    |             |       |                      |             |       | 26                                              | 42                                                                                                                                | 105                              | 20    |          |
|                | 7 Feb 77  | 2.648±0.208        | 0.138±0.033 | 11    |                      |             |       |                                                 |                                                                                                                                   | 60                               | 5     |          |
|                | 7 Mar 77  |                    |             |       |                      |             |       |                                                 |                                                                                                                                   | 240                              | 10    |          |
|                | 12 Apr 77 | 2.148±0.184        | 0.230±0.035 | 11    | 2.042±0.157          | 0.259±0.042 | 10    |                                                 |                                                                                                                                   | 240                              | 10    |          |
|                | 10 May 77 |                    |             |       |                      |             |       |                                                 | Coec BG: LT1<br>FII BG: LT1<br>Coec Gr: 4<br>FII Gr: LT1<br>Gr Flag: LT1<br>Oth Flag: 0<br>Coec Dia: 2<br>Pen Dia: 4<br>Total: 11 | 30                               | LT10  |          |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                   | Coliform Bacteria Colonies/100ml |       | Comments      |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------|-------|---------------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                                                                                | Total                            | Fecal |               |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                                                                                |                                  |       |               |
|                |           |                    |             |       |                      |             |       |              |                                                 |                                                                                                |                                  |       |               |
| 23-01-0030     | 8 Aug 77  | 3.302±0.245        | 0.133±0.030 | 29    | 3.022±0.717          | 0.158±0.027 | 19    |              |                                                 | Coc BG 328656<br>P11 BG 5700<br>Coc Gr 53059<br>Cen Dia 10305<br>Pen Dia 29160<br>Total 426880 | 60                               |       |               |
|                | 10 Oct 77 | 2.247±0.349        | 0.364±0.062 | 15    |                      |             |       |              |                                                 |                                                                                                | 290                              | LT100 | Florida Index |
|                | 7 Nov 77  |                    |             |       |                      |             |       | 10           | 27                                              |                                                                                                | 180                              |       |               |
|                | 5 Dec 77  |                    |             |       |                      |             |       |              |                                                 |                                                                                                | 50                               | 40    |               |
|                | 16 Jan 78 | 3.481±0.258        | 0.108±0.034 | 18    | 1.727±0.339          | 0.532±0.117 | 10    |              |                                                 |                                                                                                | LT10                             | LT10  |               |
|                | 13 Feb 78 |                    |             |       |                      |             |       |              |                                                 |                                                                                                | 1710                             | LT10  |               |
|                | 11 Apr 78 | 2.443±0.279        | 0.281±0.061 | 15    |                      |             |       | 9            | 25                                              |                                                                                                | 100                              | LT10  |               |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

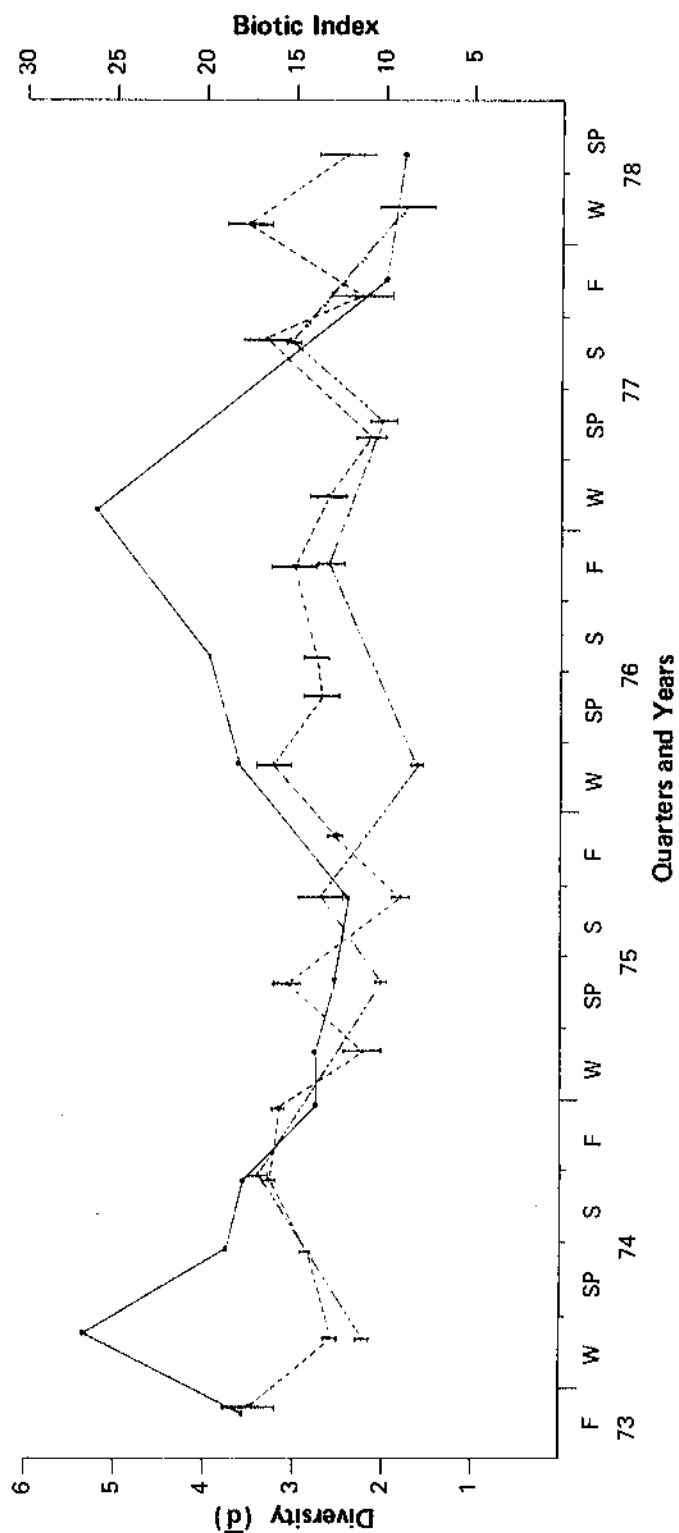
| Station Number | Date     | Macroinvertebrates |            |       |                      |            |       |    |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|----------|--------------------|------------|-------|----------------------|------------|-------|----|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |          | Natural Substrate  |            |       | Artificial Substrate |            |       | BI | #Spp. |                                                 |                                              | Total                            | Fecal |          |
|                |          | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |    |       |                                                 |                                              |                                  |       |          |
|                |          |                    |            |       |                      |            |       |    |       |                                                 |                                              |                                  |       |          |
| 23.01.0030     | 8 May 78 |                    |            |       |                      |            |       |    |       |                                                 | 30                                           | 81                               |       |          |
|                | 6 Jun 78 |                    |            |       |                      |            |       |    |       |                                                 | 210                                          |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 23.01.0030  
 BODY OF WATER: WITHLACOOCHIEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)





Station No. 23.01.0036 Body of Water Withlacoochee River

Location at Dunnellon, bridge at U.S. Hwy. 41

County Marion-Citrus line

Type Body of Water river Classification III

Sources of Pollution domestic wastes

Nearby Land Use agricultural and low-density residential, majority natural

Sampling Frequency annual Depth 0.1 - 6.5 m

Bottom Type sand, some detritus % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged Hydrilla verticillata, Ceratophyllum sp., Eleocharis sp.,  
Vallisneria sp. Emergent Pistia stratiotes, Eichhornia crassipes,

Sagittaria sp., Hydrocotyle sp., Panicum sp., Salvinia sp., Typha sp., Pontederia sp.,

Macroinvertebrates: Nuphar sp.

Platyhelminthes

Turbellaria

unident. sp.

Nematoda

unident. sp.

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Tubifex sp.

unident. lumbriculid

unident. tubificid

Hirudinea

unident. sp.

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Pearce

Cyathura polita

Amphipoda

Gammarus sp. 2 - Pearce

Hyalella azteca

Decapoda

Palaemonetes paludosus

Insecta

Odonata

Aphylla williamsoni  
Argia sedula  
Enallagma sp.  
Epicordulia princeps  
Gomphus plagiatus  
G. pallidus  
Libellula sp.  
Macromia illinoiensis  
Neoneura sp.  
Neurocordulia virginienensis  
Tetragoneuria cynosura

Ephemeroptera

Baetis australis  
B. smithi  
B. spinosus  
Brachycercus maculatus  
Caenis diminuta  
C. hiliaris  
Callibaetis floridanus  
Hexagenia munda elegans  
Pseudocloeon alachua  
Stenonema exiguum  
Stenacron interpunctatum  
Tricorythodes albilineatus

Hemiptera

Belostoma sp. 1 - Howton  
cf. Gerris sp. 1 - Howton  
Metrobates sp. 1 - Resico  
Ranatra sp. 1 - Howton

Trichoptera

Agraylea sp. 1 - Pearce  
Cheumatopsyche sp. 1 - Dalton  
Cyrnellus sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Hydroptila sp. 1 - Dalton  
Leptocella sp. 1 - Pearce  
Leptocerus americanus  
Neureclipsis sp.  
Polycentropus sp.  
P. remotus  
Triaenodes injusta

## Lepidoptera

Nymphula sp. 1 - Dalton

## Diptera

Ablabesmyia mallochiA. ornataA. peleensisA. tarellaChaoborus punctipennisChironomus attenuatusC. carusC. stigmaterusCladotanytarsus sp. 1 - CantrellC. sp. 2 - CantrellParatanytarsus sp.Clinotanypus sp. 1 - CantrellCoelotanypus sp.Conchapelopia sp.Corynoneura sp.Cricotopus bicinctusCryptochironomus fulvusCryptotendipes sp. 1 - CantrellDicrotendipes modestusD. neomodestusD. lobusGlyptotendipes paripesHarnischia edwardsiiH. sp. 1 - PearceLabrundinia johannseniL. neopilosellaMicrotendipes sp. 1 - CantrellM. sp. 2 - CantrellOdontomyia sp.Orthocladius sp. 1 - CantrellParalauterborniella nigrohalteralisParatanytarsus sp.Pentaneura incultaPolypedilum fallaxP. halteraleP. illinoenseProcladius sp. 1 - CantrellPsectrocladius elatusPseudochironomus sp. 1 - PearceRheotanytarsus exiguusStenochironomus hilarisStichtochironomus devinctusTanytus carinatusTanytarsus sp. 1 - CantrellT. sp. 2 - CantrellThienemanniella sp.Tribelos sp.unident. ceratopogonid sp. 1 - Cantrellunident. empidid

Coleoptera

unident. elmid

unident. gyrinid

Arachnida

Acarina

4 unident. spp.

Mollusca

Gastropoda

Campeloma sp.

Ferrissia sp. 1 - Pearce

Goniobasis floridensis

Gyraulus sp. 1 - Pearce

Helisoma sp. 1 - Pearce

Melanoides tuberculata

Physa sp. 1 - Pearce

Pomacea sp. 1 - Pearce

Pseudosuccinea sp. 1 - Pearce

Viviparus cf. georgianus

unident. bithyniid

unident. hydrobiid sp. 1 - Pearce

Pelecypoda

Corbicula manilensis

unident. sphaeriid

DATA SUMMARY: Withlacoochee River

| Station Number | Date      | MacroInvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                              | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |    | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|----------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|----|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                              |                                              |                                  |    |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                              |                                              |                                  |    |          |
|                |           |                    |             |       |                      |             |       |              |       |                                                                                              |                                              |                                  |    |          |
| 22             |           |                    |             |       |                      |             |       |              |       |                                                                                              |                                              |                                  |    |          |
| 23-01-0036     | 30 Oct 73 |                    |             |       |                      |             |       |              |       |                                                                                              |                                              | 326                              | 0  |          |
|                | 28 Nov 73 | 3.60±0.293         | 0.155±0.044 | 24    |                      |             |       | 16           | 33    | Loc BG<br>F11 BG<br>Loc Gr<br>F11 GR<br>Gr Flag<br>Other Flag<br>Pen Dia<br>Pen Dia<br>Total | 389<br>0<br>56<br>0<br>0<br>0<br>111<br>556  | 161                              | 4  |          |
|                | 11 Dec 73 |                    |             |       |                      |             |       |              |       |                                                                                              |                                              | 136                              | 10 |          |
|                | 15 Jan 74 |                    |             |       |                      |             |       |              |       |                                                                                              |                                              | 20                               | 10 |          |
|                | 5 Feb 74  |                    |             |       |                      |             |       |              |       |                                                                                              |                                              | 50                               | 10 |          |
|                | 19 Feb 74 | 1.748±0.045        | 0.505±0.013 | 18    | 3.543±0.068          | 0.125±0.007 | 37    | 16           | 35    |                                                                                              |                                              |                                  |    |          |
|                | 5 Mar 74  |                    |             |       |                      |             |       |              |       |                                                                                              |                                              |                                  | 0  |          |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number   | Date      | Macroinvertebrates |             |       |                      |       |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                       | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |   | Comments |
|------------------|-----------|--------------------|-------------|-------|----------------------|-------|-------|--------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|---|----------|
|                  |           | Natural Substrate  |             |       | Artificial Substrate |       |       |              |                                                                                                                       |                                              |                                  |   |          |
|                  |           | Diversity          |             | #Spp. | Diversity            |       | #Spp. |              |                                                                                                                       |                                              |                                  |   |          |
|                  |           | Diversity          | Redundancy  |       | Redundancy           | #Spp. |       |              |                                                                                                                       |                                              |                                  |   |          |
| 23<br>23.01.0036 | 2 Apr 74  |                    |             |       |                      |       |       |              |                                                                                                                       |                                              | 10                               | 0 |          |
|                  | 30 Apr 74 |                    |             |       |                      |       |       |              |                                                                                                                       |                                              | 0                                | 0 |          |
|                  | 11 Jun 74 | 0.777±0.047        | 0.588±0.314 | 3     |                      |       | 11    | 28           |                                                                                                                       |                                              | 700                              |   |          |
|                  | 6 Aug 74  |                    |             |       |                      |       |       |              |                                                                                                                       |                                              |                                  |   |          |
|                  | 20 Aug 74 |                    |             |       |                      |       |       |              |                                                                                                                       |                                              |                                  |   |          |
|                  | 3 Sep 74  | 3.128±0.038        | 0.110±0.006 | 16    |                      |       | 22    | 46           | Coc BG 95<br>F11 BG 0<br>Coc GR 110<br>F11 Gr 0<br>Gr Flag 6<br>Other Flag 0<br>Cen Dia 25<br>Pen Dia 81<br>Total 308 |                                              | 160                              | 1 |          |
|                  | 18 Dec 74 |                    |             |       |                      |       |       |              | Cen Dia 111<br>Pen Dia 111<br>Total 222                                                                               |                                              |                                  |   |          |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

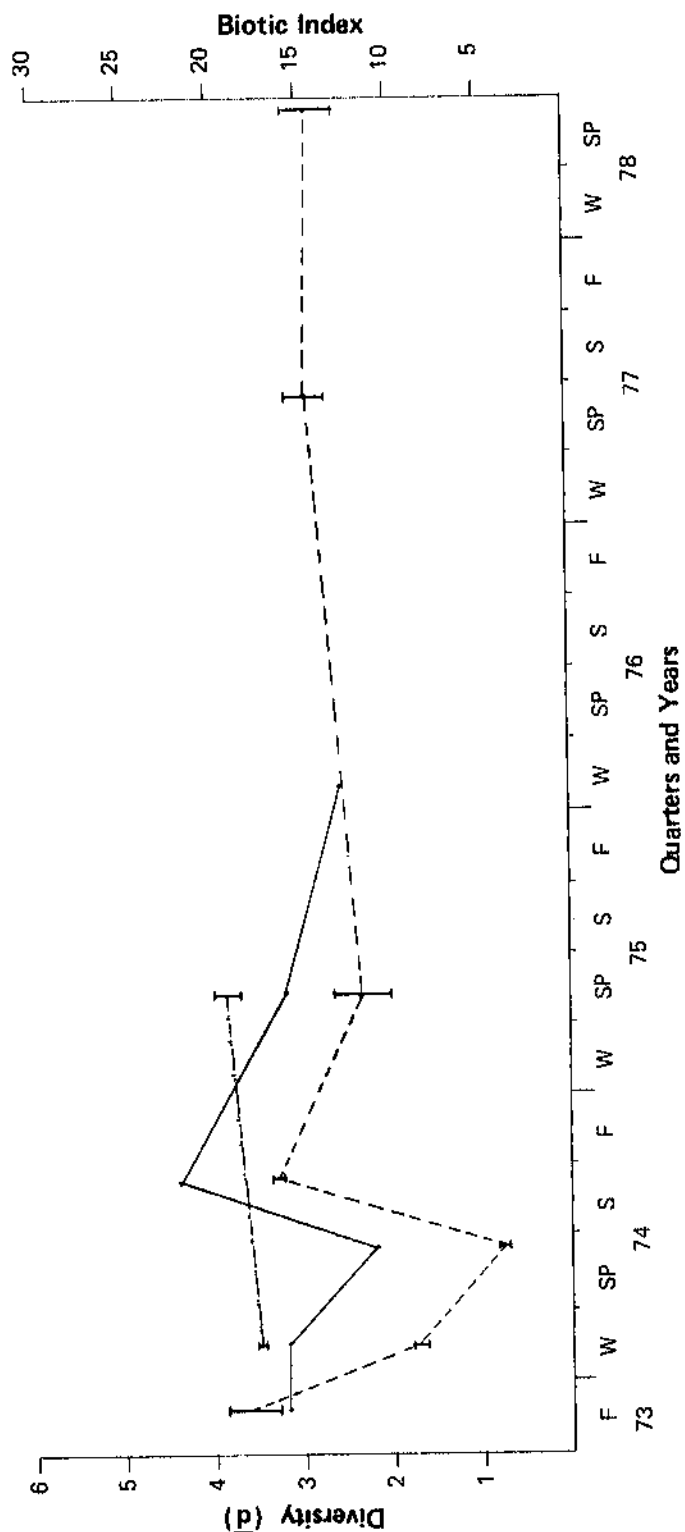
| Station Number | Date      | Macroinvertebrates |             |       |             |                      |       |    |    | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|-------------|----------------------|-------|----|----|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       |             | Artificial Substrate |       |    |    |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity   | Redundancy           | #Spp. |    |    |              |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |             |                      |       |    |    |              |                                                 |                                              |                                  |       |          |
| 23.01.0036     | 8 May 75  | 2.381±0.331        | 0.254±0.007 | 18    | 3.860±0.113 | 0.069±0.015          | 25    | 16 | 35 |              |                                                 |                                              |                                  |       |          |
|                | 27 Jan 76 |                    |             |       |             |                      | 13    | 29 |    |              |                                                 |                                              |                                  |       |          |
|                | 7 Jun 77  | 2.959±0.301        | 0.226±0.049 | 24    |             |                      |       |    |    |              |                                                 |                                              |                                  |       |          |
|                | 6 Jun 78  | 2.860±0.243        | 0.226±0.046 | 20    |             |                      |       |    |    |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 23.01.0036  
 BODY OF WATER: WITHLACOOCHEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)





Station No. 23.01.0038 Body of Water Withlacoochee River

Location Fla. Hwy. 200, near Holder

County Marion

Type Body of Water river Classification III

Sources of Pollution none

Nearby Land Use recreational

Sampling Frequency quarterly Depth 0 - 3 m

Bottom Type sand, limestone % Volatile Solids

Aquatic Plants: Submerged Hydrilla sp., Vallisneria sp., Egeria densa, Ceratophyllum

sp., Ludwigia repens, Eleocharis sp. Emergent Sagittaria sp., Pistia stratiotes

Hydrocotyle umbellata, Scirpus sp., Utricularia sp., Paspalum sp., Eichhornia crassipes

#### Macroinvertebrates:

Platyhelminthes  
Turbellaria

3 unident. spp.

Rhynchocoela

Prostoma rubrum

Annelida  
Oligochaeta

Aulodrilus sp.  
Limnodrilus hoffmeisteri  
Pelosclex variegatus  
Stylaria lacustris  
unident. lumbriculid  
unident. tubificid

Hirudinea

Helobdella sp.  
H. stagnalis  
Dina sp.

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Pearco

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus

Insecta

Odonata

Argia fumipennis

A. moesta

A. sedula

Anomalagrion sp.

Dromogomphus spinosa

Enallagma sp.

E. regina

E. princeps

Erythemis simplicollis

Gomphus plagiatus

Hagenius brevistylus

Hetaerina titia

Ischnura sp.

I. posita

Ladona deplanata

Libellula cf. luctuosa

Macromia illinoiensis

M. taeniolata

cf. Miathyria sp. 1 - Dalton

Nehalennia sp. 1 - Pearce

Pachydiplax longipennis

Perithemis seminole

Tetragoneuria semiaquea

T. sepia

Ephemeroptera

Baetis sp.

B. intercalaris

B. spinosus

Brachycercus sp.

Caenis diminuta

Callibaetis floridanus

Centroptilum viridocularis

Hexagenia munda elegans

Pseudocloeon parvulum

Ephemeroptera (cont.)

Pseudocloeon alachua  
Stenonema exiguum  
Stenacron interpunctatum  
Tricorythodes albilineatus

Hemiptera

Belostoma sp. 1 - Howton  
Limnogonus sp.  
Metrobates sp. 1 - Resico  
Ranatra sp. 1 - Howton

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Hydroptila sp.  
Leptocella sp. 1 - Pearce  
Nyctiophylax sp.  
Oecetis sp.  
Oxyethira sp. 1 - Pearce  
Polycentropus sp. 1 - Pearce  
P. sp. 2 - Dalton  
Stactobiella sp.

Megaloptera

Corydalus cornutus

Lepidoptera

Nymphula sp. 1 - Dalton

Diptera

Ablabesmyia mallochi  
A. ornata  
A. tarella  
A. aspera  
A. parajanta  
Anopheles sp.  
Cardiocladius sp.  
Chironomus carus  
Chaoborus punctipennis  
Cladotanytarsus sp. 1 - Cantrell  
C. sp. 2 - Cantrell  
Clinotanypus sp. 1 - Pearce  
Coelotanypus scapularis  
C. tricolor  
Corynoneura taris  
Cryptochironomus fulvus  
Cryptotendipes casuarius

Diptera (cont.)

Cricotopus bicinctus  
C. sp. 1 - Pearce  
Dicrotendipes lobus  
D. modestus  
Epoicocladius sp. 1 - Dalton  
Forcipomyia sp. 1 - Dalton  
Kiefferulus dux  
Labrundinia virescens  
L. johannseni  
L. neopilosella  
Glyptotendipes paripes  
Microsectra sp.  
Paralauterborniella nigrohalteralis  
Parachironomus demeijere  
Paratanytarsus sp.  
Pentaneura inculta  
Polypedilum halterale  
P. illinoense  
P. convictum  
Procladius sp. 1 - Cantrell  
Psectrocladius vernalis  
Pseudochironomus sp. 1 - Pearce  
Rheotanytarsus exiguus  
Simulium sp. 1 - Dalton  
Stempellina sp.  
Tanypus carinatus  
Thienemanniella sp.  
Tanytarsus sp. 1 - Cantrell  
Tribelos sp.  
T. fusicornis  
Zavrelia sp.

Coleoptera

Dineutus sp. 1 - Pearce  
Dubiraphia quadrinotata  
Stenelmis fuscata

Arachnida

Libertia sp. 1 - Pluchino

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Goniobasis sp. 1 - Pearce  
Gyraulus sp. 1 - Pearce  
Helisoma cf. scalare  
Melanoides tuberculata  
Physa sp. 1 - Pearce  
 unident. hydrobiid sp. 1 - Pearce  
 unident. hydrobiid sp. 2 - Pearce

23.01.0038

Pelecypoda

Elliptio cf. dilatata

Eupera cubensis

Corbicula manilensis

Sphaerium sp. 1 - Pearce

Pisidium sp. 1 - Pearce

DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                      | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                                                                                                   | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                                                                                                   |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                                 |                                                                                                                   |                                  |       |          |
| 23.01.0038     | 20 Aug 74 |                    |             |       |                      |            |       |              |                                                 |                                                                                                                   | 10                               | 0     |          |
|                | 3 Sep 74  |                    |             |       |                      |            |       |              |                                                 |                                                                                                                   | 300                              | 20    |          |
|                | 1 Oct 74  |                    |             |       |                      |            |       |              |                                                 |                                                                                                                   | 290                              | 0     |          |
|                | 5 Nov 74  |                    |             |       |                      |            |       |              |                                                 |                                                                                                                   | 150                              | 10    |          |
|                | 2 Dec 74  |                    |             |       |                      |            |       |              |                                                 |                                                                                                                   |                                  | 10    |          |
|                | 7 Jan 75  |                    |             |       |                      |            |       |              |                                                 |                                                                                                                   | 210                              | 10    |          |
|                | 4 Feb 75  | 3.152±0.031        | 0.131±0.004 | 23    |                      |            |       | 23           | 40                                              | Coc BG 0<br>Fll BG 0<br>Coc Gr 28<br>Fll Gr 0<br>Gr Flag 0<br>Other Flag 0<br>Gen Dia 0<br>Pen Dia 56<br>Total 83 |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       |    |              |  |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|----|--------------|--|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |    | Biotic Index |  |  |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI | #Spp.        |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
| 21.01.0038     | 4 Mar 75  |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              | 30                               | 10    |          |
|                | 1 Apr 75  |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              | 60                               | 20    |          |
|                | 7 May 75  | 2.913±0.293        | 0.178±0.006 | 20    | 2.602±0.151          | 0.185±0.025 | 16    | 26 | 56           |  |  |                                                 |                                              | 80                               | 10    |          |
|                | 3 Jun 75  |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              | 1570                             | 40    |          |
|                | 1 Jul 75  |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                | 19 Nov 75 |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                | 13 Jul 76 | 4.123±0.262        | 0.109±0.024 | 34    |                      |             |       | 23 | 46           |  |  |                                                 |                                              |                                  |       |          |
|                | 5 Oct 76  | 2.676±0.397        | 0.302±0.103 | 13    | 2.629±0.303          | 0.247±0.074 | 13    | 18 | 35           |  |  |                                                 |                                              | 330                              | 30    |          |
| 2 Nov 76       |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |    |              |  |  |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number | Date                | Macroinvertebrates |             |             |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                   | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|---------------------|--------------------|-------------|-------------|----------------------|------------|-------|--------------|-------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                     | Natural Substrate  |             |             | Artificial Substrate |            |       |              |       |                                                                                                                   |                                              | Total                            | Fecal |          |
|                |                     | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                   |                                              |                                  |       |          |
|                |                     |                    |             |             |                      |            |       |              |       |                                                                                                                   |                                              |                                  |       |          |
| 23.01.0038     | 2 Nov 76<br>(Cont.) |                    |             |             |                      |            |       |              |       | 1<br>Gen Dia<br>Pen Dia<br>Total                                                                                  |                                              |                                  |       |          |
|                | 11 Jan 77           |                    |             |             |                      |            |       | 26           | 56    |                                                                                                                   |                                              | 80                               | 20    |          |
|                | 1 Feb 77            | 3.371±0.205        | 0.129±0.022 | 25          |                      |            |       |              |       |                                                                                                                   |                                              | 220                              | 15    |          |
|                | 7 Mar 77            |                    |             |             |                      |            |       |              |       |                                                                                                                   |                                              | 220                              | LT10  |          |
|                | 12 Apr 77           | 4.725±0.259        | 0.102±0.102 | 23          |                      |            |       |              |       |                                                                                                                   |                                              | 220                              | LT10  |          |
| 10 May 77      |                     |                    |             | 2.572±0.210 | 0.240±0.041          | 17         |       |              |       | Loc BG 1<br>P11 BG 2<br>Loc Gr 13<br>P11 Gr 1<br>Gr Flag 1<br>Other Flag 0<br>Gen Dia 7<br>Pen Dia 14<br>Total 38 | 120                                          | LT10                             |       |          |

See Methods for explanation of table.



DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm3 | Periphyton Composition units/cm2                                                                                                          | Coliform Bacteria Colonies/100ml | Comments      |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                     |                                                                                                                                           |                                  |               |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                     |                                                                                                                                           |                                  |               |
| 23-01-0038     | 8 Aug 77  | 1.899±0.401        | 0.512±0.116 | 12    | 2.926±0.274          | 0.239±0.058 | 19    |              |                                     | Loc BG 10743<br>Fil BG 20171<br>Loc GR 43850<br>Fil Gr 0<br>Gr Flag 4166<br>Other Flag 0<br>Pen Dia 6139<br>Pen Dia 50866<br>Total 135935 |                                  |               |
|                | 10 Oct 77 | 3.273±0.246        | 0.161±0.029 | 24    |                      |             |       |              |                                     |                                                                                                                                           | 360                              | LT5           |
|                | 1 Nov 77  |                    |             |       |                      |             |       | 20           | 38                                  |                                                                                                                                           | 120                              | Florida Index |
|                | 5 Dec 77  |                    |             |       |                      |             |       |              |                                     |                                                                                                                                           | 170                              | 200           |
|                | 10 Jan 78 | 2.506±0.358        | 0.482±0.086 | 25    |                      |             |       |              |                                     |                                                                                                                                           | 60                               | 100           |
|                | 14 Feb 78 |                    |             |       | 3.479±0.206          | 0.113±0.022 | 24    |              |                                     |                                                                                                                                           | 10                               | 50            |
|                | 11 Apr 78 | 1.996±0.266        | 0.409±0.071 | 14    |                      |             |       | 23           | 33                                  |                                                                                                                                           |                                  |               |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

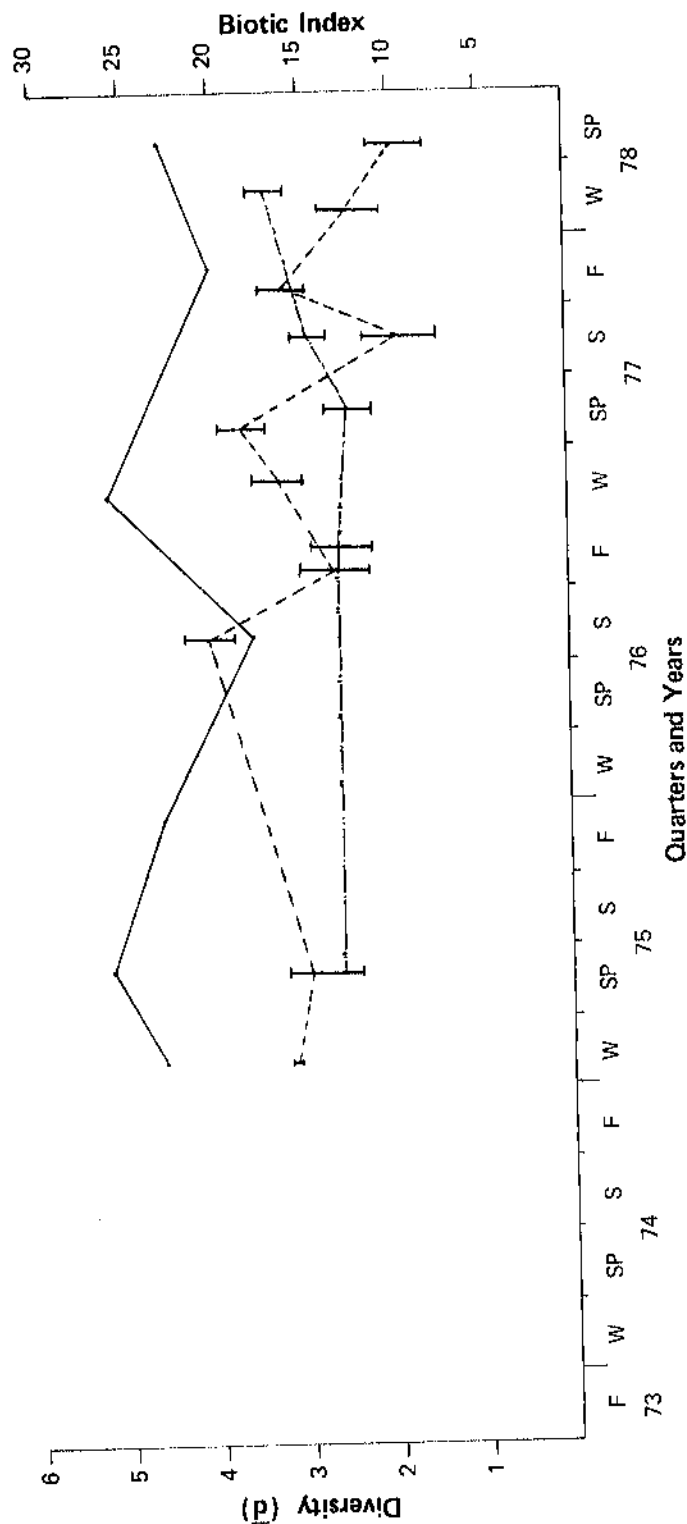
| Station Number | Date     | Macroinvertebrates |            |                      |           |            |       |       |       | Biologic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|----------|--------------------|------------|----------------------|-----------|------------|-------|-------|-------|----------------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |          | Natural Substrate  |            | Artificial Substrate |           |            |       | Total | Fecal |                |                                                 |                                              |                                  |  |          |
|                |          | Diversity          | Redundancy | #Spp.                | Diversity | Redundancy | #Spp. |       |       |                |                                                 |                                              |                                  |  |          |
|                |          |                    |            |                      |           |            |       |       |       |                |                                                 |                                              |                                  |  |          |
| 35             | 8 May 78 |                    |            |                      |           |            |       |       |       |                |                                                 | 70                                           | 10                               |  |          |
|                | 6 Jun 78 |                    |            |                      |           |            |       |       |       |                |                                                 | 180                                          | 10                               |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 23.01.0038  
 BODY OF WATER: WITHLACOOCHIEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 23.01.0054 Body of Water Blue Run

Location at SR #484 below Rainbow Springs

County Marion

Type Body of Water spring run Classification III

Sources of Pollution shoreline development

Nearby Land Use residential

Sampling Frequency                      Depth 3 m

Bottom Type sand, shell % Volatile Solids                     

Aquatic Plants: Submerged Vallisneria sp., Ceratophyllum sp.

Emergent Scirpus sp., Panicum sp., Peltandra sp.,  
Nuphar sp., Hydrocotyle sp., Typha sp.

#### Macroinvertebrates:

##### Platyhelminthes

###### Turbellaria

unident. sp.

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri

Stylaria fossularis

unident. lumbriculid

unident. tubificid

###### Hirudinea

Dina sp. 1 - Pearce

Helobdella elongata

H. stagnalis

##### Arthropoda

###### Crustacea

###### Isopoda

Asellus sp. 1 - Pearce

###### Amphipoda

Hyalella azteca

###### Decapoda

Palaemonetes paludosus

unident. astacid

Mysidacea

Taphromysis louisianae

Insecta

Odonata

Enallagma sp.

Epicordulia regina

Gomphus (Gomphus) minutus

Ischnura sp.

Nehalienia sp. 1 - Pearce

Ephemeroptera

Baetis spinosus

Caenis diminuta

Callibaetis floridanus

Hexagenia munda elegans

Pseudocloeon alachua

Stenonema exiguum

Stenacron interpunctatum

Tricorythodes albilineatus

Hemiptera

Atherix sp.

cf. Gerris sp. 1 - Howton

Metrobates sp. 1 - Resico

Pelocoris sp. 1 - Howton

Ranatra sp. 1 - Howton

Rhagovelia cf. choreutes

Rheumatobates sp.

Trepobates sp.

Trichoptera

Agraylea sp. 1 - Pearce

Cheumatopsyche sp. 1 - Dalton

Hydropsyche sp. 1 - Cantrell

Helicopsyche sp.

Nyctiophylax sp.

Oecetis sp. 1

Polycentropus sp. 2 - Dalton

Stactobiella sp.

Lepidoptera

Elophila sp. 1 - Dalton

Nymphula sp. 1 - Dalton

Diptera

Ablabesmyia ornata

A. tarella

Cardiocladius sp.

Chironomus attenuatus

Diptera (cont.)

Cladotanytarsus sp. 1 - Cantrell  
Cricotopus bicinctus  
C. remus  
Cryptochironomus blarina  
C. fulvus  
Dicrotendipes neomodestus  
D. lobus  
Microtendipes sp.  
Micropsectra sp.  
M. sp. 2 - Cantrell  
Paratanytarsus sp.  
Paralauterborniella nigrohalteralis  
Pentaneura inculta  
Procladius sp. 1 - Cantrell  
Polypedilum halterale  
P. convictum  
Pseudochironomus sp. 1 - Cantrell  
Psectrocladius sp.  
Orthocladius sp.  
Rheotanytarsus exiguus  
Tanytus carinatus  
Tanytarsus sp. 1 - Cantrell  
Zavrelia sp.  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
 unident. ceratopogonid sp. 3 - Cantrell  
 unident. dolichopodid

Coleoptera

Dubiraphia quadrinotata  
 unident. hydrophilid

Arachnida

Acarina

unident. sp.

Mollusca

Gastropoda

Goniobasis sp. 1 - Pearce  
Melanoides tuberculata  
Helisoma sp. 1 - Pearce  
Physa sp. 1 - Dalton  
Pomacea sp. 1 - Pearce  
Viviparus cf. georgianus  
 unident. hydrobiid sp. 1 - Pearce

23.01.0054

Pelecypoda

Anodonta sp.

Corbicula manilensis

Musculium sp. 1 - Pearce

Sphaerium sp. 1 - Pearce

unident. unionid

DATA SUMMARY: Blue km (Withacouchee R)

| Station Number   | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                              | Coliform Bacteria Colonies/100ml |       | Comments |
|------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                  |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                                                                                                           | Total                            | Fecal |          |
|                  |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                                                                                                           |                                  |       |          |
| 41<br>23-01-0054 | 20 Aug 74 |                    |             |       |                      |             |       |              |                                                 |                                                                                                                           | 20                               | 0     |          |
|                  | 25 May 76 |                    |             |       |                      |             |       | 11           | 42                                              |                                                                                                                           |                                  |       |          |
|                  | 14 Jul 76 | 3.613±0.192        | 0.100±0.018 | 25    |                      |             |       | 14           | 37                                              |                                                                                                                           |                                  |       |          |
|                  | 5 Oct 76  | 1.858±0.241        | 0.472±0.077 | 13    |                      |             |       |              |                                                 |                                                                                                                           | 70                               | 5     |          |
|                  | 2 Nov 76  |                    |             |       | 2.641±0.148          | 0.270±0.034 | 21    |              |                                                 | Loc BG 20<br>Fil BG 0<br>Loc Gr 176<br>Fil Gr 176<br>Gr Flag 4<br>Other Flag 0<br>Pen Dia 207<br>Pen Dia 195<br>Total 777 | 100                              | 10    |          |
|                  | 11 Jan 77 |                    |             |       |                      |             |       | 23           | 46                                              |                                                                                                                           | 40                               | 20    |          |

See Methods for explanation of table.



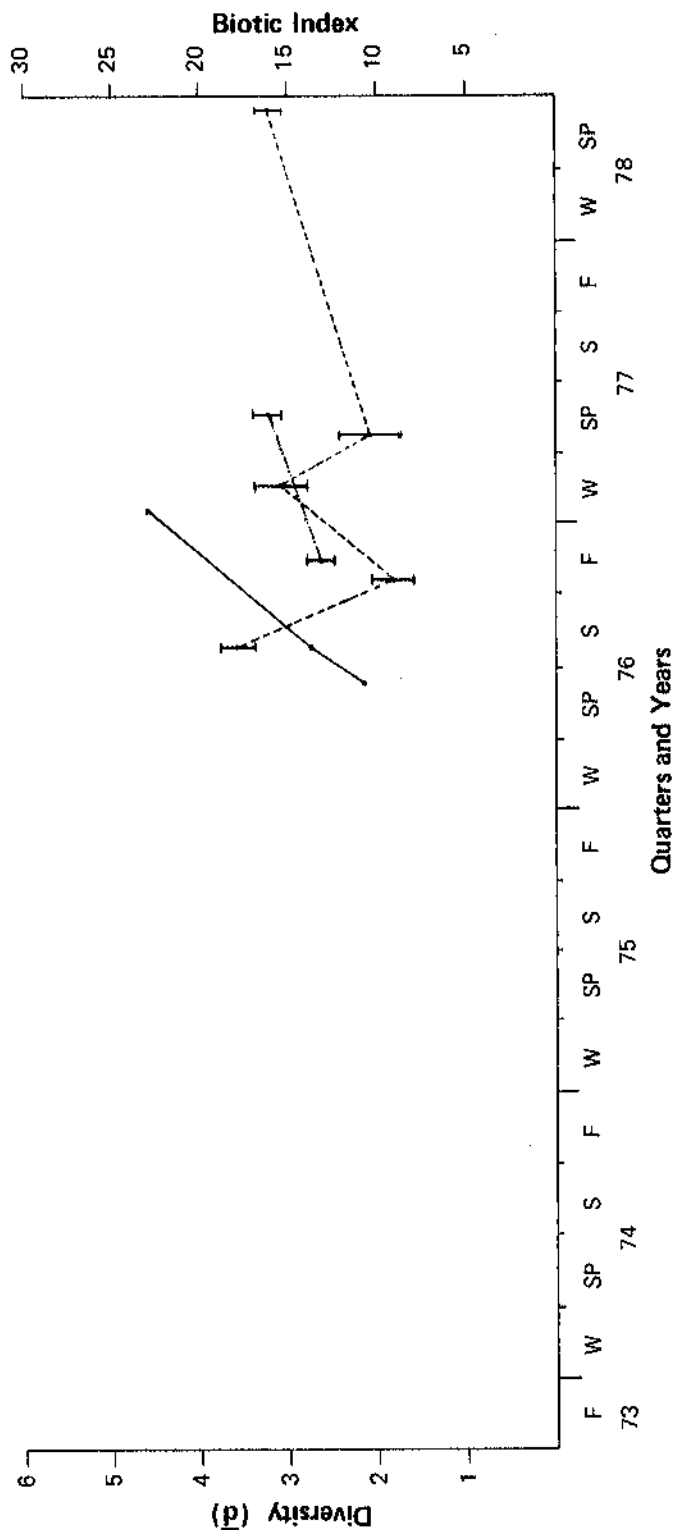
**DATA SUMMARY:** Blue Run (Wichitaochee R)

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |                                                 |                                              |                                  |          |
|                |           | Diversity          |             | #Spp. | Diversity            |             | #Spp. |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy  |       | Diversity            | Redundancy  |       |                                                 |                                              |                                  |          |
| 23-01-0054     | 7 Feb 77  | 3.125±0.287        | 0.226±0.055 | 22    |                      |             |       |                                                 |                                              | 310                              | 15       |
|                | 7 Mar 77  |                    |             |       |                      |             |       |                                                 |                                              | 550                              | LT10     |
|                | 12 Apr 77 | 2.117±0.348        | 0.437±0.110 | 12    |                      |             |       |                                                 |                                              | 550                              | LT10     |
|                | 10 May 77 |                    |             |       | 3.269±0.178          | 0.119±0.023 | 21    |                                                 |                                              | 20                               | LT10     |
|                | 6 Jun 78  | 3.263±0.135        | 0.149±0.018 | 29    |                      |             |       |                                                 |                                              |                                  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 23.01.0054  
 BODY OF WATER: BLUE RUN (WITHLACOCHEE)  
 --- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 23.01.0455 Body of Water Withlacoochee River

Location Highway 575 bridge, northeast of Lacoochee

County Pasco

Type Body of Water river Classification III

Sources of Pollution citrus processes, pasture drainage, Dade City STP

Nearby Land Use agricultural

Sampling Frequency quarterly Depth 1 - 2 m

Bottom Type sand, gravel, limerock % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged none

Emergent Taxodium sp., Eichhornia sp., Myriophyllum sp.

#### Macroinvertebrates:

Platyhelminthes  
Turbellaria

unident. sp.

Annelida  
Oligochaeta

Limnodrilus hoffmeisteri  
Aelosoma sp.  
Tubifex tubifex  
Sparganophilus sp.

Hirudinea

Placobdella sp.

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus  
unident. astacid

Insecta

Odonata

Argia sp.  
Aphylla williamsoni  
Calopteryx maculatum

Odonata (cont.)

Dromogomphus spinosus  
Gomphus plagiatus  
Ischnura sp.  
Macromia sp.  
 cf. Nehalennia sp. 1 - Pearce  
Tetragoneuria sp.

Ephemeroptera

Baetis spiethi  
B. spinosus  
Brachycercus maculatus  
B. sp.  
Caenis diminuta  
C. hilaris  
Callibaetis floridanus  
Ephemerella trilineata  
Hexagenia munda elegans  
Pseudocloeon sp.  
Stenonema exiguum  
S. smithae  
Stenacron interpunctatum  
Tricorythodes albilineatus

Hemiptera

Belostoma sp. 1 - Howton  
 cf. Gerris sp. 1 - Howton  
Ranatra sp. 1 - Howton

Trichoptera

Arctopsyche sp.  
Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Leptocella sp. 1 - Pearce  
L. pavida  
Molanna sp.  
Oecetis sp.  
O. inconspicua  
Oxyethira sp. 1 - Pearce  
Phylocentropus sp.  
Polycentropus sp. 1 - Pearce  
P. sp. 2 - Dalton  
Nyctiophylax sp.

Megaloptera

Corydalis cornutus

Diptera

Ablabesmyia aspera  
A. parajanta  
A. tarella  
A. peleenis  
A. mallochi

Diptera (cont.)

Ablabesmyia ornata  
Chironomus attenuatus  
Cardiocladius sp.  
Clinotanypus sp. 1 - Pearce  
Coelotanypus concinnus  
C. tricolor  
C. scapularis  
Cricotopus sp.  
Cryptochironomus fulvus  
C. sp.  
Dicrotendipes nervosus  
D. neomodestus  
Endochironomus nigricans  
Glyptotendipes paripes  
Harnischia sp.  
Labrundinia johannseni  
Paralauterborniella sp.  
Pentaneura inculta  
Polypedilum halterale  
P. illinoense  
P. convictum  
Procladius sp. 1 - Cantrell  
Psectrocladius sp.  
Micropsectra sp.  
Stenochironomus hilaris  
S. sp.  
Simulium sp. 1 - Dalton  
Stictochironomus devinctus  
Tanypus sp.  
Tanytarsus sp. 1 - Cantrell  
Tribelos sp.  
T. fuscicornis  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
 unident. ceratopogonid sp. 3 - Cantrell

Coleoptera

Dineutus sp.  
Dubiraphia quadrinotata  
Peltodytes floridensis  
Stenelmis fuscata

Arachnida

Acarina

Diplodontus despiciens

23.01.0455

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Goniobasis sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Physa sp. 1 - Pearce  
Viviparus cf. georgianus  
Gyraulus sp. 1 - Pearce  
unident. hydrobiid sp. 1 - Pearce

Pelecypoda

Corbicula manilensis  
Elliptio sp. 1 - Pearce  
Lampsilis sp. 1 - Pearce  
Pisidium sp. 1 - Pearce  
Sphaerium sp. 1 - Pearce

DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |                      |           |       |       | Biotic Index |                                                                                                                   | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |                                                                                                                   |                                                 |                                              |                                  |       |          |
|                |           | Diversity          | Redundancy  | #Sp.                 | Diversity |       |       | Redundancy   | #Sp.                                                                                                              |                                                 |                                              | BI                               | #Sp.  |          |
| 48             |           |                    |             |                      |           |       |       |              |                                                                                                                   |                                                 |                                              |                                  |       |          |
| 23.01.0455     | 22 Jul 74 |                    |             |                      |           |       |       |              |                                                                                                                   |                                                 |                                              | 1200                             | LT100 |          |
|                | 19 Aug 74 | 1.391±0.312        | 0.526±0.108 | 8                    |           |       |       |              | Coc BC 3<br>F11 BC 1<br>Coc Gr 4<br>F11 Gr 1<br>Gr Flag 1<br>Other Flag LT1<br>Pen Dia 1<br>Pen Dia 8<br>Total 19 |                                                 |                                              | 1000                             | LT100 |          |
|                | 16 Sep 74 |                    |             |                      |           |       |       |              |                                                                                                                   |                                                 |                                              | 1270                             | LT100 |          |
|                | 7 Oct 74  |                    |             |                      |           |       |       |              |                                                                                                                   |                                                 |                                              | 200                              | LT100 |          |
|                | 4 Nov 74  |                    |             |                      |           |       |       |              |                                                                                                                   |                                                 | Coc BC 2040<br>F11 BC 240<br>Coc Gr 42960    | 200                              | LT100 |          |

See Methods for explanation of table.

**DATA SUMMARY: Withlacoochee River**

[illegible]

See Methods for explanation of table.



DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                   | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                                                                                   |                                              | Total                            | Fecal |          |  |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                                                                                   |                                              |                                  |       |          |  |
|                |           |                    |             |       |                      |             |       |              |                                                                                                                   |                                              |                                  |       |          |  |
| 23.01.0455     | 8 Sep 75  |                    |             |       | 3.343±0.251          | 0.123±0.031 | 19    |              |                                                                                                                   |                                              | LT100                            | LT100 |          |  |
|                | 26 Sep 75 |                    |             |       |                      |             |       | 2            | 10                                                                                                                |                                              |                                  |       |          |  |
|                | 6 Oct 75  | 1.687±0.138        | 0.379±0.026 | 15    |                      |             |       |              |                                                                                                                   |                                              | 12200                            | 1500  |          |  |
|                | 3 Nov 75  |                    |             |       |                      |             |       |              |                                                                                                                   |                                              | 290                              | 60    |          |  |
|                | 1 Dec 75  |                    |             |       |                      |             |       |              |                                                                                                                   |                                              |                                  |       |          |  |
|                |           |                    |             |       |                      |             |       |              | Coc BG 0<br>Fll BG 2<br>Coc Gr 1<br>Fll Gr 0<br>Gr Flag 2<br>Other Flag 6<br>Cen Dia 0<br>Pen Dia 96<br>Total 107 |                                              |                                  |       |          |  |
|                | 8 Dec 75  |                    |             |       |                      |             |       |              |                                                                                                                   |                                              | 5                                | 100   |          |  |
|                | 5 Jan 76  |                    |             |       |                      |             |       |              |                                                                                                                   |                                              | 80                               | 5     |          |  |

See Methods for explanation of table.

DATA SUMMARY: WICHITA COOCHIE RIVER

| Station Number | Date      | Macroinvertebrates |             |      |                      |             |      | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                         | Coliform Bacteria Colonies/100ml |       | Comments |  |
|----------------|-----------|--------------------|-------------|------|----------------------|-------------|------|--------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|--|
|                |           | Natural Substrate  |             |      | Artificial Substrate |             |      |              |                                                 |                                                                                                                      | Total                            | Fecal |          |  |
|                |           | Diversity          | Redundancy  | #Sp. | Diversity            | Redundancy  | #Sp. |              |                                                 |                                                                                                                      |                                  |       |          |  |
|                |           |                    |             |      |                      |             |      |              |                                                 |                                                                                                                      |                                  |       |          |  |
| 23.01.0455     | 2 Feb 76  |                    |             |      |                      |             |      |              |                                                 |                                                                                                                      | 20                               | 6     |          |  |
|                | 1 Mar 76  | 2.338±0.220        | 0.260±0.058 | 11   | 2.229±0.179          | 0.218±0.035 |      |              |                                                 | Coc BC 6<br>Fla BC 11<br>Coc Cr 3<br>Fla Cr 6<br>Gr Flag 6<br>Other Flag 0<br>Pen Dia 10<br>Pen Dia 148<br>Total 191 |                                  |       |          |  |
|                | 12 Apr 76 |                    |             |      |                      |             |      |              |                                                 |                                                                                                                      | 60                               | 4     |          |  |
|                | 12 May 76 | 2.234±0.220        | 0.300±0.002 | 13   |                      |             |      |              |                                                 |                                                                                                                      |                                  |       |          |  |
|                | 2 Aug 76  | 1.839±0.223        | 0.439±0.069 | 13   |                      |             |      |              |                                                 |                                                                                                                      |                                  |       |          |  |
|                | 13 Sep 76 |                    |             |      |                      |             |      |              |                                                 |                                                                                                                      |                                  | 250   | 20       |  |
|                | 3 Nov 76  |                    |             |      | 2.514±0.293          | 0.299±0.072 | 15   |              |                                                 |                                                                                                                      |                                  | 820   | 165      |  |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |            |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 52             | 7 Dec 76  |                    |            |       |                      |            |       |              |                                                 |                                              | 820                              | 165   |          |
|                | 1 Jan 77  |                    |            |       |                      |            |       | 19           | 33                                              |                                              | 75                               | 20    |          |
|                | 12 Jan 77 |                    |            |       |                      |            |       |              |                                                 |                                              | 75                               | 25    |          |
|                | 1 Feb 77  |                    |            |       |                      |            |       |              |                                                 |                                              | 80                               | 30    |          |
|                |           |                    |            |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 7 Mar 77  |                    |            |       |                      |            |       |              |                                                 |                                              | 90                               | 10    |          |
|                | 11 Apr 77 |                    |            |       |                      |            |       |              |                                                 |                                              | 110                              | 20    |          |
|                | 9 May 77  |                    |            |       |                      |            |       |              |                                                 |                                              | 5800                             | 1900  |          |

See Methods for explanation of table.

DATA SUMMARY: Withlacoochee River

| Station Number   | Date      | Macroinvertebrates |            |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                       | Periphyton Composition units/cm <sup>2</sup>                                                                                   | Coliform Bacteria (Colonies/100ml) |       | Comments |  |
|------------------|-----------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------|----------|--|
|                  |           | Natural Substrate  |            |       | Artificial Substrate |             |       |              |                                                                       |                                                                                                                                | Total                              | Fecal |          |  |
|                  |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                                       |                                                                                                                                |                                    |       |          |  |
|                  |           |                    |            |       |                      |             |       |              |                                                                       |                                                                                                                                |                                    |       |          |  |
| 53<br>23.01.0455 | 7 Jun 77  |                    |            |       | 3.177±0.408          | 0.211±0.071 | 14    |              |                                                                       | Coc BG 98<br>Fll BG 480<br>Coc Gr 472<br>Fll Gr 0<br>Gr Flag 57<br>Other Flag 147<br>Pen Dia 1847<br>Pen Dia 602<br>Total 3702 |                                    |       |          |  |
|                  | 10 Aug 77 |                    |            |       | 3.446±0.241          | 0.098±0.026 | 18    |              | Coc BG 263<br>Fll BG 351<br>Coc Gr 2017<br>Pen Dia 7279<br>Total 9910 |                                                                                                                                |                                    |       |          |  |
|                  | 12 Oct 77 |                    |            |       |                      |             |       |              |                                                                       |                                                                                                                                |                                    | 350   | 17100    |  |
|                  | 6 Dec 77  |                    |            |       |                      |             |       |              |                                                                       |                                                                                                                                |                                    | 360   | 30       |  |
|                  | 18 Jan 78 |                    |            |       |                      |             |       |              |                                                                       |                                                                                                                                |                                    | 2000  | 30       |  |

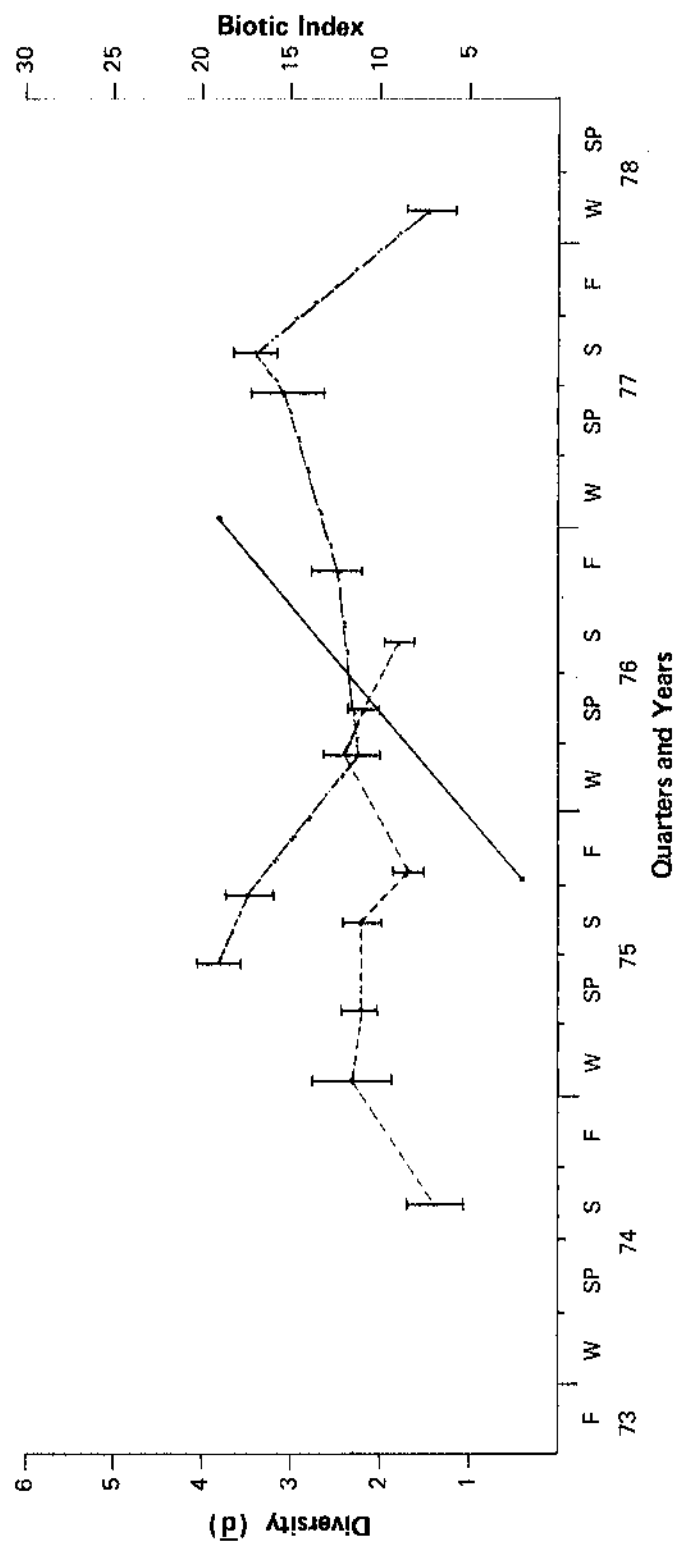
See Methods for explanation of table.

DATA SUMMARY: Wauhatchee River

| Station Number | Date      | Macroinvertebrates |            |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |            |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
| 23.01.0455     | 13 Feb 78 |                    |            |       | 1.578±0.261          | 0.474±0.083 | 10    |              |                                                 |                                              | 60                               | 20    |          |
|                | 10 Apr 78 |                    |            |       |                      |             |       |              |                                                 |                                              | 150                              | 1310  |          |
|                | 9 May 78  |                    |            |       |                      |             |       |              |                                                 |                                              |                                  | 61    |          |

See Methods for explanation of table.

STATION NO.: 23.01.0455  
BODY OF WATER: WITHLACOOCHEE RIVER



Station No. 23.01.0458 Body of Water Withlacoochee River  
Location above River Road bridge  
County Pasco  
Type Body of Water river Classification III  
Sources of Pollution runoff  
Nearby Land Use pasture  
Sampling Frequency \_\_\_\_\_ Depth 1 - 3 m  
Bottom Type mud and sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Eichhornia sp., Myriophyllum sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Arthropoda

Insecta

Odonata

Argia sp.

Dromogomphus spinosus

Epicordulia regina

Gomphus plagiatus

Neurocordulia sp.

Ephemeroptera

Baetis spinosus

Caenis hilaris

Ephemerella trilineata

Hexagenia munda elegans

Trichoptera

Cheumatopsyche sp. 1 - Dalton

Leptocella sp. 1 - Pearce

Oecetis sp.

Oxyethira sp. 1 - Pearce

Diptera

Ablabesmyia parajanta  
A. tarella  
Coelotanypus scapularis  
Dicrotendipes neomodestus  
Glyptotendipes paripes  
Labrundinia floridana  
Micropsectra sp. 1 - Cantrell  
Parachironomus sp.  
Pentaneura inculta  
Polypedilum halterale  
P. ontario  
Procladius sp. 1 - Cantrell  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 1 - Cantrell

Coleoptera

Peltodytes floridanus  
Stenelmis fuscata

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Goniobasis sp. 1 - Pearce  
Physa sp. 1 - Pearce  
Pomacea sp. 1 - Pearce

Pelecypoda

Elliptio sp. 1 - Pearce  
Eupera cubensis  
Pisidium sp. 1 - Pearce  
Sphaerium sp. 1 - Pearce



DATA SUMMARY: Withlacoochee River

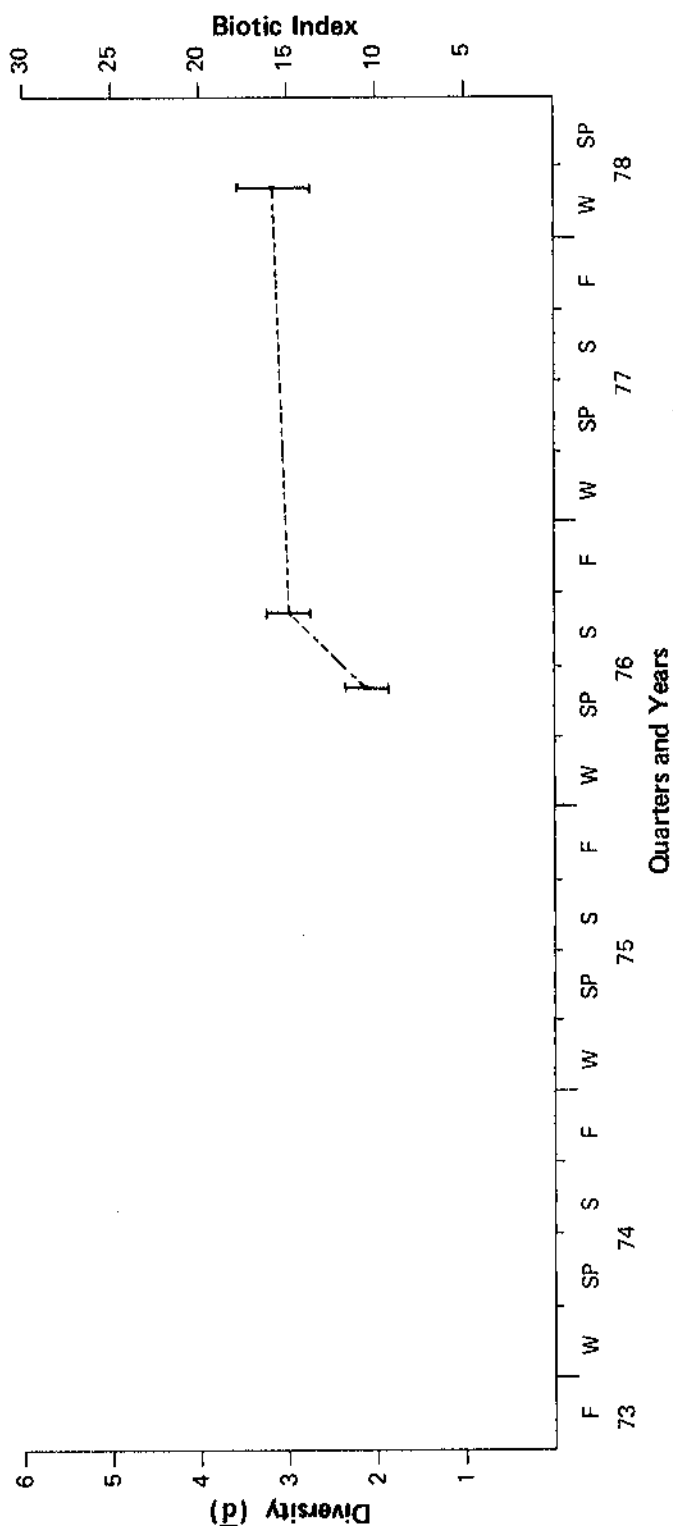
| Station Number   | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                  |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                  |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                  |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 21-01-0458<br>58 | 8 Oct 73  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 4000                             | LT100 |          |
|                  | 12 May 76 | 2.200±0.241        | 0.480±0.062 | 25    |                      |            |       |              |       |                                                 |                                              | 70                               | 25    |          |
|                  | 19 Aug 76 | 3.101±0.241        | 0.137±0.040 | 16    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                  | 27 Feb 78 | 2.289±0.416        | 0.226±0.070 | 16    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 23.01.0458  
 BODY OF WATER: WITHLACOOCHIEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 23.02.0001 Body of Water Wacasassa River

Location US Hwy. 19 just north of Gulf Hammock

County Levy

Type Body of Water river Classification \_\_\_\_\_

Sources of Pollution highway runoff

Nearby Land Use \_\_\_\_\_

Sampling Frequency \_\_\_\_\_ Depth 0.6 - 1.4 meters

Bottom Type sand % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged \_\_\_\_\_

Emergent Salix sp., Nuphar sp.

#### Macroinvertebrates:

##### Platyhelminthes

Dugesia tigrina

##### Rhynchocoela

Prostoma rubrum

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri  
unident. tubificid

##### Arthropoda

###### Crustacea

###### Isopoda

Lirceus sp.  
L. lineatus

##### Insecta

###### Collembola

Isotoma sp.  
Sminthurides sp.

###### Odonata

Argia tibialis  
Epicordulia regina  
Gomphus (Gomphus) sp.  
Macromia sp.

Ephemeroptera

Stenonema exiguum  
Tricorythodes albilineatus

Hemiptera

unident. sp.

Trichoptera

Cheumatopsyche sp.  
Nectopsyche sp.  
Polycentropus sp.

Diptera

Cricotopus bicinctus  
Culicoides sp.  
Dicrotendipes lobus  
Eukiefferiella sp.  
Palpomyia-Bezzia sp. 1 - Kelly  
Polypedilum halterale  
Tanytarsus sp.  
Thienemanniella xena  
Rheotanytarsus exiguus

Coleoptera

Stenelmis sp.  
S. hungerfordi

Acarina

Arrenurus sp.  
Mideopsis sp.

Mollusca

Gastropoda

Amnicola sp.  
Goniobasis sp.  
Gyraulus sp.  
Melanoides tuberculata  
Physa sp.

Pelecypoda

Corbicula manilensis  
Pisidium sp.  
Sphaerium sp.

DATA SUMMARY: Waccassassa River

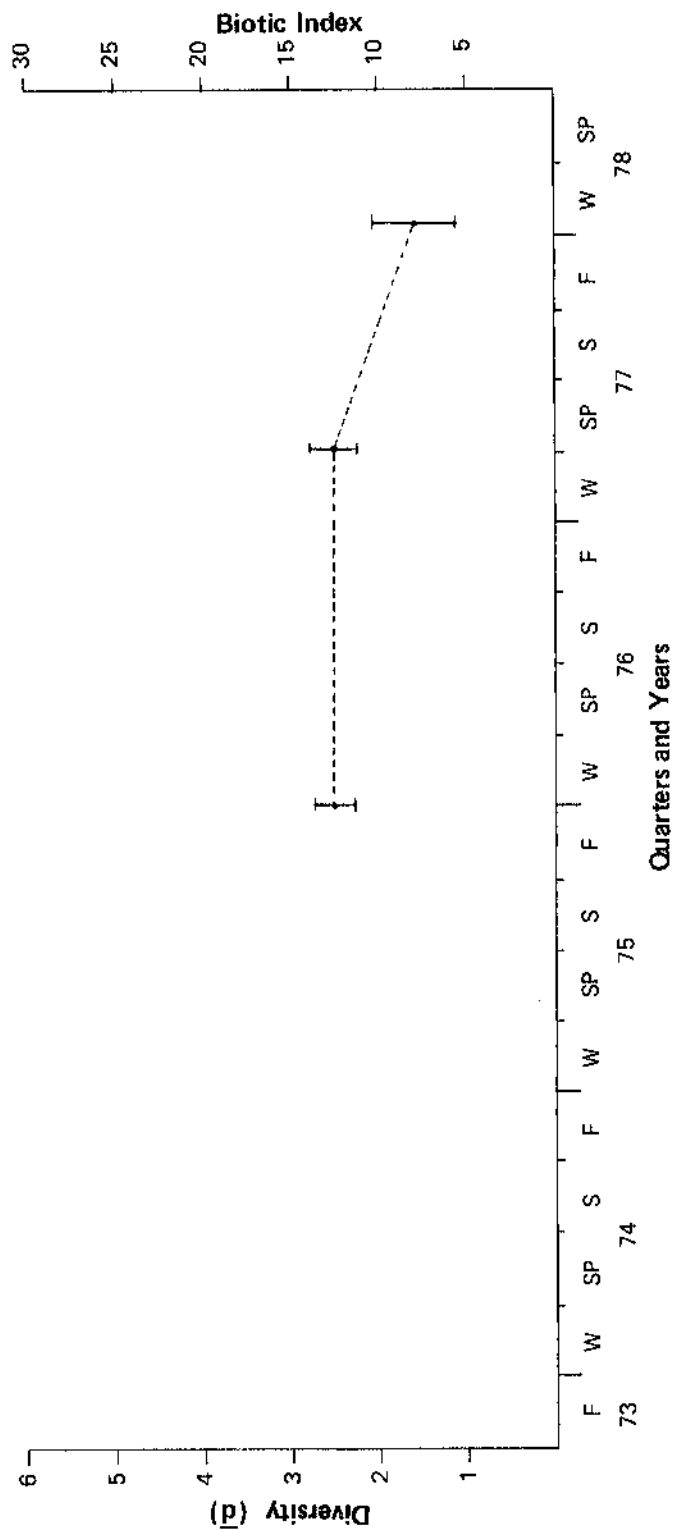
| Station Number | Date      | Macrofauna/Invertebrates |             |                      |           |      |           | Biotic Index | Phytoplankton Concentration units/cm <sup>3</sup> | Periphyton Concentration units/cm <sup>2</sup> | Coliform Bacteria Concentration/100ml | Total Fecal | Comments |            |            |
|----------------|-----------|--------------------------|-------------|----------------------|-----------|------|-----------|--------------|---------------------------------------------------|------------------------------------------------|---------------------------------------|-------------|----------|------------|------------|
|                |           | Natural Substrate        |             | Artificial Substrate |           | #Sp. | Diversity |              |                                                   |                                                |                                       |             |          | Redundancy |            |
|                |           | Diversity                | Redundancy  | #Sp.                 | Diversity |      |           |              |                                                   |                                                |                                       |             |          |            | Redundancy |
|                |           |                          |             |                      |           |      |           |              |                                                   |                                                |                                       |             |          |            |            |
| 23-02-0001     | 30 Dec 75 | 2.599±0.258              | 0.232±0.052 | 15                   |           |      |           |              |                                                   |                                                |                                       |             |          |            |            |
|                | 21 Mar 77 | 2.583±0.275              | 0.285±0.048 | 19                   |           |      |           |              |                                                   |                                                |                                       |             |          |            |            |
|                | 12 Jun 78 | 1.672±0.440              | 0.840±0.119 | 20                   |           |      |           |              |                                                   |                                                |                                       |             |          |            |            |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 23.02.0001  
 BODY OF WATER: WACASASSA RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



## TAMPA BAY AREA DRAINAGE BASIN

This drainage basin encompasses approximately 3400 square miles of the coastal area of west-central Florida. On the north and east, it is bordered by the Withlacoochee River and, on the south and east, it is bordered by Peace River. The basin is comprised of two coastal sub-basins and the Hillsborough River and Peace River sub-basins. The basin includes the metropolitan areas of Tampa-St. Petersburg-Clearwater and Sarasota-Bradenton.

### North Coastal Sub-basin

This sub-basin includes Gulf coastal areas from the Withlacoochee River southward to St. Petersburg and the Old Tampa Bay coastal area. From Tarpon Springs northward, the area is characterized by swamps and spring fed rivers, including Crystal River, Homosassa River, Chassahowitzka River, Pithlachascotee River, and Anclote River. South of Tarpon Springs the sub-basin has low relief and poorly developed drainage patterns.

The Homosassa River, flows from Homosassa Springs to Homosassa Bay. Station 24.04.0875 is on the river below its confluence with Halls River, another spring fed stream. Macroinvertebrate diversities were generally good for the three samplings, made during 1976-78, but the number of species collected at the station was less than might be expected. Also, several estuarine taxa were collected (e.g. polychaetes and amphipods), in addition to the freshwater forms, indicating the presence of a salt wedge reaching upstream from the Gulf. Perhaps the effect of low dissolved oxygen from the spring waters and salinity variation due to tidal fluctuation have combined to limit the number of species present at this station.

The Weeki Wachee River flows from Weeki Wachee Springs to the Gulf. Station 24.04.0795 is at the springs. Macroinvertebrate diversities were extremely variable, ranging from very poor to very good. Also, natural substrate diversities showed a significant decline and artificial substrates exhibited no change. The extreme variability of the data was probably due to sampling error rather than water quality variability, since the sediment composition was also quite variable, including clean sand, grass beds, and lime rock. Biotic Index numbers were less variable but indicated only fair water quality. Naturally low dissolved oxygen concentrations probably were responsible. Also, no Biotic Index trend was evident. Bacteria concentrations were normally low, with exceptions probably related to runoff.

Station 24.04.0740 is north of the mouth of the Weeki Wachee River, near Bayport. Three natural substrate samples were collected, during 1976-78. Macroinvertebrate diversities were very good.

The Pithlachascotee River flows from Crews Lake to the Gulf. The sampling station, 24.04.0637, was moved in 1977. Of the three samplings, two were near the SR 518 bridge in brackish water and one was approximately one mile upstream from it, above tidal influence. The bridge location is subject to residential runoff and the upstream station receives pasture runoff. Macroinvertebrate diversity was higher at the upstream location probably because of less pollution and because the area is entirely freshwater and not subject to salinity stress.

The Anclote River, station 24.04.0600, is at the mouth of the river and the fauna is composed of marine/estuarine organisms. It was sampled three times, during 1976-78. Twice the macroinvertebrate diversity was very good and once it was fair. The variation was probably due to substrate variation from one grab sample to another (i.e., clean sand, grass beds) and natural population dynamics.

Lake Tarpon, station 24.04.0210, lies in northern Pinellas County. It was sampled for macroinvertebrates three times during 1976-78 and diversities were fair to good. The lake receives residential runoff.

Boca Ciega Bay receives urban runoff and domestic wastes. However, station 24.04.0387 is located near Johns Pass and the area is well enough flushed to dilute any pollution effects. Two macroinvertebrate samples were collected in 1975 and 1978 with good diversities of 4.06 and 3.21, respectively. A somewhat low number of species was collected but this probably reflects sediment scouring more than water quality.

Macroinvertebrate diversity at station 24.04.0093 in the middle of Old Tampa Bay (Howard Frankland Bridge, I-275) was quite variable, but good overall. Natural substrate diversity displayed a significant upward trend during the report period but no cause and effect relationship was apparent to explain this. Although the bay receives domestic wastes and urban runoff, the station is probably not directly affected by any pollutants except for bridge runoff. Bacteria levels were consistently less than one hundred colonies per 100 milliliters throughout the report period.



### Hillsborough River Sub-basin

The Hillsborough River originates in the Green Swamp in northern Polk County and flows southwestward through Tampa to Hillsborough Bay. Station 24.03.0059 is on the river at Old Crystal Springs Road in the southeast corner of Pasco County. Macroinvertebrate diversities and the Biotic Index values were somewhat variable in the range of fair to very good. Also, a significant improvement occurred in natural and artificial substrate diversities but not in Biotic Index values. No specific reason for either the variability - field biologists noted no correlation with flow - or the trends was apparent. Bacteria concentrations were usually acceptable when monitored, with occasional higher levels probably related to soil and pasture runoff.

Blackwater Creek drains undeveloped northeast Hillsborough County to the Hillsborough River just above Hillsborough River State Park. Station 24.03.0003 is on the stream at SR 39. Three macroinvertebrate samples were analyzed, during 1976-78, and diversity was found to range from good to very good.

Lake Thonotosassa lies in Hillsborough County northeast of Tampa and drains through Flint Creek to the Hillsborough River. Station 24.03.0029 is at the head of Flint Creek as it leaves the lake. Macroinvertebrate diversities were quite variable during the report period. They ranged from very poor to good, but were generally fair. Two sharp drops in diversity in 1975 and 1977 may have been related to construction and maintenance activities by the Southwest Florida Water Management District during the same period. Occasional high total coliform levels were probably from agricultural runoff. Station 24.03.0005 is on the Hillsborough River at SR 582 near Temple Terrace. This part of the river is designated Class I, as Tampa's water supply is taken from it a short distance downstream. Macroinvertebrate diversity was generally very good the three times it was determined, during 1976-78. Bacteria levels, however, were occasionally rather high for Class I waters, probably because of runoff. Also of interest, Hydrilla verticillata, a nuisance aquatic weed is prominent at this station.

Station 24.03.0207 is located 3/4 mile east of MacDill Air Force Base in Hillsborough Bay. The bay is subject to sewage effluent from the City of Tampa Hooker's Point plant and the MacDill Air Force Base plant. It also receives large amounts of phosphorus from the Alafia River and other pollutants from other sources, including runoff. Macroinvertebrate diversities ranged from very

poor to good during the report period and showed a significant improvement. No specific cause and effect relationships are immediately evident to explain the improvement, but possible factors include improved waste treatment by the Le Gardinier phosphate plant and reduced shell dredging activities in the vicinity of the station during the study period. More in-depth study of the data and the local pollution sources might provide more answers. Although bacteria concentrations were not low, they were often lower than might be expected, considering the pollution sources. Nevertheless, occasionally, high counts were noted. This occurred more often with total than fecal coliform, possibly because fecal coliforms cannot survive long in saltwater.

#### Alafia River Sub-basin

The Alafia River originates in Polk County and flows westward through Hillsborough County to Hillsborough Bay. The sub-basin includes areas of extensive phosphate mining and processing.

Station 24.02.0361 is on the South Prong of the Alafia River at Bethlehem Road. Only two qualitative samples were collected, in 1977-78. The Biotic Indices were acceptable and no notable dissolved oxygen problems were apparent.

Just upstream from the confluence with the North Prong of the Alafia River is station 24.02.0019 on the South Prong. Three natural substrate macroinvertebrate samples, taken in 1974-75, had very good diversities. Collection of a stonefly larva, Neoperla cf. clymene, also suggested fairly good water quality in the stream. However, bacteria were monitored routinely throughout the study period and total coliform standards for Class III waters were frequently exceeded. Also, a few high fecal coliform counts were noted. These high bacteria concentrations were apparently due to soil and pasture runoff.

The North Prong of the Alafia River receives more phosphate processing wastes than does the South Prong. Station 24.02.0012 is on the North Prong at SR 37. Since it is a new station, only one qualitative sample and one natural substrate sample were taken (in 1978). Both of these measures indicated some stress on the biota, especially the latter, which was strongly dominated by the pollution tolerant worm, Limnodrilus hoffmeisteri. However, the station location is a sometimes stagnant pool near a railroad trestle so it may not be totally representative of the stream in that area.

On the North Prong at SR 39, station 24.02.0008, natural substrate macroinvertebrate diversity was quite variable from "no organisms found" to very good. Slime spills from phosphate processing areas were apparently responsible for occasional obliteration of the bottom fauna. Artificial substrates were analyzed less often, but were more consistent in showing good macroinvertebrate diversity than natural substrates. The data were insufficient to compare the two methods relative to spill effects. No significant trend in diversity was noted. Class III total coliform standards were frequently exceeded during the report period. Fecal coliform levels were occasionally high but usually not above standards. Runoff was probably the source of the bacteria.

Station 24.02.0044 is on the Alafia River, below the confluence of the North and South Prong, at the Lithia Springs junction. Macroinvertebrate diversity was fairly good during the report period. This presumably reflected the resultant water quality from mixing the at least somewhat polluted waters from upstream with unpolluted but oxygen-poor spring water. When monitored, in 1973-75, total coliform counts were occasionally above standards, presumably due to runoff.

The Alafia River at US 301, station 24.02.0003, was sampled only three times for macroinvertebrates during 1975-78. Two of the samples had good diversities and one had poor diversity. The absence of any estuarine organisms at this station - about four or five miles upstream from Hillsborough Bay - indicates that the salt wedge does not reach very far up the Alafia River. Bacteria were monitored throughout the report period. Total coliforms were often in excess of Class III standards while only two fecal coliform excesses were noted. This indicates that runoff was the bacteria source.

#### South Coastal Sub-basin

This sub-basin includes the coastal area along eastern Tampa Bay south of the Alafia River Sub-basin, the Little Manatee and Manatee Rivers, and the Gulf coastal area from Tampa Bay southward to, but not including, Charlotte Harbor.

Station 24.01.0190 is on Tampa Bay approximately one mile west of Bahia Beach. Macroinvertebrate diversity was generally good for the period it was monitored (1975-78). No significant trend developed during this time. Bacteria levels were normally low throughout the report period.

Biskop's Harbor is, primarily, an undeveloped estuarine mangrove area in lower Tampa Bay. Station 24.01.0230, at the mouth of Bishop's Harbor, had generally very good macroinvertebrate diversities during the report period. One sample had an excellent diversity of 5.25 with 71 species collected. No significant trend occurred during the monitoring period.

The Manatee River flows westward through central Manatee County to Tampa Bay. Station 24.01.0395 is on the upper Manatee above the dam which forms the Bradenton drinking water reservoir. Macroinvertebrate diversity was fairly good at the station on the three times it was sampled, in 1976-78. Several instances of high total coliform counts for Class I waters were noted in the monitoring data. Also waterhyacinths, Eichhornia crassipes, sometimes accumulated in nuisance proportions.

Station 24.01.0391 is on the Manatee River near US 301/41 where the river is markedly estuarine. In fact, no strictly freshwater macroinvertebrate species were collected from this station in the three times it was sampled, during 1976-78. Diversities were good in these samples although the species list includes fewer crustaceans than might be expected from this station. Total coliform standards were frequently exceeded during the period of record (1973-76), probably from urban runoff.

The Sarasota Bay station, 24.01.0401, is approximately  $\frac{1}{2}$  mile south of Longboat Pass and is, therefore, well flushed and has sediments of coarse sand and shell. The three macroinvertebrate diversity indices obtained during 1976-78 ranged from good to excellent. Also, bacteria counts were usually low throughout the report period, with few exceptions.

The Little Sarasota Bay station, 24.01.0668, is near Midnight Pass, so it is also well flushed and strongly marine influenced. Macroinvertebrate diversities for the three samples analyzed during 1975-78 were very good to excellent.

Station 24.01.0662 is on Lemon Bay north of the SR 776 bridge. Two macroinvertebrate diversities were obtained in 1975 and 1978 of 3.36 and 3.99, respectively. Thus, the macroinvertebrate community appeared diverse, despite a fairly limited number of species collected. Also, sewage effluent and urban runoff have apparently led to over-enrichment which has resulted in periodic nuisance growths of aquatic plants (e.g. sea lettuce, Ulva sp.).

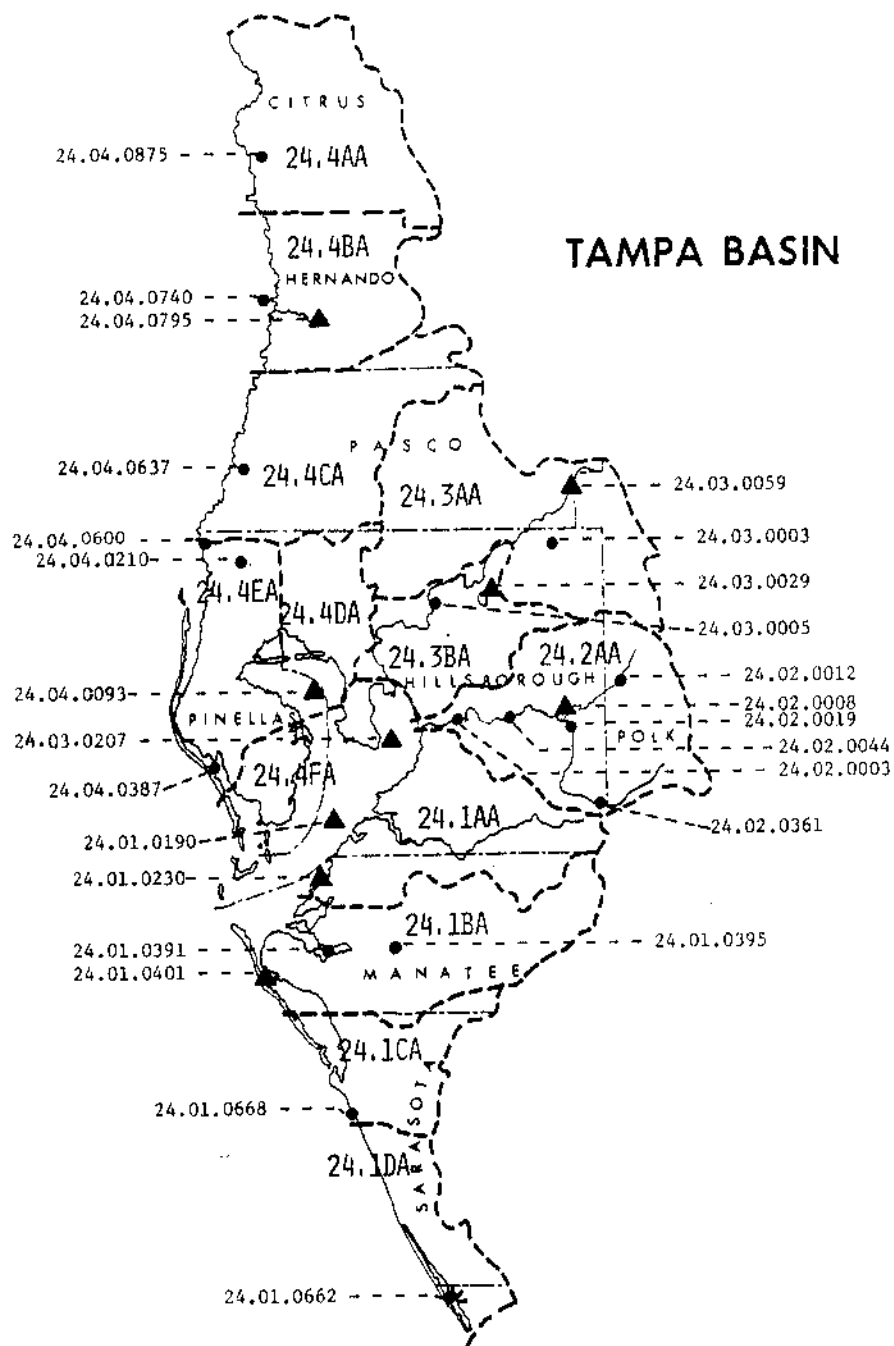
### Summary

In the North Coastal Sub-basin, the Homosassa River macroinvertebrate diversity was good but numbers of species were low, probably because of natural causes such as spring water influence and salinity variation. The Weeki Wachee River station had extremely variable macroinvertebrate diversity and conflicting trends, both of which are probably attributable to sampling error caused by variable bottom types. The Pithlachascotee River station was moved upstream away from tidal influences during the report period so little could be determined from the data except that the biotic community seemed healthier at the upstream location than at the downstream site, probably because of less pollution and the lack of salinity stress. The Gulf coastal stations, at Bayport and at the mouth of the Anclote River, both had apparently very good macroinvertebrate diversity due to their basically marine character. The Boca Ciega Bay station was probably not representative of the bay because of its proximity to Johns Pass, but its macroinvertebrate diversity was good. In Old Tampa Bay, diversity was quite variable but generally good. A significant upward trend was evident. Lake Tarpon apparently had a fairly good biological community.

In the Hillsborough River Sub-basin, macroinvertebrate diversity was generally better upstream in undeveloped areas than downstream. Also, high total coliform counts were occasionally noted due to runoff, especially from pasture land. Because of its location at the mouth of Flint Creek, the Lake Thonotosassa station may not be representative of the lake. Macroinvertebrate data were variable (generally fair) probably due, in part, to the installation and operation of a flood control structure. In Hillsborough Bay, macroinvertebrate diversity ranged from very poor to good and exhibited a significant improvement, but without a specific reason.

The South Prong of the Alafia River evidently had fairly good macroinvertebrate diversities while the North Prong's community was less healthy and apparently subject to severe impacts from phosphate spills from processing plants. The middle and lower stations on the Alafia had fairly good macroinvertebrate diversities. Total coliform levels were often high along the entire length of the river, apparently due, primarily, to runoff.

In Tampa Bay near Bahia Beach, macroinvertebrate diversity was good and at Bishop's Harbor, a less developed area, it was very good. The Manatee River biota were fairly diverse upstream at the reservoir, but total coliform concentrations were sometimes high for drinking water. Downstream, macroinvertebrates were estuarine forms and diversity was good. Runoff apparently caused total coliform problems there, too. The Gulf-influenced stations on Sarasota Bay and Little Sarasota Bay had very good water quality according to the diversity data. Over-enrichment has evidently contributed to nuisance growth of aquatic plants in Lemon Bay.



Station No. 24.01.0190 Body of Water Tampa Bay  
Location middle of Bay, 1 mi. west of Bahia Beach, 3/4 mi. east of MacDill  
ship channel County Hillsborough  
Type Body of Water marine (Bay) Classification III  
Sources of Pollution industrial & urban runoff, Alafia River  
  
Nearby Land Use residential  
Sampling Frequency \_\_\_\_\_ Depth 1 - 2 meters  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

Macroinvertebrates:

Annelida

Polychaeta

Capitella capitata  
Glycinde solitaria  
Glycera americana  
Haploscoloplos fragilis  
H. foliosus  
Megalomma bioculatum  
Mediomastus californiensis  
Minuspio cirrifera  
Nereis acuminata  
N. succinea  
Paraprionospio pinnata  
Pectinaria gouldii  
Phyllodoce arenae  
P. erythrophyllus  
Prionospio heterobranchia  
Scoloplos rubra  
Spiochaetopterus costarum oculatus  
Sthenelais boa  
Travisia hobsonae

## Arthropoda

## Crustacea

## Isopoda

Apanthura magnificaCyathura polita

## Amphipoda

Ampelisca holmesiA. vadorumCerapus tubularisErichthonius brasiliensisGrandidierella bonnieroidesLembos sp. 1 - FarrellListriella barnardiL. clymenellaLysianopsis albaMicrodeutopus sp. 1 - FarrellMonoculoides nyeiPhotis sp.Platyischnopus sp. 1 - FarrellStenothoe sp. 1 - FarrellTrichophoxus floridanus

## Decapoda

Alpheus sp. 1 - FarrellHippolyte pleurocanthaNeopanope texana texanaPinnixa sayanaTrachypeneus sp.

## Cumacea

Oxyurostylis smithi

## Mollusca

## Gastropoda

Acteocina canaliculataCerepidula planaEpitonium sp. 1 - FarrellHaminoea succineaMarginella apicinaMitrella lunataNatica canrenaN. pusillaOdostomia sp. 1 - FarrellTurbonilla sp. 1 - Farrell

## Pelecypoda

Mulinia lateralisNucula crenulataTagelus divisusTellina irisT. tampanensisT. versicolor

## Brachiopoda

Glottidia pyramidata

## Chordata

## Cephalochordata

Branchiostoma caribbaeumB. sp. 1 - Farrell



DATA SUMMARY: Tampa Bay

| Station Number | Date       | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |            |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 74             | 24.01.0190 | 8 Aug 73           |            |       |                      |            |       |              |       |                                                 |                                              | 80                               |       |          |
|                |            | 5 Sep 73           |            |       |                      |            |       |              |       |                                                 |                                              | 40                               |       |          |
|                |            | 17 Sep 73          |            |       |                      |            |       |              |       |                                                 |                                              | 50                               |       |          |
|                |            | 7 Nov 73           |            |       |                      |            |       |              |       |                                                 |                                              | 270                              |       |          |
|                |            | 12 Dec 73          |            |       |                      |            |       |              |       |                                                 |                                              | 50                               |       |          |
|                |            | 16 Jan 74          |            |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 12 Feb 74          |            |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 20 Mar 74          |            |       |                      |            |       |              |       |                                                 |                                              | 1100                             | LT100 |          |
|                |            | 17 Apr 74          |            |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 12 Jun 74          |            |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 10 Jul 74  |                    |            |       |                      |            |       |              |       |                                                 | 100                                          | LT100                            |       |          |
|                | 7 Aug 74   |                    |            |       |                      |            |       |              |       |                                                 | 100                                          | LT100                            |       |          |

See Methods for explanation of table.

DATA SUMMARY: Tampa Bay

| Station Number | Date       | Macroinvertebrates |            |                      |           |       |    | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |       |            |       |
|----------------|------------|--------------------|------------|----------------------|-----------|-------|----|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|-------|------------|-------|
|                |            | Natural Substrate  |            | Artificial Substrate |           | #Spp. | BI |              |                                                 |                                              |                                  |          | #Spp. |            |       |
|                |            | Diversity          | Redundancy | #Spp.                | Diversity |       |    |              |                                                 |                                              |                                  |          |       | Redundancy | #Spp. |
|                |            |                    |            |                      |           |       |    |              |                                                 |                                              |                                  |          |       |            |       |
| 75             | 24.01.0190 | 4 Sep 74           |            |                      |           |       |    |              |                                                 |                                              | 200 LT100                        |          |       |            |       |
|                |            | 7 Nov 74           |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 11 Dec 74          |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 15 Jan 75          |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 12 Feb 75          |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 12 Mar 75          |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 9 Apr 75           |            |                      |           |       |    |              |                                                 |                                              | 200 LT100                        |          |       |            |       |
|                |            | 7 May 75           |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 2 Jul 75           |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 29 Jul 75          |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 27 Aug 75          |            |                      |           |       |    |              |                                                 |                                              | LT100 LT100                      |          |       |            |       |
|                |            | 23 Sep 75          |            |                      |           |       |    |              |                                                 |                                              | 300 LT100                        |          |       |            |       |

See Methods for explanation of table.

DATA SUMMARY: Tampa Bay

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 76             | 24 Oct 75 | 2.938±0.471        | 0.324±0.107 | 14    |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 14 Jan 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 11 Feb 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 10 Mar 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 7 Apr 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 5 May 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 2 Jun 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 7 Jul 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 5 Aug 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 100                              | LT100 |          |
|                | 8 Sep 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 5 Oct 76  |                    |             |       |                      |            |       |              |       |                                                 | LT100                                        | LT100                            |       |          |
|                | 3 Nov 76  |                    |             |       |                      |            |       |              |       |                                                 | 100                                          | LT100                            |       |          |

See Methods for explanation of table.

DATA SUMMARY: Tampa Bay

| Station Number | Date       | Macroinvertebrates |             |             |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|-------------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             |             | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              | Total                            | Fecal |          |
| 77             | 24.01.0190 | 4 Nov 76           | 3.684±0.216 | 0.121±0.028 | 27                   |            |       |              |       |                                                 |                                              | 200                              | LT100 |          |
|                |            | 8 Dec 76           |             |             |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 26 Jan 77          |             |             |                      |            |       |              |       |                                                 |                                              | 7260                             | LT100 |          |
|                |            | 23 Feb 77          |             |             |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 24 Mar 77          |             |             |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 27 Apr 77          |             |             |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 22 Jun 77          |             |             |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                |            | 20 Jul 77          | 2.985±0.295 | 0.311±0.058 | 29                   |            |       |              |       |                                                 |                                              | 100                              | 100   |          |
|                |            | 7 Dec 77           | 4.027±0.276 | 0.141±0.038 | 33                   |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            | 15 Mar 78          | 2.811±0.315 | 0.178±0.145 | 13                   |            |       |              |       |                                                 |                                              | 100                              | 100   |          |
|                |            | 12 Apr 78          |             |             |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Tampa Bay

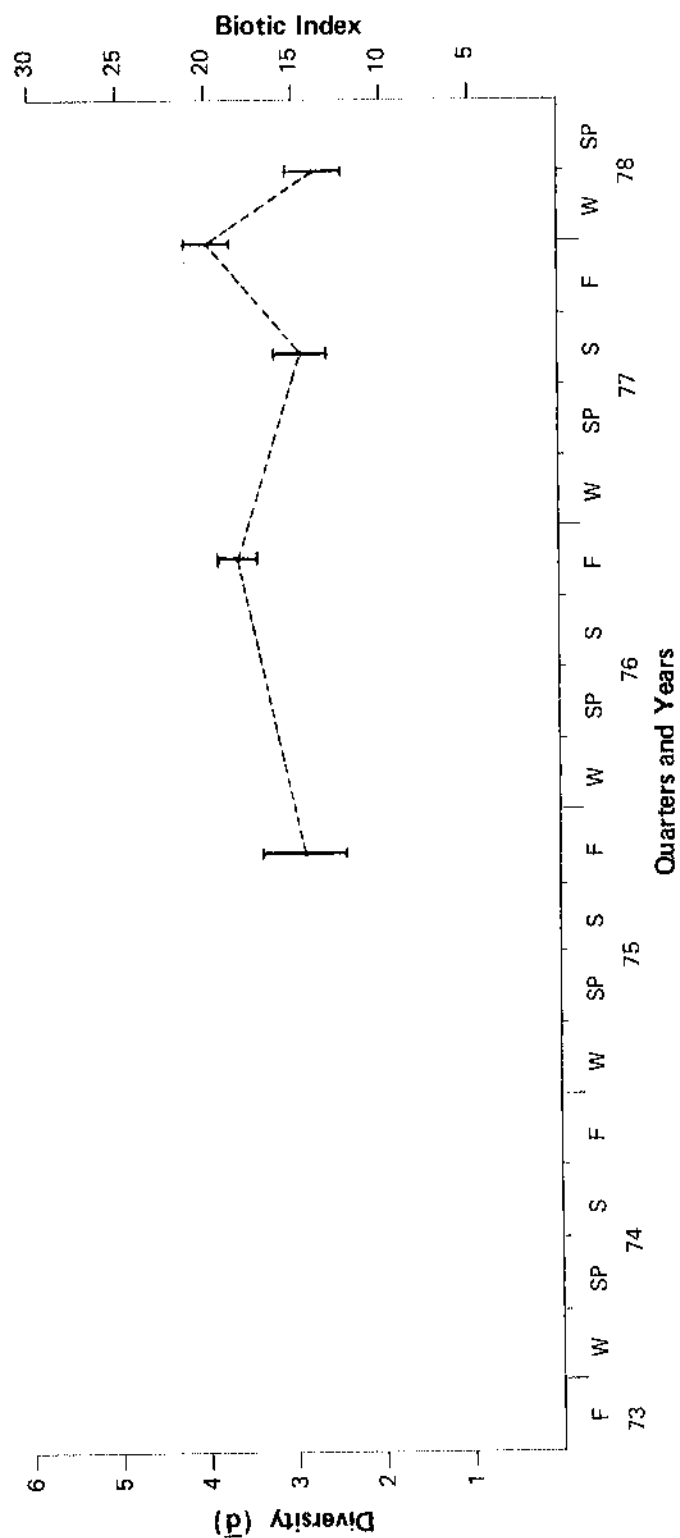
| Station Number | Date      | Macroinvertebrates |            |                      |           |       |            |       |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |            | Comments |       |
|----------------|-----------|--------------------|------------|----------------------|-----------|-------|------------|-------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|------------|----------|-------|
|                |           | Natural Substrate  |            | Artificial Substrate |           | #Spp. | Redundancy | #Spp. | Total |              |                                                 |                                              | Fecal                            |            |          |       |
|                |           | Diversity          | Redundancy | #Spp.                | Diversity |       |            |       |       |              |                                                 |                                              |                                  | Redundancy |          | #Spp. |
|                |           |                    |            |                      |           |       |            |       |       |              |                                                 |                                              |                                  |            |          |       |
| 78             |           |                    |            |                      |           |       |            |       |       |              |                                                 |                                              |                                  |            |          |       |
| 24.01.0190     | 10 May 78 |                    |            |                      |           |       |            |       |       |              |                                                 |                                              | LT100                            | LT100      |          |       |
|                | 8 Jun 78  |                    |            |                      |           |       |            |       |       |              |                                                 |                                              | 100                              | LT100      |          |       |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.01.0190  
 BODY OF WATER: TAMPA BAY

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.01.0230 Body of Water Bishop's Harbor  
Location entrance at mouth to Tampa Bay  
County Manatee  
Type Body of Water lower estuary, marine Classification III  
Sources of Pollution urban runoff & Port Manatee  
Nearby Land Use residential, most natural  
Sampling Frequency quarterly Depth 1 - 2 meters  
Bottom Type sand, shell % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Thalassia testudinum, Gracilaria sp.,  
Halodule sp., Acanthophora sp. Emergent Rhizophora mangle

#### Macroinvertebrates:

Cnidaria  
    unident. actiniarian sp. 1 - Farrell

Rhynchocoela  
    Micrura sp- 1 - Farrell

Nematoda  
    unident. sp.

Annelida  
    Polychaeta  
        Apoprionospio pygmaea  
        Aricidea philbinae  
        Armandia agilis  
        Axiiothella mucosa  
        Branchiomma nigromaculata  
        Capitella capitata  
        Chone sp. 1 - Farrell  
        Cirriformia filigera  
        C. grandis  
        Clymenella torquata  
        Diopatra cuprea  
        Dispio uncinata  
        Eulalia sanguinea  
        Glycera dibranchiata  
        G. americana  
        G. solitaria  
        Coniada teres  
        Fabricia sp. 1 - Farrell

Polychaeta (cont.)

Haploscoloplos foliosus  
H. fragilis  
H. robustus  
Hypaniola floridana  
Lumbrineris sp. 1 - Farrell  
Marphysa sanguinea  
Mediomastus californiensis  
Melinna maculata  
Minuspio cirrifera  
Naineris setosa  
Nereis acuminata  
N. succinea  
N. riisei  
Nothria conchylega  
Onuphis eremita  
O. nebulosa  
Owenia fusiformis  
Paraprionospio pinnata  
Pectinaria gouldii  
Phyllodoce erythrophyllus  
P. fragilis  
Pista palmata  
Podarke obscura  
Polydora ligni  
P. plena  
P. websteri  
Prionospio heterobranchia  
Sabella malanostigma  
S. microphthalma  
Sabellastarte magnifica  
Scoelepis squamata  
Scoloplos rubra  
Spiophanes bombyx  
Spio pettiboneae  
Tharyx sp. 1 - Farrell

Arthropoda

Crustacea

Isopoda

Apanthura magnifica  
Edotea montosa  
Erichsonella filiformis  
Xenanthura sp. 1 - Farrell

Amphipoda

Ampelisca holmesi  
A. vadorum  
Ampithoe longimana  
Argissa sp. 1 - Farrell  
Caprella sp.  
C. penantis  
Cerapus tubularis  
Corophium acherusicum  
C. simile  
C. tuberculatum  
Cymadusa filosa  
E. brasiliensis  
Elasmopus pocillimanus



## Amphipoda cont.

Hemiaegina minuta  
Listriella barnardi  
Luconacia inserta  
Lysianopsis alba  
Metopella sp. 1 - Farrell  
Microdeutopus myersi  
M. sp. 1 - Farrell  
Paracaprella pusilla  
Paraphoxus spinosus  
Platyischnopus sp. 1 - Farrell  
Polycheria sp. 1 - Farrell  
Synchelidium sp. 1 - Farrell  
Trichophoxus floridanus  
Uniciola sp. 1 - Farrell

## Decapoda

Alpheus heterochelis  
A. normanni  
Ambidexter symmetricus  
Callinectes sapidus  
Eurypanopeus depressus  
Lepidopa websteri  
Leptodius agassizi  
Microphrys bicornutus  
Neopanope texana  
Pagurus annulipes  
P. impressus  
P. longicarpus  
Palaemonetes pugio  
Panopeus turgidus  
Periclimenes longicaudatus  
Trachypenaeus constrictus

## Mysidacea

Bowmaniella dissimilis  
Mysidopsis bigelowi

## Cumacea

Cyclaspis varians  
Oxyurostylis smithi

## Tanidacea

Leptochelia rapax

## Cirripectida

Balanus eburneus

## Xiphosura

Limulus polyphemus

## Mollusca

## Gastropoda

Acteon punctostriatus  
Acteocina canaliculata  
Anachis obesa  
Bulla sp. 1 - Farrell  
Caecum pulchellum  
Columbella rusticoidea  
Conus jaspideus  
Crepidula fornicata  
C. plana

Gastropoda (cont.)

Diastoma varium  
Haminoea succinea  
Marginella apicina  
Melampus bidentatus  
Melongena corona  
Mitrella lunata  
Nassarius vibex  
Neritina virginea  
Odostomia seminuda  
Olivella pusilla  
Polinices duplicatus  
Sayella fusca  
Turbonilla conradi  
T. dalli  
Triphora nigrocincta

Pelecypoda

Abra aequalis  
Anadara notabilis  
A. transversa  
Carditamera floridana  
Chione cancellata  
Ensis minor  
Laevicardium laevigatum  
L. mortoni  
Lucina nassula  
Mercenaria campechiensis  
Mysella planulata  
Pandora sp.  
Parastarte triguetra  
Spisula solidissima  
Strombus alatus  
Tagelus divisus  
T. plebeius  
Tellina iris  
T. sybaritica  
T. tampaensis  
T. texana  
T. versicolor  
Transennella stimpsoni

Echinodermata

Holothuroidea

Leptosynapta parivaptina  
Pentacta pygmaea

Ophiuroidea

Amphioplus thrombodes  
Ophiophragmus filograneus  
O. wurdemanni

Sipunculida

Phascolion sp. 1 - Farrell

24.01.0230

Chordata

Cephalochordata

Branchiostoma sp. 1 - Farrell

DATA SUMMARY: Bishop's Harbor

| Station Number   | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments      |
|------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|---------------|
|                  |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                              | Total                            | Fecal |               |
|                  |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Sup. |                                                 |                                              |                                  |       |               |
|                  |           |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
| 24-01-0230<br>05 | 20 Dec 73 | 2.574±0.128        | 0.309±0.018 | 49    |                      |             |       |              |       |                                                 |                                              |                                  |       | Florida Index |
|                  | 21 May 74 | 4.024±0.101        | 0.081±0.007 | 51    |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 22 Oct 74 | 5.250±0.540        |             | 71    | 1.340±0.028          | 0.517±0.009 | 22    |              |       |                                                 |                                              |                                  |       |               |
|                  | 9 Jan 75  | 3.668±0.362        | 0.231±0.059 | 28    |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 12 Jun 75 | 2.858±0.215        | 0.085±0.017 | 27    |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 30 Oct 75 |                    |             |       | 2.943±0.326          | 0.240±0.070 | 17    |              |       |                                                 |                                              |                                  |       |               |
|                  | 21 Sep 76 | 3.233±0.161        | 0.188±0.018 | 19    |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 10 Aug 77 | 4.417±0.239        | 0.091±0.023 | 39    |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 11 Oct 77 | 3.449±0.296        | 0.230±0.039 | 34    |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 5 Dec 77  |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 24 Jan 78 | 3.635±0.287        | 0.102±0.027 | 19    |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  | 20 Feb 78 |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |       |               |
|                  |           |                    |             |       |                      |             |       |              |       |                                                 |                                              | 310                              |       |               |
|                  |           |                    |             |       |                      |             |       |              |       |                                                 |                                              | 20                               | 1110  |               |
|                  |           |                    |             |       |                      |             |       |              |       |                                                 |                                              | 2                                | 2     |               |
|                  |           |                    |             |       |                      |             |       |              |       |                                                 |                                              | 1450                             | 2360  |               |

See Methods for explanation of table.

DATA SUMMARY: Bishop's Harbor

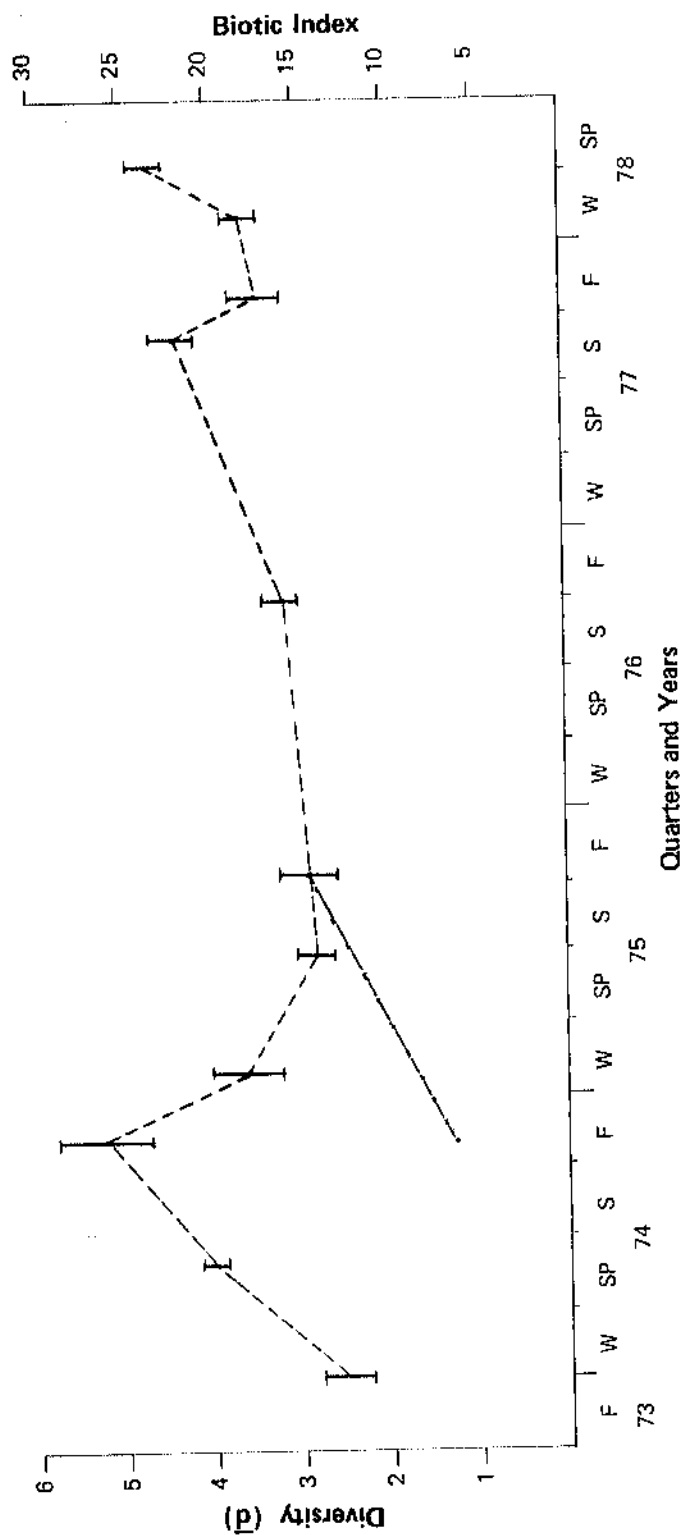
| Station Number   | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                             | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |      |  |
|------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|------|--|
|                  |           | Natural Substrate  |             |       | Artificial Substrate |            |       | BI           | #Spp. |                                                                                                                             |                                              | Total                            | Fecal |          |      |  |
|                  |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |       |                                                                                                                             |                                              |                                  |       |          |      |  |
| 24.01.0230<br>86 | 21 Mar 78 | 4.630±0.157        | 0.046±0.007 | 45    |                      |            |       |              |       | Coc BG 0<br>Fil BG 47<br>Coc Gr 280<br>Fil Gr 1864<br>Gr Flag 0<br>Other Flag 93<br>Cen Dia 47<br>Pen Dia 326<br>Total 2657 |                                              |                                  | 550   | 1710     |      |  |
|                  | 25 Mar 78 |                    |             |       |                      |            |       |              |       |                                                                                                                             |                                              |                                  |       |          | 1710 |  |
|                  | 12 Apr 78 |                    |             |       |                      |            |       |              |       |                                                                                                                             |                                              |                                  |       |          |      |  |
|                  | 5 Jun 78  |                    |             |       |                      |            |       |              |       |                                                                                                                             |                                              |                                  |       |          |      |  |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.01.0230  
 BODY OF WATER: BISHOP'S HARBOR

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.01.0391 Body of Water Manatee River  
Location Manatee River near US 301-41, southside  
County Manatee  
Type Body of Water river-estuary Classification III  
Sources of Pollution urban runoff  
Nearby Land Use urban  
Sampling Frequency \_\_\_\_\_ Depth 1.5 meter  
Bottom Type shell & sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged none  
Emergent none

Macroinvertebrates:

Annelida

Polychaeta

Cirriformia grandis  
Eteone lactea  
Glycinde nordmanni  
Glycera dibranchiata  
Melinna maculata  
Nereis acuminata  
N. succinea  
Paraprionospio pinnata

Arthropoda

Crustacea

Amphipoda

Ampelisca abdita

Decapoda

Alpheus sp. 1 - Farrell

Cumacea

Cyclaspis varians

Cirripedia

Balanus amphitrite

B. eburneus

24.01.0391

Manatee River

Mollusca

Gastropoda

Crepidula plana  
Epitonium krebsi  
Melongena corona  
Mitrella lunata  
Nassarius vibex  
Sayella fusca

Pelecypoda

Abra aequalis  
Amygdalum papyrium  
Acteocina canaliculata  
Ischadium recurvum  
Mulinia lateralis  
Tellina versicolor



DATA SUMMARY: Manatee River

| Station Number   | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|------------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                  |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                  |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                  |           |                    |            |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 24.01.0391<br>90 | 30 Jul 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 212400                           |       |          |
|                  | 27 Aug 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 920                              |       |          |
|                  | 24 Sep 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 212400                           |       |          |
|                  | 22 Oct 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 920                              |       |          |
|                  | 26 Nov 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 350                              |       |          |
|                  | 26 Dec 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 540                              |       |          |
|                  | 28 Jan 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 1600                             |       |          |
|                  | 25 Feb 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 212400                           |       |          |
|                  | 29 Apr 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 920                              |       |          |
|                  | 27 May 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 49                               |       |          |
|                  | 24 Jun 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 350                              |       |          |
|                  | 29 Jul 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 1600                             |       |          |

See Methods for explanation of table.

DATA SUMMARY: Manatee River

| Station Number | Date       | Macroinvertebrates |            |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|------------|--------------------|------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |            | Natural Substrate  |            | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |  |          |
|                |            | Diversity          | Redundancy | #Spp.                | Diversity | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |  |          |
|                |            |                    |            |                      |           |            |       |              |       |                                                 |                                              |                                  |  |          |
| 91             | 24.01.0391 | 26 Aug 74          |            |                      |           |            |       |              |       |                                                 |                                              | 350                              |  |          |
|                |            | 30 Sep 74          |            |                      |           |            |       |              |       |                                                 |                                              | 1600                             |  |          |
|                |            | 28 Oct 74          |            |                      |           |            |       |              |       |                                                 |                                              | 540                              |  |          |
|                |            | 19 Nov 74          |            |                      |           |            |       |              |       |                                                 |                                              | 540                              |  |          |
|                |            | 17 Dec 74          |            |                      |           |            |       |              |       |                                                 |                                              | 22400                            |  |          |
|                |            | 27 Jan 75          |            |                      |           |            |       |              |       |                                                 |                                              | 920                              |  |          |
|                |            | 24 Feb 75          |            |                      |           |            |       |              |       |                                                 |                                              | 140                              |  |          |
|                |            | 24 Mar 75          |            |                      |           |            |       |              |       |                                                 |                                              | 350                              |  |          |
|                |            | 28 Apr 75          |            |                      |           |            |       |              |       |                                                 |                                              | 22400                            |  |          |
|                |            | 27 May 75          |            |                      |           |            |       |              |       |                                                 |                                              | 22400                            |  |          |
|                |            | 23 Jun 75          |            |                      |           |            |       |              |       |                                                 |                                              | 1600                             |  |          |
|                |            | 28 Jul 75          |            |                      |           |            |       |              |       |                                                 |                                              | 22400                            |  |          |

See Methods for explanation of table.

DATA SUMMARY: Manatee River

| Station Number | Date      | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |        | Comments |
|----------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--------|----------|
|                |           | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |        |          |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |        |          |
| 24.01.039      | 25 Aug 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              | GT2400                           |        |          |
|                | 29 Sep 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              | GT2400                           |        |          |
|                | 27 Oct 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 70                               |        |          |
|                | 17 Nov 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 540                              |        |          |
|                | 26 Jan 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 540                              | 220    |          |
|                | 23 Feb 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 220                              | 23     |          |
|                | 29 Mar 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | GT2400                           | 540    |          |
|                | 26 Apr 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | GT2400                           | GT2400 |          |
|                | 24 May 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 170                              | 11     |          |
|                | 17 Jun 76 | 3.132±0.110        | 0.056±0.014 |                      |           |            | 12    |              |       |                                                 |                                              | 540                              | 79     |          |
|                | 28 Jun 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | GT2400                           | 1600   |          |
|                | 26 Jul 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |        |          |

See Methods for explanation of table.

DATA SUMMARY: Manatee River

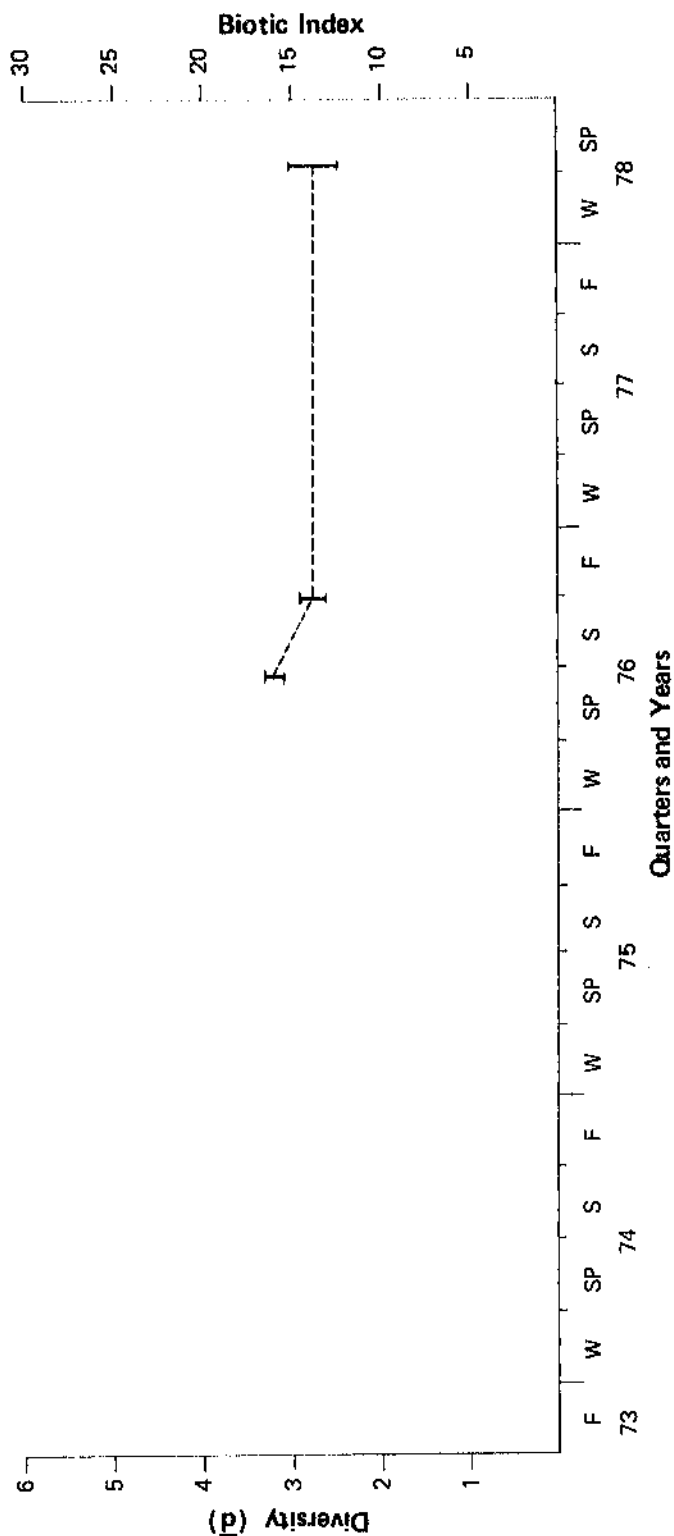
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |               | Comments |  |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|---------------|----------|--|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal         |          |  |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |               |          |  |
|                |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |               |          |  |
| 24.01.0391     | 21 Sep 76 | 2.811±0.136        | 0.093±0.021 | 11    |                      |            |       |              |       |                                                 |                                              |                                  | Florida Index |          |  |
|                | 12 Apr 78 | 2.758±0.268        | 0.170±0.041 | 13    |                      |            |       |              |       |                                                 |                                              |                                  |               |          |  |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.01.0391  
 BODY OF WATER: MANATEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — Biotic Index (= FLORIDA INDEX)



**Macroinvertebrates:**

95

Diptera

Ablabesmyia parajanta  
A. tarella  
Coelotanypus concinnus  
Cryptochironomus fulvus  
Cladotanytarsus sp. 1 - Cantrell  
Dicrotendipes modestus  
Labrundinia johannseni  
Microsectra sp. 2 - Cantrell  
Polypedilum halterale  
Procladius sp. 1 - Cantrell  
Psectrocladius vernalis  
Rheotanytarsus exiguus  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 1 - Cantrell

Coleoptera

Dubiraphia quadrinotata  
Peltodytes floridensis  
Stenelmis fuscata

Mollusca

Pelecypoda

Corbicula manilensis  
Eupera cubensis

DATA SUMMARY: Manatee River

| Station Number | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |           |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 97             | 24 Jul 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 920                              |       |          |
|                | 27 Aug 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 920                              |       |          |
|                | 24 Sep 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 240                              |       |          |
|                | 22 Oct 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 220                              |       |          |
|                | 26 Nov 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 350                              |       |          |
|                | 20 Dec 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 350                              |       |          |
|                | 28 Jan 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 240                              |       |          |
|                | 25 Feb 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1600                             |       |          |
|                | 25 Mar 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 350                              |       |          |
|                | 29 Apr 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 79                               |       |          |
|                | 27 May 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 920                              |       |          |
|                | 2 Jun 74  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 22400                            |       |          |

See Methods for explanation of table.



DATA SUMMARY: Manatee River

| Station Number | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |
|                |           |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |          |
| 98             | 24 Jul 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 920                              |          |
|                | 26 Aug 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 540                              |          |
|                | 30 Sep 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 540                              |          |
|                | 28 Oct 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 350                              |          |
|                | 19 Nov 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 350                              |          |
|                | 17 Dec 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 272400                           |          |
|                | 21 Jan 75 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 220                              |          |
|                | 24 Feb 75 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 920                              |          |
|                | 24 Mar 75 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 540                              |          |
|                | 28 Apr 75 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 350                              |          |
|                | 27 May 75 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 920                              |          |
|                | 23 Jun 75 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 272400                           |          |

See Methods for explanation of table.

DATA SUMMARY: Nantuxee River

| Station Number | Date      | Macroinvertebrates |             |                      |           |       |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |                                                 |                                              |                                  |       |          |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |       |              |                                                 |                                              | Redundancy                       | #Spp. |          |
|                |           |                    |             |                      |           |       |       |              |                                                 |                                              |                                  |       |          |
| 99             | 24 Jul 75 |                    |             |                      |           |       |       |              |                                                 |                                              | 220                              |       |          |
|                | 25 Aug 75 |                    |             |                      |           |       |       |              |                                                 |                                              | 920                              |       |          |
|                | 29 Sep 75 |                    |             |                      |           |       |       |              |                                                 |                                              | 102400                           |       |          |
|                | 21 Oct 75 |                    |             |                      |           |       |       |              |                                                 |                                              | 1600                             |       |          |
|                | 17 Nov 75 |                    |             |                      |           |       |       |              |                                                 |                                              | 1600                             |       |          |
|                | 29 Dec 75 |                    |             |                      |           |       |       |              |                                                 |                                              | 212400                           |       |          |
|                | 26 Jan 76 |                    |             |                      |           |       |       |              |                                                 |                                              | 540                              | 170   |          |
|                | 23 Feb 76 |                    |             |                      |           |       |       |              |                                                 |                                              | 920                              | 110   |          |
|                | 29 Mar 76 |                    |             |                      |           |       |       |              |                                                 |                                              | 1600                             | 280   |          |
|                | 21 Apr 76 | 2.071±0.243        | 0.431±0.073 | 15                   |           |       |       |              |                                                 |                                              | 920                              | 79    |          |
|                | 20 Apr 76 |                    |             |                      |           |       |       |              |                                                 |                                              | 12400                            | 140   |          |
|                | 24 May 76 |                    |             |                      |           |       |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Manatee River

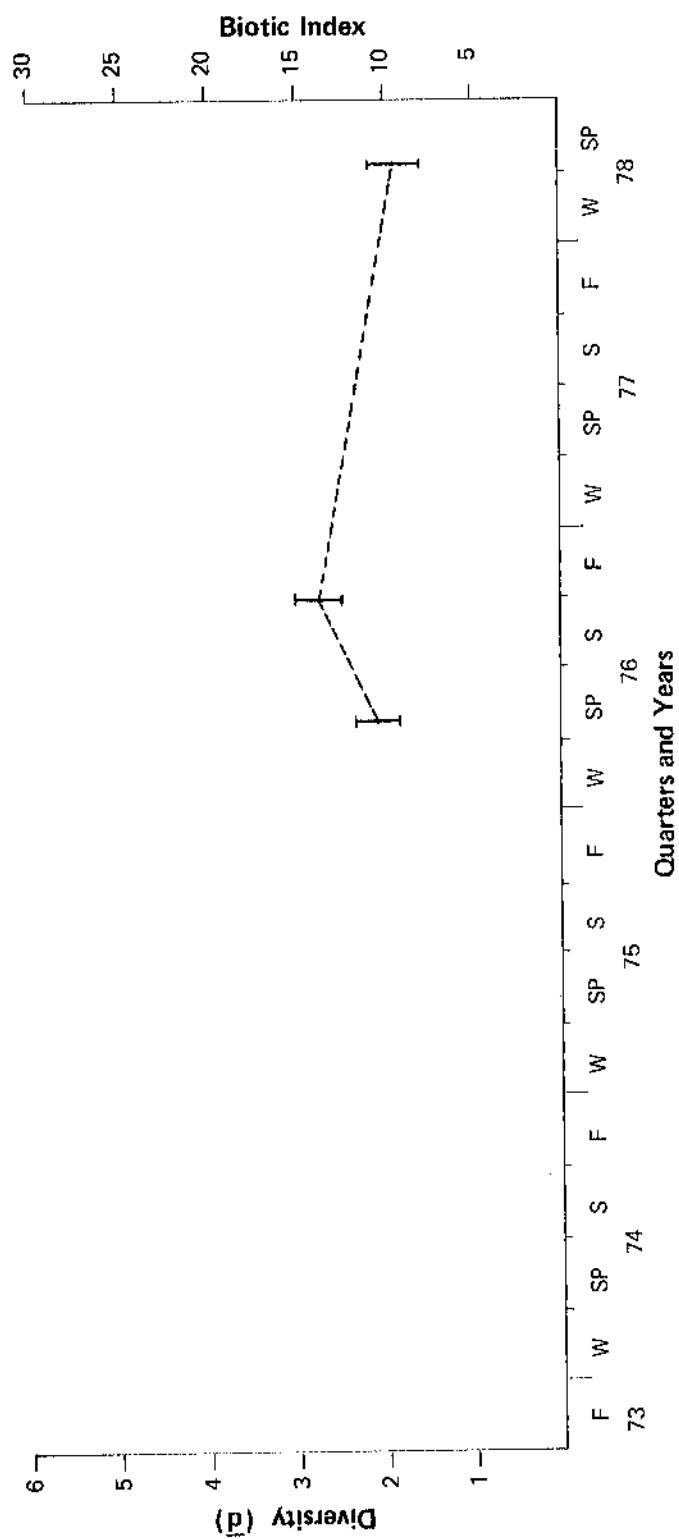
| Station Number | Date      | Macroinvertebrates |             |                      |           |       |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments      |
|----------------|-----------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|---------------|
|                |           | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |       |                                                 |                                              |                                  |       |               |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |       | Redundancy   | #Spp. |                                                 |                                              | BI                               | #Spp. |               |
| 24,01,039      | 28 Jun 76 |                    |             |                      |           |       |       |              |       |                                                 |                                              | 350                              | 49    | Florida Index |
|                | 26 Jul 76 |                    |             |                      |           |       |       |              |       |                                                 | 22400                                        | 920                              |       |               |
|                | 21 Sep 76 | 2.758±0.244        | 0.136±0.060 | 10                   |           |       |       |              |       |                                                 |                                              |                                  |       |               |
|                | 12 Apr 78 | 1.867±0.283        | 0.435±0.061 | 15                   |           |       |       |              |       |                                                 |                                              |                                  |       |               |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.01.0395  
 BODY OF WATER: MANATEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.01.0401 Body of Water Sarasota Bay  
Location off Bridge Street in Bradenton Beach  
County Manatee  
Type Body of Water bay/marine Classification \_\_\_\_\_  
Sources of Pollution urban runoff, fishing docks  
Nearby Land Use City of Bradenton Beach  
Sampling Frequency quarterly Depth 1.5 meters  
Bottom Type sand, shell hash % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

#### Macroinvertebrates:

##### Rhynchocoela

Micrura sp. 1 - Cantrell

##### Annelida

###### Oligochaeta

unident. sp. 1 - Cantrell

unident. sp. 2 - Cantrell

###### Polychaeta

Chone sp. 1 - Cantrell

Cirriformia grandis

Dodecaceria sp. 1 - Cantrell

Eulalia myriacyclum

E. sanguinea

Eunice antennata

Glycera americana

G. dibranchiata

G. sp. 1 - Cantrell

G. sp. 2 - Cantrell

Haploscoloplos foliosus

Hemipodus sp. 1 - Cantrell

Isolda pulchella

Laeonereis culveri

Mediomastus californiensis

Nereis acuminata

Odontosyllis fulgurans

Ophelina sp. 1 - Heibling

## Polychaeta cont.

Phyllodoce fragilis  
P. erythrophyllus  
Pista cristata  
Prionospio cristata  
P. heterobranchia  
Sabella melanostigma  
Samythella eliasoni  
Sphaerosyllis pirifera  
Tharyx sp. 1 - Cantrell  
T. sp. 2 - Cantrell

## Arthropoda

## Crustacea

## Isopoda

Erichsonella filiformis  
Paracerceis caudata  
Sphaeroma destructor

## Amphipoda

Ampelisca holmesi  
Corophium ascherusicum  
C. lacustre  
Elasmopus pocillimanus  
Erichthonius brasiliensis  
Lembos sp. 1 - Cantrell  
Lysianopsis alba  
Melita appendiculata  
Microdeutopus sp. 1 - Cantrell  
M. myersi  
Platyischnopus sp. 1 - Cantrell

## Decapoda

Alpheus normanni  
A. sp. 1 - Cantrell  
Ambidexter symmetricus  
Hexapanopeus angustifrons  
Pagurus annulipes  
Pinnixia cylindrica  
Sicyonia typica  
Portunus sp. 1 - Cantrell

## Mysidacea

Mysidopsis bahia

## Tanaidacea

Leptochelia rapax

## Mollusca

## Polyplacophora

Acanthochitona pygmaea  
Ischnochiton papillosus

## Gastropoda

Cerithium atratum  
Crepidula fornicata  
C. plana  
Diastoma varium

## Gastropoda cont.

Doridella obscura  
Haminoea succinea  
Mitrella lunata  
Nassarius vibex  
Triphora nigrocincta  
Turbonilla curta

## Pelecypoda

Anadara sp. 1 - Cantrell  
A. transversa  
Corbula swiftiana  
Chione grus  
Crassostrea virginica  
Diplodonta punctata  
Laevicardium laevigatum  
Lima pellucida  
Lucina radians  
Lyonsia hyalina  
Mercenaria campechiensis  
Nucula proxima  
Tellina tenella

## Phoronida

Phoronis sp. 1 - Cantrell

## Chordata

## Cephalochordata

Branchiostoma sp. 1 - Cantrell

DATA SUMMARY: Sarasota Bay

| Station Number    | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|-------------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                   |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |          |
|                   |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |
|                   |           |                    |            |       |                      |            |       |              |       |                                                 |                                              | Total                            | Fecal    |
| 105<br>24.01.0601 | 24 Jul 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 5                                |          |
|                   | 21 Aug 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 240                              |          |
|                   | 18 Sep 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 13                               |          |
|                   | 16 Oct 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 11                               |          |
|                   | 18 Dec 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 5                                |          |
|                   | 15 Jan 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 79                               |          |
|                   | 19 Feb 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 11                               |          |
|                   | 19 Mar 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 112                              |          |
|                   | 22 Apr 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 2                                |          |
|                   | 21 May 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 112                              |          |
|                   | 18 Jun 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 172                              |          |
|                   | 23 Jul 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | -                                |          |

See Methods for explanation of table.



DATA SUMMARY: Sarasota Bay

| Station Number | Date       | Macroinvertebrates |            |                      |           |       |            | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |       |
|----------------|------------|--------------------|------------|----------------------|-----------|-------|------------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|-------|
|                |            | Natural Substrate  |            | Artificial Substrate |           | #Spp. | Redundancy |              |       |                                                 |                                              |                                  |  |          | #Spp. |
|                |            | Diversity          | Redundancy | #Spp.                | Diversity |       |            | Redundancy   | #Spp. |                                                 |                                              |                                  |  |          |       |
|                |            | Total              | Fecal      |                      |           |       |            |              |       |                                                 |                                              |                                  |  |          |       |
| 106            | 24.01.0401 | 20 Aug 74          |            |                      |           |       |            |              |       |                                                 |                                              | 49                               |  |          |       |
|                |            | 24 Sep 74          |            |                      |           |       |            |              |       |                                                 |                                              | 17                               |  |          |       |
|                |            | 22 Oct 74          |            |                      |           |       |            |              |       |                                                 |                                              | 33                               |  |          |       |
|                |            | 19 Nov 74          |            |                      |           |       |            |              |       |                                                 |                                              | 140                              |  |          |       |
|                |            | 17 Dec 74          |            |                      |           |       |            |              |       |                                                 |                                              | 1600                             |  |          |       |
|                |            | 21 Jan 75          |            |                      |           |       |            |              |       |                                                 |                                              | 7                                |  |          |       |
|                |            | 18 Feb 75          |            |                      |           |       |            |              |       |                                                 |                                              | 22400                            |  |          |       |
|                |            | 18 Mar 75          |            |                      |           |       |            |              |       |                                                 |                                              | 23                               |  |          |       |
|                |            | 22 Apr 75          |            |                      |           |       |            |              |       |                                                 |                                              | 220                              |  |          |       |
|                |            | 20 May 75          |            |                      |           |       |            |              |       |                                                 |                                              | LT2                              |  |          |       |
|                | 17 Jun 75  |                    |            |                      |           |       |            |              |       |                                                 | 17                                           |                                  |  |          |       |
|                | 22 Jul 75  |                    |            |                      |           |       |            |              |       |                                                 | 170                                          |                                  |  |          |       |

See Methods for explanation of table.

DATA SUMMARY: Sarasota Bay

| Station Number | Date       | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |
|----------------|------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|
|                |            | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |     |          |
|                |            | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |     |          |
|                |            |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |     |          |
| 107            | 24.01.0601 | 25 Aug 75          |             |       |                      |            |       |              |       |                                                 |                                              | 5                                |     |          |
|                |            | 23 Sep 75          |             |       |                      |            |       |              |       |                                                 |                                              | 920                              |     |          |
|                |            | 21 Oct 75          |             |       |                      |            |       |              |       |                                                 |                                              | 3                                |     |          |
|                |            | 24 Nov 75          |             |       |                      |            |       |              |       |                                                 |                                              | 5                                |     |          |
|                |            | 16 Dec 75          |             |       |                      |            |       |              |       |                                                 |                                              | 7                                |     |          |
|                |            | 20 Jan 76          |             |       |                      |            |       |              |       |                                                 |                                              | 17                               | 8   |          |
|                |            | 17 Feb 76          |             |       |                      |            |       |              |       |                                                 |                                              | 140                              | 95  |          |
|                |            | 23 Mar 76          |             |       |                      |            |       |              |       |                                                 |                                              | LT2                              | LT2 |          |
|                |            | 13 Apr 76          |             |       |                      |            |       |              |       |                                                 |                                              | LT2                              | LT2 |          |
|                |            | 18 May 76          |             |       |                      |            |       |              |       |                                                 |                                              | LT2                              | LT2 |          |
|                | 26 May 76  | 3.760±0.200        | 0.082±0.020 | 24    |                      |            |       |              |       |                                                 | LT2                                          | LT2                              |     |          |
|                | 22 Jun 76  |                    |             |       |                      |            |       |              |       |                                                 | LT2400                                       | LT2400                           |     |          |
|                | 20 Jul 76  |                    |             |       |                      |            |       |              |       |                                                 | LT2                                          | LT2                              |     |          |

See Methods for explanation of table.

DATA SUMMARY: Sarasota Bay

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |          |
|                |           | Total              | Fecal       |       |                      |            |       |              |                                                 |                                              |                                  |          |
| 24.01.0401     | 17 Aug 76 |                    |             |       |                      |            |       |              |                                                 |                                              | 33                               | 8        |
|                | 21 Sep 76 | 3.582±0.275        | 0.084±0.032 | 16    |                      |            |       |              |                                                 |                                              | 240                              | 23       |
|                | 19 Oct 76 |                    |             |       |                      |            |       |              |                                                 |                                              | 5                                | 2        |
|                | 16 Nov 76 |                    |             |       |                      |            |       |              |                                                 |                                              | 350                              | 350      |
|                | 14 Dec 76 |                    |             |       |                      |            |       |              |                                                 |                                              | 8                                | 2        |
|                | 18 Jan 77 |                    |             |       |                      |            |       |              |                                                 |                                              | 23                               | 5        |
|                | 22 Feb 77 |                    |             |       |                      |            |       |              |                                                 |                                              | LT2                              | LT2      |
|                | 15 Mar 77 |                    |             |       |                      |            |       |              |                                                 |                                              | 4                                | 2        |
|                | 12 Apr 77 |                    |             |       |                      |            |       |              |                                                 |                                              | 5                                | 5        |
|                | 17 May 77 |                    |             |       |                      |            |       |              |                                                 |                                              | LT2                              | LT2      |
|                | 21 Jun 77 |                    |             |       |                      |            |       |              |                                                 |                                              | LT2                              | LT2      |
|                | 26 Jul 77 |                    |             |       |                      |            |       |              |                                                 |                                              | 2                                | LT2      |

See Methods for explanation of table.

DATA SUMMARY: Sarasota Bay

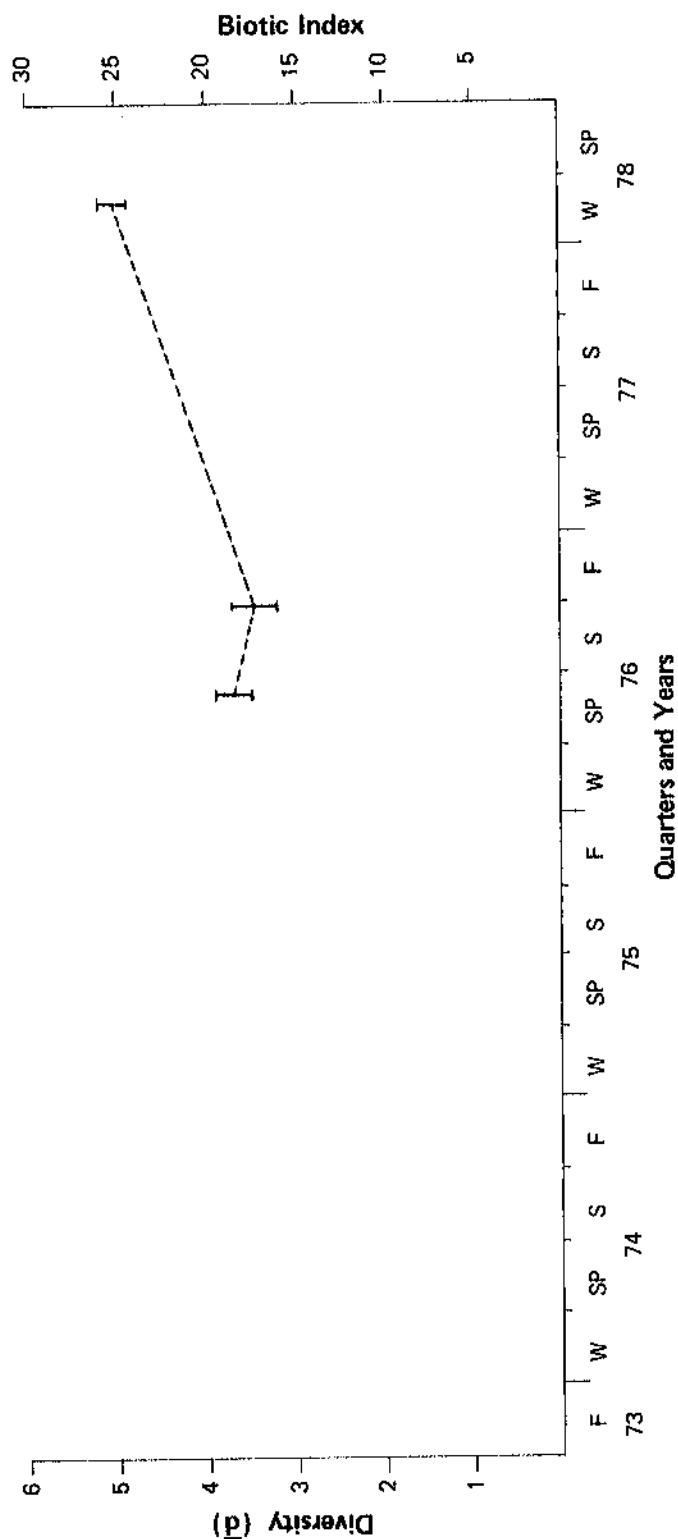
| Station Number | Date      | Macroinvertebrates |             |                      |           |       |           | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments      |            |       |
|----------------|-----------|--------------------|-------------|----------------------|-----------|-------|-----------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|---------------|------------|-------|
|                |           | Natural Substrate  |             | Artificial Substrate |           | #Spp. | Diversity | Redundancy   | #Spp. |                                                 |                                              | Total                            | Fecal |               |            |       |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |           |              |       |                                                 |                                              |                                  |       |               | Redundancy | #Spp. |
|                |           |                    |             |                      |           |       |           |              |       |                                                 |                                              |                                  |       |               |            |       |
| 109            | 24 Jun 78 |                    |             |                      |           |       |           |              |       |                                                 |                                              | 23                               | 13    | Florida Index |            |       |
|                | 20 Feb 78 | 5.069±0.164        | 0.037±0.007 |                      |           | 54    |           |              |       |                                                 |                                              | 17                               | 11    |               |            |       |
|                | 28 Feb 78 |                    |             |                      |           |       |           |              |       |                                                 |                                              | LT2                              | LT2   |               |            |       |
|                | 28 Mar 78 |                    |             |                      |           |       |           |              |       |                                                 |                                              | LT2                              | LT2   |               |            |       |
|                | 25 Apr 78 |                    |             |                      |           |       |           |              |       |                                                 |                                              | 17                               | 17    |               |            |       |
|                | 23 May 78 |                    |             |                      |           |       |           |              |       |                                                 |                                              | 79                               | 70    |               |            |       |
|                | 27 Jun 78 |                    |             |                      |           |       |           |              |       |                                                 |                                              |                                  |       |               |            |       |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.01.0401  
 BODY OF WATER: SARASOTA BAY

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.01.0662 Body of Water Lemon Bay  
Location midway between Marker 26 and mainland  
County Sarasota  
Type Body of Water marine Classification \_\_\_\_\_  
Sources of Pollution sewage discharge, urban runoff, septic tank leachate  
Nearby Land Use residential  
Sampling Frequency \_\_\_\_\_ Depth 1.75 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Thalassia sp., Diplanthera (Halodule)  
Ulva sp. Emergent \_\_\_\_\_

**Macroinvertebrates:**

Platyhelminthes

unident. sp.

Annelida

Polychaeta

Capitella sp.  
Clymenella sp.  
Diopatra sp.  
D. cuprea cuprea  
Glycinde sp.  
Glycera sp.  
Nereis sp.  
Parahesion sp.  
Paraprionospio pinnata  
Prionospio sp.  
Pectinaria gouldii  
unident. cirratulid  
unident. onuphid  
unident. orbinid  
unident. sp.

Arthropoda

Crustacea

Amphipoda

Ampelisca sp.

Amphipoda (cont.)  
Microdeutopus sp.  
Monoculodes sp.  
unident. oedicerotid

Mysidacea  
unident. sp.

Cumacea  
2 unident. spp.

Mollusca

Gastropoda

Acteocina canaliculata  
Caecum sp.  
Marginella apicina  
Retusa candeï  
Truncatella caribaensis  
Turbonilla interrupta  
Haminoea sp.  
unident. spp.

Pelecypoda

Chione sp.  
Macoma tenta  
Mulinia lateralis  
Nuculana acuta  
Tellina sp.

Sipunculida

unident. sp.

DATA SUMMARY: Leman Bay

| Station Number    | Date     | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform bacteria Colonies/100ml |  | Comments |
|-------------------|----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                   |          | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   |          | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |  |          |
|                   |          |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
| 113<br>24.01.0062 | 2 Dec 75 | 3.357±0.228        | 0.134±0.033 | 21    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 4 Jan 78 | 3.989±0.201        | 0.055±0.018 | 22    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.



Station No. 24.01.0668 Body of Water Little Sarasota Bay  
Location 100 meters east of marker 48A  
County Sarasota  
Type Body of Water marine/estuary Classification III  
Sources of Pollution residential runoff  
Nearby Land Use residential  
Sampling Frequency annually Depth 1.6 - 1.9 meters  
Bottom Type sand over mud & shell % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

Macroinvertebrates:

Annelida

Polychaeta

Axiiothella mucosa  
Capitella capitata  
Cirratulus sp. 1 - Farrell  
Diopatra cuprea  
Glycera sp. 1 - Farrell  
Glycinde solitaria  
Haploscoloplos sp. 1 - Farrell  
Lumbrinereis sp. 1 - Farrell  
Megalomma bioculatum  
Nereis lamellosa  
Notomastus sp. 1 - Farrell  
Onuphis eremita  
Onuphis sp. 1 - Farrell  
Owenia fusiformis  
Paraprionospio pinnata  
Pectinaria gouldii  
Phyllodoce mucosa  
Pista palmata  
Podarke obscurus  
Polydora websteri  
Prionospio heterobranchia  
Scoloplos rubra  
Sthenelais boa  
Streblospio benedicti  
Tharyx sp. 1 - Farrell  
Thelepus setosus

## Arthropoda

## Crustacea

## Tanaidacea

Leptochelia sp. 1 - FarrellTanais sp. 1 - Farrell

## Amphipoda

Ampelisca sp.Corophium sp. 1 - FarrellGrandidierella bonneroidesListriella barnardiMicrodeutopus sp. - FarrellM. sp. 2 - Farrell

## Cirripedia

Balanus eburneus

## Mollusca

## Polyplecophora

Acanthochitona pygmaea

## Gastropoda

Acteocina canaliculataBulla striataCaecum nitidumCancellaria sp.Coralliophaga coralliophagaHaminoea antillarumH. succineaMarginella apicinaM. virginianaTruncatella caribbaeniensisTurbonilla dalliT. sp. 1 - Farrell

unident. pyramidellid

## Pelecypoda

Abra aequalisAmygdalum papyriumAnadara floridanaA. notabilisBrachidontes sp.Chione cancellataC. sp. 1 - FarrellCrassostrea virginicaEnsis minorLaevicardium sp. 1 - FarrellLyonsia hyalina floridanaMacoma tentaMercenaria campechiensisMysella planulataM. sp.Tagelus divisisTellina lineataT. probinaT. sp. 1 - Farrell

DATA SUMMARY: Little Sarasota Bay

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       | BI           | #Spp. |                                                 |                                              |                                  |       |          |
| 24.01.0668     | 9 Dec 75  | 4.861±0.153        | 0.039±0.008 | 48    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 10 Feb 77 | 4.912±0.215        | 0.076±0.015 | 58    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 21 Mar 78 | 4.170±0.210        | 0.086±0.020 | 34    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

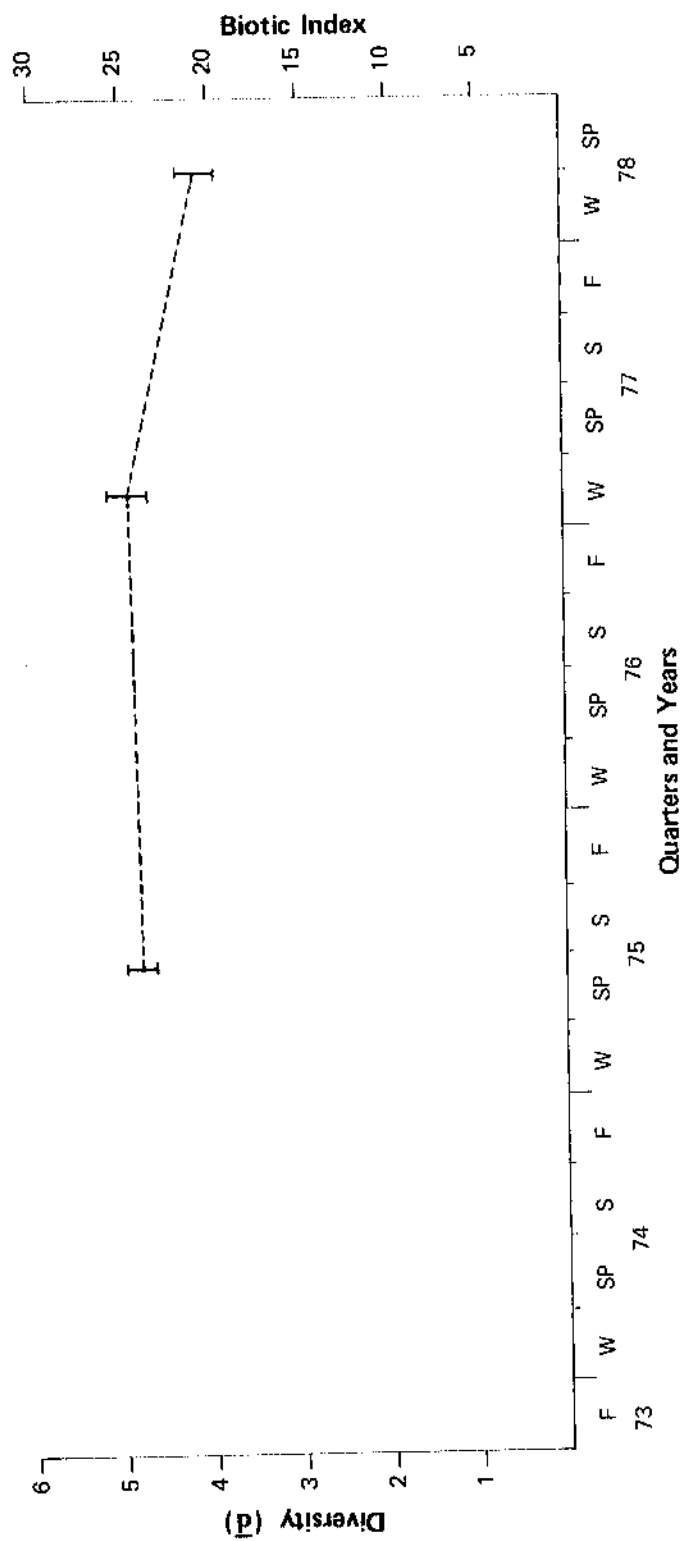
116

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.01.0668  
 BODY OF WATER: LITTLE SARASOTA BAY

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 --- BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.02.0003 Body of Water Alafia River  
Location U.S. highway 301  
County Hillsborough  
Type Body of Water river Classification III  
Sources of Pollution agricultural runoff and phosphate mining  
Nearby Land Use residential, small business  
Sampling Frequency \_\_\_\_\_ Depth 1.3 - 4 m  
Bottom Type sand, rock % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
unident. lumbriculid

Arthropoda

Crustacea

Hyalella azteca

Insecta

Ephemeroptera

Caenis diminuta  
C. hilaris  
Centroptilum viridocularis  
Tricorythodes albilineatus

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Oecetis sp.  
Polycentropus sp. 1 - Pearce

Diptera

Ablabesmyia parajanta  
Cricotopus sp. 1 - Cantrell  
Cryptotendipes sp. 1 - Cantrell  
Dicrotendipes neomodestus

Diptera (cont.)

Palpomyia sp.

P. tibialis

Polypedilum convictum

P. halterale

Procladius sp. 1 - Cantrell

Coleoptera

Dubiraphia quadrinotata

Stenelmis fuscata

Arachnida

Acarina

unident. sp.

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce

unident. hydrobiid sp. 2 - Pearce

Pelecypoda

Corbicula manilensis

Eupera cubensis

Pisidium sp. 1 - Pearce

DATA SUMMARY: Alafia River

| Station Number | Date      | Macroinvertebrates |            |       |           |                      |       |    |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|------------|-------|-----------|----------------------|-------|----|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |            |       |           | Artificial Substrate |       |    |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity | Redundancy           | #Spp. | BI | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |            |       |           |                      |       |    |       |              |                                                 |                                              |                                  |       |          |
| 120            | 24 Jul 73 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 1300                             |       |          |
|                | 15 Aug 73 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 1700                             |       |          |
|                | 17 Oct 73 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 1300                             |       |          |
|                | 14 Nov 73 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 790                              |       |          |
|                | 17 Dec 73 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 700                              |       |          |
|                | 23 Jan 74 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 790                              | 100   |          |
|                | 20 Feb 74 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 4900                             |       |          |
|                | 27 Mar 74 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 600                              | 17100 |          |
|                | 24 Apr 74 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 1100                             | 100   |          |
|                | 19 Jun 74 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 500                              | 100   |          |
|                | 17 Jul 74 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 400                              | 100   |          |
|                | 14 Aug 74 |                    |            |       |           |                      |       |    |       |              |                                                 |                                              | 600                              | 200   |          |

See Methods for explanation of table.

DATA SUMMARY: Alafia River

| Station Number        | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm3 | Periphyton Composition units/cm2 | Coliform Bacteria Colonies/100ml |       | Comments |
|-----------------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------|----------------------------------|----------------------------------|-------|----------|
|                       |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                     |                                  |                                  |       |          |
|                       |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                     |                                  |                                  |       |          |
|                       |           |                    |            |       |                      |            |       |              |       |                                     |                                  |                                  |       |          |
| 24.02.0003<br><br>121 | 11 Sep 74 |                    |            |       |                      |            |       |              |       |                                     |                                  | 900                              | 100   |          |
|                       | 9 Oct 74  |                    |            |       |                      |            |       |              |       |                                     |                                  | 300                              | 11100 |          |
|                       | 13 Nov 74 |                    |            |       |                      |            |       |              |       |                                     |                                  | 200                              | 11100 |          |
|                       | 18 Dec 74 |                    |            |       |                      |            |       |              |       |                                     |                                  | 2200                             | 500   |          |
|                       | 22 Jan 75 |                    |            |       |                      |            |       |              |       |                                     |                                  | 400                              | 11100 |          |
|                       | 19 Feb 75 |                    |            |       |                      |            |       |              |       |                                     |                                  | 500                              | 11100 |          |
|                       | 19 Mar 75 |                    |            |       |                      |            |       |              |       |                                     |                                  | 800                              | 400   |          |
|                       | 16 Apr 75 |                    |            |       |                      |            |       |              |       |                                     |                                  | 300                              | 11100 |          |
|                       | 14 May 75 |                    |            |       |                      |            |       |              |       |                                     |                                  | 400                              | 100   |          |
|                       | 11 Jun 75 |                    |            |       |                      |            |       |              |       |                                     |                                  | 500                              | 1100  |          |
|                       | 9 Jul 75  |                    |            |       |                      |            |       |              |       |                                     |                                  | 700                              | 11100 |          |
|                       | 6 Aug 75  |                    |            |       |                      |            |       |              |       |                                     |                                  | 600                              |       |          |

See Methods for explanation of table.



DATA SUMMARY: Alafia River

| Station Number    | Date      | Macroinvertebrates |             |                      |            |       |           | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |       |       |
|-------------------|-----------|--------------------|-------------|----------------------|------------|-------|-----------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|-------|-------|
|                   |           | Natural Substrate  |             | Artificial Substrate |            | #Spp. | Diversity | Redundancy   | #Spp. |                                                 |                                              | BI                               | #Spp. |          | Total | Fecal |
|                   |           | Diversity          | Redundancy  | Diversity            | Redundancy |       |           |              |       |                                                 |                                              |                                  |       |          |       |       |
| 122<br>24.02.0003 | 2 Sep 75  |                    |             |                      |            |       |           |              |       |                                                 |                                              | 800                              | 300   |          |       |       |
|                   | 1 Oct 75  |                    |             |                      |            |       |           |              |       |                                                 |                                              | 1200                             | 300   |          |       |       |
|                   | 29 Oct 75 | 0.811±0.673        | 1.000±0.849 |                      |            | 2     |           |              |       |                                                 |                                              | 56000                            | 18000 |          |       |       |
|                   | 2 Dec 75  |                    |             |                      |            |       |           |              |       |                                                 |                                              | 700                              | 400   |          |       |       |
|                   | 21 Jan 76 |                    |             |                      |            |       |           |              |       |                                                 |                                              | LT100                            | LT100 |          |       |       |
|                   | 18 Feb 76 |                    |             |                      |            |       |           |              |       |                                                 |                                              | 200                              | LT100 |          |       |       |
|                   | 17 Mar 76 |                    |             |                      |            |       |           |              |       |                                                 |                                              | 300                              |       |          |       |       |
|                   | 14 Apr 76 |                    |             |                      |            |       |           |              |       |                                                 |                                              | 400                              |       |          |       |       |
|                   | 12 May 76 |                    |             |                      |            |       |           |              |       |                                                 |                                              | 500                              | 100   |          |       |       |
|                   | 9 Jun 76  |                    |             |                      |            |       |           |              |       |                                                 |                                              | 5800                             | 300   |          |       |       |
|                   | 14 Jul 76 |                    |             |                      |            |       |           |              |       |                                                 | 2100                                         | 100                              |       |          |       |       |
|                   | 11 Aug 76 |                    |             |                      |            |       |           |              |       |                                                 | 400                                          | 200                              |       |          |       |       |

See Methods for explanation of table.

DATA SUMMARY: Alafia River

| Station Number | Date       | Macroinvertebrates |             |                      |           |            |       |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|----------------------|-----------|------------|-------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             | Artificial Substrate |           |            | Total | Fecal |              |                                                 |                                              |                                  |       |          |
|                |            | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy |       |       |              |                                                 |                                              | #Spp.                            |       |          |
|                |            |                    |             |                      |           |            |       |       |              |                                                 |                                              |                                  |       |          |
| 123            | 24.02.0003 |                    |             |                      |           |            |       |       |              |                                                 |                                              |                                  |       |          |
|                | 15 Sep 76  |                    |             |                      |           |            |       |       |              |                                                 |                                              | 2500                             |       |          |
|                | 13 Oct 76  |                    |             |                      |           |            |       |       |              |                                                 |                                              | 1600                             | LT100 |          |
|                | 10 Nov 76  |                    |             |                      |           |            |       |       |              |                                                 |                                              | 1500                             | LT100 |          |
|                | 17 Nov 76  | 3.229±0.111        | 0.046±0.014 | 12                   |           |            |       |       |              |                                                 |                                              | 2400                             | LT100 |          |
|                | 15 Dec 76  |                    |             |                      |           |            |       |       |              |                                                 |                                              | 1600                             | LT100 |          |
|                | 2 Feb 77   |                    |             |                      |           |            |       |       |              |                                                 |                                              | 1200                             | LT100 |          |
|                | 2 Mar 77   |                    |             |                      |           |            |       |       |              |                                                 |                                              | 2300                             | 100   |          |
|                | 30 Mar 77  |                    |             |                      |           |            |       |       |              |                                                 |                                              | 500                              | LT100 |          |
|                | 4 May 77   |                    |             |                      |           |            |       |       |              |                                                 |                                              | 7500                             | 5900  |          |
|                | 2 Jun 77   |                    |             |                      |           |            |       |       |              |                                                 | 4000                                         | 100                              |       |          |
|                | 30 Jun 77  |                    |             |                      |           |            |       |       |              |                                                 | 5000                                         | 100                              |       |          |
|                | 27 Jul 77  |                    |             |                      |           |            |       |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Alafia River

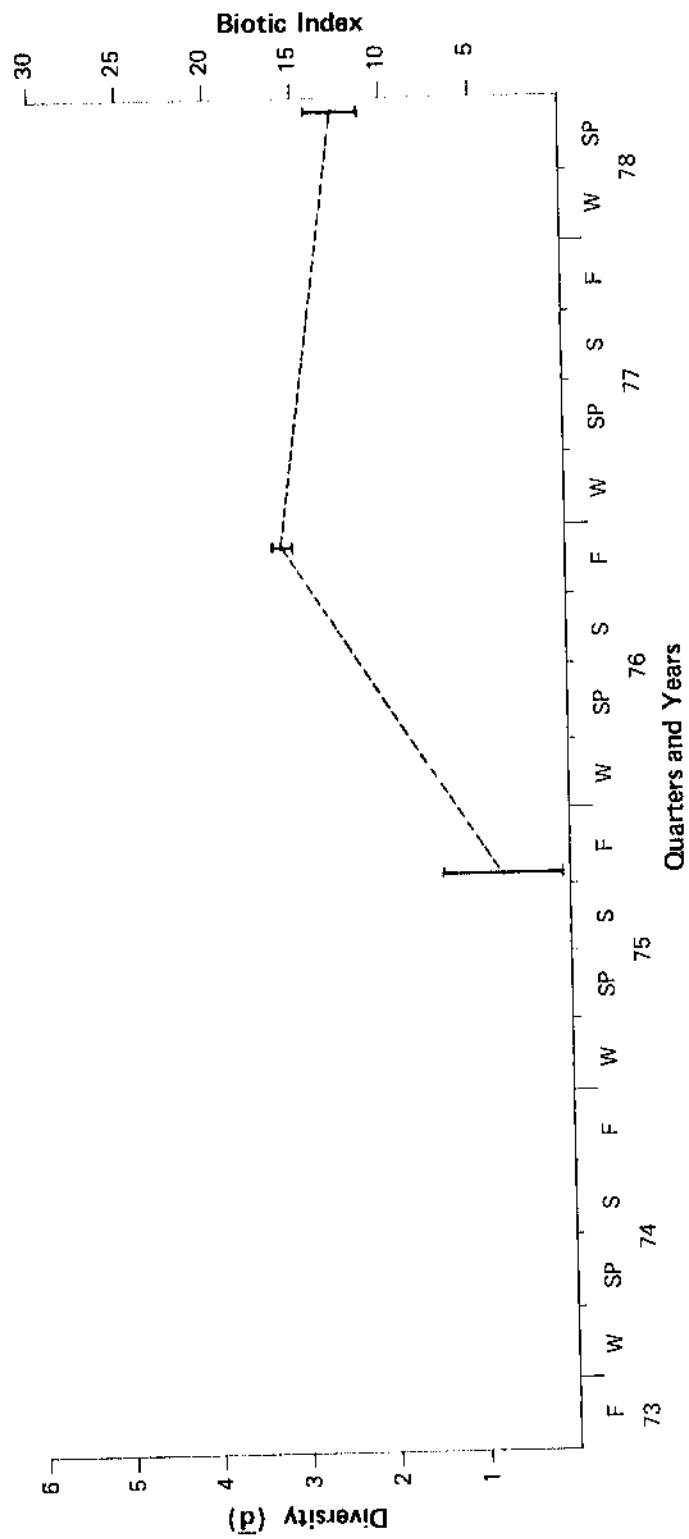
| Station Number    | Date      | Macroinvertebrates |             |                      |           |       |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |       |                                                 |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |       | Redundancy   | #Spp. |                                                 |                                              |                                  |       |          |
| 124<br>24.02.0003 | 19 Apr 78 |                    |             |                      |           |       |       |              |       |                                                 |                                              | 2400                             | LT100 |          |
|                   | 17 May 78 |                    |             |                      |           |       |       |              |       |                                                 |                                              | 500                              | LT100 |          |
|                   | 30 May 78 | 2.598±0.299        | 0.385±0.072 | 23                   |           |       |       |              |       |                                                 |                                              | 400                              | 300   |          |
|                   | 14 Jun 78 |                    |             |                      |           |       |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.02.0003  
 BODY OF WATER: ALAFIA RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.02.0008 Body of Water Alafia River  
Location North Prong , off Fla. Hwy. #39  
County Hillsborough  
Type Body of Water river Classification III  
Sources of Pollution residential, commercial, industrial  
Nearby Land Use natural state  
Sampling Frequency quarterly Depth 1 - 2 m  
Bottom Type sand, gravel % Volatile Solids   
Aquatic Plants: Submerged Ludwigia, Fontinalis  
Emergent Salix sp., Eichhornia crassipes,  
Typha spp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
Premnodrilus palustris  
Sparganophilus sp.  
unident. tubificid

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Odonata

Calopteryx maculatum  
Dromogomphus spinosus  
Gomphus plagiatus  
Macromia illinoiensis  
cf. Nehalennia sp. 1 - Pearce  
Stylurus sp. 1 - Pearce

Ephemeroptera

Baetis spinosus  
Caenis hilaris  
C. diminuta

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Chimarra sp. 1 - Pearce  
C. aterrima  
Cyrnellus sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Leptocerus americanus  
Nyctiophylax sp.  
Phylocentropus sp.  
Polycentropus sp.  
Psychomyia sp.

Megaloptera

Corydalis cornutus

Diptera

Chironomus sp.  
Cladotanytarsus sp. 1 - Cantrell  
Conchapelopia sp.  
Cricotopus sp. 1 - Cantrell  
Cryptochironomus sp.  
Dicrotendipes neomodestus  
Eukiefferiella cerulescens  
Ablabesmyia parajanta  
Harnischia sp.  
Hemerodromia sp.  
Micropsectra sp. 1 - Cantrell  
Nanocladius sp.  
Paratanytarsus sp. 1 - Pearce  
Parorthocladius sp. 1 - Pearce  
Pentaneura inculta  
Polypedilum convictum  
P. halterale  
Rheotanytarsus exiguus  
Simulium sp. 1 - Dalton  
Stenochironomus sp. 1 - Pearce  
Tanytarsus sp. 1 - Cantrell  
Thienemanniella sp.  
Trichocladius sp.  
Tribelos fuscicornis  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell

Coleoptera

Dubiraphia quadrinotata  
Dineutis sp. 1 - Pearce  
Microcylloepus pusillus  
Stenelmis fuscata

Arachnida

Acarina

unident. sp.

24.02.0008

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce

Goniobasis sp. 1 - Pearce

Pelecypoda

Corbicula manilensis

Eupera cubensis

Sphaerium sp. 1 - Pearce

DATA SUMMARY: Alafia River

| Station Number    | Date      | Macroinvertebrates |            |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |            |       | Artificial Substrate |             |       |              |       |                                                 |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                   |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |       |          |
| 129<br>26.02.0008 | 16 Oct 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 1350                             |       |          |
|                   | 13 Nov 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 43500                            | 800   |          |
|                   | 17 Dec 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 9450                             | 17100 |          |
|                   | 22 Jan 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 5000                             | 200   |          |
|                   | 18 Feb 74 | 0.00040.000        |            | 1     | 1.57±0.186           | 0.515±0.065 | 11    |              |       |                                                 |                                              | 1500                             | 17100 |          |
|                   | 19 Feb 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 330                              |       |          |
|                   | 26 Mar 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 2100                             | 100   |          |
|                   | 23 Apr 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 5300                             | 17100 |          |
|                   | 21 May 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 3300                             | 17100 |          |
|                   | 18 Jun 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 1500                             | 17100 |          |
|                   | 16 Jul 74 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 700                              | 17100 |          |

See Methods for explanation of table.



DATA SUMMARY: Alafia River

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                             | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                             |                                              | Total                            | Fecal |          |  |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                                             |                                              |                                  |       |          |  |
|                |           |                    |             |       |                      |            |       |              |                                                                                                                             |                                              |                                  |       |          |  |
| 24.02.0008     | 13 Aug 74 | 3.184±0.174        | 0.108±0.023 | 17    |                      |            |       |              | Coc BG 0<br>Fil BG 184<br>Coc Gr 735<br>Fil Gr 0<br>Gr Flag 184<br>Other Flag 368<br>Gen Dia 0<br>Pen Dia 184<br>Total 1655 |                                              | 5687                             | 211   |          |  |
|                | 14 Aug 74 |                    |             |       |                      |            |       |              |                                                                                                                             |                                              |                                  | 1500  | LT100    |  |
|                | 10 Sep 74 |                    |             |       |                      |            |       |              |                                                                                                                             |                                              |                                  | 1700  | LT100    |  |
|                | 8 Oct 74  |                    |             |       |                      |            |       |              |                                                                                                                             |                                              |                                  | 200   | 200      |  |
|                | 12 Nov 74 |                    |             |       |                      |            |       |              |                                                                                                                             |                                              |                                  | 700   | 500      |  |
|                | 17 Dec 74 |                    |             |       |                      |            |       |              |                                                                                                                             |                                              |                                  | 1500  | LT100    |  |
|                | 21 Jan 75 | 2.928±0.432        | 0.230±0.097 | 11    |                      |            |       |              |                                                                                                                             |                                              |                                  | 407   | LT100    |  |

See Methods for explanation of table.

**DATA SUMMARY: Alafia River**

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |          | Comments                                                                 |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|--------------------------------------------------------------------------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal    |                                                                          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |          |                                                                          |
| 24-02-0008     | 20 Feb 75 |                    |             |       |                      |            |       |              |                                                 |                                              | 800                              | 10k      |                                                                          |
|                | 18 Mar 75 |                    |             |       |                      |            |       |              |                                                 |                                              | 1400                             | 70k      |                                                                          |
|                | 15 Apr 75 |                    |             |       |                      |            |       |              |                                                 |                                              | 700                              | 20k      |                                                                          |
|                | 13 May 75 |                    |             |       |                      |            |       |              |                                                 |                                              | 1300                             | 20k      |                                                                          |
|                | 10 Jun 75 | 0.000+0.000        |             |       |                      |            | 0     |              |                                                 |                                              | 200                              | 10k      |                                                                          |
|                | 10 Jul 75 |                    |             |       |                      |            |       |              |                                                 |                                              | 27000                            | 1.1Fluor |                                                                          |
|                | 7 Aug 75  | 3.073+0.170        | 0.155+0.020 | 25    |                      |            |       |              |                                                 |                                              | 1500                             | 140k     |                                                                          |
|                | 28 Oct 75 | 0.000              |             | 0     |                      |            |       |              |                                                 |                                              |                                  |          |                                                                          |
|                | 2 Dec 75  |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |          | Coc BG<br>Fil BG<br>Coc Gr<br>Fil Gr<br>Gr Flag<br>Other Flag<br>Gen Dia |

See Methods for explanation of table.

DATA SUMMARY: Alafia River

| Station Number | Date             | Macroinvertebrates |             |       |                      |             |       | Biotic Index |                        | Phytoplankton Composition units/cm <sup>3</sup>                                                                     | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |                  | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                        |                                                                                                                     |                                              |                                  |  |          |
|                |                  | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp.                  |                                                                                                                     |                                              |                                  |  |          |
|                |                  |                    |             |       |                      |             |       |              |                        |                                                                                                                     |                                              |                                  |  |          |
| 24.02.0008     | 2 Dec 75 (cont.) |                    |             |       |                      |             |       |              | Pen Dia 87<br>Total 97 |                                                                                                                     | 2100                                         | 1.F100                           |  |          |
|                | 22 Jan 76        |                    |             |       |                      |             |       |              |                        |                                                                                                                     | 600                                          | 300                              |  |          |
|                | 17 Feb 76        |                    |             |       |                      |             |       |              |                        |                                                                                                                     | 600                                          |                                  |  |          |
|                | 18 Mar 76        | 1.964±0.224        | 0.402±0.065 | 15    | 2.152±0.217          | 0.272±0.055 | 11    |              |                        | Coc BG 0<br>F11 BG 1<br>Coc Gr 11<br>F11 Gr 36<br>Gr Flag 5<br>Other Flag 0<br>Cen Dia 6<br>Pen Dia 49<br>Total 108 |                                              |                                  |  |          |
|                | 22 Mar 76        | 1.772±0.225        | 0.384±0.070 | 9     |                      |             |       |              |                        |                                                                                                                     | 1400                                         |                                  |  |          |
|                | 15 Apr 76        |                    |             |       |                      |             |       |              |                        |                                                                                                                     | 500                                          | LT100                            |  |          |
|                | 12 May 76        |                    |             |       |                      |             |       |              |                        |                                                                                                                     |                                              |                                  |  |          |

See Methods for explanation of table.

### DATA SUMMARY: Atlanta River

| Station Number | Date      | Macroinvertebrates |            |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |  |
|----------------|-----------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|--|
|                |           | Natural Substrate  |            |       | Artificial Substrate |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |  |
| 24, 02, 0008   | 9 Jun 76  |                    |            |       |                      |             |       |              |       |                                                 |                                              | 37000                            | 800      |  |
|                | 14 Jul 76 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 4100                             | LT100    |  |
|                | 10 Aug 76 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 3400                             | 600      |  |
|                | 14 Sep 76 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 1500                             |          |  |
|                | 12 Oct 76 |                    |            |       | 2.106±0.250          | 0.293±0.068 | 10    |              |       |                                                 |                                              | 2100                             | 100      |  |
|                | 13 Oct 76 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 2500                             | LT1000   |  |
|                | 10 Nov 76 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 2500                             | LT100    |  |
|                | 14 Dec 76 |                    |            |       |                      |             |       |              |       |                                                 |                                              | 6600                             | 300      |  |
|                | 2 Feb 77  |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |          |  |
|                |           |                    |            |       |                      |             |       |              |       |                                                 | </                                           |                                  |          |  |

See Methods for explanation of table.

DATA SUMMARY: Alafia River

| Station Number    | Date                | Macroinvertebrates |             |       |                      |             |       | Biotic Index |                    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments                                                                              |
|-------------------|---------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|--------------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|---------------------------------------------------------------------------------------|
|                   |                     | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                    |                                                 |                                              |                                  |       |                                                                                       |
|                   |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp.              |                                                 |                                              |                                  |       |                                                                                       |
|                   |                     |                    |             |       |                      |             |       |              |                    |                                                 |                                              | Total                            | Fecal |                                                                                       |
| 24.02.0008<br>134 | 2 Feb 77<br>(cont.) |                    |             |       |                      |             |       |              | Pen Dia<br>0<br>27 |                                                 |                                              |                                  |       |                                                                                       |
|                   | 10 May 77           | 0.465±0.364        | 0.952±0.157 | 4     |                      |             |       |              |                    |                                                 | 3300                                         | 300                              |       |                                                                                       |
|                   | 2 Mar 77            |                    |             |       |                      |             |       |              |                    |                                                 | 4800                                         | 100                              |       |                                                                                       |
|                   | 30 Mar 77           |                    |             |       |                      |             |       |              |                    |                                                 | 2500                                         | LT100                            |       |                                                                                       |
|                   | 3 May 77            |                    |             |       |                      |             |       |              |                    |                                                 | 3600                                         | LT100                            |       |                                                                                       |
|                   | 2 Jun 77            |                    |             |       |                      |             |       |              |                    |                                                 | 7000                                         | 100                              |       |                                                                                       |
|                   | 30 Jun 77           |                    |             |       |                      |             |       |              |                    |                                                 | 43000                                        | LT100                            |       |                                                                                       |
|                   | 27 Jul 77           |                    |             |       |                      |             |       |              |                    |                                                 |                                              |                                  |       | Coc BG 350<br>Fla BG 1138<br>Coc Gr 13513<br>Fla Gr 0<br>Gr Flag 1925<br>Other Flag 0 |
|                   | 24 Aug 77           | 1.263±0.447        | 0.664±0.195 | 6     | 3.141±0.262          | 0.104±0.035 | 13    |              |                    |                                                 |                                              |                                  |       |                                                                                       |
|                   |                     |                    |             |       |                      |             |       |              |                    |                                                 |                                              |                                  |       |                                                                                       |

See Methods for explanation of table.

DATA SUMMARY: Alafia River

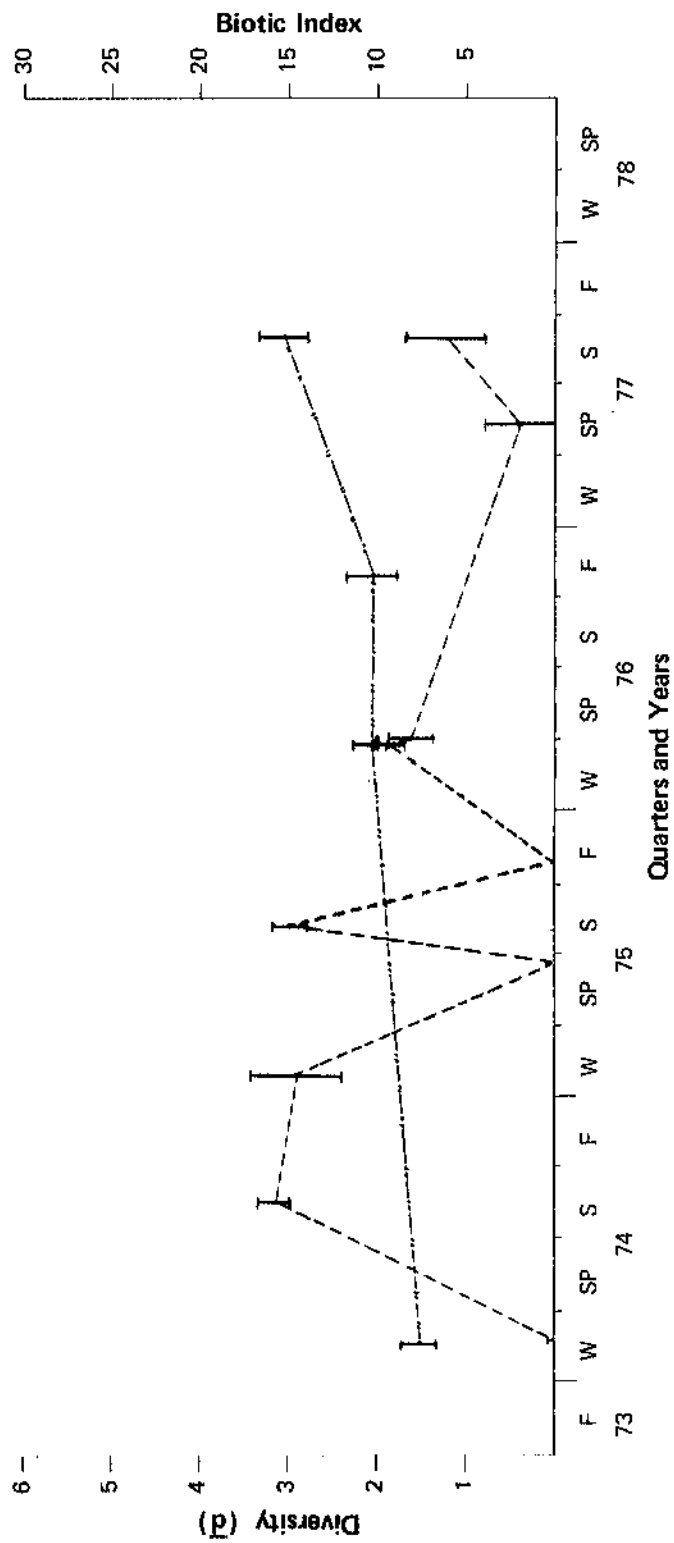
| Station Number | Date                 | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|----------------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                      | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |                      | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |                      | Total              | Fecal      |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 135            | 24 Aug 77<br>(Cont.) |                    |            |       |                      |            |       |              |       |                                                 | Can Dia 525<br>Pen Dia 10150<br>Total 27601  | 100                              | 10    |          |
|                | 24 Jan 78            |                    |            |       |                      |            |       |              |       |                                                 |                                              | 3000                             | LT100 |          |
|                | 19 Apr 78            |                    |            |       |                      |            |       |              |       |                                                 |                                              | 800                              | 500   |          |
|                | 14 Jun 78            |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.02.0008  
 BODY OF WATER: ALAFIA RIVER,  
 NORTH PRONG

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)







Ephemeroptera

Callibaetis floridanus  
Caenis diminuta

Trichoptera

Cheumatopsyche sp. 1 - Dalton

Diptera

Chaoborus punctipennis  
Chironomus attenuatus  
C. carus  
Clinotanytarsus sp. 1 - Pearce  
Coelotanypus scapularis  
Cricotopus bicinctus  
Cryptochironomus fulvus  
Einfeldia sp. 1 - Cantrell  
Eukiefferiella sp. 2 - Pearce  
Parachironomus carinatus  
Paratanytarsus sp. 1 - Cantrell  
Polypedilum illinoense  
Psectrocladius vernalis  
Simulium sp. 1 - Dalton  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell  
unident. ceratopogonid sp. 3 - Cantrell

Mollusca

Gastropoda

Physa sp. 1 - Pearce

Pelecypoda

Sphaerium sp. 1 - Pearce

DATA SUMMARY: Alafia River

| Station Number | Date      | Macroinvertebrates |             |                      |           |            |       |    | Biotic Index |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|----|--------------|----|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             | Artificial Substrate |           |            |       |    |              |    |                                                 |                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. | #I | #Spp.        |    |                                                 |                                              |                                  |  |          |
|                |           |                    |             |                      |           |            |       |    |              |    |                                                 |                                              |                                  |  |          |
| 24,02,0012     | 28 Apr 78 |                    |             |                      |           |            |       |    | 10           | 25 |                                                 |                                              |                                  |  |          |
|                | 1 Mar 78  | 0.685±0.199        | 0.878±0.061 | 11                   |           |            |       |    |              |    |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

Station No. 24.02.0019 Body of Water Alafia River  
Location South Prong just upstream from confluence with North Prong  
County Hillsborough  
Type Body of Water stream Classification III  
Sources of Pollution industrial waste  
  
Nearby Land Use natural state  
Sampling Frequency quarterly Depth 2 - 3 m  
Bottom Type sand, rock % Volatile Solids   
Aquatic Plants: Submerged   
Emergent Salix sp.  
  
**Macroinvertebrates:**

Annelida

Oligochaeta

Ilyodrilus templetoni  
Limnodrilus hoffmeisteri  
Potamothrrix vej dovskyi

Arthropoda

Crustacea

Amphipoda

Hyaella azteca

Insecta

Plecoptera

Neoperla cf. clymene

Odonata

Macromia illinoiensis

Ephemeroptera

Baetis spinosus  
Brachycercus maculatus

Ephemeroptera (cont.)

Caenis diminuta  
Centroptilum viridocularis  
Ephemerella trilineata  
Tricorythodes albilineatus

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Oecetis sp.  
Phylocentropus sp.  
Polycentropus sp.

Megaloptera

Corydalus cornutus

Diptera

Ablabesmyia ornata  
Chironomus sp.  
Cladotanytarsus sp.  
Corynoneura sp.  
Cryptochironomus fulvus  
Cryptotendipes sp.  
Dicrotendipes sp.  
Harnischia sp.  
Hemerodromia sp.  
Larsia sp.  
Monopelopia sp.  
Orthocladius sp.  
Palpomyia longipennis  
Paracladopelma sp.  
Polypedilum halterale  
P. illinoense  
P. sp.  
Probezzia sp.  
Psectrocladius sp.  
Rheotanytarsus sp.  
Simulium sp.  
Tanytarsus sp.  
Thienemanniella sp.

Arachnida

Acarina

Lebertia sp.

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Physa sp. 1 - Pearce

Pelecypoda

Corbicula manilensis

DATA SUMMARY: Alafia River - South Prong

| Station Number    | Date      | Macroinvertebrates |            |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |            |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |
|                   |           |                    |            |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
| 24,02,0019<br>142 | 16 Oct 73 |                    |            |       |                      |             |       |              |                                                 |                                              | 300                              |       |          |
|                   | 13 Nov 73 |                    |            |       |                      |             |       |              |                                                 |                                              | 7950                             | 500   |          |
|                   | 17 Dec 73 |                    |            |       |                      |             |       |              |                                                 |                                              | 6000                             | 200   |          |
|                   | 22 Jan 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 5000                             | LT100 |          |
|                   | 18 Feb 74 |                    |            |       | 2.315±0.242          | 0.362±0.067 | 16    |              |                                                 |                                              | 4050                             | 253   |          |
|                   | 19 Feb 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 1300                             |       |          |
|                   | 26 Mar 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 6000                             | 200   |          |
|                   | 23 Apr 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 700                              | LT100 |          |
|                   | 21 May 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 5000                             | LT100 |          |
|                   | 18 Jun 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 900                              | 100   |          |
|                   | 16 Jul 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 700                              | LT100 |          |

See Methods for explanation of table.

DATA SUMMARY: Alafia River - South Prong

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                        | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |                                                                                                                        |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |                                                                                                                        |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |                                                                                                                        |                                              |                                  |       |          |
| 24.02.0019     | 13 Aug 74 | 3.720±0.188        | 0.063±0.021 | 19    |                      |            |       | Coc BG 5<br>Fil BG 10<br>Coc Gr 113<br>Fil Gr 36<br>Gr Flag 32<br>Other Flag 10<br>Cen Dia 0<br>Pen Dia 0<br>Total 186 | 2700                                         | 600                              |       |          |
|                | 10 Sep 74 |                    |             |       |                      |            |       |                                                                                                                        |                                              | 600                              | 100   |          |
|                | 8 Oct 74  |                    |             |       |                      |            |       |                                                                                                                        |                                              | 600                              | LT100 |          |
|                | 12 Nov 74 |                    |             |       |                      |            |       |                                                                                                                        |                                              | 800                              | 400   |          |
|                | 17 Dec 74 |                    |             |       |                      |            |       |                                                                                                                        |                                              | 2800                             | LT100 |          |
|                | 21 Jan 75 | 3.239±0.248        | 0.163±0.032 | 23    |                      |            |       |                                                                                                                        |                                              | 100                              | LT100 |          |
|                | 20 Feb 75 |                    |             |       |                      |            |       |                                                                                                                        |                                              | 600                              | 200   |          |
|                | 18 Mar 75 |                    |             |       |                      |            |       |                                                                                                                        |                                              | 600                              | 200   |          |

See Methods for explanation of table.

DATA SUMMARY: Atafu River - South Prong

| Station Number | Date       | Macroinvertebrates |             |                      |            |       |            | Biotic Index |            | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |       |
|----------------|------------|--------------------|-------------|----------------------|------------|-------|------------|--------------|------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|-------|
|                |            | Natural Substrate  |             | Artificial Substrate |            | #Spp. | Redundancy | Diversity    | Redundancy |                                                 |                                              | #Spp.                            | Total |          | Fecal |
|                |            | Diversity          | Redundancy  | #Spp.                | Redundancy |       |            |              |            |                                                 |                                              |                                  |       |          |       |
| 144            | 24.02.0019 | 15 Apr 75          |             |                      |            |       |            |              |            |                                                 |                                              | 1100                             | 800   |          |       |
|                |            | 13 May 75          |             |                      |            |       |            |              |            |                                                 |                                              | 30000                            | 700   |          |       |
|                |            | 10 Jun 75          | 3.349+0.217 | 0.090+0.027          | 16         |       |            |              |            |                                                 |                                              | 300                              | 200   |          |       |
|                |            | 10 Jul 75          |             |                      |            |       |            |              |            |                                                 |                                              | 4800                             | LT100 |          |       |
|                |            | 7 Aug 75           |             |                      |            |       |            |              |            |                                                 |                                              | 50000                            | 45000 |          |       |
|                |            | 4 Sep 75           |             |                      |            |       |            |              |            |                                                 |                                              | 1000                             | 300   |          |       |
|                |            | 28 Oct 75          |             |                      |            |       |            |              |            |                                                 |                                              | 200                              | LT100 |          |       |
|                |            | 2 Dec 75           |             |                      |            |       |            |              |            |                                                 |                                              | LT100                            | LT100 |          |       |
|                |            | 22 Jan 76          |             |                      |            |       |            |              |            |                                                 |                                              | 1800                             | 500   |          |       |
|                |            | 17 Feb 76          |             |                      |            |       |            |              |            |                                                 |                                              | 200                              | LT100 |          |       |
|                | 18 Mar 76  |                    |             |                      |            |       |            |              |            |                                                 | 300                                          |                                  |       |          |       |
|                | 15 Apr 76  |                    |             |                      |            |       |            |              |            |                                                 | 2200                                         |                                  |       |          |       |

See Methods for explanation of table.

DATA SUMMARY: Alafia River - South Prong

| Station Number | Date       | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |            |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 145            | 24.02.0019 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 800                              | LT100 |          |
|                | 12 May 76  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 4700                             | 200   |          |
|                | 9 Jun 76   |                    |            |       |                      |            |       |              |       |                                                 |                                              | 3100                             | LT100 |          |
|                | 14 Jul 76  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 3700                             | 2200  |          |
|                | 10 Aug 76  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1000                             |       |          |
|                | 14 Sep 76  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 2300                             | LT100 |          |
|                | 13 Oct 76  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1600                             | LT100 |          |
|                | 10 Nov 76  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1200                             | LT100 |          |
|                | 14 Dec 76  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 900                              | LT100 |          |
|                | 2 Feb 77   |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1600                             | LT100 |          |
|                | 2 Mar 77   |                    |            |       |                      |            |       |              |       |                                                 |                                              | 3600                             | LT100 |          |
|                | 30 Mar 77  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1300                             |       |          |
|                | 3 May 77   |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.



DATA SUMMARY: Alfia River - South Prong

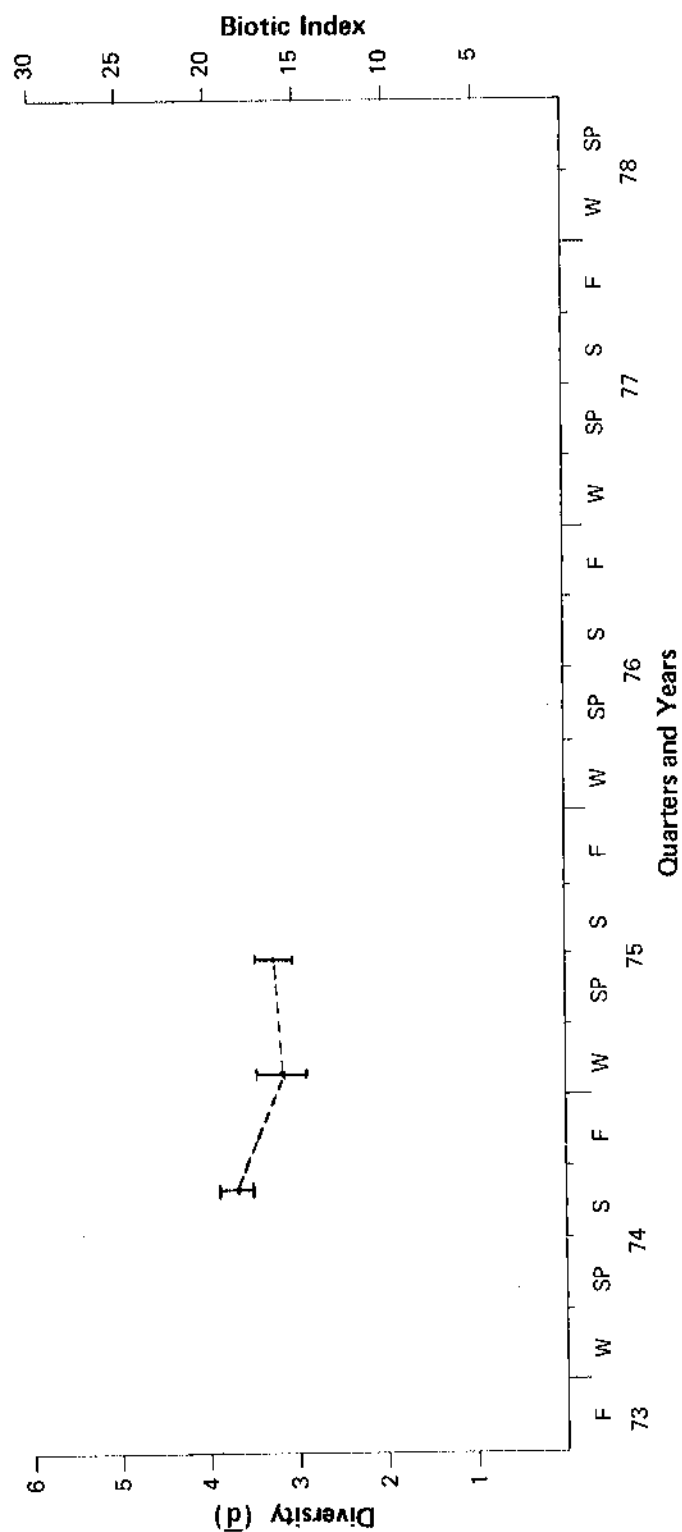
| Station Number | Date       | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |            |       | Artificial Substrate |            |       | BI           | #Spp. |                                                 |                                              | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |       |          |
|                |            |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 146            | 24,02,0019 | 3 Jun 77           |            |       |                      |            |       |              |       |                                                 |                                              | 4600                             | LT100 |          |
|                |            | 30 Jun 77          |            |       |                      |            |       |              |       |                                                 |                                              | 11800                            | LT100 |          |
|                |            | 27 Jul 77          |            |       |                      |            |       |              |       |                                                 |                                              | 17600                            | 300   |          |
|                |            | 19 Apr 78          |            |       |                      |            |       |              |       |                                                 |                                              | 5100                             | LT100 |          |
|                |            | 14 Jun 78          |            |       |                      |            |       |              |       |                                                 |                                              | 600                              | 300   |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.02.0019  
 BODY OF WATER: ALAFIA RIVER,  
 SOUTH PRONG

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.02.0044 Body of Water Alafia River

Location Lithia Springs junction

County Hillsborough

Type Body of Water river Classification III

Sources of Pollution residential, commercial, industrial (phosphate)

Nearby Land Use natural state

Sampling Frequency quarterly Depth 1 - 2 m

Bottom Type sand, rock % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged \_\_\_\_\_

Emergent Scirpus sp., Salix sp., Panicum repens,

Alternanthera philoxeroides, Eichhornia crassipes

#### Macroinvertebrates:

Platyhelminthes

Turbellaria

unident. sp.

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Potamotheix vej dovskyi

unident. lumbriculiid

Hirudinea

Batrachobdella sp. 1 - Dalton

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Odonata

Argia sedula

Dromogomphus spinosus

Gomphus plagiatus

Ephemeroptera

Baetis sp.  
Caenis diminuta

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Oecetis sp.  
Polycentropus sp. 1 - Pearce  
Polycentropus sp. 1 - Pearce

Diptera

Ablabesmyia aspera  
A. mallochi  
A. ornata  
Chironomus carus  
Coelotanypus sp.  
Cryptochironomus fulvus  
Cryptotendipes sp.  
Dicrotendipes modestus  
D. neomodestus  
Pentaneura inculta  
Polypedilum halterale  
P. illinoense  
Procladius sp. 1 - Cantrell  
Parachironomus pectinatellae  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell  
unident. ceratopogonid sp. 3 - Cantrell

Coleoptera

Dubiraphia quadrinotata  
Stenelmis fuscata

Arachnida

Lebertia sp. - Pluchino

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Goniobasis sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Littoridinops monroensis  
Pseudosuccinea sp. 1 - Pearce  
unident. hydrobiid sp. 1 - Pearce  
unident. hydrobiid sp. 2 - Pearce

Pelecypoda

Corbicula manilensis  
Elliptio sp. 1 - Pearce  
Pisidium sp. 1 - Pearce

## DATA SUMMARY: Alafia River

[illegible]

See Methods for explanation of table.

DATA SUMMARY: Alafia River

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |                                                                                                                              | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                              |                                                 |                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp.                                                                                                                        |                                                 |                                              |                                  |  |          |
|                |           |                    |             |       |                      |            |       |              |                                                                                                                              |                                                 |                                              |                                  |  |          |
| 151            | 13 Aug 74 | 1.634±0.345        | 0.616±0.113 | 12    |                      |            |       |              | Coc BC 390<br>Fil BC 228<br>Coc Gr 87<br>Fil Gr 466<br>Gr Flag 76<br>Other Flag 43<br>Cen Dia 22<br>Pen Dia 33<br>Total 1345 |                                                 | 3194                                         | 394                              |  |          |
| 24.02.0044     | 10 Sep 74 |                    |             |       |                      |            |       |              |                                                                                                                              |                                                 | 21000                                        | 3900                             |  |          |
|                | 8 Oct 74  |                    |             |       |                      |            |       |              |                                                                                                                              |                                                 | 100                                          | LT100                            |  |          |
|                | 12 Nov 74 |                    |             |       |                      |            |       |              |                                                                                                                              |                                                 | LT100                                        | LT100                            |  |          |
|                | 17 Dec 74 |                    |             |       |                      |            |       |              |                                                                                                                              |                                                 | 800                                          | LT100                            |  |          |
|                | 21 Jan 75 | 2.811±0.332        | 0.306±0.079 | 18    |                      |            |       |              |                                                                                                                              |                                                 | 400                                          | LT100                            |  |          |
|                | 20 Feb 75 |                    |             |       |                      |            |       |              |                                                                                                                              |                                                 | 700                                          | 300                              |  |          |
|                | 18 Mar 75 |                    |             |       |                      |            |       |              |                                                                                                                              |                                                 | 600                                          | LT100                            |  |          |

See Methods for explanation of table.

DATA SUMMARY: Alafia River

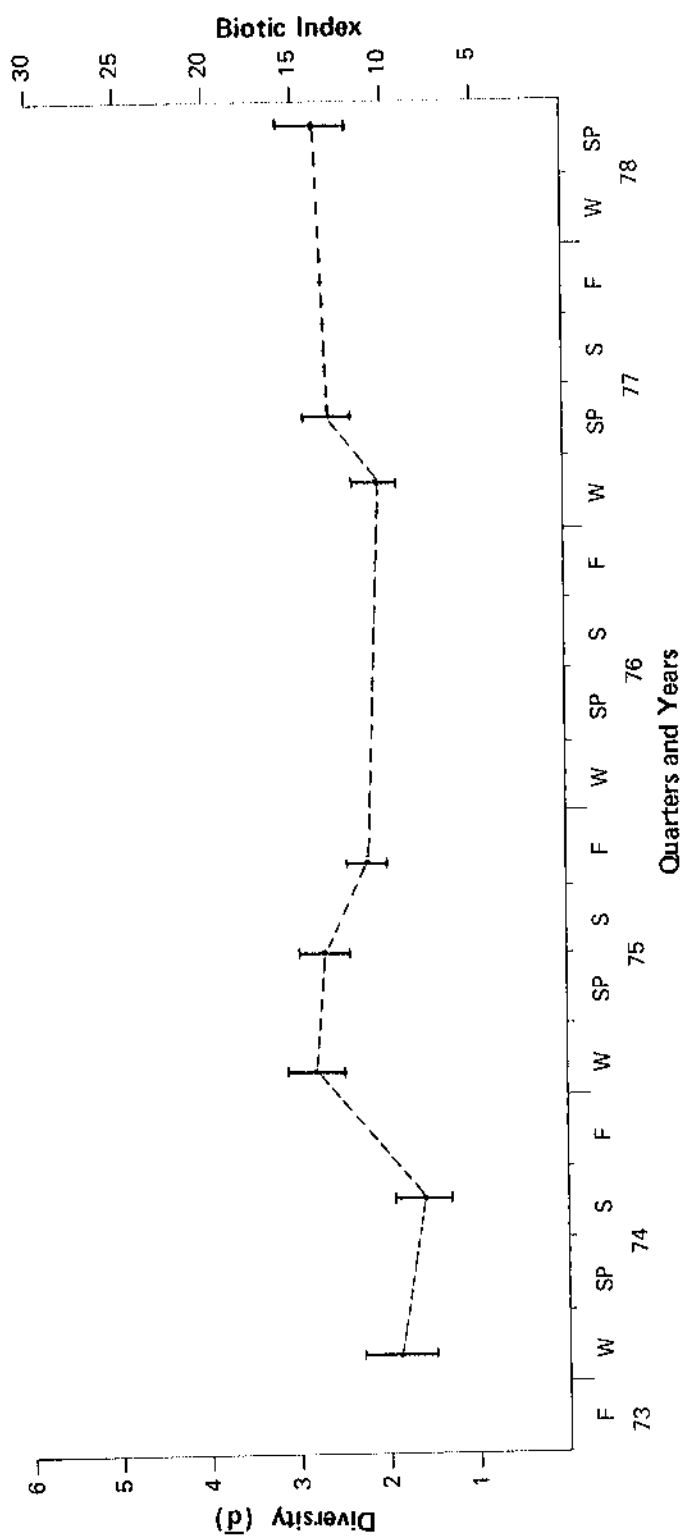
| Station Number    | Date      | Macroinvertebrates |             |            |       |                      |            |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|------------|-------|----------------------|------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |            |       | Artificial Substrate |            |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          |             | Redundancy | #Spp. | Diversity            |            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy  |            |       | Diversity            | Redundancy |            |       |              |                                                 |                                              |                                  |       |          |
| 24,02,0044<br>152 | 15 Apr 75 |                    |             |            |       |                      |            |            |       |              |                                                 | 400                                          | 300                              |       |          |
|                   | 13 May 75 |                    |             |            |       |                      |            |            |       |              |                                                 | 1000                                         | 400                              |       |          |
|                   | 10 Jun 75 | 2.714±0.282        | 0.209±0.056 | 14         |       |                      |            |            |       |              |                                                 | 300                                          | LT1000                           |       |          |
|                   | 2 Oct 75  | 2.237±0.204        | 0.097±0.041 | 6          |       |                      |            |            |       |              |                                                 |                                              |                                  |       |          |
|                   | 24 Feb 77 | 2.170±0.227        | 0.286±0.052 | 12         |       |                      |            |            |       |              |                                                 |                                              |                                  |       |          |
|                   | 9 May 78  | 2.646±0.223        | 0.260±0.047 | 19         |       |                      |            |            |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.02.0044  
 BODY OF WATER: ALAFIA RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)





Station No. 24.02.0361 Body of Water Alafia River (south prong)

Location south prong at Bethlehem Road

County Polk

Type Body of Water river Classification III

Sources of Pollution mining of phosphate

Nearby Land Use mining

Sampling Frequency annual Depth 0.4 m

Bottom Type sand, silt % Volatile Solids

Aquatic Plants: Submerged Najas sp.

Emergent Polygonum sp., Myriophyllum brasiliense,

Typha sp., Eichhornia sp., Salix sp., Lemna sp., Alternanthera sp.

#### Macroinvertebrates:

##### Platyhelminthes

###### Turbellaria

unident. sp.

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri

unident. lumbriculid

###### Hirudinea

Batrachobdella sp. 1 - Dalton

Helobdella stagnalis

##### Arthropoda

###### Crustacea

###### Isopoda

Asellus sp. 1 - Pearce

###### Amphipoda

Hyalella azteca

###### Decapoda

Palaemonetes paludosus

unident. astacid

Insecta

Odonata

Argia sedula  
Calopteryx maculatum  
Enallagma cardenium  
Gomphus plagiatus  
Ischnura sp.  
Macromia illinoiensis  
cf. Nehalennia sp. 1 - Pearce

Ephemeroptera

Baetis spinosus  
Callibaetis floridanus  
Caenis diminuta  
Centroptilum viridocularis  
Stenacron interpunctatum

Hemiptera

Pelocoris sp. 1 - Howton  
Ranatra sp. 1 - Howton  
unident. corixid

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Leucotrichia sp.  
Polycentropus sp. 1 - Pearce

Lepidoptera

Elophila sp. 2 - Dalton

Diptera

Ablabesmyia ornata  
Chironomus attenuatus  
Cladotanytarsus sp. 2 - Cantrell  
Clinotanypus sp. 1 - Pearce  
Coelotanypus scapularis  
Cryptochironomus blarina  
C. fulvus  
Cricotopus bicinctus  
Dicrotendipes lobus  
Pentaneura inculta  
Polypedilum convictum  
P. halterale  
Procladius sp. 1 - Cantrell  
Rheotanytarsus exiguum  
Simulium sp. 1 - Dalton  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell  
unident. ceratopogonid sp. 3 - Cantrell

25.02.0361

Coleoptera

Dineutus sp. 1 - Pearce

Dubiraphia quadrinotata

Haliphus sp. 1 - Pearce

Laccophilus sp.

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce

Physa sp. 1 - Pearce

Pseudosuccinea sp. 1 - Pearce

Pelecypoda

Pisidium sp. 1 - Pearce

Sphaerium sp. 1 - Pearce

DATA SUMMARY: Alafia River

| Station Number | Date      | Macroinvertebrates |            |                      |           |            |       |  |    | Biotic Index | Phytoplankton Composition units/cm3 | Periphyton Composition units/cm2 | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|------------|----------------------|-----------|------------|-------|--|----|--------------|-------------------------------------|----------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |            | Artificial Substrate |           |            |       |  |    |              |                                     |                                  |                                  |          |
|                |           | Diversity          | Redundancy | #Spp.                | Diversity | Redundancy | #Spp. |  |    |              |                                     |                                  |                                  |          |
|                |           |                    |            |                      |           |            |       |  |    |              |                                     |                                  |                                  |          |
| 24.02.0301     | 28 Apr 77 |                    |            |                      |           |            |       |  | 22 | 38           |                                     |                                  |                                  |          |
|                | 13 Jun 78 |                    |            |                      |           |            |       |  | 16 | 35           |                                     |                                  |                                  |          |

See Methods for explanation of table.

Station No. 24.03.0003 Body of Water Blackwater Creek  
Location SR #39  
County Hillsborough  
Type Body of Water stream Classification III  
Sources of Pollution pasture runoff  
Nearby Land Use cattle range  
Sampling Frequency annually Depth 0.75 - 1.2 m  
Bottom Type sand, rock % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

Macroinvertebrates:

Annelida  
  Oligochaeta  
    Limnodrilus hoffmeisteri  
    unident. naidid  
  
  Hirudinea  
    Batracobdella phalera  
    Helobdella cf. elongata  
    H. cf. lineata  
  
Arthropoda  
  Crustacea  
    Amphipoda  
      Hyalella azteca  
  
  Insecta  
    Odonata  
      Dromogomphus spinosus  
  
    Ephemeroptera  
      Caenis diminuta  
      C. hilaris  
      Ephemerella trilineata  
      Tricorythodes albilineatus

Trichoptera

Oecetis sp.  
Polycentropus cinereus

Diptera

Ablabesmyia ornata  
A. parajanta  
Atherix sp.  
Clinotanytus sp. 1 - <sup>1</sup>/<sub>3</sub>Pearce  
Micropsectra sp. 1 - Cantrell  
Pentaneura inculta  
Polypedilum convictum  
P. halterale  
P. illinoense  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 3 - Cantrell

Coleoptera

Dubiraphia quadrinotata  
Microcylloepus pusilla  
Stenelmis fuscata

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Goniobasis sp. 1 - Pearce  
unident. hydrobiid sp. 1 - Pearce

Pelecypoda

Corbicula manilensis  
Eupera cubensis  
unident. unionid

DATA SUMMARY: Blackwater Creek

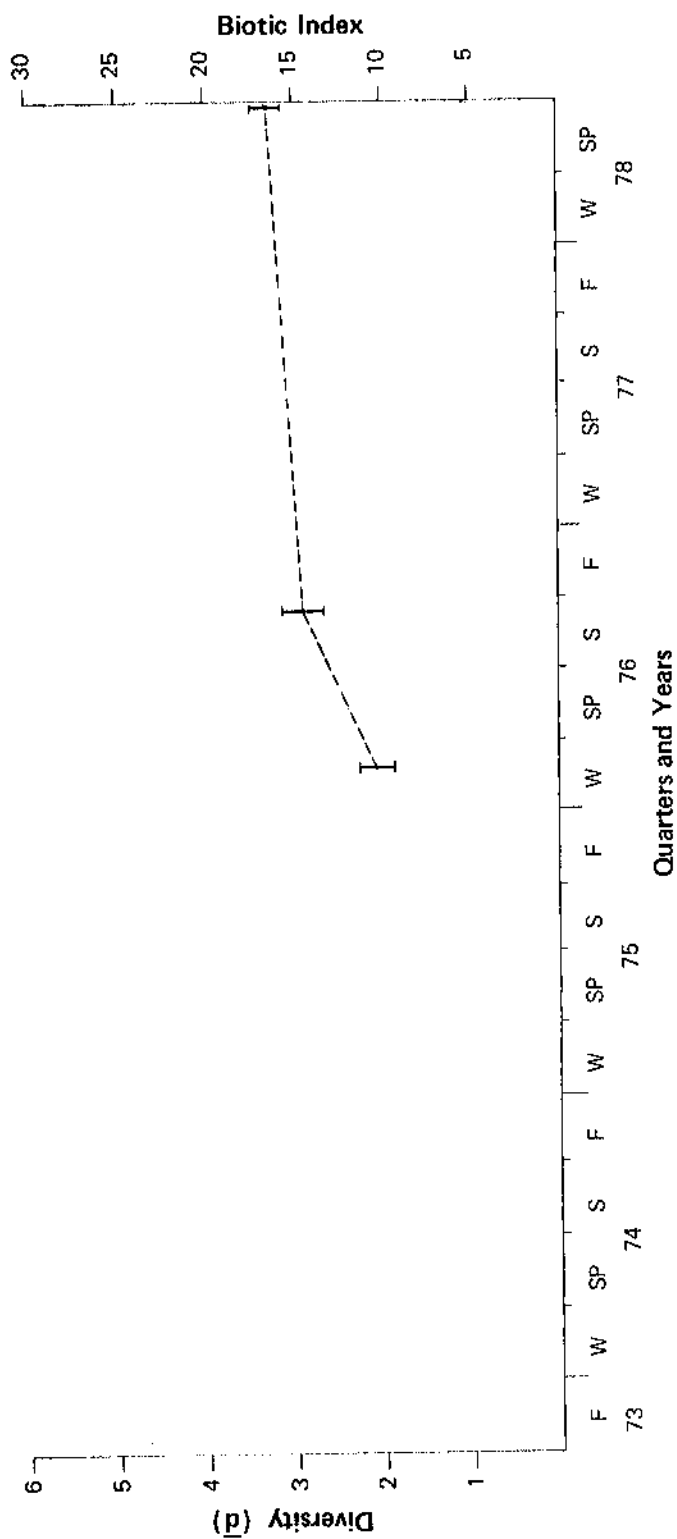
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 24,03,0003     | 11 Jul 73 |                    |             |       |                      |            |       |              |                                                 |                                              | 60000                            | 47100 |          |
|                | 17 Sep 73 |                    |             |       |                      |            |       |              |                                                 |                                              | 12000                            | 200   |          |
|                | 24 Sep 73 |                    |             |       |                      |            |       |              |                                                 |                                              | 240000                           | 3200  |          |
|                | 20 Feb 76 | 2.112±0.204        | 0.317±0.064 | 11    |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 31 Aug 76 | 2.913±0.232        | 0.137±0.040 | 13    |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 20 Jun 78 | 3.316±0.174        | 0.125±0.021 | 24    |                      |            |       |              |                                                 |                                              | 1900                             | 600   |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.03.0003  
 BODY OF WATER: BLACKWATER CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 -.-.- ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)





Location near Temple Terrace at Fowler Ave. (SR 582)

Type Body of Water river Classification I

**Nearby Land Use** residential & recreation

Sampling Frequency \_\_\_\_\_ Depth 4.0 meters

Bottom Type \_\_\_\_\_ % Volatile Solids \_\_\_\_\_

**Aquatic Plants: Submerged** \_\_\_\_\_

Emergent

## 162

Diptera

Ablabesmyia ornata  
Chironomus sp.  
Cladotanytarsus sp. 1 - Cantrell  
Coelotanypus concinnus  
Cryptochironomus fulvus  
Dicrotendipes modestus  
D. neomodestus  
D. nervosus  
Harnischia edwardsi  
Labrundinia johannseni  
Leptochironomus sp.  
Micropsectra sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Paramerina anomala  
Paralauterborniella nigrohalteralis  
Polypedilum halterale  
Procladius sp. 1 - Cantrell  
Pseudochironomus sp. 1 - Pearce  
Rheotanytarsus exiguus  
Stenochironomus sp. 1 - Cantrell  
Tanypus stellatus  
Tanytarsus sp. 1 - Cantrell  
 unident. ceratopogonid sp. 1 - Cantrell

Coleoptera

Dubiraphia quadrinotata

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Physa sp. 1 - Pearce  
 unident. hydrobiid sp. 1 - Pearce

Pelecypoda

cf. Arcidens sp.  
Corbicula manilensis  
Eupera cubensis  
Lampsilis sp.  
Pisidium sp. 1 - Pearce  
Sphaerium sp. 1 - Pearce

DATA SUMMARY: Hillsborough River

| Station Number    | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                   |           |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 164<br>24.03.0005 | 18 Jul 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 330                              |       |          |
|                   | 15 Aug 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 940                              |       |          |
|                   | 17 Oct 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1100                             |       |          |
|                   | 14 Nov 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 170                              |       |          |
|                   | 17 Dec 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 110                              |       |          |
|                   | 23 Jan 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 2500                             | LT100 |          |
|                   | 20 Feb 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 330                              |       |          |
|                   | 27 Mar 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 800                              | 200   |          |
|                   | 24 Apr 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 800                              | LT100 |          |
|                   | 22 May 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 300                              | LT100 |          |
| 19 Jun 74         |           |                    |            |       |                      |            |       |              |       |                                                 | 200                                          | LT100                            |       |          |
| 17 Jul 74         |           |                    |            |       |                      |            |       |              |       |                                                 | 300                                          | LT100                            |       |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

| Station<br>Number | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic<br>Index |       | Phytoplankton<br>Composition<br>units/cm <sup>3</sup> | Periphyton<br>Composition<br>units/cm <sup>2</sup> | Coliform<br>Bacteria<br>Colonies/<br>100ml |       | Comments |
|-------------------|-----------|--------------------|------------|-------|----------------------|------------|-------|-----------------|-------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------|-------|----------|
|                   |           | Natural Substrate  |            |       | Artificial Substrate |            |       |                 |       |                                                       |                                                    | Total                                      | Fecal |          |
|                   |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI              | #Spp. |                                                       |                                                    |                                            |       |          |
|                   |           |                    |            |       |                      |            |       |                 |       |                                                       |                                                    |                                            |       |          |
| 165<br>24,03,0005 | 14 Aug 74 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 300                                        | LT100 |          |
|                   | 11 Sep 74 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 200                                        | LT100 |          |
|                   | 9 Oct 74  |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 400                                        | LT100 |          |
|                   | 13 Nov 74 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 700                                        | 100   |          |
|                   | 18 Dec 74 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 400                                        | LT100 |          |
|                   | 22 Jan 75 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 300                                        | LT100 |          |
|                   | 19 Feb 75 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 1100                                       | 400   |          |
|                   | 19 Mar 75 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 800                                        | LT100 |          |
|                   | 16 Apr 75 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 500                                        | LT100 |          |
|                   | 14 May 75 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 1600                                       | 300   |          |
|                   | 11 Jun 75 |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 400                                        | LT100 |          |
|                   | 9 Jul 75  |                    |            |       |                      |            |       |                 |       |                                                       |                                                    | 200                                        | LT100 |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

| Station Number    | Date      | Macroinvertebrates |             |                      |           |       |            | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-----------|-------|------------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |           | #Spp. | Redundancy |              |                                                 |                                              | Diversity                        | #Spp. |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |            | Redundancy   | #Spp.                                           |                                              |                                  |       |          |
|                   |           |                    |             |                      |           |       |            |              |                                                 |                                              |                                  |       |          |
| 24.03.0005<br>166 | 6 Aug 75  |                    |             |                      |           |       |            |              |                                                 |                                              | 400                              | LT100 |          |
|                   | 2 Sep 75  |                    |             |                      |           |       |            |              |                                                 |                                              | 800                              | 200   |          |
|                   | 1 Oct 75  |                    |             |                      |           |       |            |              |                                                 |                                              | 1000                             | LT100 |          |
|                   | 29 Oct 75 |                    |             |                      |           |       |            |              |                                                 |                                              | 2200                             | 200   |          |
|                   | 21 Jan 76 |                    |             |                      |           |       |            |              |                                                 |                                              | 300                              | LT100 |          |
|                   | 13 Feb 76 | 3.118±0.169        | 0.161±0.032 | 19                   |           |       |            |              |                                                 |                                              | LT100                            | LT100 |          |
|                   | 18 Feb 76 |                    |             |                      |           |       |            |              |                                                 |                                              | 300                              |       |          |
|                   | 17 Mar 76 |                    |             |                      |           |       |            |              |                                                 |                                              | 300                              |       |          |
|                   | 14 Apr 76 |                    |             |                      |           |       |            |              |                                                 |                                              | 200                              | 100   |          |
|                   | 11 May 76 |                    |             |                      |           |       |            |              |                                                 |                                              | 3700                             | LT100 |          |
|                   | 8 Jun 76  |                    |             |                      |           |       |            |              |                                                 |                                              | 8500                             | LT100 |          |
|                   | 13 Jul 76 |                    |             |                      |           |       |            |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

| Station Number    | Date      | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |                      |           |            |       | BI           | #Spp. |                                                 |                                              |                                  |       |          |
| 167<br>24.03.0005 | 10 Aug 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 1200                             | 700   |          |
|                   | 14 Sep 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 2600                             |       |          |
|                   | 15 Sep 76 | 2.737±0.284        | 0.295±0.068 | 19                   |           |            |       |              |       |                                                 |                                              | 2600                             |       |          |
|                   | 12 Oct 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 300                              |       |          |
|                   | 9 Nov 76  |                    |             |                      |           |            |       |              |       |                                                 |                                              | 1100                             | 200   |          |
|                   | 14 Dec 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 2100                             | 200   |          |
|                   | 1 Feb 77  |                    |             |                      |           |            |       |              |       |                                                 |                                              | 400                              | LT100 |          |
|                   | 1 Mar 77  |                    |             |                      |           |            |       |              |       |                                                 |                                              | 1000                             | 100   |          |
|                   | 29 Mar 77 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 1200                             | LT100 |          |
|                   | 3 May 77  |                    |             |                      |           |            |       |              |       |                                                 |                                              | 3500                             | 100   |          |
|                   | 1 Jun 77  |                    |             |                      |           |            |       |              |       |                                                 | 6300                                         | 100                              |       |          |
|                   | 28 Jun 77 |                    |             |                      |           |            |       |              |       |                                                 | 9000                                         | 100                              |       |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

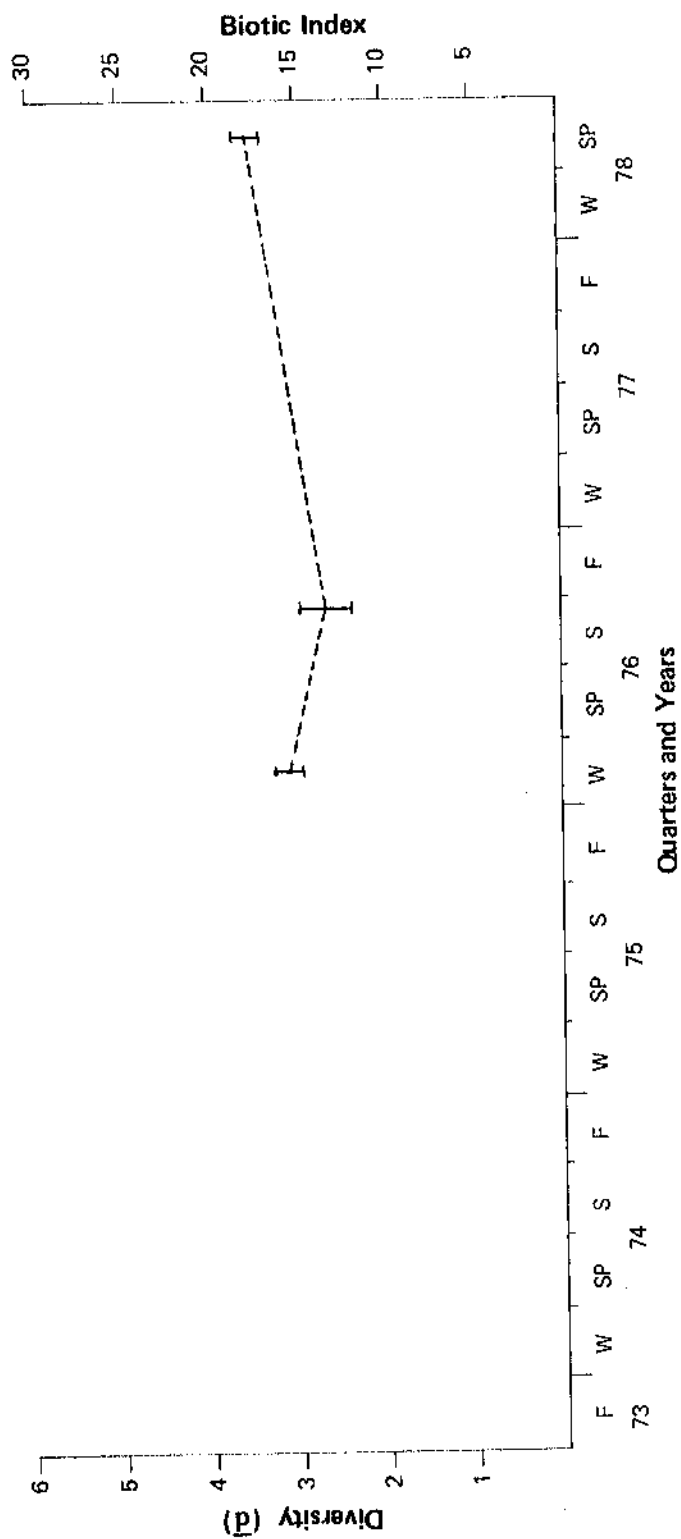
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |  |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |  |                                                 |                                              |                                  |       |          |
|                   |           | BI                 | #Spp.       |       |                      |            |       |              |  |                                                 |                                              |                                  |       |          |
| 24.03.0005<br>168 | 26 Jul 77 |                    |             |       |                      |            |       |              |  |                                                 |                                              | 1100                             | LT100 |          |
|                   | 18 Apr 78 |                    |             |       |                      |            |       |              |  |                                                 |                                              | 3700                             | LT100 |          |
|                   | 16 May 78 | 3.560±0.171        | 0.140±0.026 | 29    |                      |            |       |              |  |                                                 |                                              | 600                              | 100   |          |
|                   | 13 Jun 78 |                    |             |       |                      |            |       |              |  |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.03.0005  
 BODY OF WATER: HILLSBOROUGH RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)





Station No. 24.03.0029 Body of Water Lake Thonotossassa  
Location mouth of Flint Creek  
County Hillsborough  
Type Body of Water lake Classification III  
Sources of Pollution agricultural runoff  
Nearby Land Use agricultural, residential  
Sampling Frequency quarterly Depth 1 - 2 m  
Bottom Type mud % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Ludwigia peruviana, Eichhornia crassipes,  
Salix, sp., Panicum hemitomon, Typha sp., Taxodium distichum

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Odonata

Macromia taeniolata

Ephemeroptera

Caenis diminuta

Trichoptera

Nyctiophylax sp.

Diptera

Chironomus carus  
C. crassicaudatus

Diptera (cont.)

Cladotanytarsus sp. 1 - Cantrell  
Clihotanypus sp. 1 - Pearce  
Cricotopus sp.  
Cryptochironomus blarina  
C. fulvus  
Coelotanypus concinnus  
Dicrotendipes sp.  
Einfeldia sp.  
Glyptotendipes lobiferus  
G. paripes  
Harnischia sp.  
Pedionomus beckae  
P. inculta  
Polypedilum fallax  
P. halterale  
P. illinoense  
Procladius sp. 1 - Cantrell  
Rheotanytarsus sp. 1 - Pearce  
Symbiocladius sp. 1 - Pearce  
Xenochironomus fulvus  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell

Mollusca

Gastropoda

Viviparus cf. georgianus

Pelecypoda

Elliptio sp. 1 - Pearce

DATA SUMMARY: Lake Thomotossassa

| Station Number        | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                                                                              | Coliform Bacteria Colonies/100ml |       | Comments |
|-----------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                       |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                                                                                                                                                                           | Total                            | Fecal |          |
|                       |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                                                                                                                                                                           |                                  |       |          |
| 24.03.0029<br><br>172 | 15 Jan 74 | 2.562+0.176        | 0.241+0.040 | 17    |                      |            |       |              |                                                 |                                                                                                                                                                                           | 1700                             | LT100 |          |
|                       | 12 Feb 74 |                    |             |       |                      |            |       |              |                                                 |                                                                                                                                                                                           |                                  | 100   |          |
|                       | 12 Mar 74 |                    |             |       |                      |            |       |              |                                                 |                                                                                                                                                                                           | 2300                             | LT100 |          |
|                       | 16 Apr 74 |                    |             |       |                      |            |       |              |                                                 |                                                                                                                                                                                           | 2500                             | LT100 |          |
|                       | 14 May 74 |                    |             |       |                      |            |       |              |                                                 |                                                                                                                                                                                           | 50000                            | 1000  |          |
|                       | 11 Jun 74 |                    |             |       |                      |            |       |              |                                                 |                                                                                                                                                                                           | 17100                            | 100   |          |
|                       | 11 Jul 74 |                    |             |       |                      |            |       |              |                                                 |                                                                                                                                                                                           | 17100                            | LT100 |          |
|                       | 6 Aug 74  |                    |             |       |                      |            |       |              |                                                 |                                                                                                                                                                                           |                                  | LT100 |          |
|                       | 3 Sep 74  | 2.422+0.174        | 0.190+0.032 | 12    |                      |            |       |              |                                                 | Coc BG 1.05x10 <sup>7</sup><br>Fil BG 1.95x10 <sup>6</sup><br>Coc Gr 3.45x10 <sup>7</sup><br>Fil Gr 6.0x10 <sup>6</sup><br>Gr Flag 3.0x10 <sup>6</sup><br>Other Flag 2.55x10 <sup>6</sup> | 1400                             | 200   |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Thonotosassa

| Station Number    | Date                | Macroinvertebrates |             |       |                      |            |       | Biotic Index |                                                                                      | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|---------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |                     | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                      |                                                 |                                              | Total                            | Fecal |          |
|                   |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp.                                                                                |                                                 |                                              |                                  |       |          |
|                   |                     |                    |             |       |                      |            |       |              |                                                                                      |                                                 |                                              |                                  |       |          |
| 173<br>24,03,0029 | 3 Sep 74<br>(cont.) |                    |             |       |                      |            |       |              | Cen Dia $9.0 \times 10^5$<br>Pen Dia $2.55 \times 10^6$<br>Total $6.195 \times 10^7$ |                                                 |                                              |                                  |       |          |
|                   | 8 Oct 74            |                    |             |       |                      |            |       |              |                                                                                      |                                                 | 400                                          | LT100                            |       |          |
|                   | 12 Nov 74           |                    |             |       |                      |            |       |              |                                                                                      |                                                 | 400                                          | 200                              |       |          |
|                   | 17 Dec 74           |                    |             |       |                      |            |       |              |                                                                                      |                                                 | 400                                          | LT100                            |       |          |
|                   | 23 Jan 75           | 0.531+0.160        | 0.808+0.079 | 4     |                      |            |       |              |                                                                                      |                                                 | 400                                          | 100                              |       |          |
|                   | 20 Feb 75           |                    |             |       |                      |            |       |              |                                                                                      |                                                 | 100                                          | 100                              |       |          |
|                   | 18 Mar 75           |                    |             |       |                      |            |       |              |                                                                                      |                                                 | 300                                          | LT100                            |       |          |
|                   | 15 Apr 75           |                    |             |       |                      |            |       |              |                                                                                      |                                                 | 700                                          | 600                              |       |          |
|                   | 13 May 75           |                    |             |       |                      |            |       |              |                                                                                      |                                                 | 300                                          | LT100                            |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Thonotosassa

| Station Number    | Date      | Macroinvertebrates |             |                      |           |       |       | Biotic Index |       | phytoplankton Composition units/cm <sup>3</sup>                                                                  | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |       |                                                                                                                  |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |       | Redundancy   | #Spp. |                                                                                                                  |                                              |                                  |       |          |
|                   |           | BI                 | #Spp.       |                      |           |       |       |              |       |                                                                                                                  |                                              |                                  |       |          |
| 24.03.0029<br>174 | 10 Jun 75 |                    |             |                      |           |       |       |              |       |                                                                                                                  |                                              | LT100                            | LT100 |          |
|                   | 10 Jul 75 |                    |             |                      |           |       |       |              |       |                                                                                                                  |                                              | 100                              | 100   |          |
|                   | 7 Aug 75  |                    |             |                      |           |       |       |              |       |                                                                                                                  |                                              | 100                              | 100   |          |
|                   | 28 Oct 75 | 1.122±0.246        | 0.665±0.092 | 9                    |           |       |       |              |       | Coc BG 2<br>Fil BG 2<br>Coc Gr 2<br>Fil Gr 1<br>Gr Flag 5<br>Other Flag 2<br>Cen Dia 0<br>Pen Dia 74<br>Total 88 |                                              |                                  |       |          |
|                   | 12 Dec 75 |                    |             |                      |           |       |       |              |       |                                                                                                                  |                                              |                                  |       |          |
|                   | 22 Jan 76 |                    |             |                      |           |       |       |              |       |                                                                                                                  |                                              | 1300                             | 700   |          |
|                   | 17 Feb 76 |                    |             |                      |           |       |       |              |       |                                                                                                                  |                                              | 300                              | LT100 |          |
|                   | 18 Mar 76 |                    |             |                      |           |       |       |              |       |                                                                                                                  |                                              | LT100                            |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Thonotosassa

| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | Bi           | #Spp. |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 24,03,0029<br>175 | 15 Apr 76 |                    |             |       |                      |            |       |              |       | Coc BG 402                                      |                                              | 400                              | LT100 |          |
|                   | 12 May 76 | 1.350±0.200        | 0.500±0.085 | 7     |                      |            |       |              |       | Fla BG 18                                       |                                              | LT100                            | LT100 |          |
|                   |           |                    |             |       |                      |            |       |              |       | Coc Gr 1374                                     |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |       | Fla Gr 0                                        |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |       | Gr Flag 806                                     |                                              |                                  |       |          |
|                   | 9 Jun 76  |                    |             |       |                      |            |       |              |       | Other Flag 16                                   |                                              | 2200                             | LT100 |          |
|                   | 14 Jul 76 |                    |             |       |                      |            |       |              |       | Gen Dia 6                                       |                                              | 100                              | LT100 |          |
|                   | 30 Jul 76 |                    |             |       |                      |            |       |              |       | Pen Dia 316                                     |                                              | 1400                             | LT100 |          |
|                   |           |                    |             |       |                      |            |       |              |       | Total 2938                                      |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Thonotosassa

| Station<br>Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic<br>Index |       | Phytoplankton<br>Composition<br>units/cm <sup>3</sup>                                                                         | Periphyton<br>Composition<br>units/cm <sup>2</sup> | Coliform<br>Bacteria<br>Colonies/<br>100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|-----------------|-------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |                 |       |                                                                                                                               |                                                    |                                            |       |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI              | #Spp. |                                                                                                                               |                                                    |                                            |       |          |
|                   |           |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    |                                            |       |          |
| 24.03.0029<br>176 | 31 Jul 76 |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    | 900                                        | 1400  |          |
|                   | 10 Aug 76 | 1.886±0.294        | 0.352±0.117 | 7     |                      |            |       |                 |       | Coc BG 186<br>Fil BG 235<br>Coc Gr 911<br>Fil Gr 0<br>Gr Flag 1560<br>Other Flag 0<br>Cen Dia 47<br>Pen Dia 283<br>Total 3222 |                                                    | 100                                        | 100   |          |
|                   | 12 Aug 76 |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    |                                            |       |          |
|                   |           |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    |                                            |       |          |
|                   | 14 Sep 76 |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    | 900                                        |       |          |
|                   | 13 Oct 76 |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    | 800                                        | LT100 |          |
|                   | 10 Nov 76 | 1.728±0.219        | 0.298±0.087 | 6     |                      |            |       |                 |       |                                                                                                                               |                                                    | 1900                                       | LT100 |          |
|                   | 14 Dec 76 |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    | 500                                        | LT100 |          |
|                   | 2 Feb 77  | 2.347±0.208        | 0.251±0.058 | 12    |                      |            |       |                 |       | Coc BG 51<br>Fil BG 0<br>Coc Gr 5                                                                                             |                                                    | 700                                        | LT100 |          |
|                   |           |                    |             |       |                      |            |       |                 |       |                                                                                                                               |                                                    |                                            |       |          |

See Methods for explanation of table.

**DATA SUMMARY:** Lake Thonotassassa

| Station Number | Date                | Macroinvertebrates |             |       |                      |            |       | Biotic Index                                                                  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                           | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|---------------------|--------------------|-------------|-------|----------------------|------------|-------|-------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |                     | Natural Substrate  |             |       | Artificial Substrate |            |       |                                                                               |                                                 |                                                                        | Total                            | Fecal |          |
|                |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |                                                                               |                                                 |                                                                        |                                  |       |          |
|                |                     |                    |             |       |                      |            |       |                                                                               |                                                 |                                                                        |                                  |       |          |
| 24.03.0029     | 2 Feb 77<br>(cont.) |                    |             |       |                      |            |       | Fl Gr 0<br>Gr Flag 17<br>Other Flag 0<br>Gen Dia 2<br>Pen Dia 57<br>Total 132 |                                                 |                                                                        | 1000                             | LT100 |          |
|                | 2 Mar 77            |                    |             |       |                      |            |       |                                                                               |                                                 |                                                                        | 2400                             | LT100 |          |
|                | 30 Mar 77           |                    |             |       |                      |            |       |                                                                               |                                                 |                                                                        | 1200                             | LT100 |          |
|                | 3 May 77            | 0.153±0.124        | 0.988±0.044 | 4     |                      |            |       |                                                                               |                                                 |                                                                        | 12100                            | LT100 |          |
|                | 28 Jun 77           |                    |             |       |                      |            |       |                                                                               |                                                 |                                                                        |                                  |       | 100      |
|                | 26 Jul 77           |                    |             |       |                      |            |       |                                                                               |                                                 |                                                                        |                                  |       |          |
|                | 23 Aug 77           |                    |             |       |                      |            |       |                                                                               |                                                 | Coc BG 52560<br>Fl BG 9855<br>Coc Gr 172463<br>Fl Gr 0<br>Gr Flag 1643 |                                  |       |          |

See Methods for explanation of table.



DATA SUMMARY: Lake Thomasassa

| Station Number    | Date                 | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                                      | Periphyton Composition units/cm <sup>2</sup>                       | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|----------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------|-------|----------|
|                   |                      | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                                      |                                                                    | Total                            | Fecal |          |
|                   |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                                                      |                                                                    |                                  |       |          |
|                   |                      |                    |             |       |                      |            |       |              |                                                                                                                                      |                                                                    |                                  |       |          |
| 24.03.0029<br>178 | 23 Aug 77<br>(Cont.) |                    |             |       |                      |            |       |              |                                                                                                                                      | Other Flag 0<br>Cen Dia 24090<br>Pen Dia<br>Total 317550<br>578661 |                                  |       |          |
|                   | 15 Nov 77            | 1.861±0.183        | 0.118±0.036 | 6     |                      |            |       |              | Coc BG 10971<br>Fil BG 2057<br>Coc Gr 24457<br>Fil Gr 0<br>Gr Flag 0<br>Other Flag 2286<br>Cen Dia 457<br>Pen Dia 914<br>Total 41143 |                                                                    |                                  |       |          |
|                   | 18 Apr 78            |                    |             |       |                      |            |       |              |                                                                                                                                      |                                                                    | 1700                             | 400   |          |
|                   | 16 May 78            | 1.416±0.306        | 0.341±0.168 | 4     |                      |            |       |              | Coc BG 39412<br>Fil BG 11241<br>Coc Gr 22668<br>Fil Gr 3545<br>Gr Flag 740                                                           |                                                                    |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Thonotosassa

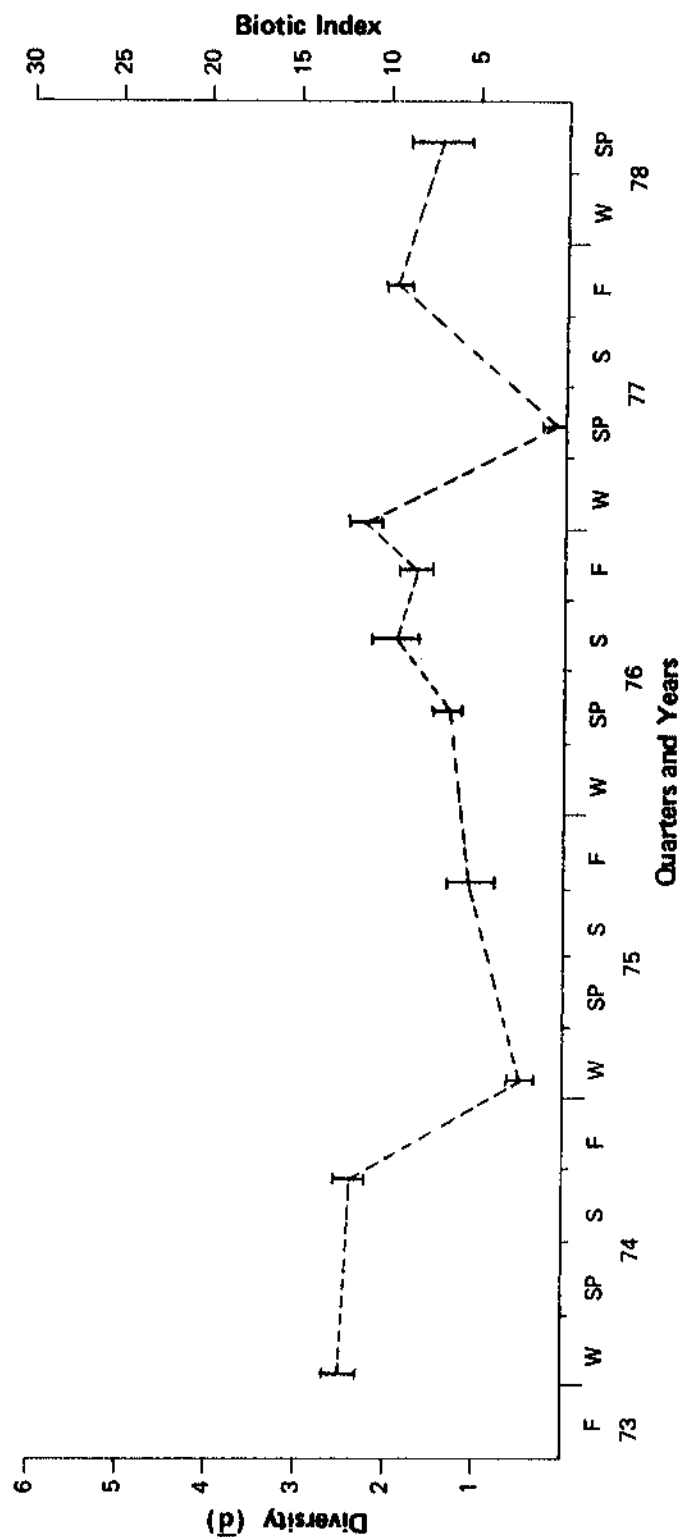
| Station Number | Date                 | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>            | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|----------------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|------------------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |                      | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                            |                                              |                                  |  |          |
|                |                      | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                            |                                              |                                  |  |          |
|                |                      |                    |            |       |                      |            |       |              |       |                                                            |                                              |                                  |  |          |
| 179            | 16 May 78<br>(Cont.) |                    |            |       |                      |            |       |              |       | Other Flag 0<br>Cen Dia 747<br>Pen Dia 2239<br>Total 79991 |                                              | Total 100<br>Fecal 100           |  |          |
| 24.03.0029     | 13 Jun 78            |                    |            |       |                      |            |       |              |       |                                                            |                                              |                                  |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.03.0029  
 BODY OF WATER: LAKE THONOTOSASSA

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.03.0059 Body of Water Hillsborough River  
Location Old Crystal Springs Road  
County Pasco  
Type Body of Water river Classification III  
Sources of Pollution agricultural runoff  
Nearby Land Use agricultural  
Sampling Frequency quarterly Depth 1 - 2.5 m  
Bottom Type sand, detritus % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Taxodium sp.

**Macroinvertebrates:**

Platyhelminthes  
Turbellaria

unident. sp.

Nematoda

Nygolaimus sp.

Annelida

Oligochaeta

Aulodrilus pluriseta  
Limnodrilus hoffmeisteri  
Premnodrilus palustris  
Tubifex tubifex  
unident. lumbriculid

Hirudinea

Batrachobdella sp. 1 - Dalton  
Helobdella papillata  
Placobdella sp.

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Pearce  
A. communis  
A. racovitzai

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus

unident. astacid

Insecta

Odonata

Argia fumipennis

A. sedula

Agrion maculatum

Boyeria vinosa

Dromogomphus spinosus

Enallagma sp.

Epicordulia regina

Erythemis sp.

Gomphus plagiatus

G. (Gomphus) minutus

G. pallidus

G. dilatatus

Hagenius brevistylus

Ischnura sp.

Macromia illinoiensis

M. taeniolata

Miathyria sp.

Nehalennia sp.

Neurocordulia sp.

Somatochlora sp.

Tetragoneuria sepia

Ephemeroptera

Baetis intercalaris

B. spinosus

Brachycercus maculatus

Caenis diminuta

C. hilaris

Callibaetis floridanus

Centroptilum hobbsi

C. viridocularis

Ephemerella trilineata

Hexagenia munda elegans

Stenonema exiguum

S. smithae

Stenacron interpunctatum

Tricorythodes albilineatus

Hemiptera

Belostoma sp. 1 - Howton

Lethocerus sp. 1 - Dalton

Microvelia sp.

## Hemiptera (cont.)

Ranatra sp. 1 - Pearce  
Rhagovelia cf. choreutes

## Trichoptera

Agraylea sp. 1 - Pearce  
Cheumatopsyche sp. 1 - Dalton  
Chimarra sp. 1 - Pearce  
Cyrnellus sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Hydroptila sp. 1 - Dalton  
Leptocella sp. 1 - Pearce  
L. pavida  
Nyctiophylax sp. 1 - Pearce  
Oecetis sp.  
Orthotrichia sp. 1 - Dalton  
Polycentropus sp. 1 - Pearce  
Protophila sp.

## Megalopectera

Corydalis cornutus  
Sialis sp. 1 - Pearce

## Diptera

Ablabesmyia mallochi  
A. ornata  
A. parajanta  
A. tarella  
Brillia par  
Chaoborus punctipennis  
Chironomus carus  
C. attenuatus  
Cladotanytarsus sp. 1 - Cantrell  
C. sp. 2 - Cantrell  
Clinotanytus sp. 1 - Cantrell  
Cryptotendipes sp.  
Cricotopus bicinctus  
Coelotanytus tricolor  
C. scapularis  
Cryptochironomus fulvus  
Dicrotendipes leucoscelis  
D. lobus  
D. modestus  
D. neomodestus  
D. nervosus  
Glyptotendipes sp. 1 - Pearce  
Harnischia sp. 1 - Cantrell  
H. galeator  
Labrundinia sp.  
Micropsectra sp. 1 - Cantrell

Diptera (cont.)

Microtendipes sp. 1 - Cantrell  
Nilotanypus sp. 1 - Cantrell  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
Pagastiella sp. 1 - Cantrell  
Parachironomus pectinatellae  
Paralauterborniella nigrohalteralis  
Pentaneura inculta  
Polypedilum convictum  
P. fallax  
P. halterale  
P. illinoense  
Procladius sp. 1 - Cantrell  
Pseudochironomus sp. 1- Pearce  
Psectrocladius vernalis  
Orthocladius sp.  
Rheocricotopus sp.  
Rheotanytarsus exiguus  
Stenochironomus sp.  
S. hilaris  
Simulium sp. 1 - Dalton  
Tanytarsus sp. 1 - Cantrell  
Tanypus carinatus  
Tipula sp.  
Tribelos jucundus  
T. fuscicornis  
Thienemanniella sp. 1 - Cantrell  
Zavrelia sp.

Coleoptera

Bidessus sp.  
Dineutus sp. 1 - Pearce  
Dubiraphia quadrinotata  
Ectopria sp. 1 - Dalton  
Gyrinus sp. 1 - Pearce  
Stenelmis fuscata

Arachnida

Acarina

4 unident. spp.

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Coniobasis sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Gyraulus sp. 1 - Pearce  
Melanoides tuberculata  
Physa sp. 1 - Pearce

Gastropoda (cont.)

Pomacea sp. 1 - Pearce  
Pseudosuccinea sp. 1 - Pearce  
Tarebia sp.  
Viviparus cf. georgianus  
unident. hydrobiid sp. 1 - Pearce

Pelecypoda

Anodonta sp.  
Elliptio sp. 1 - Pearce  
Eupera cubensis  
Corbicula manilensis  
Lampsilis sp. 1 - Pearce  
Musculium sp. 1 - Pearce  
Pisidium sp. 1 - Pearce  
Sphaerium sp. 1 - Pearce  
S. corneum



DATA SUMMARY: Hillsborough River

| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | phytoplankton Composition units/cm <sup>3</sup>                                                                    | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                                                    |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                    |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                                                                                    |                                              |                                  |       |          |
| 24.03.0059<br>186 | 11 Jul 73 |                    |             |       |                      |            |       |              |       |                                                                                                                    |                                              | 2000                             | 200   |          |
|                   | 24 Sep 73 |                    |             |       |                      |            |       |              |       |                                                                                                                    |                                              | 19000                            | LT100 |          |
|                   | 14 Nov 73 |                    |             |       |                      |            |       |              |       |                                                                                                                    |                                              | 15000                            | 1800  |          |
|                   | 27 Nov 73 | 1.304±0.537        | 0.834±0.200 | 8     |                      |            |       | 25           | 42    |                                                                                                                    |                                              | 5552                             | 514   |          |
|                   | 27 Nov 73 |                    |             |       |                      |            |       |              |       |                                                                                                                    |                                              | 940                              | 100   |          |
|                   | 26 Mar 74 | 2.977±0.376        | 0.271±0.061 | 19    |                      |            |       |              |       |                                                                                                                    |                                              |                                  |       |          |
|                   | 26 Jun 74 | 2.013±0.592        | 0.661±0.198 | 10    |                      |            |       | 27           | 43    |                                                                                                                    |                                              |                                  |       |          |
|                   | 15 Aug 74 | 3.176±0.319        | 0.209±0.056 | 20    |                      |            |       | 31           | 46    | Coc BG 1<br>F11 BG LT1<br>Coc Gr 23<br>F11 Gr 4<br>Gr Flag 2<br>Other Flag 1<br>Cen Dia 3<br>Pen Dia 0<br>Total 33 |                                              | 11                               | 1000  |          |

See Methods for explanation of table.

### DATA SUMMARY: Hillsborough River

| Station Number    | Date      | MacroInvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                          | Coliform Bacteria Colonies/100ml | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                                                                                                                       |                                  |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                                                                                                                       |                                  |          |
| 24-03-0059<br>187 | 20 Aug 74 |                    |             |       |                      |             |       |              |                                                 | Total                                                                                                                                 | Fecal                            |          |
|                   | 9 Jan 74  |                    |             |       |                      |             |       |              |                                                 | 910                                                                                                                                   | 300                              |          |
|                   | 14 Jul 74 |                    |             |       |                      |             |       |              |                                                 | 1000                                                                                                                                  | 17100                            |          |
|                   | 11 Aug 74 |                    |             |       |                      |             |       |              |                                                 | 4000                                                                                                                                  | 900                              |          |
|                   | 8 Sep 74  |                    |             |       |                      |             |       |              |                                                 | 3000                                                                                                                                  | 900                              |          |
|                   | 6 Oct 74  |                    |             |       |                      |             |       |              |                                                 | 900                                                                                                                                   | 100                              |          |
|                   | 13 Nov 74 | 3.442±0.309        | 0.183±0.044 | 24    | 2.629±0.188          | 0.189±0.048 | 12    |              |                                                 | 2700                                                                                                                                  | 300                              |          |
|                   |           |                    |             |       |                      |             |       |              |                                                 | Coc BG 180<br>Fll BG 180<br>Coc Gr 11760<br>Fll Gr 300<br>Gr Flag 300<br>Other Flag 300<br>Gen Dia 360<br>Pen Dia 2050<br>Total 15470 |                                  |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                              | Periphyton Composition units/cm <sup>2</sup>                                                 | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                              |                                                                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                              |                                                                                              |                                  |  |          |
|                |           |                    |             |       |                      |             |       |              |       |                                                                                              |                                                                                              |                                  |  |          |
| 24, 03, 0059   | 9 Jun 75  | 3.635±0.302        | 0.111±0.030 | 19    | 1.399±0.301          | 0.676±0.098 | 12    |              |       |                                                                                              |                                                                                              |                                  |  |          |
|                | 8 Aug 75  | 3.414±0.319        | 0.154±0.046 | 19    |                      |             |       |              |       |                                                                                              |                                                                                              |                                  |  |          |
|                | 8 Sep 75  |                    |             |       | 2.385±0.175          | 0.194±0.031 | 12    |              |       |                                                                                              |                                                                                              |                                  |  |          |
|                | 3 Nov 75  | 2.549±0.369        | 0.367±0.079 | 18    |                      |             |       | 2            | 7     | Coc BG<br>Fil BG<br>Coc Gr<br>Fil Gr<br>Gr Flag<br>Other Flag<br>Cen Dia<br>Pen Dia<br>Total | Coc BG<br>Fil BG<br>Coc Gr<br>Fil Gr<br>Gr Flag<br>Other Flag<br>Cen Dia<br>Pen Dia<br>Total |                                  |  |          |
|                | 1 Mar 76  | 2.380±0.258        | 0.162±0.062 | 8     |                      |             |       |              |       |                                                                                              |                                                                                              |                                  |  |          |
|                | 12 Apr 76 | 2.861±0.250        | 0.150±0.043 | 13    |                      |             |       | 16           | 35    |                                                                                              |                                                                                              |                                  |  |          |
|                | 2 Aug 76  | 1.624±0.405        | 0.552±0.133 | 8     |                      |             |       |              |       |                                                                                              |                                                                                              |                                  |  |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                           | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                                                                                           |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                                                                                           |                                              |                                  |       |          |
| 24,01,0059<br>189 | 5 Oct 76  | 2.472±0.340        | 0.335±0.062 | 17    | 2.938±0.228          | 0.157±0.031 | 17    |              | Coc BG 55<br>Fll BG 70<br>Coc Gr 164<br>Fll Gr 16<br>Gr Flag 47<br>Other Flag 0<br>Cen Dia 47<br>Pen Dia 125<br>Total 524 |                                              |                                  |       |          |
|                   | 3 Nov 76  |                    |             |       |                      |             |       |              |                                                                                                                           |                                              | 61800                            | 61800 |          |
|                   | 12 Jan 77 |                    |             |       |                      |             |       | 31           |                                                                                                                           |                                              | 272                              | 15    |          |
|                   | 1 Feb 77  | 3.925±0.180        | 0.066±0.014 | 26    |                      |             |       | 57           |                                                                                                                           |                                              | 210                              | 10    |          |
|                   | 7 Mar 77  |                    |             |       |                      |             |       |              |                                                                                                                           |                                              | 250                              | 40    |          |
|                   | 11 Apr 77 |                    |             |       |                      |             |       |              |                                                                                                                           |                                              | 230                              | 65    |          |
|                   | 9 May 77  | 2.948±0.303        | 0.199±0.072 | 14    | 2.518±0.340          | 0.291±0.061 | 15    |              | Coc BG LTI<br>Fll BG LTI<br>Coc Gr LTI                                                                                    |                                              | 140                              | 70    |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

| Station Number | Date                  | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                      | Periphyton Composition units/cm <sup>2</sup>                                                                                  | Coliform Bacteria Colonies/100ml |       | Comments      |
|----------------|-----------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|---------------|
|                |                       | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                      |                                                                                                                               |                                  |       |               |
|                |                       | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                      |                                                                                                                               |                                  |       |               |
|                |                       |                    |             |       |                      |             |       |              |       |                                                                                      |                                                                                                                               |                                  |       |               |
| 24,03,0059     | 9 May 77<br>(cont.)   |                    |             |       |                      |             |       |              |       |                                                                                      |                                                                                                                               |                                  |       |               |
|                | 10 Aug 77             | 3.077±0.341        | 0.173±0.062 | 14    | 2.254±0.245          | 0.334±0.067 | 14    |              |       | Fil Gr LTI<br>Gr Flag LTI<br>Other Flag 0<br>Pen Dia LTI<br>Pen Dia LTI<br>Total LTI | Lac BG 0<br>Fil BG 789<br>Loc Gr 6227<br>Fil Gr 88<br>Gr Flag 0<br>Other Flag 0<br>Pen Dia 175<br>Pen Dia 3771<br>Total 11050 |                                  |       |               |
|                | 12 Oct 77             | 2.676±0.356        | 0.281±0.072 | 15    |                      |             |       |              |       |                                                                                      |                                                                                                                               | 310                              | LTI00 |               |
|                | 9 Nov 77              |                    |             |       |                      |             |       | 26           | 43    |                                                                                      |                                                                                                                               | 450                              | LTI0  |               |
|                | 6 Dec 77<br>23 Jan 78 | 3.619±0.218        | 0.208±0.032 | 46    |                      |             |       |              |       |                                                                                      |                                                                                                                               | 340                              | 93    |               |
| 190            |                       |                    |             |       |                      |             |       |              |       |                                                                                      |                                                                                                                               | 54                               | 110   |               |
|                |                       |                    |             |       |                      |             |       |              |       |                                                                                      |                                                                                                                               |                                  |       | Florida Index |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough River

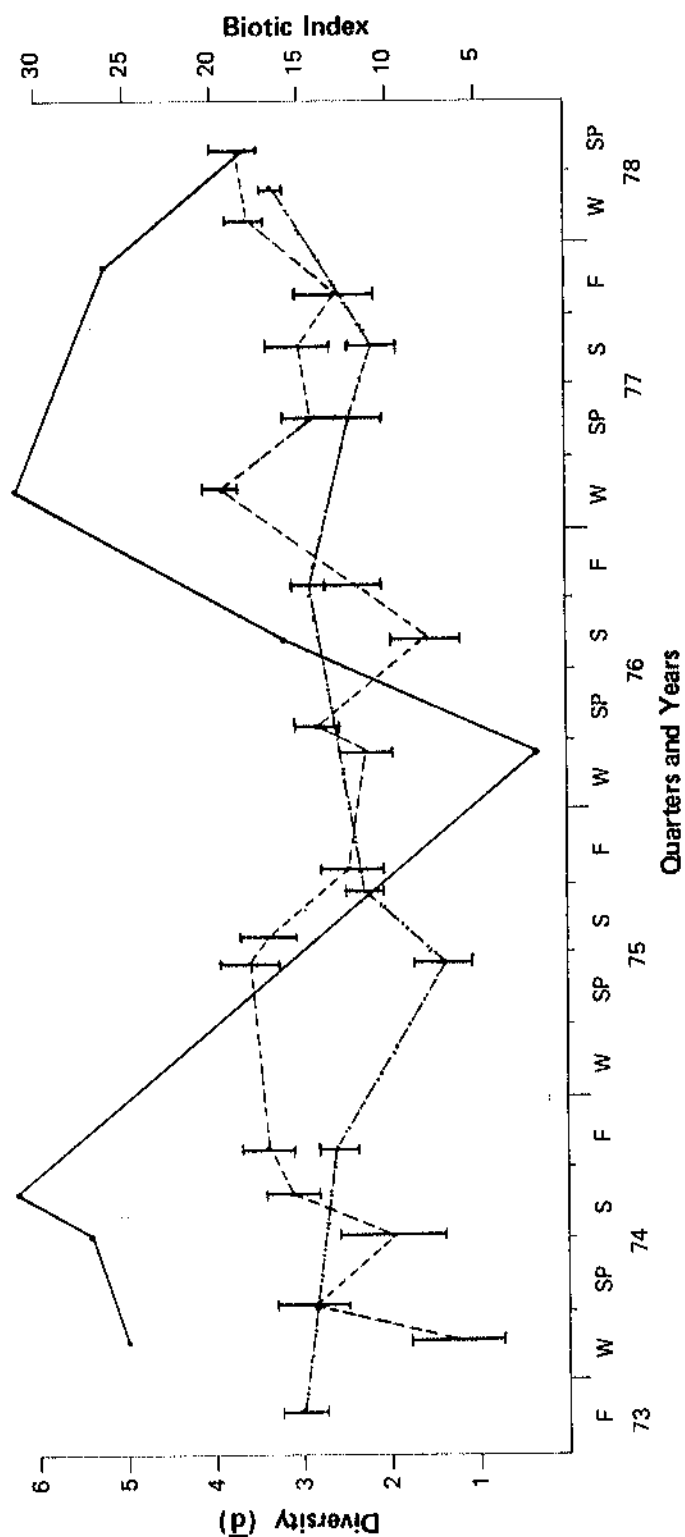
| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       |    |    |       |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|----|----|-------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |    | BI | #Spp. | Total |                                                 |                                              | Fecal                            |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |    |    |       |       |                                                 |                                              |                                  |  |          |
|                |           |                    |             |       |                      |             |       |    |    |       |       |                                                 |                                              |                                  |  |          |
| 24.03.0059     | 14 Feb 78 |                    |             |       | 3.316±0.112          | 0.059±0.011 | 15    |    |    |       | 50    | 100                                             |                                              |                                  |  |          |
|                | 10 Apr 78 | 3.764±0.281        | 0.095±0.030 | 20    |                      |             |       | 18 | 29 |       | 13000 | 40                                              |                                              |                                  |  |          |
|                | 9 May 78  |                    |             |       |                      |             |       |    |    |       | 240   | 220                                             |                                              |                                  |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.03.0059  
 BODY OF WATER: HILLSBOROUGH RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.03.0207 Body of Water Hillsborough Bay  
Location 3/4 mile east of MacDill Air Force Base  
County Hillsborough  
Type Body of Water estuary Classification III  
Sources of Pollution domestic and industrial waste, urban runoff  
Nearby Land Use residential, industrial, commercial  
Sampling Frequency quarterly Depth 3 - 4 meters  
Bottom Type sandy mud % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

#### Macroinvertebrates:

##### Platyhelminthes

unident. sp.

##### Annelida

###### Polychaeta

Capitella capitata  
Glycera americana  
G. dibranchiata  
Glycinde solitaria  
Goniada sp. 1 - Farrell  
Laeonereis culveri  
Mediomastus californiensis  
Minuspio cirrifera  
Nereis acuminata  
N. succinea  
Paraprionospio pinnata  
Pectinaria gouldii  
Phyllodoce erythrophyllus  
Prionospio heterobranchia  
Streblospio benedicti  
Travisia sp. 1 - Farrell

##### Arthropoda

###### Crustacea

###### Amphipoda

Ampelisca abdita  
A. holmesi  
Batea catharinensis  
Elasmopus pocillimanus



## Amphipoda cont.

Erichthonius brasiliensis  
Gammarus mucronatus  
Gitanopsis tortugae  
Grandidierella bonnieroides  
Listriella barnardi  
Melita nitida  
Monoculoides nyei  
Microdeutopus sp. 1 - Farrell  
Paracaprella pusilla

## Decapoda

Ambidexter symmetricus  
Neopanope texana  
Ogyrides limicola  
Pinnixa sayana

## Cumacea

Cyclaspis varians  
Oxyurostylis smithi

## Mollusca

## Gastropoda

Acteon punctostriatus  
Marginella apicina  
Mitrella lunata  
Nassarius vibex  
Odostomia sp. 1 - Farrell  
Sayella fusca

## Pelecypoda

Abra aequalis  
Anachis obesus  
Diplodonta punctata  
Geukensia demissa  
Mulinia lateralis  
Mysella planulata  
Nucula crenulata  
Semele nuculoides  
Tellina versicolor

DATA SUMMARY: Hillsborough Bay

| Station Number | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |
|                |           |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |          |
| 195            | 24 Jul 73 |                    |            |       |                      |            |       |              |       |                                                 | 20                                           |                                  |          |
|                | 1 Aug 73  |                    |            |       |                      |            |       |              |       |                                                 | 50                                           |                                  |          |
|                | 29 Aug 73 |                    |            |       |                      |            |       |              |       |                                                 | 490                                          |                                  |          |
|                | 3 Oct 73  |                    |            |       |                      |            |       |              |       |                                                 | 224000                                       |                                  |          |
|                | 31 Oct 73 |                    |            |       |                      |            |       |              |       |                                                 | 3300                                         |                                  |          |
|                | 5 Dec 73  |                    |            |       |                      |            |       |              |       |                                                 | 110                                          |                                  |          |
|                | 9 Jan 74  |                    |            |       |                      |            |       |              |       |                                                 | 2700                                         | 100                              |          |
|                | 7 Feb 74  |                    |            |       |                      |            |       |              |       |                                                 | 1700                                         | LT100                            |          |
|                | 6 Mar 74  |                    |            |       |                      |            |       |              |       |                                                 | 300                                          | LT100                            |          |
|                | 10 Apr 74 |                    |            |       |                      |            |       |              |       |                                                 | 100                                          | LT100                            |          |
|                | 8 May 74  |                    |            |       |                      |            |       |              |       |                                                 | 67100                                        | LT100                            |          |
|                | 5 Jun 74  |                    |            |       |                      |            |       |              |       |                                                 | 17100                                        | LT100                            |          |
|                | 2 Jul 74  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 100                              |          |

See Methods for explanation of table.

DATA SUMMARY: Millisborough Bay

| Station Number | Date       | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|------------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |            | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |  |          |
|                |            | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |  |          |
|                |            |                    |             |                      |           |            |       | BI           | #Spp. |                                                 |                                              |                                  |  |          |
| 196            | 24.03.0207 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |  |          |
|                | 31 Jul 74  |                    |             |                      |           |            |       |              |       |                                                 | 1400                                         | 700                              |  |          |
|                | 25 Aug 74  |                    |             |                      |           |            |       |              |       |                                                 | 3100                                         | 15100                            |  |          |
|                | 30 Oct 74  |                    |             |                      |           |            |       |              |       |                                                 | 200                                          | 15100                            |  |          |
|                | 4 Dec 74   |                    |             |                      |           |            |       |              |       |                                                 | 15100                                        | 15100                            |  |          |
|                | 7 Jan 75   | 1.298±0.120        | 0.578±0.042 | 15                   |           |            |       |              |       |                                                 | 15100                                        | 15100                            |  |          |
|                | 6 Feb 75   |                    |             |                      |           |            |       |              |       |                                                 | 15100                                        | 15100                            |  |          |
|                | 5 Mar 75   |                    |             |                      |           |            |       |              |       |                                                 | 400                                          | 15100                            |  |          |
|                | 2 Apr 75   |                    |             |                      |           |            |       |              |       |                                                 | 200                                          | 100                              |  |          |
|                | 30 Apr 75  |                    |             |                      |           |            |       |              |       |                                                 | 100                                          | 15100                            |  |          |
|                | 28 May 75  | 1.484±0.034        | 0.389±0.007 | 16                   |           |            |       |              |       |                                                 | 15100                                        | 15100                            |  |          |
|                | 24 Jun 75  |                    |             |                      |           |            |       |              |       |                                                 | 15100                                        | 15100                            |  |          |
|                | 23 Jul 75  |                    |             |                      |           |            |       |              |       |                                                 | 15100                                        | 15100                            |  |          |

See Methods for explanation of table.

**DATA SUMMARY:**

[illegible]

See Methods for explanation of table.

DATA SUMMARY: Hillsborough Bay

| Station Number | Date      | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                    | Periphyton Composition units/cm <sup>2</sup>                                                                           | Coliform Bacteria Colonies/100ml |       | Comments |  |
|----------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|--|
|                |           | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                                                                                    |                                                                                                                        |                                  |       |          |  |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                    |                                                                                                                        |                                  |       |          |  |
|                |           |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                                                                                                        |                                  |       |          |  |
| 24, 03, 0207   | 26 May 76 | 1.470±0.105        | 0.450±0.040 | 12                   |           |            |       |              |       | Coc BG 0<br>Fil BG 0<br>Coc Gr 13<br>Fil Gr 1<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 17<br>Pen Dia 47<br>Total 78 |                                                                                                                        |                                  |       |          |  |
|                | 28 Jul 76 |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                                                                                                        | 100                              | LT100 |          |  |
|                | 26 Aug 76 | 1.053±0.164        | 0.654±0.066 | 7                    |           |            |       |              |       |                                                                                                                    | Coc BG 0<br>Fil BG 0<br>Coc Gr 29<br>Fil Gr 17<br>Gr Flag 19<br>Other Flag 48<br>Cen Dia 19<br>Pen Dia 26<br>Total 157 |                                  |       |          |  |
|                |           |                    |             |                      |           |            |       |              |       |                                                                                                                    |                                                                                                                        |                                  |       |          |  |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough Bay

| Station Number | Date      | Macroinvertebrates |             |                      |            |       |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |
|----------------|-----------|--------------------|-------------|----------------------|------------|-------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|
|                |           | Natural Substrate  |             | Artificial Substrate |            | Total | Fecal |              |                                                 |                                              |                                  |       |          |  |
|                |           | Diversity          | Redundancy  | Diversity            | Redundancy |       |       |              |                                                 |                                              |                                  |       |          |  |
| 199            | 2 Sep 76  |                    |             |                      |            |       |       |              |                                                 |                                              | 100                              |       |          |  |
|                | 29 Sep 76 |                    |             |                      |            |       |       |              |                                                 |                                              | 900                              | 100   |          |  |
|                | 27 Oct 76 | 0.797±0.065        | 0.714±0.026 |                      |            | 9     |       |              |                                                 |                                              | 100                              | LT100 |          |  |
|                | 1 Dec 76  |                    |             |                      |            |       |       |              |                                                 |                                              | 400                              | LT100 |          |  |
|                | 5 Jan 77  | 0.641±0.084        | 0.755±0.038 |                      |            | 7     |       |              |                                                 |                                              | LT100                            | LT100 |          |  |
|                | 16 Feb 77 |                    |             |                      |            |       |       |              |                                                 |                                              | 1100                             | LT100 |          |  |
| 24.03.0207     |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |                      |            |       |       |              |                                                 |                                              |                                  |       |          |  |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough Bay

| Station Number    | Date      | Macroinvertebrates |             |                      |            |       |           | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|------------|-------|-----------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |            | #Spp. | Diversity | Redundancy   | #Spp. |                                                 |                                              | BI                               | #Spp. |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Redundancy |       |           |              |       |                                                 |                                              |                                  |       |          |
| 24.03.0207<br>200 | 16 Mar 77 |                    |             |                      |            |       |           |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                   | 20 Apr 77 |                    |             |                      |            |       |           |              |       |                                                 |                                              | 400                              | LT100 |          |
|                   | 15 Jun 77 | 0.924±0.120        | 0.705±0.046 | 9                    |            |       |           |              |       |                                                 |                                              | 1300                             | LT100 |          |
|                   | 13 Jul 77 |                    |             |                      |            |       |           |              |       |                                                 |                                              | 100                              | LT100 |          |
|                   | 10 Aug 77 | 1.739±0.367        | 0.175±0.135 | 4                    |            |       |           |              |       |                                                 |                                              |                                  |       |          |
|                   | 29 Nov 77 | 2.776±0.278        | 0.140±0.043 | 11                   |            |       |           |              |       |                                                 |                                              |                                  |       |          |
|                   | 14 Feb 78 | 1.068±0.125        | 0.596±0.051 | 8                    |            |       |           |              |       |                                                 |                                              |                                  |       |          |
|                   | 5 Apr 78  |                    |             |                      |            |       |           |              |       |                                                 |                                              |                                  |       |          |
|                   | 3 May 78  | 2.556±0.170        | 0.251±0.041 | 17                   |            |       |           |              |       |                                                 |                                              | 100                              | 100   |          |
|                   |           |                    |             |                      |            |       |           |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Hillsborough Bay

| Station Number | Date                   | Macroinvertebrates |            |       |                      |            |       |              |       |       |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |  |
|----------------|------------------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------|----|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|--|
|                |                        | Natural Substrate  |            |       | Artificial Substrate |            |       | Biotic Index | Total | Fecal |    |                                                 |                                              |                                  |     |          |  |
|                |                        | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |       |       |    |                                                 |                                              |                                  |     |          |  |
|                |                        |                    |            |       |                      |            |       |              |       |       | BI |                                                 |                                              | #Spp.                            |     |          |  |
| 201            | 24.03.020 /<br>(cont.) |                    |            |       |                      |            |       |              |       |       |    |                                                 |                                              |                                  |     |          |  |
|                | 3 May 78               |                    |            |       |                      |            |       |              |       |       |    |                                                 |                                              |                                  | 300 | LT100    |  |
|                | 31 May 78              |                    |            |       |                      |            |       |              |       |       |    |                                                 |                                              |                                  | 200 | LT100    |  |
|                | 28 Jun 78              |                    |            |       |                      |            |       |              |       |       |    |                                                 |                                              |                                  |     |          |  |

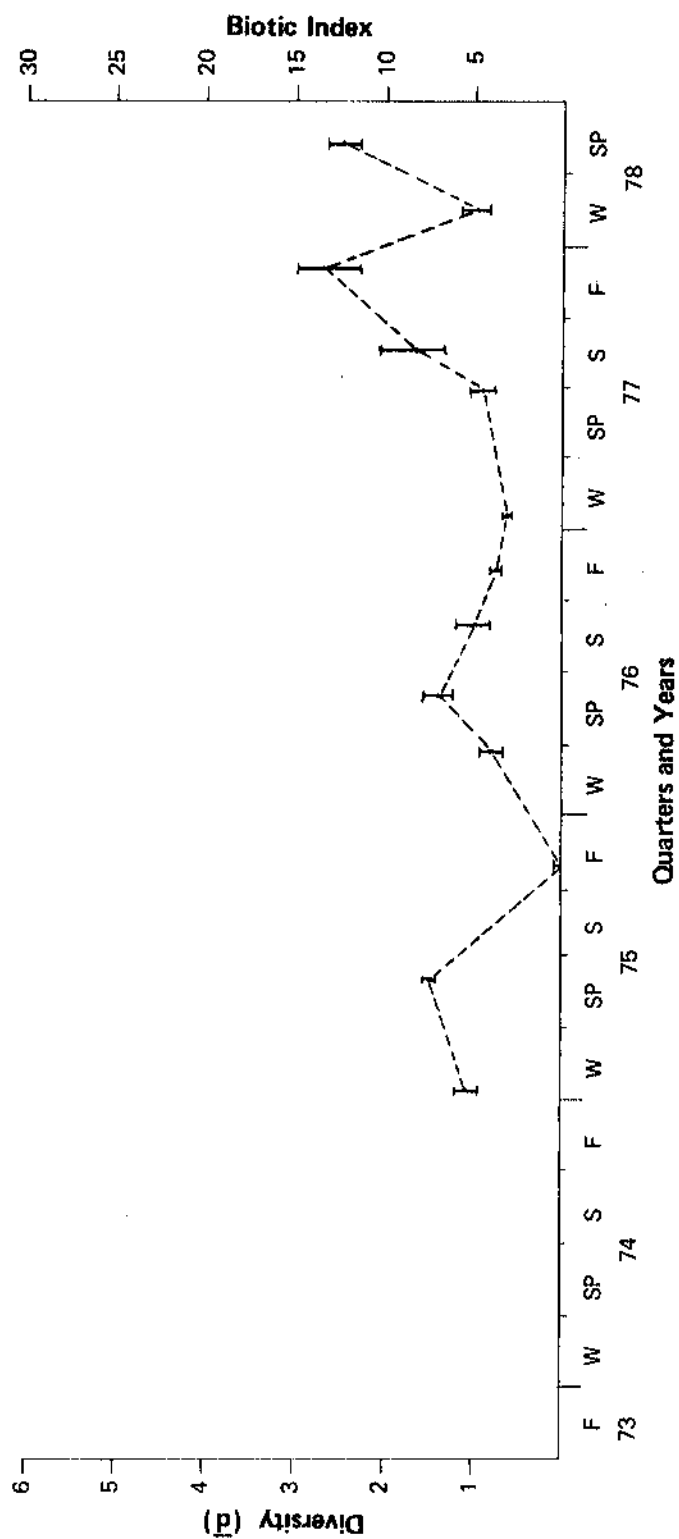
See Methods for explanation of table.



# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.03.0207  
 BODY OF WATER: HILLSBOROUGH BAY

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.04.0093 Body of Water Old Tampa Bay  
Location center of Howard Frankland Bridge in boat channel  
County Hillsborough  
Type Body of Water estuary Classification II  
Sources of Pollution urban runoff, domestic effluent  
Nearby Land Use urban  
Sampling Frequency quarterly Depth 3 - 5 meters  
Bottom Type sand, shell % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

#### Macroinvertebrates:

##### Rhynchocoela

Amphiporus sp.  
Zygonemertes virescens

##### Annelida

###### Oligochaeta

unident. sp.

###### Polychaeta

Aglaophamus verilli  
Apoprionospio pygmaea  
Cirriiformes grandis  
Clymenella torquata  
Eteone lactea  
Glycera americana  
G. dibranchiata  
Glycinde solitaria  
Haploscoloplos foliosus  
Lepidametria commensalis  
Mediomastus californiensis  
Minuspio cirrifera  
Nereis acuminata  
N. succinea  
Nephtys picta  
Odontosyllis enopla  
Paraprionospio pinnata  
Pectinaria gouldii  
Phyllodoce erthrophyllus

## Polychaeta cont.

Spio pettiboneae  
Streblospio benedicti  
Spiochaetopterus costarum oculata  
Travisia sp. 1 - Farrell

## Arthropoda

## Crustacea

## Isopoda

Apanthura magnifica  
Cyathura polita  
Limnoria lignorum  
Munna sp. 1 - Farrell  
Serolis mgrayi  
Sphaeroma quadridentatum

## Amphipoda

Ampelisca abdita  
A. holmesi  
A. vadorum  
Amphithoe longimana  
Argissa sp. 1 - Farrell  
Baeta catharinensis  
Corophium acherusicum  
C. louisianum  
Cerapus tubularis  
Elasmophus pocillimanus  
Erichthonius brasiliensis  
Grandidierella bonnieroides  
Gitanopsis tortucae  
Listriella barnardi  
Lembos websteri  
Lysianopsis alba  
Melita appendiculata  
Monoculoides myei  
Microdeutopus sp. 1 - Farrell  
M. myersi  
Megaluropus sp. 1 - Farrell  
Paracaprella pusilla  
Paraphoxus spinosus  
Platyischnopus sp. 1 - Farrell  
Podocerus brasiliensis  
Stenothoe minuta  
Trichophoxus floridanus  
Tiron tropakis

## Decapoda

Alpheus armillatus  
Ambidexter symmetricus  
Eurypanopeus depressus  
Euceramus praelongus  
Heterocrypta granulata  
Hexapanopeus angustifrons  
Hippolyte zostericola  
Neopanope texana  
Paguristes hummi

## Decapoda cont.

Pagurus annulipes  
Panopeus herbstii  
Pilumnus floridanus  
Pinnixa chaetopterana  
P. sayana  
P. floridana

## Mysidacea

Mysidopsis bigelowi  
M. furca  
M. bahia

## Cumacea

C. varians  
Oxyurostylis smithi

## Nebaliacea

Nebalia sp. 1 - Farrell

## Cirripedia

Balanus sp. 1 - Farrell  
B. amphitrite

## Mollusca

## Gastropoda

Anachis avara  
A. obesa  
Caecum floridanum  
C. ryssotitum  
C. pulchellum  
Cerithiopsis greeni  
Crepidula plana  
Epitonium angulatum  
E. humphreysi  
E. foliacercostum  
E. rupicola  
Haminoea succinea  
Ilyanassa obsoleta  
Mitrella lunata  
Nassarius vibex  
Natica canrena  
N. pusilla  
Oliva sayana  
Olivella floralia  
O. pusilla  
Polinices duplicatus  
Seila adamsi  
Triphora nigrocincta  
Turbonilla hemphilli

## Pelecypoda

Abra aequalis  
Anadara transversa  
Corbula contracta  
Laevicardium laevigatum  
L. mortoni  
Lopha frons  
Lyonsia hyalina floridana

## Pelecypoda

Macoma tenta  
Mercenaria campechiensis  
Mulinia lateralis  
Noetia ponderosa  
Nucula crenulata  
Ostrea equestris  
Tagelus divisus  
Tellina iris  
T. tampaenis  
T. sybaritica  
T. versicolor

## Echinodermata

Amphiplus sp. 1 - Farrell  
A. thrombodes  
Luidia clathrata  
Ophioactis krebsii  
Ophiolepsis elegans

## Brachiopoda

Glottidia pyramidata

## Chordata

## Cephalochordata

Branchiostoma sp. 1. - Farrell

DATA SUMMARY: Old Tampa Bay

| Station Number    | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                   |           |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 207<br>24-04-0093 | 25 Jul 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | LT2                              |       |          |
|                   | 22 Aug 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 50                               |       |          |
|                   | 6 Sep 73  |                    |            |       |                      |            |       |              |       |                                                 |                                              | LT2                              |       |          |
|                   | 26 Sep 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | LT2                              |       |          |
|                   | 24 Oct 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 1400                             |       |          |
|                   | 27 Nov 73 |                    |            |       |                      |            |       |              |       |                                                 |                                              | 20                               |       |          |
|                   | 2 Jan 74  |                    |            |       |                      |            |       |              |       |                                                 |                                              | LT2                              |       |          |
|                   | 30 Jan 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                   | 27 Feb 74 |                    |            |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                   | 3 Apr 74  |                    |            |       |                      |            |       |              |       |                                                 |                                              | 20000                            | 500   |          |
|                   | 1 May 74  |                    |            |       |                      |            |       |              |       |                                                 | LT100                                        | LT100                            |       |          |
|                   | 29 May 74 |                    |            |       |                      |            |       |              |       |                                                 | LT100                                        | LT100                            |       |          |

See Methods for explanation of table.

DATA SUMMARY: Old Tampa Bay

| Station Number      | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|---------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                     |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                              |                                  |          |
|                     |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |
|                     |           |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |          |
| 208<br>24, 04, 0093 | 27 Jun 74 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 24 Jul 74 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 21 Aug 74 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 18 Sep 74 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 23 Oct 74 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 20 Nov 74 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 2 Jan 75  | 1.938±0.303        | 0.538±0.087 | 18    |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 29 Jan 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 26 Feb 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 26 Mar 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 300                              | LT100    |
|                     | 23 Apr 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100    |
|                     | 22 May 75 | 3.978±0.104        | 0.110±0.009 | 64    | 2.184±0.027          | 0.230±0.005 | 17    |              |       |                                                 |                                              | LT100                            | LT100    |

See Methods for explanation of table.

DATA SUMMARY: Old Tampa Bay

| Station Number | Date       | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |       |          |
|                |            |                    |             |                      |           |            |       | BI           | #Spp. |                                                 |                                              |                                  |       |          |
| 209            | 24.04.0093 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 18 Jun 75  |                    |             |                      |           |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 16 Jul 75  |                    |             |                      |           |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 24 Jul 75  | 3.481±0.105        | 0.148±0.018 | 33                   |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 5 Nov 75   | 3.239±0.092        | 0.146±0.010 | 40                   |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 10 Dec 75  |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 24 Dec 75  |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 28 Jan 76  |                    |             |                      |           |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                | 25 Feb 76  |                    |             |                      |           |            |       |              |       |                                                 |                                              | 2900                             | LT100 |          |

See Methods for explanation of table.



DATA SUMMARY: Old Tampa Bay

| Station Number      | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|---------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                     |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |  |                                                 |                                              | Total                            | Fecal |          |
|                     |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |  |                                                 |                                              |                                  |       |          |
|                     |           | BI                 | #Spp.       |       |                      |            |       |              |  |                                                 |                                              |                                  |       |          |
| 210<br>24, 04, 0093 | 2 Mar 76  | 2.424±0.136        | 0.310±0.029 | 25    |                      |            |       |              |  |                                                 |                                              | LT100                            |       |          |
|                     | 24 Mar 76 |                    |             |       |                      |            |       |              |  |                                                 |                                              | LT100                            |       |          |
|                     | 21 Apr 76 |                    |             |       |                      |            |       |              |  |                                                 |                                              | LT100                            |       |          |
|                     | 18 May 76 |                    |             |       |                      |            |       |              |  |                                                 |                                              | LT100                            |       |          |
|                     | 19 May 76 | 1.100±0.051        | 0.720±0.015 | 31    |                      |            |       |              |  |                                                 |                                              |                                  |       |          |
|                     |           |                    |             |       |                      |            |       |              |  |                                                 |                                              |                                  |       |          |
|                     |           |                    |             |       |                      |            |       |              |  |                                                 |                                              |                                  |       |          |
|                     | 23 Jun 76 |                    |             |       |                      |            |       |              |  |                                                 |                                              | LT100                            | LT100 |          |
|                     | 21 Jul 76 |                    |             |       |                      |            |       |              |  |                                                 |                                              | 300                              | LT100 |          |
|                     |           |                    |             |       |                      |            |       |              |  |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Old Tampa Bay

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                                                             |                                  |       |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                                                             |                                  |       |          |
|                |           |                    |             |       |                      |            |       | BI           |                                                 |                                                                             | #Spp.                            |       |          |
| 24.04.0093     | 18 Aug 76 | 2.230±0.149        | 0.246±0.029 | 14    |                      |            |       |              |                                                 | Coc BC 0<br>Fil BC 0<br>Coc Gr 36<br>Fil Gr 7<br>Gr Flag 0<br>Other Flag 29 |                                  |       |          |
|                | 25 Aug 76 |                    |             |       |                      |            |       |              |                                                 | 2100                                                                        | LT100                            | LT100 |          |
|                | 23 Sep 76 |                    |             |       |                      |            |       |              |                                                 |                                                                             |                                  |       |          |
|                | 21 Oct 76 |                    |             |       |                      |            |       |              |                                                 |                                                                             | 1900                             | LT100 |          |
|                | 27 Oct 76 | 3.113±0.173        | 0.202±0.022 | 35    |                      |            |       |              |                                                 |                                                                             |                                  |       |          |
|                | 18 Nov 76 |                    |             |       |                      |            |       |              |                                                 |                                                                             | LT100                            | LT100 |          |
|                | 29 Dec 76 |                    |             |       |                      |            |       |              |                                                 |                                                                             | LT100                            | LT100 |          |

See Methods for explanation of table.

DATA SUMMARY: Old Tampa Bay

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                      | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                                                      |                                              |                                  |       |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                      |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              |                                  |       |          |
| 24,02,0093     | 9 Feb 77  | 2.861±0.207        | 0.223±0.049 | 17    |                      |            |       |              |       | Coc BG 0<br>Fll BG 0<br>Coc Gr 17<br>Fll Gr 0<br>Gr Flag 41<br>Other Flag 0<br>Cen Dia 26<br>Pen Dia 33<br>Total 117 |                                              | LT100                            | LT100 |          |
|                | 9 Mar 77  |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT100 |          |
|                | 13 Apr 77 |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT100 |          |
|                | 11 May 77 | 3.046±0.214        | 0.160±0.038 | 18    |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT100 |          |
|                | 6 Jul 77  |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT100 |          |
|                | 3 Aug 77  | 4.157±0.210        | 0.098±0.020 | 38    |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT100 |          |
|                | 28 Dec 77 | 3.375±0.240        | 0.165±0.034 | 25    |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT100 |          |
|                | 2 Feb 78  | 3.601±0.250        | 0.192±0.032 | 40    |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT100 |          |

See Methods for explanation of table.

DATA SUMMARY: Old Tampa Bay

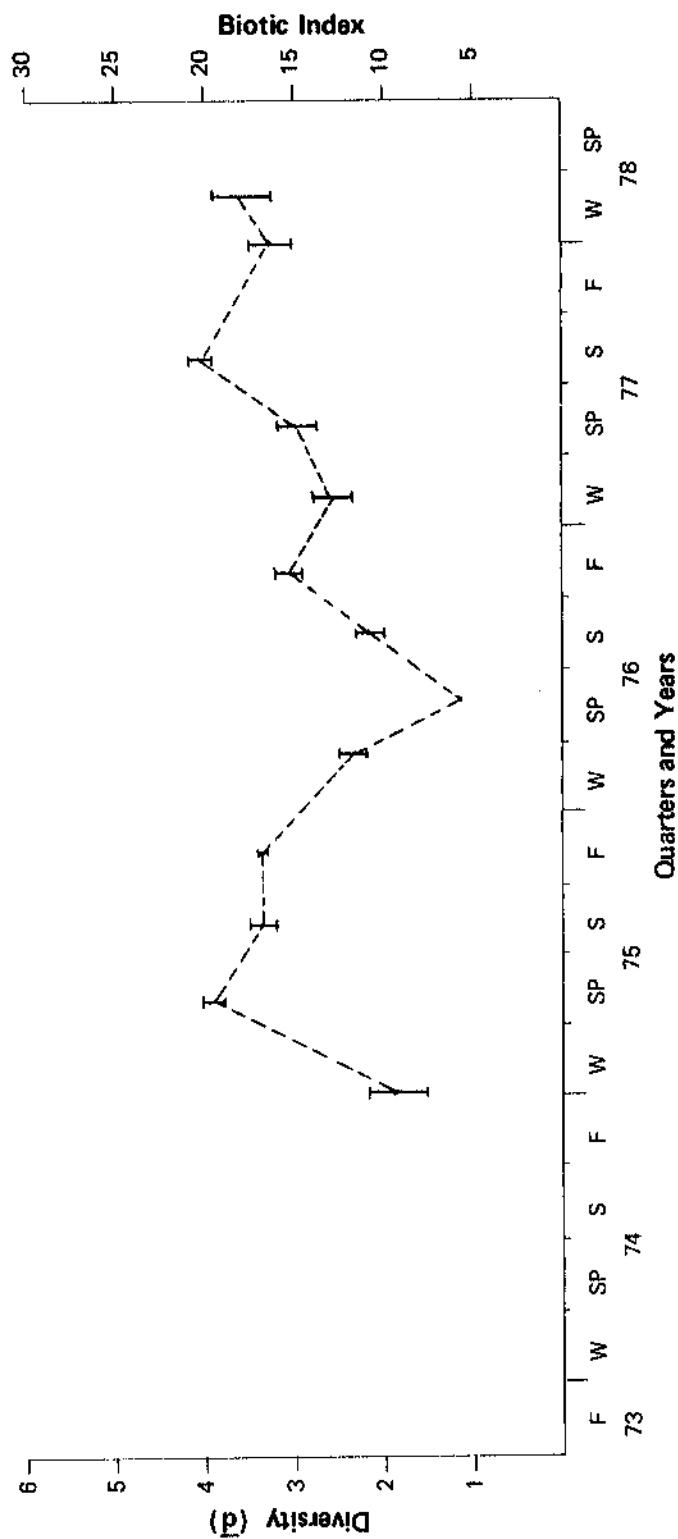
| Station Number    | Date      | Macroinvertebrates |             |                      |            |       |            | Biotic Index |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |       |
|-------------------|-----------|--------------------|-------------|----------------------|------------|-------|------------|--------------|----|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|-------|
|                   |           | Natural Substrate  |             | Artificial Substrate |            | #Spp. | Redundancy | #Spp.        | BI |                                                 |                                              | #Spp.                            | Total |          | Fecal |
|                   |           | Diversity          | Redundancy  | Diversity            | Redundancy |       |            |              |    |                                                 |                                              |                                  |       |          |       |
| 24,04,0093<br>213 | 30 Mar 78 |                    |             |                      |            |       |            |              |    |                                                 |                                              | LT100                            | LT100 |          |       |
|                   | 25 May 78 | 3.894±0.219        | 0.101±0.019 |                      |            | 32    |            |              |    |                                                 |                                              | 100                              | LT100 |          |       |
|                   | 21 Jun 78 |                    |             |                      |            |       |            |              |    |                                                 |                                              | 200                              | 100   |          |       |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.04.0093  
 BODY OF WATER: OLD TAMPA BAY

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.04.0210 Body of Water Lake Tarpon  
Location near mouth of Salmon Bay  
County Pinellas  
Type Body of Water lake Classification III  
Sources of Pollution urban runoff  
Nearby Land Use state park, residential  
Sampling Frequency annually Depth 1.5 - 2.75  
Bottom Type mud-detritus % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_  
Macroinvertebrates:

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Pearce

Amphipoda

Hyalella azteca

Insecta

Odonata

Macromia taeniolata

Ephemeroptera

Caenis hilaris

Hexagenia munda orlando

Diptera

Chironomus sp.

Coelotanypus tricolor

Cryptochironomus blarina

Dicrotendipes neomodestus

Epoicocladus sp. 1 - Dalton

## Diptera (cont.)

Palpomyia sp.Polypedilum halteraleProcladius sp. 1 - CantrellStictochironomus sp. 1 - Pearce

## Coleoptera

Peltodytes sp.

## Mollusca

## Gastropoda

Campeloma sp.Tarebia cf. granifera

## Pelecypoda

Corbicula manilensis

DATA SUMMARY: Lake Tarpon

| Station Number | Date                   | Macroinvertebrates |             |                      |    |       |           |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|------------------------|--------------------|-------------|----------------------|----|-------|-----------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |                        | Natural Substrate  |             | Artificial Substrate |    | #Spp. | Diversity | Redundancy | #Spp. |              |                                                 |                                              |                                  |  |          |
|                |                        | Diversity          | Redundancy  | #Spp.                |    |       |           |            |       |              |                                                 |                                              |                                  |  |          |
|                |                        |                    |             |                      | BI |       |           |            |       |              |                                                 |                                              | #Spp.                            |  |          |
| 217            | 24, 04, 0210 25 Mar 76 | 2.560+0.230        | 0.200+0.060 | 12                   |    |       |           |            |       |              |                                                 |                                              |                                  |  |          |
|                | 20 Jul 76              | 1.816+0.307        | 0.341+0.190 | 7                    |    |       |           |            |       |              |                                                 |                                              |                                  |  |          |
|                | 20 Dec 77              | 1.304+0.286        | 0.500+0.124 | 6                    |    |       |           |            |       |              |                                                 |                                              |                                  |  |          |

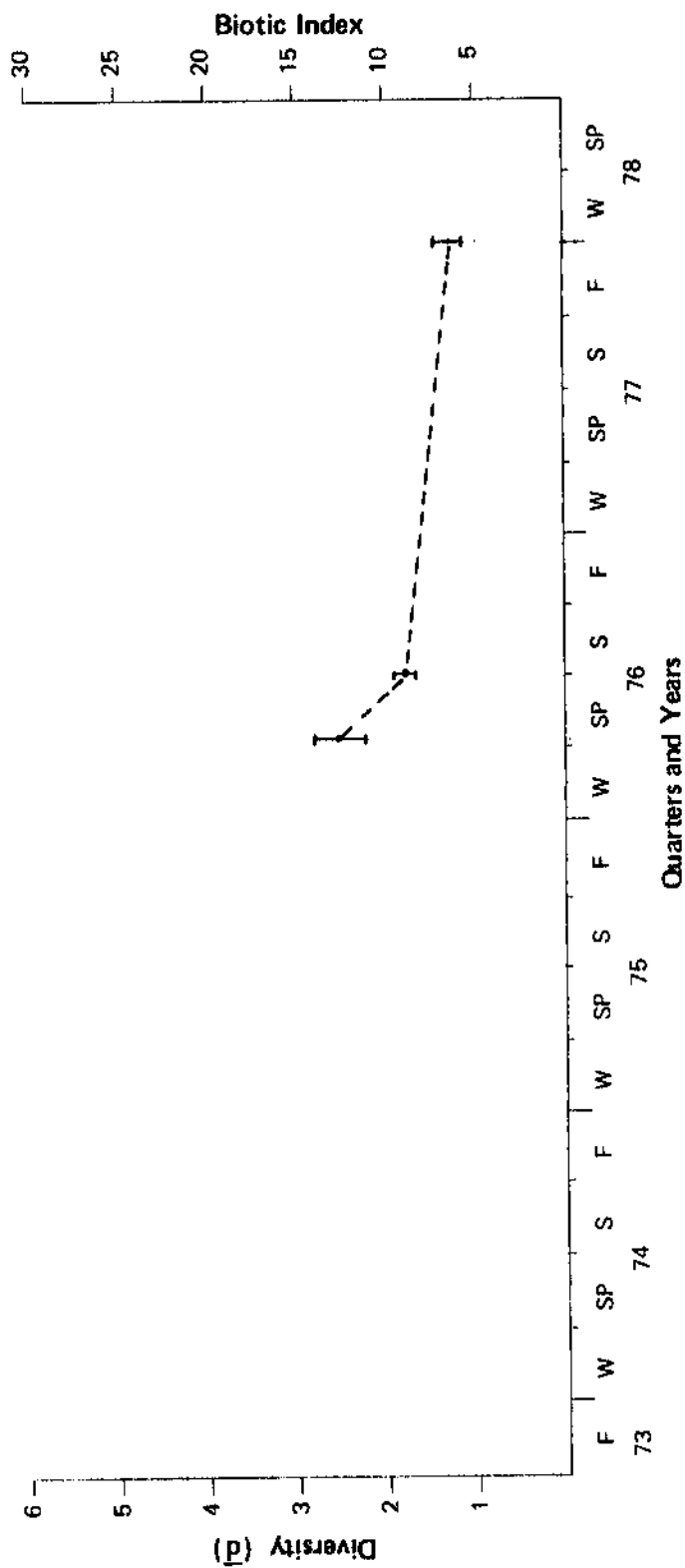
See Methods for explanation of table.



# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.04.0210  
 BODY OF WATER: LAKE TAPOCA

--- NATURAL SUBSTRATE DIVERSITY  
 - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.04.0387 Body of Water Boca Ciega Bay  
Location red marker #30, ICW at junction with Cat's Point Channel  
County Pinellas  
Type Body of Water bay Classification \_\_\_\_\_  
Sources of Pollution urban runoff, STP's  
Nearby Land Use residential and commercial  
Sampling Frequency annual Depth 2.5 meters  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

Macroinvertebrates:

Rhynchocoela

Micrura sp. 1 - Farrell

Annelida

Polychaeta

Aglaophamus verrilli  
Glycera americana  
G. dibranchiata  
Glycinde nordmanni  
Nereis acuminata  
Odontosyllis enopla  
Paraprionospio pinnata

Arthropoda

Crustacea

Amphipoda

Ampelisca holmesi  
A. vadorum  
Erichthonius brasiliensis  
Gitanopsis tortugae  
Listriella barnardi  
Microdeutopus sp. 1 - Farrell

Decapoda

Pinnixa sayana

Mysidacea

Mysidopsis bigelowi

Cumacea

Cyclaspis sp. 2 - Farrell  
Oxyurostylis smithi

## Mollusca

## Gastropoda

Marginella apicina  
Melanella conoldea  
Mitrella apicina  
M. lunata  
Sayella fusca  
Strombiformis bilineatus  
Terebra dislocata

## Pelecypoda

Abra aequalis  
Anadara transversa  
Anomalocardia cuneimeris  
Chione cancellata  
Dosinia discus  
Mercenaria campechiensis  
Mulinia lateralis  
Nuculana concentrica  
Tellina iris  
T. versicolor

DATA SUMMARY: Boca Ciega Bay

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 221            | 24 Oct 74 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 3 Dec 74  |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 14 Jan 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 18 Feb 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 18 Mar 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 22 Apr 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 20 May 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 22 Jul 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 19 Aug 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 16 Sep 75 |                    |             |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 30 Oct 75 | 4.063±0.256        | 0.097±0.025 | 29    |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |
|                | 12 Apr 77 |                    |             |       |                      |            |       |              |                                                 |                                              | LT5                              | LT5   |          |

See Methods for explanation of table.

DATA SUMMARY: Boca Ciega Bay

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 222            | 10 May 78 | 3.209±0.194        | 0.084±0.024 | 14    |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 24.04.0387     |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

Station No. 24,04,0600 Body of Water Anclote River  
Location near mouth  
County Pinellas  
Type Body of Water river-estuary Classification III  
Sources of Pollution city of Tarpon Springs, urban runoff, concrete plant,  
power plant discharge  
Nearby Land Use industrial & urban  
Sampling Frequency annual Depth 1 meter  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Diplanthera sp.  
Emergent \_\_\_\_\_

Macroinvertebrates:

Rhynchocoela

Micrura sp. 1 - Farrell

Annelida

Polychaeta

Arabella sp. 1 - Farrell  
Aricidea philbinae  
Axiiothella mucosa  
Capitella capitata  
Chone sp. 1 - Farrell  
Cirriiformia grandis  
Eteone lactea  
Eulalia sanguinea  
Glycera americana  
Goniada sp. 1 - Farrell  
Haploscoloplos foliosus  
Heteromastus filiformis  
Melinna maculata  
Nothria conchylega  
Onuphis eremita  
Pectinaria gouldii  
Pistia cristata  
Phyllodoce fragilis  
Platynereis dumerili  
Prionospio heterobranchia  
Sabella melanostigma  
Syllis (Typosyllis) sp. 1 - Farrell  
Terebellides stroemi  
Tharyx sp. 1 - Farrell

## Arthropoda

## Crustacea

## Isopoda

Edotea montosa  
Erichsonella filiformis  
Munidion sp. 1 - Farrell  
Paracerceis sp. 1 - Farrell

## Amphipoda

Ampelisca holmes  
A. vadorum  
Cerapus tubularis  
Corophium acherusicum  
Cymadusa filosa  
Elasmopus pocillimanus  
Microdeutopus sp. 1 - Farrell  
Orchestia platensis

## Decapoda

Ambidexter symmetricus  
Neopanope texana  
Pagurus annulipes  
Penaeus duorarum

## Cumacea

Cyclaspis varians  
Oxyurostylis smithi

## Tanaidacea

Leptochelia rapax

## Mollusca

## Gastropoda

Anachis obesus  
Caecum nitidum  
C. pulchellum  
Diastoma varium  
Haminoea succinea  
Marginella apicina  
Mitrella lunata  
Nassarius vibex  
Olivella pusilla  
Rissoina catesbyana  
Sayella fusca  
Terebra dislocata  
Turbonilla dalli  
T. hemphilli  
T. interrupta  
Urosalpinx tampaensis

## Pelecypoda

Abra aequalis  
Amygdalum papyrium  
Argopectin irradians  
Ischadium recurvum  
Pitar fulminatus  
Tellina tampaensis  
T. versicolor

DATA SUMMARY: Anclote River

| Station Number      | Date      | Macroinvertebrates |             |       |                      |            |       |  |              |       |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|---------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--|--------------|-------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                     |           | Natural Substrate  |             |       | Artificial Substrate |            |       |  | Biotic Index | Total | Fecal |                                                 |                                              |                                  |  |          |
|                     |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |  |              |       |       |                                                 |                                              |                                  |  |          |
|                     |           |                    |             |       |                      |            |       |  |              |       |       |                                                 |                                              |                                  |  |          |
| 225<br>24, 04, 0600 | 25 Mar 76 | 4.180±0.222        | 0.066±0.017 | 28    |                      |            |       |  |              |       |       |                                                 |                                              |                                  |  |          |
|                     | 2 Sep 76  | 1.958±0.237        | 0.420±0.072 | 13    |                      |            |       |  |              |       |       |                                                 |                                              |                                  |  |          |
|                     | 6 Apr 78  | 4.239±0.205        | 0.102±0.017 | 47    |                      |            |       |  |              |       |       |                                                 |                                              |                                  |  |          |

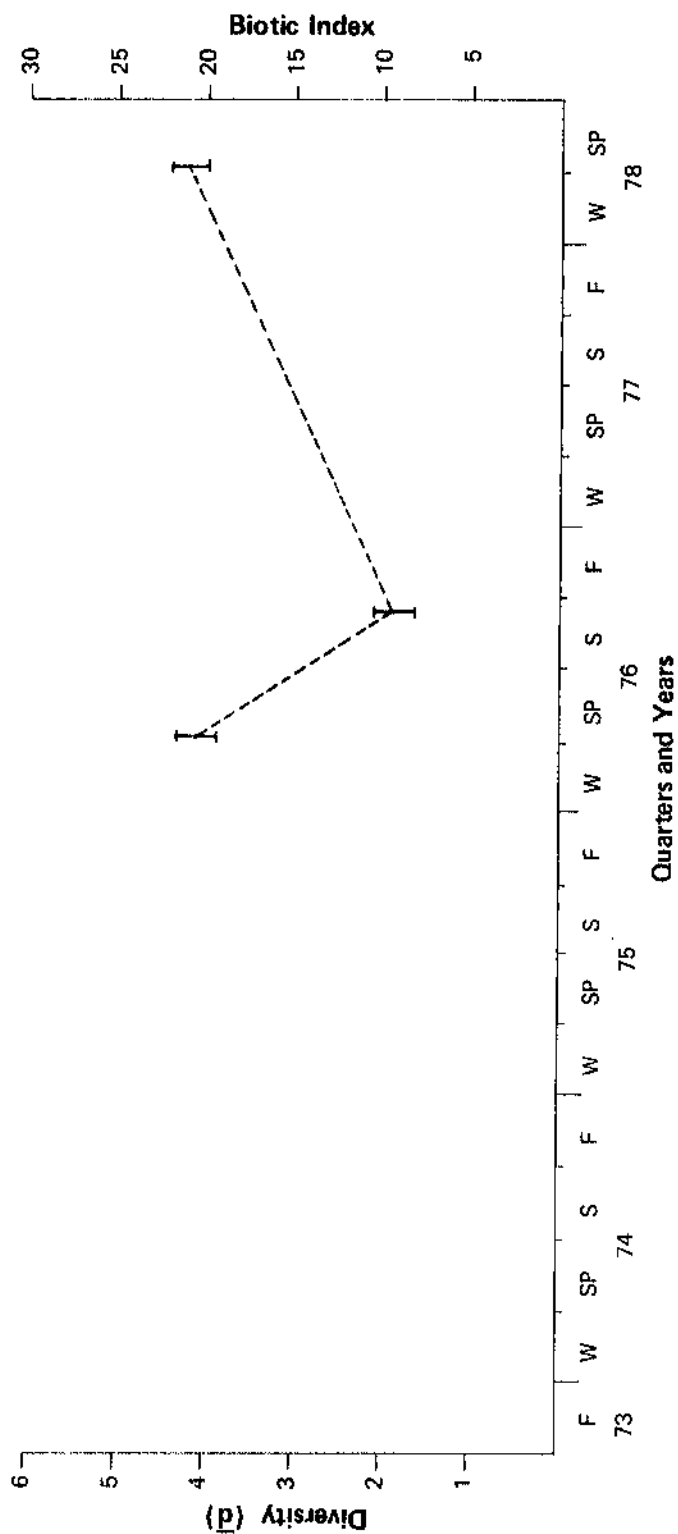
See Methods for explanation of table.



# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.04.0600  
 BODY OF WATER: ANCLOTE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 --- BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.04.0637 Body of Water Pithlachascotee River  
Location near state road 518 bridge  
County Pasco  
Type Body of Water river Classification III  
Sources of Pollution residential runoff  
Nearby Land Use residential/pasture  
Sampling Frequency annually Depth 0.5 - 0.6 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Taxodium sp., Salix sp.

**Macroinvertebrates:**

Platyhelminthes  
Turbellaria  
    unident. sp.  
  
Annelida  
Oligochaeta  
    Limnodrilus hoffmeisteri  
  
Arthropoda  
Crustacea  
    Isopoda  
        Asellus sp. 1 - Pearce  
  
    Amphipoda  
        Gammarus cf. tigrinus  
  
    Decapoda  
        Rhithropanopeus harrisi  
  
Insecta  
Odonata  
    Dromogomphus spinosus

## Ephemeroptera

Baetis spiethi  
Brachycercus maculatus  
Centroptilum viridocularis  
Stenonema exiguum

## Trichoptera

Hydropsyche simulans  
Oecetis spp.  
Polycentropus cinereus

## Diptera

Ablabesmyia tarella  
Chironomus sp. 2 - Cantrell  
Cryptochironomus blarina  
C. fulvus  
Cryptotendipes sp. 1 - Cantrell  
Dicrotendipes modestus  
D. neomodestus  
Harnischia sp. 1 - Pearce  
Leptochironomus sp. 1 - Pearce  
Micropsectra sp. 2 - Cantrell  
Paralauterborniella nigrohalteralis  
Polypedilum halterale  
P. sp. 1 - Cantrell  
Psectrocladius vernalis  
Procladius sp. 1 - Cantrell  
Stictochironomus devinctus  
Tanytarsus sp. 1 - Cantrell

## Coleoptera

Dineutus sp. 1 - Pearce  
Dubiraphia quadrinotata  
Stenelmis fuscata

DATA SUMMARY: Pithlachiscoffee River

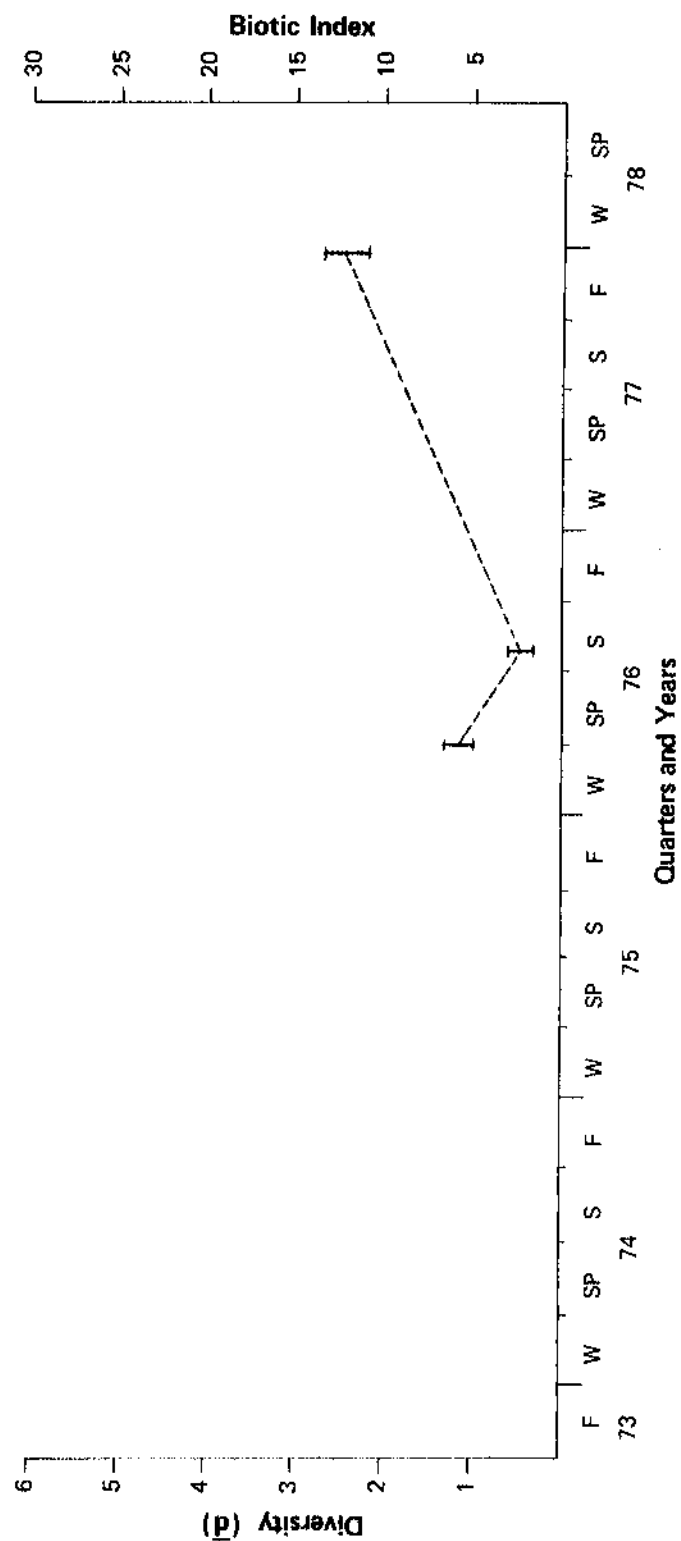
| Station Number | Date         | Macroinvertebrates |             |             |                      |            |       |    |       |       |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments      |
|----------------|--------------|--------------------|-------------|-------------|----------------------|------------|-------|----|-------|-------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|---------------|
|                |              | Natural Substrate  |             |             | Artificial Substrate |            |       |    | Total | Fecal |       |                                                 |                                              |                                  |  |               |
|                |              | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy | #Spp. |    |       |       |       |                                                 |                                              |                                  |  |               |
|                |              |                    |             |             |                      |            |       | BI |       |       | #Spp. |                                                 |                                              |                                  |  |               |
| 229            | 24, 04, 0631 | 25 Mar 76          | 1.232±0.174 | 0.630±0.060 | 13                   |            |       |    |       |       |       |                                                 |                                              |                                  |  | Station moved |
|                | 20 Jul 76    | 0.522±0.160        | 0.806±0.081 | 4           |                      |            |       |    |       |       |       |                                                 |                                              |                                  |  |               |
|                | 20 Dec 77    | 2.522±0.259        | 0.441±0.062 | 30          |                      |            |       |    |       |       |       |                                                 |                                              |                                  |  |               |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.04.0637  
 BODY OF WATER: PITHLACHASCOTTEE RIVER

- - - - - NATURAL SUBSTRATE DIVERSITY  
 - . . . . - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24,04,0740 Body of Water Gulf of Mexico

Location off Bayport, north of mouth of Weeki Wachee River

County Hernando

Type Body of Water marine Classification II

Sources of Pollution runoff

Nearby Land Use residential

Sampling Frequency \_\_\_\_\_ Depth 1.5 meters

Bottom Type sand, shell % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged Syringodium sp., Diplanthera sp.

Emergent \_\_\_\_\_

#### Macroinvertebrates:

##### Annelida

##### Polychaeta

Aricidea philbinae  
Axiiothella mucosa  
Capitella capitata  
Chone sp. 1 - Farrell  
Dispio uncinata  
Etone lactea  
Eulalia sanguinea  
Fabricia sp. 1 - Farrell  
Glycera dibranchiata  
Glycinde sp. 1 - Farrell  
Haploscoloplos sp. 1 - Farrell  
H. robustus  
Lumbrineris tenuis  
Nereis sp.  
Nothria sp. 1 - Farrell  
Onuphis sp. 2 - Farrell  
Pectinaria gouldii  
Platynereis dumerilii  
Prionospio heterobranchia  
Streblospio benedicti  
Syllis cornuta  
S. (Typosyllis) coralliocoides

## Arthropoda

## Crustacea

## Isopoda

Cyathura polita  
Edotea montosa  
Erichsonella filiformis  
Paracerceis sp. 1 - Farrell

## Amphipoda

Ampelisca holmsi  
Cerapus tubularis  
Cymadusa filosa  
Elasmopus pocillimanus  
Grandidicerella bonnieroides  
Lembos sp.  
Lysianopsis alba  
Microdeutopus sp. 1 - Farrell  
Platyischnopus sp. 1 - Farrell

## Decapoda

Hexapanopeus angustifrons  
Pagurus annulipes

## Mysidacea

Bowmaniella dissimilis  
Mysidopsis furca  
Taphromysis bowmani

## Cumacea

Cyclaspis varians  
Oxyurostylis smithi

## Tanaidacea

Leptochelia rapax  
Tanais sp. 1 - Farrell

## Mollusca

## Gastropoda

Acteocina canaliculata  
Acteon punctostriatus  
Caecum nitidum  
C. pulchellum  
Cerithium muscarum  
Crepidula convexa  
C. fornicata  
C. maculosa  
Mangelia stellata  
Marginella apicina  
Mitrella lunata  
Nassarius vibex  
Olivella pusilla  
Rissoina catesbyana  
Triphora nigrocineta  
Turbonilla hemphilli

## Pelecypoda

Amygdalum papyrium  
Anomalocardia auberiana  
Gemma gemma

DATA SUMMARY: Gulf of Mexico off Bayport

| Station Number | Date     | Macroinvertebrates |             |       |           |                      |       |    |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|----------|--------------------|-------------|-------|-----------|----------------------|-------|----|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |          | Natural Substrate  |             |       |           | Artificial Substrate |       |    |       |                                                 |                                              | Total Fecal                      |  |          |
|                |          | Diversity          | Redundancy  | #Spp. | Diversity | Redundancy           | #Spp. | BI | #Spp. |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |           |                      |       |    |       |                                                 |                                              |                                  |  |          |
| 24, 04, 0/40   | 3 Jun 76 | 4.213±0.112        | 0.040±0.008 | 30    |           |                      |       |    |       |                                                 |                                              |                                  |  |          |
|                | 1 Sep 76 | 3.276±0.156        | 0.101±0.023 | 17    |           |                      |       |    |       |                                                 |                                              |                                  |  |          |
|                | 7 Jun 78 | 4.095±0.180        | 0.117±0.020 | 49    |           |                      |       |    |       |                                                 |                                              |                                  |  |          |

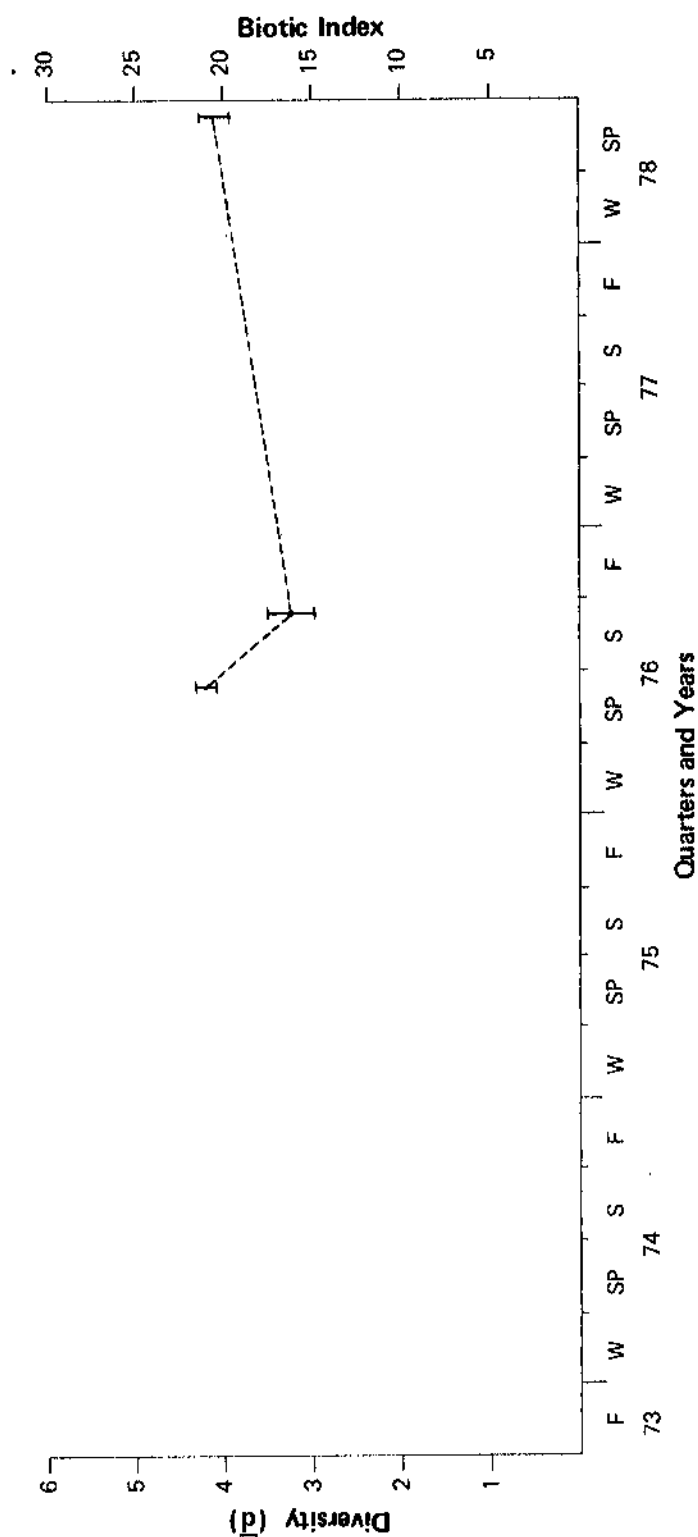
See Methods for explanation of table.



# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.04.0740  
 BODY OF WATER: GULF OF MEXICO  
 OFF BAYPORT

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.04.0795 Body of Water Weeki Wachee River Run

Location at spring.

County Hernando

Type Body of Water spring Classification III

Sources of Pollution none

Nearby Land Use commercial

Sampling Frequency quarterly Depth 1 - 4 m

Bottom Type sand, limerock % Volatile Solids

Aquatic Plants: Submerged Vallisneria americana

Emergent Typha sp., Nuphar advena, Panicum sp.,

Limnobia spongiosa, Cladium jamaicense

#### Macroinvertebrates:

##### Platyhelminthes

###### Turbellaria

unident. sp.

##### Nematoda

Diptherophora sp.

Nygolaimus sp.

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri

Lumbriculus sp.

###### Hirudinea

Actinobdella sp. 1 - Pearce

cf. Batracobdella sp. 1 - Dalton

Dina sp. 1 - Pearce

Helobdella elongata

H. fusca

Placobdella sp.

##### Arthropoda

###### Crustacea

###### Isopoda

Asellus sp. 1 - Pearce

Cyathura polita

Sphaeroma terebrans

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus

Procambarus sp.

Mysidacea

Taphromysis louisianae

Insecta

Odonata

Argia fumipennis

A. sedula

Dromogomphus spinosus

Enallagma sp.

Gomphus plagiatus

Ischnura sp.

Macromia sp.

Nehalennia sp.

Ephemeroptera

Caenis diminuta

Callibaetis floridanus

Isonychia sp.

Hexagenia munda elegans

Oreanthus sp.

Tricorythodes albilineatus

Hemiptera

Belostoma sp.

Limnogonus sp.

Trichoptera

Cheumatopsyche sp. 1 - Dalton

Hydroptila sp. 1 - Dalton

Oxyethira sp. 1 - Pearce

Megaloptera

Corydalis cornutus

Diptera

Chironomus attenuatus

C. carus

C. crassicaudatus

C. stigmaterus

Chironomini sp. A - Roback

Coelotanypus sp.

Conchapelopia sp.

Corynoneura taris

Cricotopus sp. 1 - Cantrell

Diptera (cont.)

Cricotopus bicinctus  
Cryptochironomus sp.  
Culicoides sp.  
Dicrotendipes modestus  
D. nervosus  
D. lobus  
D. neomodestus  
Glyptotendipes paripes  
Goeldichironomus holoprasinus  
Harnischia sp.  
Hexatoma sp.  
Kiefferulus sp.  
Micropsectra sp. 2 - Cantrell  
M. sp. 1 - Cantrell  
Microtendipes sp. 2 - Cantrell  
Paralauterborniella nigrohalteralis  
Paratanytarsus sp.  
Paralauterborniella sp.  
Pentaneura inculta  
Tanypus stellatus  
T. carinatus  
Tanytarsus sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
Rheocricotopus sp.  
Pseudochironomus sp. 1 - Pearce  
Stempellina sp.  
Symbiocladius sp.  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
 unident. ceratopogonid sp. 3 - Cantrell  
 unident. tabanid

Coleoptera

Laccobius sp.

Arachnida

Acarina

3 unident. spp.

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Gyraulus sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Goniobasis sp. 1 - Pearce  
Physa sp. 1 - Pearce  
Pomacea sp. 1 - Pearce  
Tarebia sp. 1  
Viviparus cf. georgianus  
 unident. hydrobiid sp. 1 - Pearce

DATA SUMMARY: Weeki Wachee River Run

| Station Number    | Date        | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |
|-------------------|-------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|
|                   |             | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                                |                                              | Total                            | Fecal |          |  |
|                   |             | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                                |                                              |                                  |       |          |  |
|                   |             |                    |             |       |                      |             |       |              |       |                                                                                                |                                              |                                  |       |          |  |
| 238<br>24.04.0795 | 27 Nov 73   | 2.567±0.366        | 0.214±0.106 | 9     |                      |             |       | 13           | 24    |                                                                                                |                                              | 50                               | 10    |          |  |
|                   | 19 Feb 74   |                    |             |       |                      | 0.903±0.022 | 3     |              |       |                                                                                                |                                              |                                  | 86    |          |  |
|                   | 19 Mar 74   |                    |             |       |                      |             |       |              |       |                                                                                                |                                              | LT100                            | LT100 |          |  |
|                   | 26 Mar 74   | 3.016±0.176        | 0.103±0.030 | 13    |                      |             |       |              |       |                                                                                                | 100                                          |                                  |       |          |  |
|                   | 17 Apr 74   |                    |             |       |                      |             |       |              |       |                                                                                                | LT100                                        | LT100                            |       |          |  |
|                   | 14 May 74   |                    |             |       |                      |             |       |              |       |                                                                                                |                                              | LT100                            | LT100 |          |  |
|                   | 26 Jun 74   | 1.410±0.244        | 0.530±0.083 | 10    |                      |             |       | 9            | 18    |                                                                                                |                                              |                                  |       |          |  |
|                   | 22 Jul 74   |                    |             |       |                      |             |       | 9            | 17    |                                                                                                |                                              | LT100                            | LT100 |          |  |
| 19 Aug 74         | 2.972±0.183 | 0.154±0.036        | 15          |       |                      |             |       |              |       | Coc BG 0<br>Fil BG LFI<br>Coc Gr 1<br>Fil Gr LFI<br>Gr Flag LFI<br>Other Flag LFI<br>Gen Dia 1 | 400                                          | LT100                            |       |          |  |

See Methods for explanation of table.

[illegible]

See Methods for explanation of table.

DATA SUMMARY: Weeki Machee River Run

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       | BI           | #Spp. |                                                 |                                              | Total                            | Fecal |          |  |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |       |                                                 |                                              |                                  |       |          |  |
|                |           |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |       |          |  |
| 240            | 13 Jan 75 | 1.492±0.216        | 0.413±0.076 | 7     |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100 |          |  |
|                | 17 Mar 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100 |          |  |
|                | 14 Apr 75 | 1.194±0.100        | 0.568±0.040 | 10    | 2.185±0.279          | 0.250±0.065 | 9     |              |       |                                                 |                                              | LT100                            | LT100 |          |  |
|                | 9 Jun 75  |                    |             |       |                      |             |       |              |       |                                                 |                                              | 1600                             | LT100 |          |  |
|                | 14 Jul 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 2600                             | 200   |          |  |
|                | 8 Aug 75  | 1.882±0.098        | 0.134±0.040 | 5     |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100 |          |  |
|                | 11 Aug 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | LT100                            | LT100 |          |  |
|                | 8 Sep 75  |                    |             |       | 1.748±0.189          | 0.279±0.076 | 6     |              |       |                                                 |                                              | 700                              | LT100 |          |  |
|                | 26 Sep 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |       |          |  |
|                | 6 Oct 75  | 0.662±0.051        | 0.816±0.017 | 14    |                      |             |       |              | 8     | 16                                              |                                              |                                  | 300   | LT100    |  |
|                | 3 Nov 75  |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  | 12    | LT1      |  |
|                | 8 Dec 75  |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  | 0     | 16       |  |

See Methods for explanation of table.

DATA SUMMARY: Weeki Wachee River Run

| Station Number | Date     | Macroinvertebrates |             |       |                      |             |       |              |    |    |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|----|----|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |          | Natural Substrate  |             |       | Artificial Substrate |             |       | Biotic Index |    |    |       |                                                 |                                              |                                  |  |          |
|                |          | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |    | BI | #Spp. |                                                 |                                              |                                  |  |          |
|                |          | Total              | Fecal       |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
| 241            | 5 Jan 76 |                    |             |       |                      |             |       |              |    |    |       |                                                 | 11                                           | 1                                |  |          |
|                | 2 Feb 76 |                    |             |       |                      |             |       |              |    |    |       |                                                 | 4                                            | 0                                |  |          |
|                | 1 Mar 76 | 2.565±0.059        | 0.928±0.022 | 5     | 0.049±0.019          | 0.992±0.005 | 6     | 5            | 14 |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |
|                |          |                    |             |       |                      |             |       |              |    |    |       |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.



DATA SUMMARY: Week 1 Wachee River Run

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                  | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                                                  |                                              |                                  |       |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                                                  |                                              | Total                            | Fecal |          |
| 242            | 12 Apr 76 | 0.301±0.060        | 0.911±0.022 | 5     |                      |             |       |              |       |                                                                                                                  |                                              | 15                               | LT1   |          |
|                | 7 Jun 76  |                    |             |       |                      |             |       |              |       |                                                                                                                  |                                              | 3                                | 9     |          |
|                | 25 Aug 76 | 0.569±0.116        | 0.725±0.063 | 8     |                      |             |       | 5            | 18    |                                                                                                                  |                                              |                                  |       |          |
|                | 13 Sep 76 |                    |             |       |                      |             |       |              |       |                                                                                                                  |                                              |                                  |       |          |
|                | 1 Nov 76  | 0.358±0.065        | 0.034±0.027 | 5     | 1.009±0.228          | 0.694±0.092 | 7     |              |       | Coc BG 0<br>F11 BG 0<br>Coc Gr 0<br>F11 Gr 3<br>Gr Flag 2<br>Other Flag 0<br>Gen Dia 8<br>Pen Dia 67<br>Total 80 |                                              | 8                                | 4     |          |
|                | 7 Feb 77  | 0.569±0.116        | 0.770±0.060 | 4     |                      |             |       | 10           | 13    |                                                                                                                  |                                              | 16                               | LT1   |          |
|                | 1 Mar 77  |                    |             |       |                      |             |       |              |       |                                                                                                                  |                                              | 6                                | 0     |          |
|                | 11 Apr 77 |                    |             |       |                      |             |       |              |       |                                                                                                                  |                                              | 135                              | 10    |          |

See Methods for explanation of table.

DATA SUMMARY: Week 1 Wachee River Run

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                                | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                                                                                                                             | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                                                                                                                             |                                  |       |          |
| 24, 04, 0795   | 9 May 77  | 0.285±0.075        | 0.921±0.027 | 5     | 1.885±0.195          | 0.166±0.072 | 5     |              |                                                 | Coc BG 98<br>Fil BG 118<br>Coc Gr 224<br>Fil Gr 26<br>Gr Flag 51<br>Other Flag 0<br>Gen Dia 609<br>Pen Dia 671<br>Total 1797                | 40                               | LT10  |          |
|                | 10 Aug 77 | 1.071±0.272        | 0.659±0.111 | 7     | 0.258±0.147          | 0.973±0.046 | 6     |              |                                                 | Coc BG 17520<br>Fil BG 36683<br>Coc Gr 31208<br>Fil Gr 20805<br>Gr Flag 0<br>Other Flag 0<br>Gen Dia 7665<br>Pen Dia 760253<br>Total 814134 | 315                              | LT100 |          |
|                | 12 Oct 77 | 1.236±0.184        | 0.548±0.071 | 8     |                      |             |       |              |                                                 |                                                                                                                                             |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Week 1 Wachee River Run

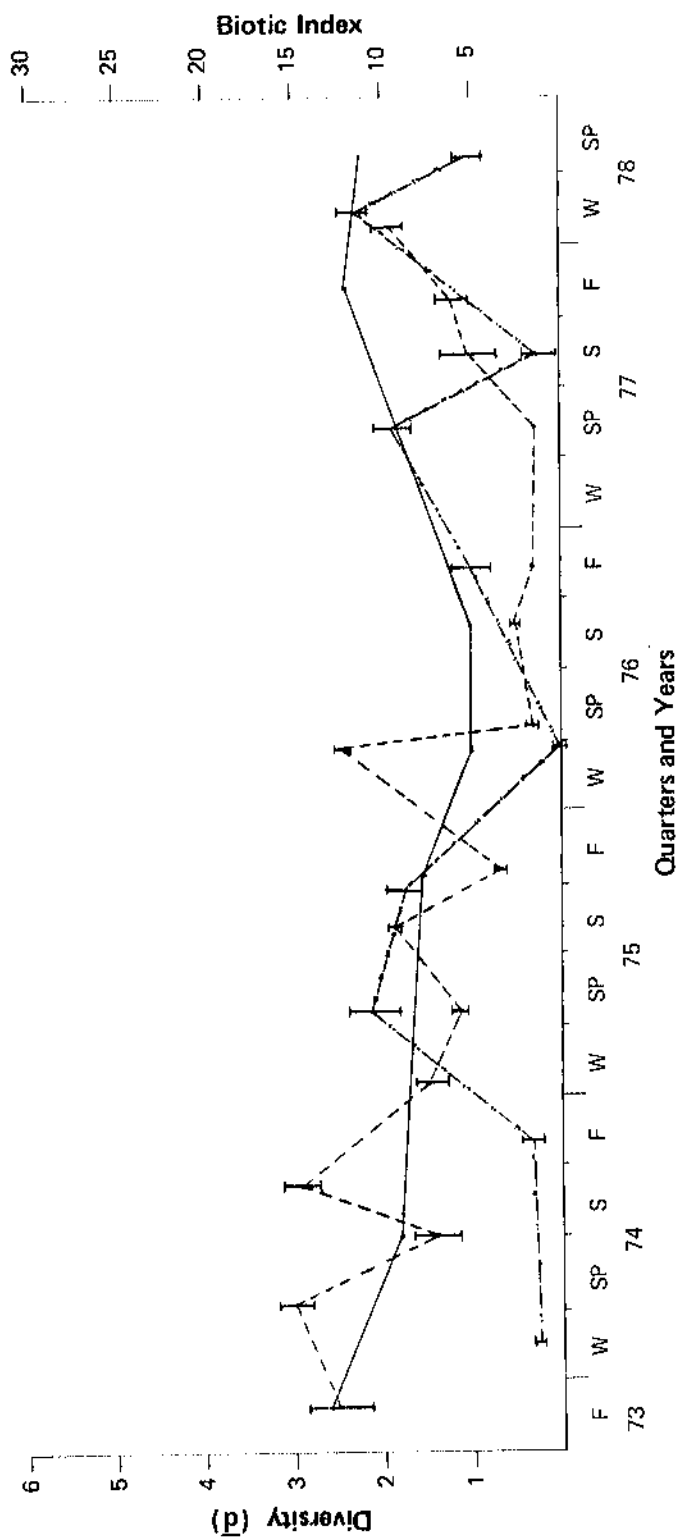
| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |      | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                              |                                  |      |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |      |          |
|                |           | Total              | Fecal       |       |                      |             |       |              |       |                                                 |                                              |                                  |      |          |
| 244            | 9 Nov 77  |                    |             |       |                      |             |       | 12           | 23    |                                                 |                                              | 140                              | 175  |          |
|                | 6 Dec 77  |                    |             |       |                      |             |       |              |       |                                                 |                                              | 5                                | 175  |          |
|                | 18 Jan 78 | 1.895±0.143        | 0.289±0.043 | 9     |                      |             |       |              |       |                                                 |                                              | 5                                | 5    |          |
|                | 14 Feb 78 |                    |             |       | 2.300±0.182          | 0.265±0.229 | 18    |              |       |                                                 |                                              | 1710                             | 1710 |          |
|                | 13 Apr 78 | 1.078±0.201        | 0.682±0.072 | 10    |                      |             |       | 11           | 18    |                                                 |                                              | 2800                             | 1710 |          |
|                | 6 Jun 78  |                    |             |       |                      |             |       |              |       |                                                 |                                              | 95                               | 1710 |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.04.0795  
 BODY OF WATER: WEEKI WACHEE RIVER RUN

--- NATURAL SUBSTRATE DIVERSITY  
 - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 24.04.0875 Body of Water Homosassa River  
Location below confluence with Halls River off Buzzard Point  
County Citrus  
Type Body of Water river Classification \_\_\_\_\_  
Sources of Pollution runoff  
\_\_\_\_\_  
Nearby Land Use residential  
Sampling Frequency annual Depth 1.5 meters  
Bottom Type sand, silt % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Hydrilla sp.  
\_\_\_\_\_  
Emergent \_\_\_\_\_  
\_\_\_\_\_

Macroinvertebrates:

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Polychaeta

Ampharete americana

Laeonereis culveri

Nereis succinea

Arthropoda

Crustacea

Isopoda

Cassidinisca lunifrons

Amphipoda

Corophium louisianum

Gammarus sp.

Grandidierella bonnieroides

Hyalella azteca

Mysidacea

Mysidopsis almyra

Taphromysis bowmani

Tanaidacea

Leptochelia rapax

Insecta

Ephemeroptera

Caenis diminuta

C. hilaris

Tricoptera

Oecetis sp. 1 - Farrell

## Insecta cont.

## Diptera

Ablabesmyia parajanta  
A. tarella  
Chironomus carus  
Cryptochironomus fulvus  
Dicrotendipes modestus  
D. neomodestus  
Glyptotendipes sp. 1 - Farrell  
Leptochironomus sp. 1 - Farrell  
Paratanytarsus sp.  
Palpomyia tibialis  
Polypedilum halterale  
Procladius sp. 1 - Farrell  
Rheotanytarsus exiguus  
Tanytarsus sp. 1 - Farrell

## Mollusca

## Gastropoda

Amnicola sp.

DATA SUMMARY: Hecosassa River

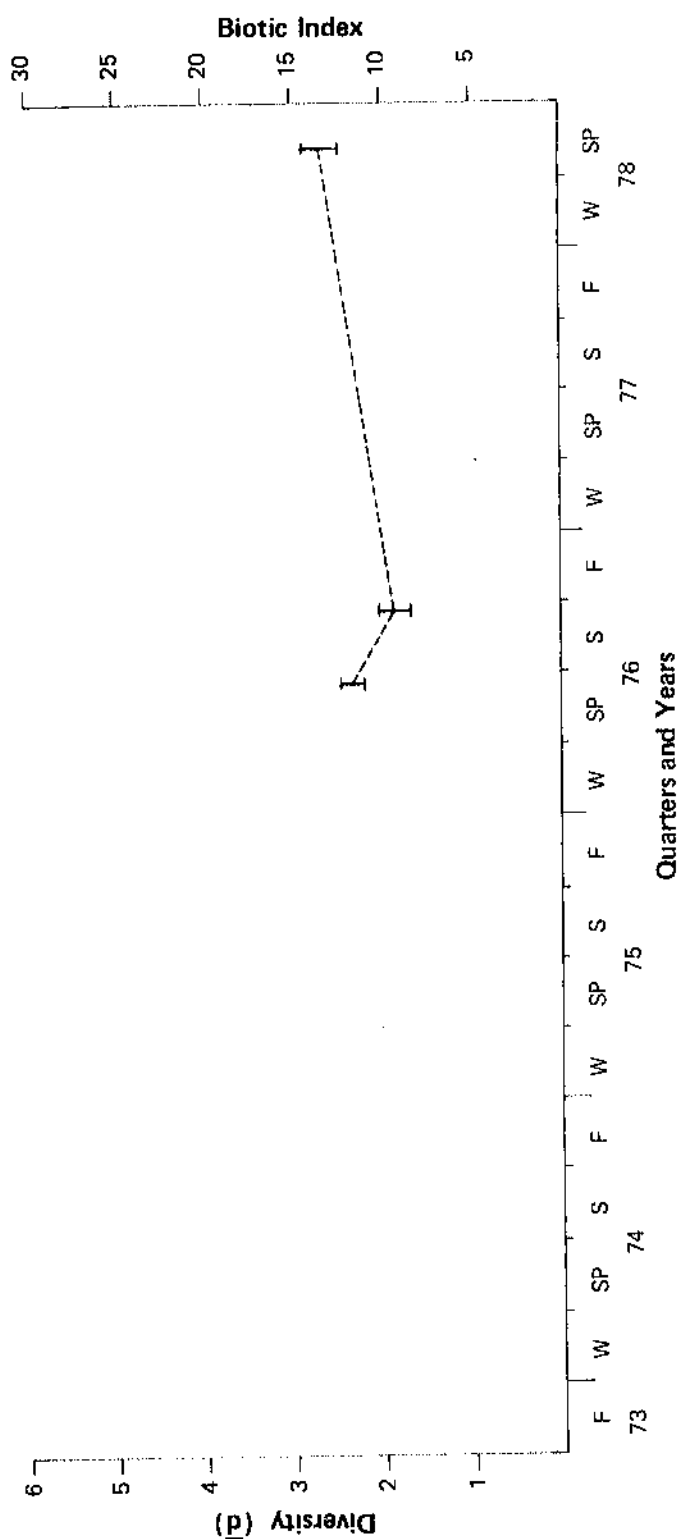
| Station Number | Date      | Macroinvertebrates |             |                      |           |            |       |       |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|-------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |             | Artificial Substrate |           |            |       | Total | Fecal |              |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. |       |       |              |                                                 |                                              |                                  |          |
|                |           |                    |             |                      |           |            |       |       |       |              |                                                 |                                              |                                  |          |
| 24, 04, 0875   | 3 Jun 76  | 2.385±0.123        | 0.212±0.020 | 16                   |           |            |       |       |       |              |                                                 |                                              |                                  |          |
|                | 2 Sep 76  | 1.901±0.191        | 0.372±0.064 | 10                   |           |            |       |       |       |              |                                                 |                                              |                                  |          |
|                | 24 Apr 78 | 2.686±0.199        | 0.253±0.036 | 22                   |           |            |       |       |       |              |                                                 |                                              |                                  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 24.04.0875  
 BODY OF WATER: HOMOSASSA RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)





## PEACE DRAINAGE BASIN

The Peace River drainage basin includes approximately 2,900 square miles of southwest Florida, and is divided into three sub-basins. The Peace River originates in Polk County and flows southwestward to Charlotte Harbor. It drains approximately 2,300 square miles of the basin. The Myakka River flows into Charlotte Harbor and drains approximately 540 square miles of the western area of the basin. The remaining coastal areas in the basin drain into the Charlotte Harbor-Matlacha Pass-Pine Island Sound estuarine complex which opens at several passes to the Gulf of Mexico. The headwaters of both of the rivers rise among rich phosphate deposits. Thus far, surface mining and ancillary activities have been limited to the Peace River.

### Peace River Sub-basin

The northern portion of this sub-basin is dominated by the numerous lakes in central Polk County. Much of the drainage enters Peace Creek and subsequently the Peace River. Also entering the Peace River at its head is Saddle Creek which drains Lake Hancock.

The uppermost sampling site in the basin is Lake Tracy, station 25.02.0251, near Haines City. It has received citrus processing wastes. It was sampled for macroinvertebrates three times during the report period, in 1975-77. The diversities obtained ranged from poor to good.

Lake Swoope, station 25.02.0126, near the town of Lake Alfred, was sampled four times, during 1975-78. Macroinvertebrate diversities ranged from fair to quite good, with one notable exception. The March, 1977 sampling yielded no benthic organisms due to a 500,000 gallon citrus molasses spill approximately two weeks eariler which turned the lake virtually anoxic. It is interesting that one year later the diversity was back up and many species were present.

Lake Haines, station 25.02.0159, is also near Lake Alfred. It has been exposed to domestic wastes. On the three times it was sampled, in 1975-77, it had fair macroinvertebrate diversity.

Lake Ariana (Ariana Lake), station 25.02.0208, near Auburndale, also had fair diversity on the three times it was sampled, during 1976-77. It receives residential runoff.

Lake Conine, station 25.02.0157, near Winter Haven, receives domestic and citrus processing wastes. Two of the three macroinvertebrate

samples analyzed, during 1975-77, had fairly good diversities, while the third samples yielded only four taxa and had very low diversity.

Lake Parker, station 25.02.0247, near Lakeland, receives thermal effluent from a power plant and other industrial waste which enters through a tributary stream. Also, local government has removed some of the littoral zone vegetation. Macroinvertebrate diversities were fair on the three times samples were taken, in 1976-77.

Lake Hancock, station 25.02.0207, southeast of Lakeland receives sewage effluent and citrus processing wastes. Macroinvertebrate diversities were fair on the three times it was sampled, in 1976-78. Several of the species collected were pollution tolerant forms while no pollution intolerant forms were caught. Although only macroinvertebrate analyses were performed, simple observation of the lake reveals signs of severe eutrophy in the forms of massive algae blooms and extremely flocculant organic sediments.

Station 25.02.0012 is on the Peace River at Mt. Pisgah Road in southern Polk County. There is active phosphate mining in the vicinity. Three macroinvertebrate samples were analyzed, during 1976-78. The diversity at the station ranged from fair to very good.

Station 25.02.0008 is on the Peace River at SR 664 in northern Hardee County. Only artificial substrates were used for long term monitoring, because the stream bed is predominantly limestone. The macroinvertebrate diversity was consistently good throughout the report period. It did not exhibit any significant trend in the regression analysis. The occasionally high total coliform counts and rare fecal coliform highs were probably residual from pasture runoff.

Payne Creek, station 25.02.0254, at Center Hill Road, drains southwestern Polk and northwestern Hardee Counties. It flows generally eastward and enters the Peace River near Bowling Green. Phosphate mining activity was at a low level during the report period, but expansion is expected. Only one natural substrate sample was analyzed, in 1976, and it had fair diversity. Two qualitative samplings were done, in 1976-77, and the Biotic Index numbers were both good.

Little Payne Creek, station 25.02.0108, at SR 664 also drains southwestern Polk County. It enters Payne Creek just above its confluence with the Peace River. It was sampled in the same manner as the Payne Creek station. Although the macroinvertebrate diversity from the sandy bottom grab sample was poor, the Biotic Index numbers were slightly better than at the last station.

The Peace River at SR 64A, near Wauchula, station 25.02.0006, was sampled three times for natural substrate macroinvertebrates during the report period, in 1976-78. Overall, the diversity was good, as it was for the single artificial substrate sample analyzed. One qualitative sampling yielded only a fair Biotic Index number. Further analyses would be necessary to determine any chronic oxygen deficiencies.

Troublesome Creek, station 25.02.0253, at SR 64, drains part of northwestern Hardee County and enters the Peace River approximately four to five miles southwest of Zolfo Springs. The area around the station is pastureland. It was sampled qualitatively twice, in 1976 and 1978. Both times the Biotic Index was good, indicating the absence of significant organic pollution.

Charlie Creek, station 25.02.0005, at US 17, drains a large portion of eastern Hardee County. It is probably the least polluted tributary of the Peace River, which it enters near Gardner. One natural substrate sample was analyzed, in 1976, and the macroinvertebrate diversity was only fair. This was because eighty percent of organisms collected were the recently introduced exotic clam, Corbicula manilensis. Also, three qualitative samplings were performed, during 1976-78, and the resultant Biotic Index values ranged from poor to good. Further monitoring may aid in explaining these surprisingly unimpressive numbers.

Station 25.02.0459 is on the Peace River near Gardner, just upstream from the confluence with Charlie Creek. The river in this vicinity is subject to domestic waste. Nevertheless, three natural substrate samples and two qualitative collections, during 1976-78, indicated good macroinvertebrate diversity and the presence of pollution intolerant species.

Station 25.02.0004, on the Peace River at SR 70 near Arcadia, apparently had very good water quality during the report period as evidenced by occasionally excellent macroinvertebrate diversities and Biotic Index values. The macroinvertebrate community was influenced by occasionally strong flow and by the clam, Corbicula manilensis, which resists scouring and is able to compete well in such a stream. Almost every time that the diversity fell below 2.0, the Corbicula population was markedly dominant in the organism tallies. In fact, it would be tempting to attribute the significant decline in natural substrate diversity to increased dominance by Corbicula were it not for a similar trend in the artificial substrate data, which are not directly affected by the clam. Further contradiction was found in the significant upward trend in the Biotic Index. In such a case, the quantitative data (i.e. diversities) are probably more reliable trend indicators. Additionally, field biologists have noted a visually apparent decline in water quality, especially as seen in turbidity (which is still quite low). No specific reason for

this change has been determined.

Joshua Creek drains eastern De Soto County and enters the Peace River southwest of Nocatee. It receives pasture and citrus grove runoff. Station 25.02.0524 on Joshua Creek northeast of Nocatee, was sampled three times, in 1975-77. Both the macroinvertebrate diversity and the Biotic Index fell in the range normally associated with good to very good water quality.

Horse Creek flows southward through the western portions of Hardee and De Soto Counties and enters the Peace River west of Ogden. Three stations were monitored on Horse Creek during the report period: station 25.02.0428, at SR 64, station 25.02.0430, at SR 663, and station 25.02.0111, at SR 72 west of Arcadia. Land along the stream is generally unused or used for pasture or agriculture. Station 25.02.0428 was sampled three times, during 1976-78, for macroinvertebrates. The diversity was in the good to very good range.

Station 25.02.0430 was sampled qualitatively only twice during the report period, in 1976 and 1978. The Biotic Index numbers obtained were three and eighteen, respectively. Since these two numbers suggest different conclusions about oxygen availability and water quality no judgement should be made until further monitoring is done.

Station 25.02.0111 was sampled comprehensively throughout the report period, especially artificial substrate sampling which was done monthly from January, 1976 onward. The macroinvertebrate diversity at this station was markedly influenced by the combined effects of flow and the competitive advantage exhibited by Corbicula manilensis during high flow. Each of the four times that natural substrate diversity was below 1.0, the flow was noted to be either moderately high, high, or flooding and Corbicula constituted at least ninety percent of the organism tally. The artificial substrate diversity also followed flow variation fairly closely. Many species are not well adapted to fast flowing water and were not able to colonize the samplers. Other, better adapted, species then became dominant (e.g., mayfly Stenonema exiguum, caddisfly, Cheumatopsyche sp., midge, Rheotanytarsus exiguus). The Biotic Index numbers were generally good to very good except those from the first two qualitative collections. It is probable that collecting techniques and taxonomic knowledge were not yet refined during these early visits, and that the significant improvement exhibited by the data reflected improvement in these areas rather than improved water quality. Overall, if the flow effects discussed above are disregarded, the macroinvertebrate data indicate very good water quality. Natural substrate diversity did not show any trend and artificial substrate samples exhibited only a slightly declining diversity. This may be a result of land clearing upstream from the station and an associated increase in runoff. Bacteria concentrations were usually acceptable when sampled.

Shell Creek, which flows into the Peace River from eastern Charlotte County agricultural areas, is impounded near its mouth as Punta Gorda's water supply. Station 25.02.0124 is six miles upstream from SR 764. Macroinvertebrate diversity was generally very good and the Biotic Index fairly good, throughout the report period. The natural substrate diversity exhibited a significant improvement, the artificial substrate diversity declined significantly, and the Biotic Index did not have a significant trend. No good evidence was available to support either trend.

The Peace River at US 41, station 25.02.0001, is an estuarine location with a sewage treatment plant nearby. Polychaetes and estuarine mollusks and crustaceans dominated the species list. Macroinvertebrate samples were analyzed three times, in 1976-78. The diversity ranged from poor to very good, so no firm judgement can be made of water quality at the station. Bacteria concentrations were normally low when measured.

#### Myakka River Sub-basin

This sub-basin includes portions of southeastern Manatee and central Sarasota Counties. The major stream is the Myakka River which flows due south through pasture and farm land to Charlotte Harbor.

A single station was monitored during the report period: station 25.03.0403, near the wooden bridge on Border Drive, off Jackson Road east of Venice. Macroinvertebrate diversity was normally very good in artificial substrate samples and excellent in natural substrate samples. Exceptions might have been caused by strong flow, sampling error in making dredge grabs from the limestone bottom, dissolved oxygen deficiencies, or combinations of these. Biotic Index numbers in the range of poor to marginal indicated low dissolved oxygen problems. The water is tannic, which is sometimes associated with low oxygen concentrations. None of the macroinvertebrate sampling methods revealed any significant trend. The presence of a salt wedge reaching upstream from Charlotte Harbor during low flow was evidenced by the presence of estuarine polychaetes, crustaceans, and mollusks.

#### Coastal Sub-basin

This sub-basin includes the coastal areas of Charlotte Harbor, Pine Island Sound, and Matlacha Pass. Two stations in Charlotte Harbor near Punta Gorda were sampled every two months for one year, 1975-76. Station 25.01.0012, off channel marker #1, is in relatively deep water (4.0 - 4.6 m) with a sand and mud bottom. Station 25.01.0001, near Ponce De Leon Park, is in shallow water

(1.2 - 1.6 m) with a sand and grass-bed bottom. Although both stations had good macroinvertebrate diversity, the latter station had the better of the two, with greater numbers of crustaceans and gastropods.

Station 25.01.0011 is on Alligator Creek between N. Jones Loop and Grove Blvd., south of Punta Gorda. The stream, which has a short run to Charlotte Harbor, has naturally steep banks and is channelized upstream from the station. It receives agricultural drainage and silt loads. Four Biotic Index numbers were recorded for qualitative macroinvertebrate collections made in the winter of 1977-78. The Index values were quite good.

Station 25.01.0022 is approximately one-half mile offshore from Pirate Harbor in Charlotte Harbor. The station has a sand and grass bottom. Four macroinvertebrate samples were analyzed, during 1976-78, and diversity was good overall.

The Pine Island Sound station, 25.01.0023, is on grass beds in a well flushed, though not scoured, area near Captiva Pass. It receives a pronounced marine influence which contributed to the very good macroinvertebrate diversities obtained in the three recorded samplings in 1976-78.

Matlacha Pass, station 25.01.0063, south of the SR 78 bridge, separates Pine Island from the mainland. Possible sources of pollution in the area include septic tank leachate, dead-end canals, and residential runoff. Three macroinvertebrate samples were analyzed during 1976-78. The diversity was generally good and a substantial number of species was collected each time.

### Summary

In the upper part of the Peace River Sub-basin, several Polk County lakes were monitored, though not extensively, during the report period. Included were Lakes Tracy, Swoope, Haines, Ariana, Conine, Parker, and Hancock. Most of these had been exposed, to some degree, to domestic waste and/or citrus processing waste. As a group, their macroinvertebrate diversities suggested fair water quality. Lake Hancock was notable in that, despite a fair macroinvertebrate diversity when it was sampled, it obviously was severely eutrophic as evidenced by algae blooms and flocculant organic sediment.

The Peace River appeared to have healthy macroinvertebrate communities along its length. No severe damage due to phosphate slime spills was detected during the report period. Also, resistance to scouring by the exotic clam, Corbicula manilensis, gave this species a notable competitive advantage at the Arcadia station during high flow periods.

Trend analyses were performed at two stations on the river. The SR 664 station exhibited no significant trend during the period of record. The station near Arcadia exhibited a significant downward trend in both, natural and artificial substrate, diversity methods and an improvement in the Biotic Index. The diversity analyses are somewhat more reliable and, therefore, probably correct, but no specific reason for the decline was apparent.

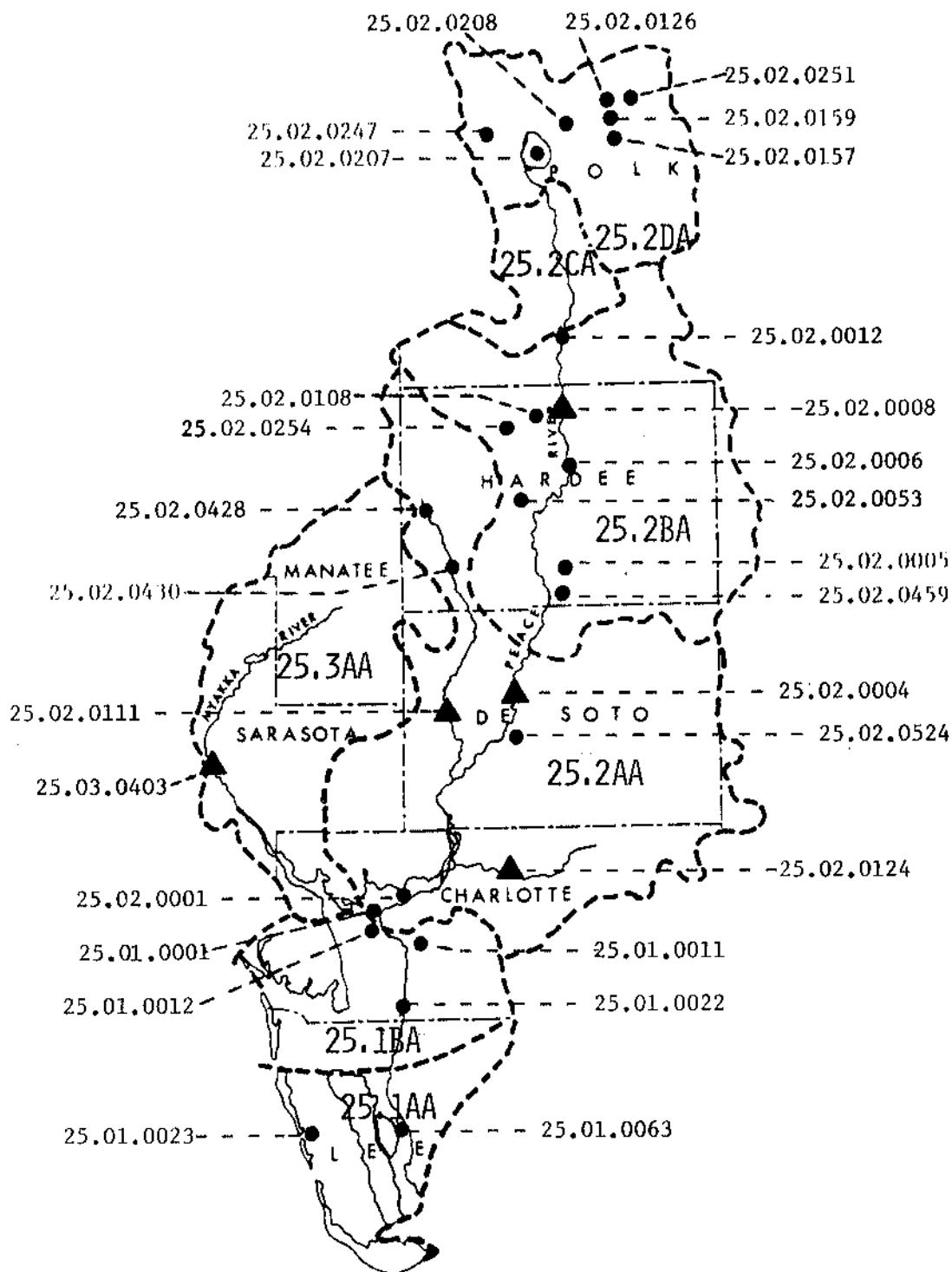
Several tributaries to the Peace River were also monitored. Little Payne Creek and Payne Creek were sampled minimally, but Biotic Index numbers were good for both of them, indicating adequate dissolved oxygen supplies. Troublesome Creek also had good Biotic Index numbers. Charlie Creek had only fair diversity, with dominance by Corbicula, and rather low Biotic Index numbers for a relatively unpolluted stream. Joshua Creek receives pasture and citrus grove runoff but still had good macroinvertebrate diversity. Horse Creek apparently had generally healthy communities, but anomalies were noted. The station at SR 663 had one low Biotic Index out of two samplings, which bears further investigation. Also, at the SR 72 station, the combined effects of high flow and the competitive advantage of Corbicula during high flow caused occasionally low macroinvertebrate diversities. At this station, trend analyses gave conflicting results. There probably was no significant change, or there was a slight decline resulting from increased runoff due to land clearing upstream from the station. Shell Creek had very good macroinvertebrate diversities and fairly good Biotic Index numbers. Trend analyses were conflicting and no reason was apparent for a change in either direction.

The Myakka River had very good macroinvertebrate diversity but the Biotic Index was often low. This was apparently due, primarily, to natural effects such as the tannic acid content of the water. No significant trend was determined from the data.

In the Coastal Sub-basin, Alligator Creek, which flows to Charlotte Harbor had very good Biotic Index numbers, indicating the absence of low-dissolved oxygen problems, Macroinvertebrate diversity was good in Charlotte Harbor and Matlacha Pass and very good in Pine Island Sound which is well flushed by Gulf waters.



# PEACE RIVER BASIN



Station No. 25.01.0001 Body of Water Charlotte Harbor

Location Ponce DeLeon Park

County Charlotte

Type Body of Water estuary Classification \_\_\_\_\_

Sources of Pollution runoff

Nearby Land Use urban

Sampling Frequency irregular Depth 1.2 - 1.6 m.

Bottom Type sand, grass % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged

Emergent

#### Macroinvertebrates:

Platyhelminthes

Turbellaria

unident. sp.

Annelida

Oligochaeta

unident. sp.

Polychaeta

Dispio uncinata

Eteone heteropoda

Glycinde sp.

Glycera americana

Haploscoloplos sp.

Laeonereis culveri

Nereis sp.

Nephtys bucera

Paraehesione luteola

Paraprionospio pinnata

Pectinaria gouldii

Phyllodoce sp.

Prionospio sp.

Spiochaetopterus costarum oculatus

unident. capitellid

unident. nereid

unident. orbinid

unident. sabellid

Polychaeta (cont.)  
 unident. sigalionid

Arthropoda

Crustacea

Isopoda

Cyathura polita  
Erichsonella sp.

Amphipoda

Ampelisca sp.  
Elasmopus levis  
Grandidierella bonnieroides  
Listriella barnardi  
Microdeutopus sp.  
Monoculodes nyei  
Paraphoxus spinosus  
Tryphosella sarsi  
 unident. sp.

Decapoda

Neopanopeus texana  
Pinnixa cristata  
 unident. xanthid

Mysidacea

Mysidopsis sp.

Cirripedia

Balanus sp.

Tanaidacea

Tanais sp.

Cumacea

2 unident. spp.

Mollusca

Gastropoda

Acteocina canaliculata  
Acteon punctostriatus  
Alvania sp.  
Caecum sp.  
C. pulchellum  
Calliostoma sp.  
Cylichna bidentata  
Epitonium sp.  
Haminoea succinea

Gastropoda (cont.)

Mitrella lunata  
Nassarius vibex  
Natica sp.  
N. pusilla  
Odostomia sp.  
Turbonilla sp.  
T. dalli  
Nassarius sp.  
Anachis obesa  
Cancellaria sp.  
unident. sp.

Echinodermata

Holothuroidea

Leptosynapta sp.

Brachiopoda

Glottidia sp.  
G. pyramidata

Sipunculida

unident. sp.

Chordata

Urochordata

unident. molgulid

Cephalochordata

Branchiostoma sp.

DATA SUMMARY: Charlotte Harbor

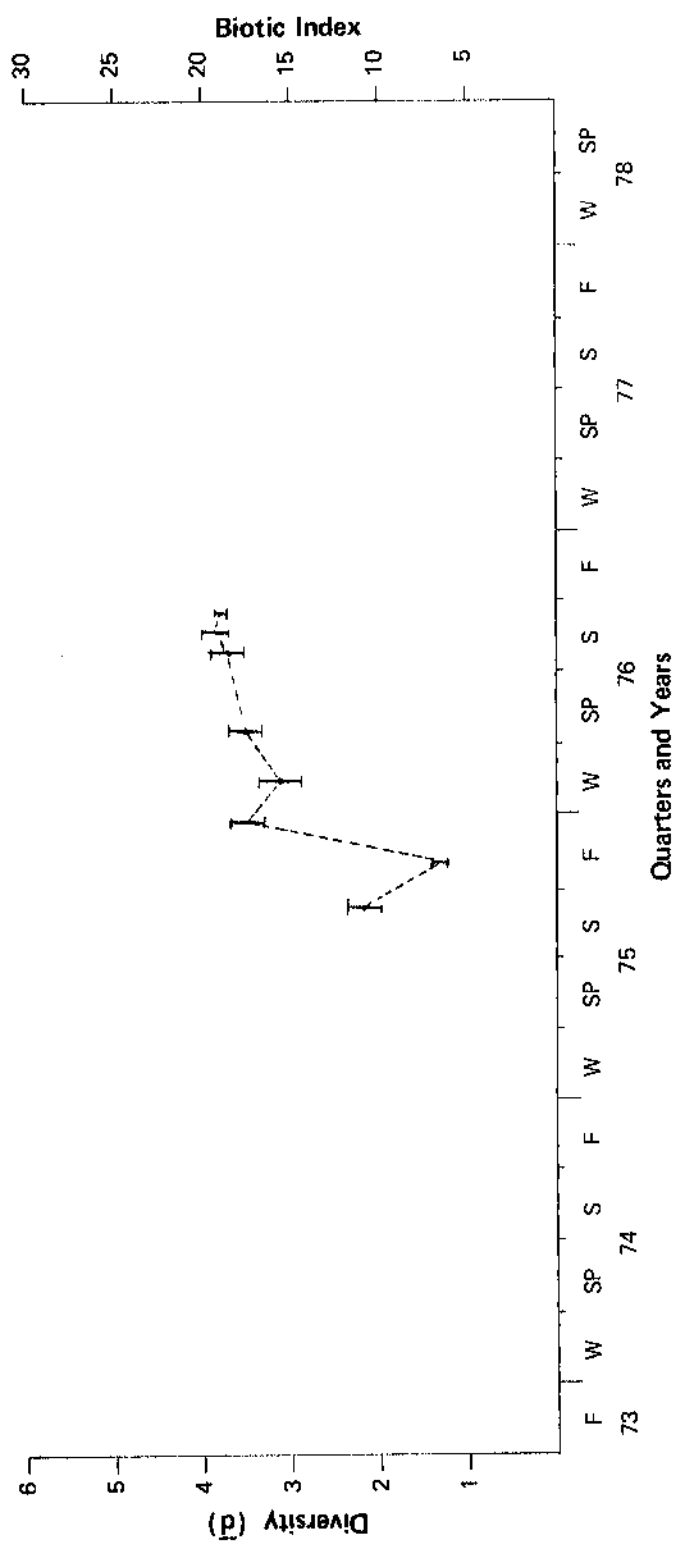
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |  |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
| 262<br>25.01.0001 | 23 Jul 74 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 1.72                             |  |          |
|                   | 20 Aug 75 | 2.189±0.129        | 0.409±0.031 | 30    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 29 Oct 75 | 1.386±0.083        | 0.619±0.024 | 29    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 23 Dec 75 | 3.433±0.190        | 0.141±0.033 | 23    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 23 Feb 76 | 3.142±0.286        | 0.277±0.059 | 28    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 27 Apr 76 | 3.577±0.176        | 0.108±0.018 | 26    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 23 Jun 76 | 3.710±0.176        | 0.083±0.015 | 25    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 20 Jul 76 | 3.900±0.169        | 0.092±0.015 | 35    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 25 Aug 76 | 3.812±0.078        | 0.106±0.008 | 48    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.01.0001  
 BODY OF WATER: CHARLOTTE HARBOR

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.01.0011 Body of Water Alligator Creek  
Location between N. Jones Loop and Grove Blvd.  
County Charlotte  
Type Body of Water stream Classification III  
Sources of Pollution agricultural runoff  
  
Nearby Land Use pasture and residential  
Sampling Frequency monthly (12/77-3/78) Depth 0.7 - 1.2 meters  
Bottom Type sand & shell % Volatile Solids             
Aquatic Plants: Submerged none  
Emergent grasses

**Macroinvertebrates:**

Platyhelminthes  
  Turbellaria  
    unident. sp.  
  
Rhynchocoela  
  Prostoma rubrum  
  
Annelida  
  Oligochaeta  
    Aulodrilus cf. pluriseta  
    Limnodrilus sp.  
    unident. sp.  
  Hirudinea  
    Helobdella sp.  
    Placobdella multilineata  
  
Arthropoda  
  Crustacea  
    Amphipoda  
      Gammarus sp.  
    Decapoda  
      Palaemonetes paludosus  
  Insecta  
    Odonata  
      Argia fumipennis  
      A. sedula  
      Enallagma cardenium  
      E. pollutum

Odonata (cont.)

Gomphus minutus  
Hetaerina titia  
Macromia taeniolata  
Neurocordulia alabamensis  
Tetragoneuria sp.

Ephemeroptera

Baetis spinosus  
Brachycercus maculatus  
Caenis diminuta  
Centroptilum viridocularis  
Stenacron interpunctatum

Hemiptera

Belostoma sp.  
Ranatra sp.

Trichoptera

Cheumatopsyche sp.  
Chimarra sp.  
Nectopsyche exquisita  
Oecetis sp. 1 - Cantrell  
Polycentropus cinereus

Megaloptera

Corydalus cornutus

Diptera

Ablabesmyia parajanta  
A. tarella  
Chironomus sp.  
Cladotanytarsus sp. 2 - Cantrell  
Clinotanypus sp.  
Crictopus bicinctus  
Cryptochironomus blarina  
C. fulvus  
Dicerotendipes neomodestus  
Micropsectra sp. 2 - Cantrell  
 cf. Palpomyia sp. 1 - Cantrell  
Paracladopelma sp.  
Paralauterborniella nigrohalteralis  
Polypedilum convictum  
P. halterale  
P. illinoense  
Psectrocladius sp.  
Rheotanytarsus exiguus  
Simulium sp.  
Tanytarsus sp. 1 - Cantrell  
Thienemanniella sp. 1 - Cantrell  
Tribelos cf. fusicornis

Coleoptera

Dineutus sp.  
Dubiraphia sp.  
Microcylloepus pusillus  
Stenelmis sp.



25.01.0011

Mollusca

Gastropoda

Physa sp.

Pseudosuccinea sp.

Pelecypoda

Sphaerium sp.

unident. unionid

**DATA SUMMARY: Alligator Creek**

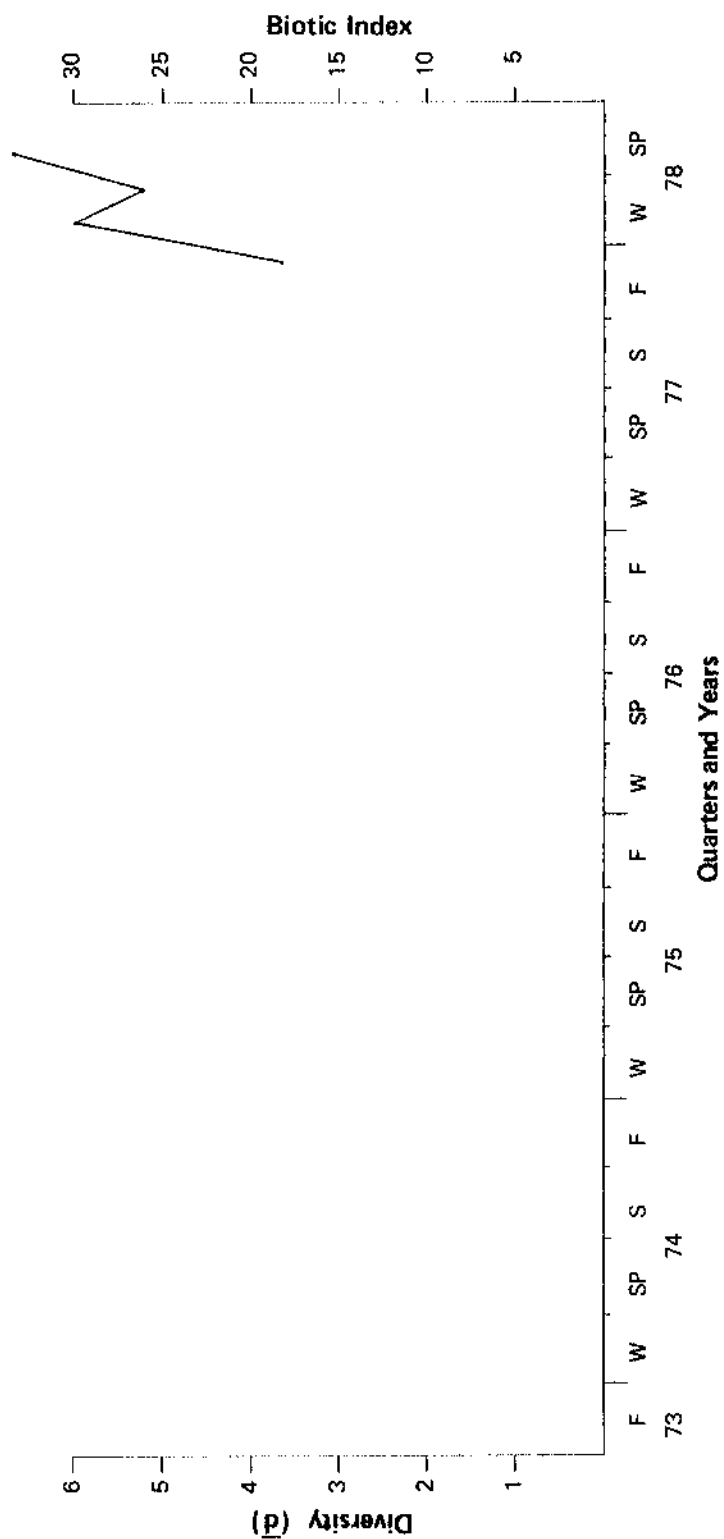
| Station Number | Date       | Macroinvertebrates |            |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |            |       | Artificial Substrate |             |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |            |                    |            |       |                      |             |       |              |       |                                                 |                                              |                                  |       |          |
| 267            | 25.01.0011 | 20 Jan 75          |            |       |                      |             |       |              |       |                                                 |                                              | 284                              |       |          |
|                |            | 4 Aug 75           |            |       |                      |             |       |              |       |                                                 |                                              | 50                               | 20    |          |
|                |            | 28 Jun 76          |            |       |                      |             |       |              |       |                                                 |                                              | 140                              | 10    |          |
|                |            | 29 Dec 77          |            |       |                      |             |       |              | 18    | 17                                              |                                              |                                  |       |          |
|                |            | 26 Jan 78          |            |       |                      |             |       |              | 30    | 32                                              |                                              |                                  |       |          |
|                |            | 23 Feb 78          |            |       |                      |             |       |              | 26    | 34                                              |                                              |                                  |       |          |
|                | 23 Mar 78  |                    |            |       | 3.513±0.344          | 0.152±0.061 | 17    | 33           | 29    |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.01.0011  
 BODY OF WATER: ALLIGATOR CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.01.0012 Body of Water Charlotte Harbor

Location off Marker #1

County Charlotte

Type Body of Water estuary Classification

Sources of Pollution runoff

Nearby Land Use urban

Sampling Frequency  Depth 4.0 - 4.6 meters

Bottom Type sand and mud % Volatile Solids

Aquatic Plants: Submerged

Emergent

#### Macroinvertebrates:

##### Annelida

###### Oligochaeta

unident. sp.

###### Polychaeta

Ancistrosyllis sp.

Glycera sp.

Glycinde sp.

Gyptis vittata

Harmothoe sp.

Nephtys bucera

N. sp.

Nereis sp.

Paraesione luteola

Paraprionospio pinnata

Phyllodoce sp.

Prionospio sp.

Pectinaria gouldii

Spiochaetopterus costarum

unident. capitellid

unident. cirratulid

unident. nereid

unident. sigalionid

unident. syllid

unident. sp.

##### Arthropoda

###### Crustacea

###### Amphipoda

Ampelisca sp.

Grandidierella bonnieroides

Amphipoda (cont.)

Microdeutopus sp.

Paraphoxus spinosus

Decapoda

unident. xanthid

Caprellidea

unident. sp.

Mysidacea

Bowmaniella sp.

Mysidopsis sp.

Cumacea

2 unident. spp.

Cirripedia

Balanus sp.

Mollusca

Gastropoda

Anachis obesa

Acteocina canaliculata

Acteon punctostriatus

Haminoea succinea

Odostomia sp.

Natica pusilla

Mitrella lunata

Skeneopsis planorbis

Turbonilla dalli

T. sp.

unident. sp.

Pelecypoda

Abra aequalis

Amygdalum papyrium

Anadara transversa

Mulinia lateralis

Semele sp.

Tellina sp.

T. lineata

Echinodermata

Holothuroidea

Leptosynapta sp.

Brachiopoda

Glottidia pyramidata

DATA SUMMARY: Charlotte Harbor

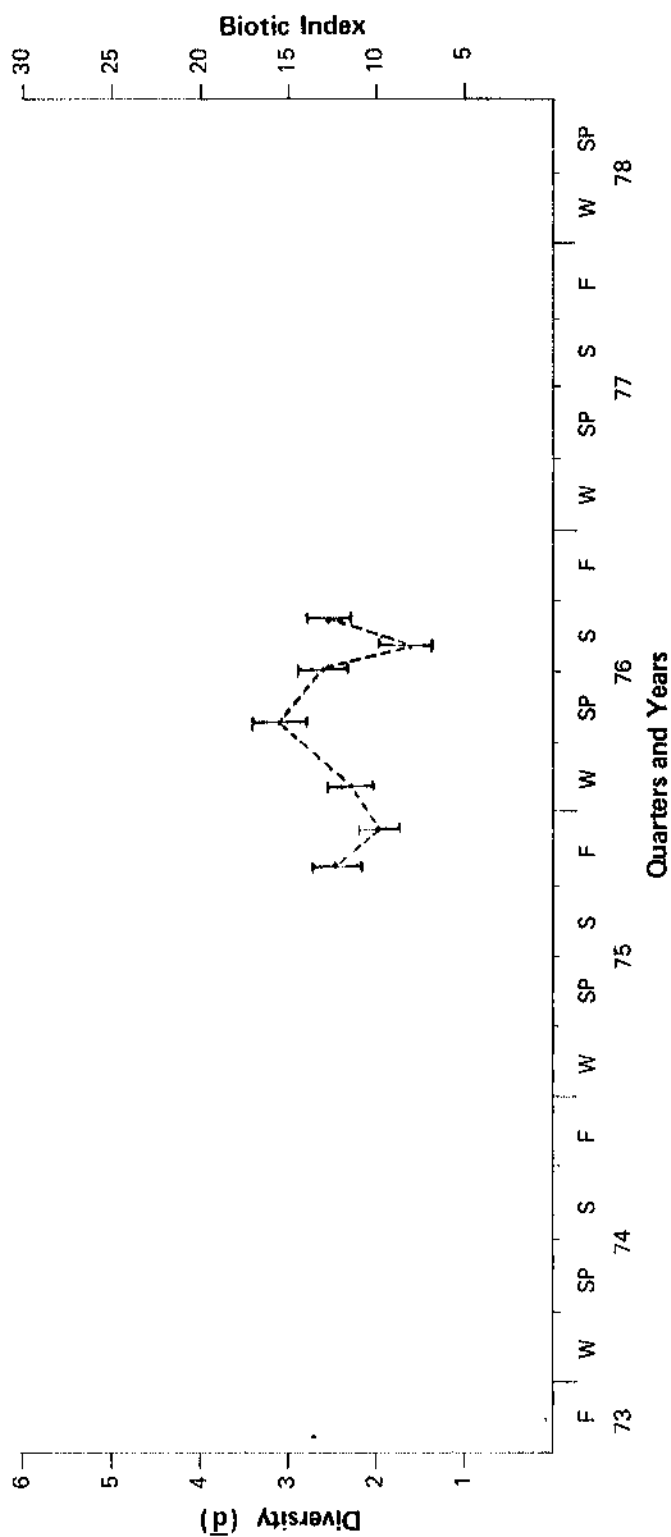
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       | BI           | #Spp. |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 271<br>25.01.0012 | 23 Jul 74 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 2                                |       |          |
|                   | 29 Oct 75 | 2.400±0.170        | 0.230±0.032 | 15    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 23 Dec 75 | 2.025±0.300        | 0.220±0.107 | 6     |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 25 Feb 76 | 2.227±0.340        | 0.329±0.106 | 10    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 26 Apr 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 27 Apr 76 | 3.172±0.219        | 0.177±0.033 | 24    |                      |            |       |              |       |                                                 |                                              |                                  | LT2   |          |
|                   | 23 Jun 76 | 2.647±0.242        | 0.227±0.043 | 17    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 20 Jul 76 | 1.638±0.101        | 0.495±0.029 | 24    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 25 Aug 76 | 2.404±0.129        | 0.342±0.030 | 31    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.01.0012  
 BODY OF WATER: CHARLOTTE HARBOR

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.01.0022 Body of Water Charlotte Harbor  
Location ½ mile offshore from Pirate Harbor  
County Charlotte  
Type Body of Water estuary Classification \_\_\_\_\_  
Sources of Pollution urban runoff  
Nearby Land Use mangrove swamp  
Sampling Frequency \_\_\_\_\_ Depth 2.3 m  
Bottom Type sand, mud % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Thalassia sp.  
Emergent Rhizophora mangle

**Macroinvertebrates:**

Cnidaria  
  Anthozoa  
    unident. sp.  
  
Platyhelminthes  
  Turbellaria  
    unident. sp.  
  
Rhynchocoela  
    unident. sp.  
  
Nematoda  
    unident. sp.  
  
Annelida  
  Polychaeta  
    Apoprionospio sp.  
    Armandia maculata  
    Axiiothella mucosa  
    Capitella capitata  
    Glycinde sp.  
    Glycera dibranchiata  
    G. sp.  
    Haploscoloplos sp.  
    Nephtys bucera  
    Owenia fusiformis  
    Paraprionospio pinnata



Polychaeta (cont.)

Pectinaria gouldii  
Polydora sp.  
Prionospio cirrifera  
Spio pettiboneae  
Scoloplos sp.  
Stenelais sp.  
Travisia sp.  
T. parva  
unident. nereid  
unident. orbinid  
unident. spionid  
unident. sp.

Arthropoda

Crustacea

Isopoda

Apanthura sp.  
Cyathura sp.  
Edotea sp.  
Ptilanthura sp.  
unident. sp.

Amphipoda

Ampelisca sp.  
Acanthohaustorius millsi  
Argissa hamatipes  
Cerapus tubularis  
Erichthonius sp.  
Listriella barnardi  
Microdeutopus sp.  
Monoculodes nyei  
Paracaprella tenuis  
Parametopella sp.  
Platyischnopus sp.  
Paraphoxus sp.  
unident. phoxocephalid  
unident. photid  
unident. oedicerotid

Decapoda

Pagurus sp.  
unident. porcellanid

Mysidacea

Mysidopsis bigelowi  
unident. sp.

Cumacea

2 unident. spp.

25.01.0022

Mollusca

Gastropoda

Acteocina canaliculata  
Caecum heladum  
C. pulchellum  
Cingula floridana  
Caecum sp.  
Marginella apicina  
Kurtziella astrostyla  
Polinices sp.  
Skeneopsis planorbis  
Truncatella pulchella  
Marginella sp.

Pelecypoda

Ensis minor  
Macoma tenta  
Mysella planulata  
Tellina sp.

Echinodermata

Mellita testudinata  
M. quinquiesperforata

Brachiopoda

Glottidia sp.

Chordata

Cephalochordata

Branchiostoma sp.

**DATA SUMMARY:** Charlotte Harbor

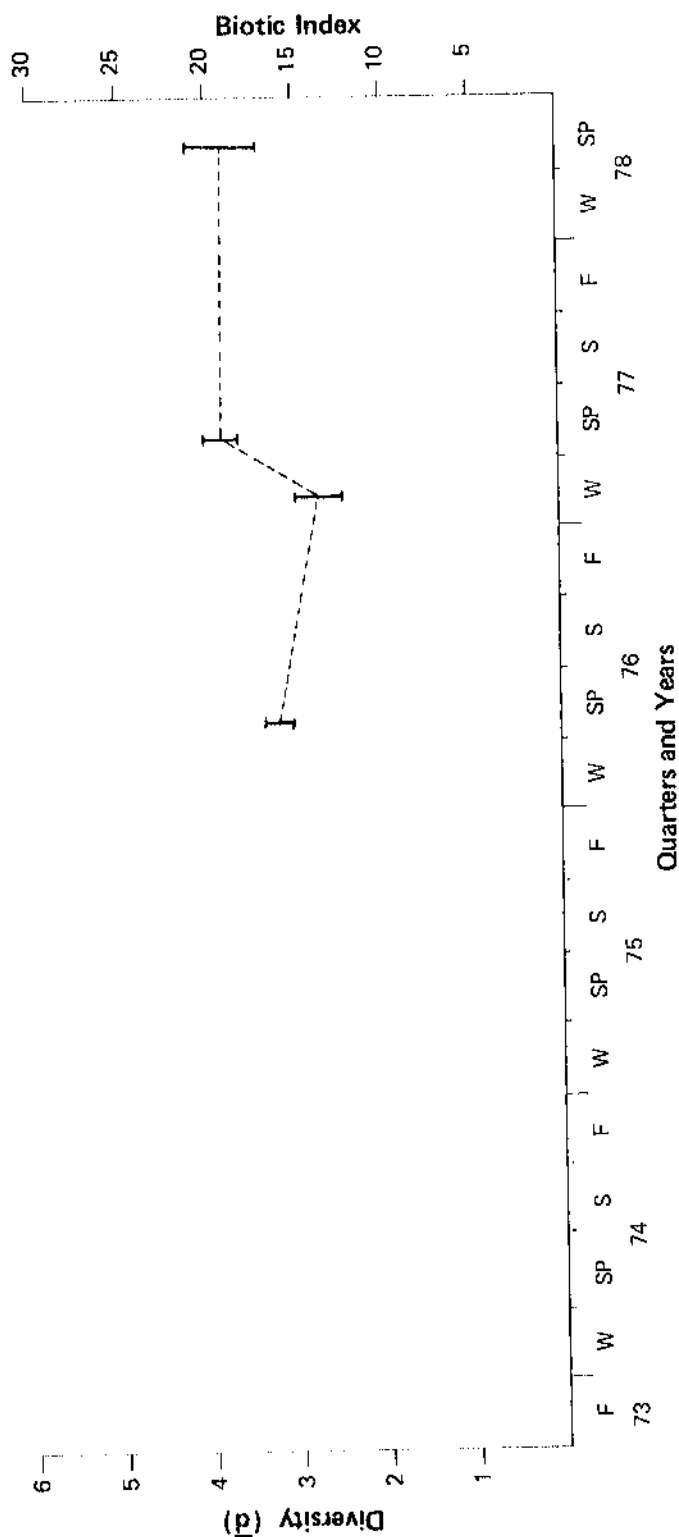
| Station Number | Date      | Macroinvertebrates |             |                      |           |    |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |            |       |
|----------------|-----------|--------------------|-------------|----------------------|-----------|----|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|------------|-------|
|                |           | Natural Substrate  |             | Artificial Substrate |           | BI | #Spp. |                                                 |                                              | Total                            | Fecal |          |            |       |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity |    |       |                                                 |                                              |                                  |       |          | Redundancy | #Spp. |
|                |           |                    |             |                      |           |    |       |                                                 |                                              |                                  |       |          |            |       |
| 25.01.0022     | 26 Apr 76 | 3.202±0.150        | 0.193±0.024 | 36                   |           |    |       |                                                 |                                              |                                  | LT2   |          |            |       |
|                | 3 Feb 77  | 2.733±0.228        | 0.366±0.081 | 32                   |           |    |       |                                                 |                                              |                                  |       |          |            |       |
|                | 14 Apr 77 | 3.819±0.205        | 0.072±0.024 | 21                   |           |    |       |                                                 |                                              |                                  |       |          |            |       |
|                | 14 Apr 78 | 3.823±0.378        | 0.221±0.054 | 28                   |           |    |       |                                                 |                                              |                                  |       |          |            |       |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.01.0022  
 BODY OF WATER: CHARLOTTE HARBOR

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.01.0023 Body of Water Pine Island Sound

Location southeast of Captiva Pass

County Lee

Type Body of Water bay Classification \_\_\_\_\_

Sources of Pollution urban

Nearby Land Use residential, marinas, fisheries

Sampling Frequency \_\_\_\_\_ Depth 2.25 - 2.9 m

Bottom Type sand, mud % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged Thalassia sp., Syringodium sp.

Emergent

#### Macroinvertebrates:

Platyhelminthes

Turbellaria

unident. sp.

Nematoda

unident. sp.

Annelida

Oligochaeta

unident. sp.

Polychaeta

Armandia maculata

Axiiothella mucosa

Eulalia sanguinea

Exogone dispar

Fabricia sp.

Glycera dibranchiata

Glycinde solitaria

Isolda sp.

Lumbrineris sp.

Onuphis eremita

Paraprionospio pinnata

Pectinaria gouldii

Phyllodoce fragilis

Platynereis dumerilii

Polydora ligni

Polychaeta (cont.)

Praxillella sp.  
Prionospio cirrifera  
P. fallax  
P. heterobranchia  
Travisia parva  
unident. maldanid sp.  
unident. onuphid sp.  
unident. sabellid spp.  
unident. phyllodocid sp.

Arthropoda

Crustacea

Isopoda

Apanthura sp.  
Chiridotea coeca  
Erichsonella filiformis  
Exosphaeroma diminutus

Amphipoda

Ampelisca sp.  
Amphilocus sp.  
Cerapus tubularis  
Corophium acherusicum  
C. sp.  
C. tuberculatum  
Erichthonius brasiliensis  
Grandidierella bonnieroides  
Microdeutopus sp.  
Monoculodes nyei  
Paraphoxus spinosus  
Photis sp.  
Rudilemboides sp.  
Synchelidium sp.  
unident. sp..  
unident. phoxocephalid

Decapoda

Hippolyte curacaoensis  
Paguristes nummi  
Pagurus sp.  
Penaeus setiferus  
Portunus sp.  
unident. sp.  
unident. natantian  
unident. xanthid

Mysidacea

Bowmaniella dissimilis

- Tanaidacea  
Leptochelia sp.
- Cumacea  
2 unident. spp.
- Mollusca  
Polyplacophora  
Chaetopleura sp.
- Gastropoda  
Acteon sp.  
Caecum heladum  
Crepidula sp.  
Hyalina sp.  
Marginella apicina  
Mitrella lunata  
Nassarius vibex  
Natica pusilla  
Olivella sp.  
O. perplexa  
Hyalina veliei  
Cerithiopsis sp.  
Persicula lavelleeana  
Prunum bellum  
Siphonaria sp.  
Turbonilla sp.  
unident. acmaeid  
unident. sp.
- Pelecypoda  
Anachis pulchella  
Arcopsis adamsi  
Chione sp.  
Crassinella lunatula  
Laevicardium pictum  
Lysonia hyalina  
Macoma tenta  
Musculus sp.  
Nucula sp.  
Pinna sp.  
Tellina sp.  
unident. sp.
- Echinodermata  
Amphioplus abditus  
Ophiura sp.
- Sipunculida  
unident. sipunculid

DATA SUMMARY: Pine Island Sound

| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |                                                 |                                              |                                  |       |          |
| 25.01.0023<br>281 | 1 Jun 76  | 4.260±0.190        | 0.110±0.020 | 49    |                      |            |       |                                                 |                                              |                                  |       |          |
|                   | 31 Mar 77 | 3.826±0.155        | 0.116±0.014 | 47    |                      |            |       |                                                 |                                              |                                  |       |          |
|                   | 15 May 78 | 4.499±0.211        | 0.095±0.022 | 46    |                      |            |       |                                                 |                                              |                                  |       |          |

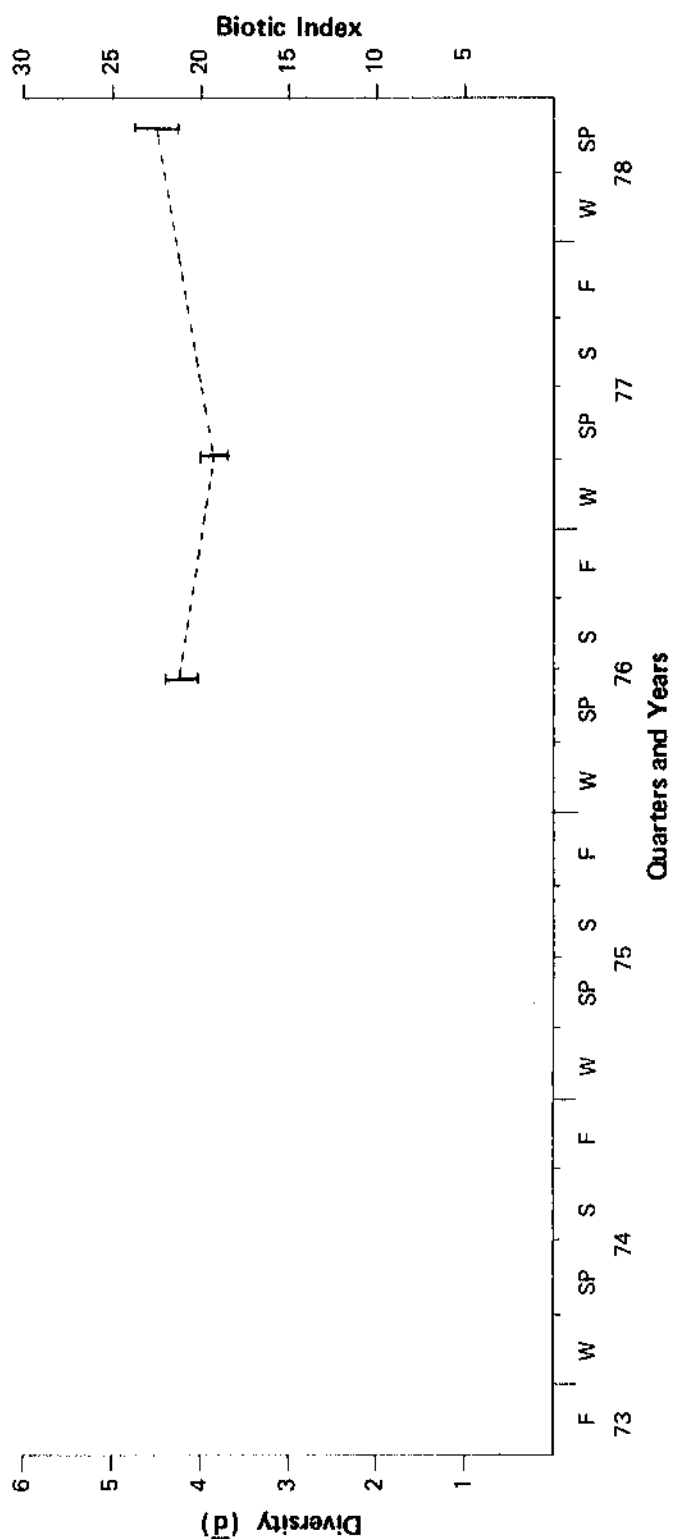
See Methods for explanation of table.



# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.01.0023  
 BODY OF WATER: PINE ISLAND SOUND

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.01.0063 Body of Water Matlacha Pass

Location \_\_\_\_\_

County Lee

Type Body of Water bay Classification \_\_\_\_\_

Sources of Pollution septic tank

Nearby Land Use residential

Sampling Frequency annually Depth 1.3 m.

Bottom Type \_\_\_\_\_ % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged \_\_\_\_\_

Emergent Rhizophora mangle

#### Macroinvertebrates:

##### Rhynchocoela

unident. sp.

##### Annelida

###### Oligochaeta

unident. sp.

###### Polychaeta

Amaeana trilobatus

Amphicteis gunneri

Aricidea fragilis

Capitella sp.

Eteone sp.

Glycinde sp.

Haploscoloplos robustus

Lumbrineris sp.

Megalomma bioculatum

Melinna maculata

Nereis sp.

Nerinides unidentata

Ophiodromus obscurus

Orbinia riseri

Paraprionospio pinnata

Potamilla sp.

Prionospio cirrobranchiata

Scoloplos sp.

unident. cirratulid

unident. polynoid

Arthropoda

Crustacea

Isopoda

Edotea sp.  
E. montosa  
Erichsonella sp.  
Xenanthura sp.

Amphipoda

Ampelisca sp.  
Batea catharinensis  
Cerapus tubularis  
Corophium acherusicum  
Cymadusa sp.  
Deutella mayeri  
Erichthonius brasiliensis  
Grandidierella bonnieroides  
Lembos websteri  
Listriella barnardi  
Melita appendiculata  
Microdeutopus sp.  
Mononuclodes sp.  
M. nyei  
Rudilemboides naglei  
Synchelidium sp.  
S. americanum  
Tryphosella sp.  
unident. isaeid  
unident. oedicerotid

Decapoda

Upogebia affinis  
unident. sp.

Mysidacea

Bowmaniella dissimilis  
Mysidopsis sp.

Tanaidacea

Tanais sp.  
unident. sp.

Pantopoda

unident. sp.

25.01.0063

Mollusca

Gastropoda

Acteocina canaliculata  
Acteon punctostriatus  
Diastoma varium  
Haminoea succinea  
Marginella sp.  
Mysella planulata  
Nassarius vibex  
Odostomia sp.  
Turbonilla sp.  
unident. sp.

Pelecypoda

Anomalocardia auberiana  
Ensis minor  
Laevicardium mortoni  
Macoma tenta  
Semele sp.  
Tellina versicolor

Echinodermata

Holothuroidea

Leptosynapta sp.

Sipunculida

unident. sp.

Chordata

Urochordata

unident. molgulid

DATA SUMMARY: Mariacha Pass

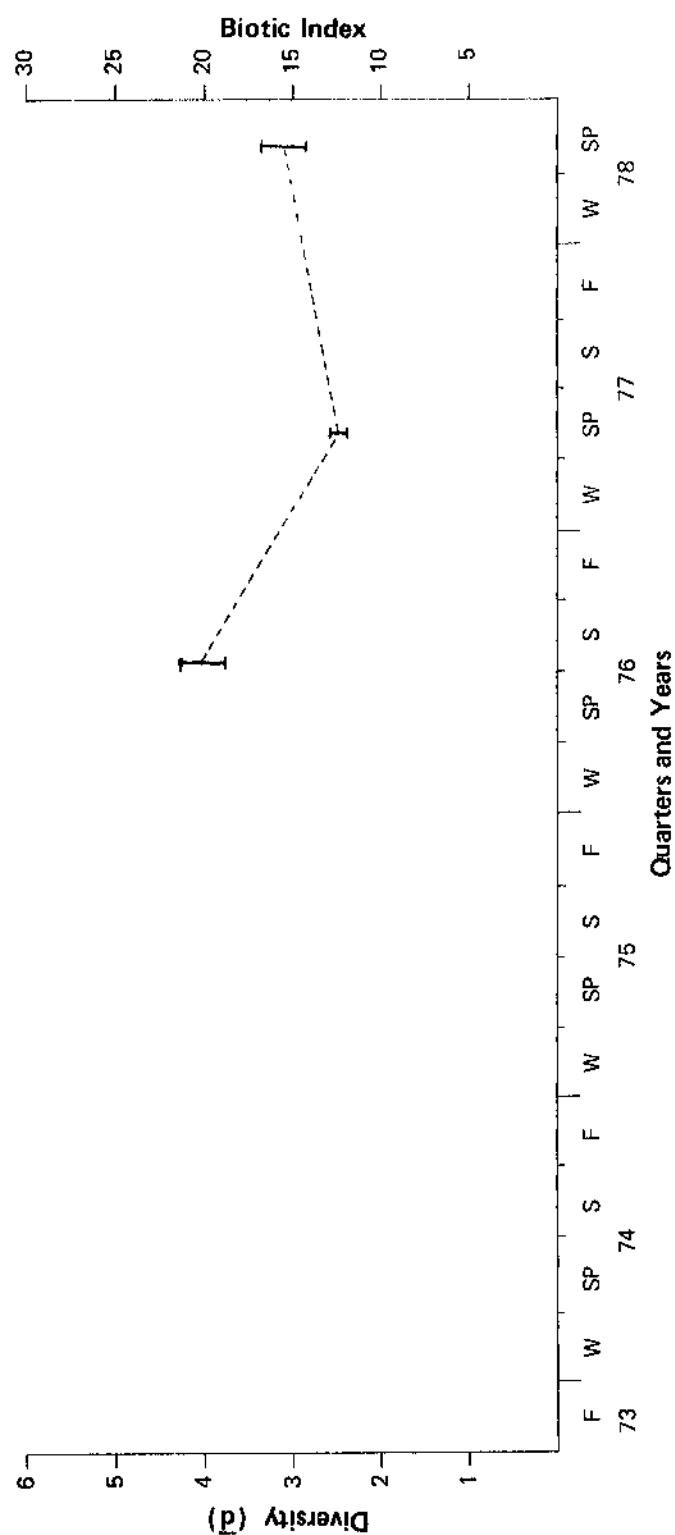
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |  |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
| 25.01.0063<br>286 | 14 Jun 76 | 4.043±0.210        | 0.116±0.017 | 46    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 7 Apr 77  | 2.555±0.102        | 0.267±0.018 | 37    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 11 Apr 78 | 3.127±0.225        | 0.347±0.044 | 47    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.01.0063  
 BODY OF WATER: MATLACHA PASS

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0001 Body of Water Peace River  
Location Peace River, 400 yards west of US 41  
County Charlotte  
Type Body of Water estuary Classification   
Sources of Pollution sewage effluent  
  
Nearby Land Use urban, residential  
Sampling Frequency quarterly Depth 2.2 - 2.6 m  
Bottom Type sand, silt % Volatile Solids   
Aquatic Plants: Submerged   
Emergent

**Macroinvertebrates:**

Annelida

Polychaeta

Capitella sp.  
Glycera sp.  
G. americana  
Glycinde sp.  
Melinna maculata  
Nephtys sp.  
N. buccera  
Nereis falsa  
N. succinea  
Paraprionospio pinnata  
Pectinaria gouldii  
Sigambra bassi  
unident. orbinid  
unident. sp.

Arthropoda

Crustacea

Isopoda

Accalathura sp.  
unident. anthurid

Amphipoda

Ampelisca sp.  
Erichthonius brasiliensis  
Microdeutopus sp.  
Monoculodes sp.  
unident. caprellid  
unident. sp.

Cirripedia

Balanus sp.

Cumacea

2 unident. spp.

Mollusca

Gastropoda

Acteocina canaliculata  
Crepidula plana  
Mitrella lunata  
Nassarius vibex  
Skeneopsis planorbis  
S. sp.  
unident. bullid  
unident. nudibranch

Pelecypoda

Amygdalum papyria  
Labiosa lineata  
Tellina lineata

Brachiopoda

Glottidia sp.

Chordata

Urochordata

Molgula sp.



DATA SUMMARY: Peace River

| Station Number    | Date      | Macroinvertebrates |            |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |      | Comments |
|-------------------|-----------|--------------------|------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|------|----------|
|                   |           | Natural Substrate  |            | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |      |          |
|                   |           | Diversity          | Redundancy | #Spp.                | Diversity | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |      |          |
|                   |           |                    |            |                      |           |            |       | BI           | #Spp. |                                                 |                                              |                                  |      |          |
| 25.02.0001<br>290 | 24 Jul 74 |                    |            |                      |           |            |       |              |       |                                                 |                                              | 94                               |      |          |
|                   | 13 Aug 74 |                    |            |                      |           |            |       |              |       |                                                 |                                              | 4                                | 4    |          |
|                   | 16 Sep 74 |                    |            |                      |           |            |       |              |       |                                                 |                                              | 24                               | 24   |          |
|                   | 14 Oct 74 |                    |            |                      |           |            |       |              |       |                                                 |                                              | 4                                | 0    |          |
|                   | 4 Nov 74  |                    |            |                      |           |            |       |              |       |                                                 |                                              | LT10                             | LT10 |          |
|                   | 9 Dec 74  |                    |            |                      |           |            |       |              |       |                                                 |                                              | LT2                              | 4    |          |
|                   | 10 Feb 75 |                    |            |                      |           |            |       |              |       |                                                 |                                              | 74                               | 8    |          |
|                   | 3 Mar 75  |                    |            |                      |           |            |       |              |       |                                                 |                                              | LT2                              | 4    |          |
|                   | 14 Apr 75 |                    |            |                      |           |            |       |              |       |                                                 |                                              | LT2                              |      |          |
|                   | 19 May 75 |                    |            |                      |           |            |       |              |       |                                                 |                                              | LT2                              |      |          |
|                   | 23 Jun 75 |                    |            |                      |           |            |       |              |       |                                                 |                                              | 6                                |      |          |
|                   | 15 Jul 75 |                    |            |                      |           |            |       |              |       |                                                 |                                              | 12                               |      |          |

See Methods for explanation of table.

DATA SUMMARY: Peate River

| Station Number    | Date      | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |     |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |     |          |
|                   |           |                    |             |                      |           |            |       | BI           | #Spp. |                                                 |                                              |                                  |     |          |
| 25.02.0001<br>291 | 11 Aug 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  | 0   |          |
|                   | 15 Sep 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 30                               | 1   |          |
|                   | 17 Nov 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 6                                | 2   |          |
|                   | 30 Dec 75 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 70                               | 8   |          |
|                   | 12 Jan 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 112                              | 111 |          |
|                   | 23 Feb 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  | 10  |          |
|                   | 2 Mar 76  | 3.345±0.292        | 0.154±0.040 | 20                   |           |            |       |              |       |                                                 |                                              |                                  |     |          |
|                   | 15 Mar 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  | 111 |          |
|                   | 22 Mar 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 3                                | 2   |          |
|                   | 12 Apr 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  | 111 |          |
|                   | 10 May 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              |                                  | 112 |          |
|                   | 14 Jun 76 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 10                               | 2   |          |

See Methods for explanation of table.

DATA SUMMARY: Peace River

| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |        | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       | BI           | #Spp. |                                                 |                                              | Total                            | Fecal  |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |       |                                                 |                                              |                                  |        |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |        |          |
| 292<br>25.02.0001 | 12 Jul 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 44                               | 32     |          |
|                   | 10 Aug 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 170                              | LT4    |          |
|                   | 20 Sep 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 60                               | LT4    |          |
|                   | 11 Oct 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 80                               | 8      |          |
|                   | 8 Nov 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 50                               | 8      |          |
|                   | 13 Dec 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 16                               | 2      |          |
|                   | 14 Feb 77 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 8                                | LT2    |          |
|                   | 16 Feb 77 | 2.268±0.202        | 0.385±0.055 | 20    |                      |            |       |              |       |                                                 |                                              | LT10                             | LT2    |          |
|                   | 14 Mar 77 |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT 0.2                           | LT 0.2 |          |
|                   | 4 Apr 77  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT4                              | LT2    |          |
|                   | 2 May 77  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 4                                | LT2    |          |
|                   | 13 Jun 77 |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |        |          |

See Methods for explanation of table.

DATA SUMMARY: Peace River

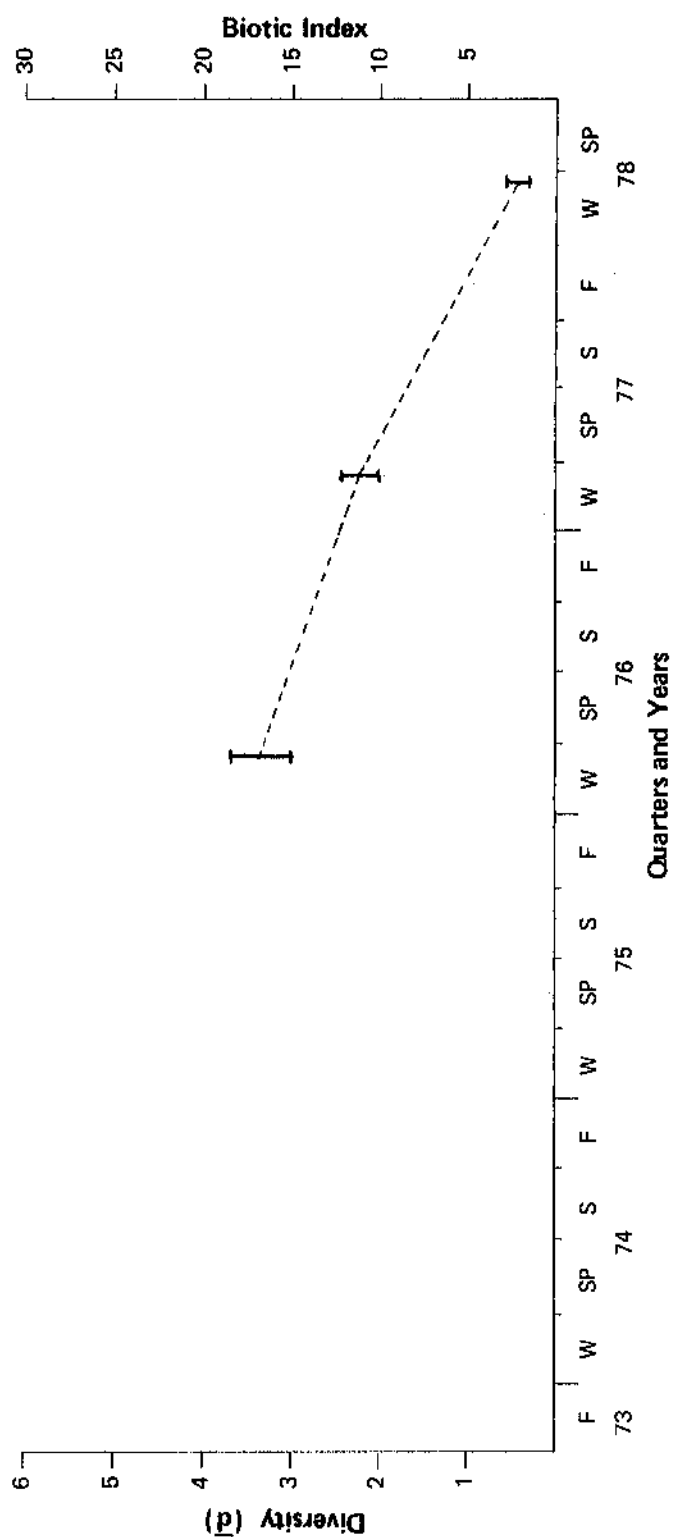
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 293<br>25.02.0001 | 11 Jul 77 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 2                                | LT2   |          |
|                   | 9 Jan 78  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 92                               | 132   |          |
|                   | 6 Feb 78  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 45                               | 10    |          |
|                   | 6 Mar 78  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 160                              | 88    |          |
|                   | 14 Mar 78 | 0.510±0.124        | 0.911±0.035 | 14    |                      |            |       |              |       |                                                 |                                              | 6                                | 2     |          |
|                   | 11 Apr 78 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 10                               | LT3   |          |
|                   | 15 May 78 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 8                                | 8     |          |
|                   | 6 Jun 78  |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0001  
 BODY OF WATER: PEACE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0004 Body of Water Peace River  
 Location SR 70, west of Arcadia  
 County DeSoto  
 Type Body of Water river Classification III  
 Sources of Pollution industrial processes upstream  
 Nearby Land Use agricultural  
 Sampling Frequency quarterly Depth 1.4 - 4.2 m  
 Bottom Type sand, gravel % Volatile Solids \_\_\_\_\_  
 Aquatic Plants: Submerged \_\_\_\_\_  
 Emergent Salix sp.

#### Macroinvertebrates:

##### Cnidaria

Hydra sp.

##### Platyhelminthes

##### Turbellaria

unident. planariid

##### Rhynchocoela

Prostoma rubrum

##### Annelida

##### Oligochaeta

Aeolosoma sp.

Aulodrilis piqueti

Branchiura sowerbyi

Dero sp.

Limnodrilus sp.

Nais sp.

N. variabilis

Pristina osborni

P. sp.

Slavina appendiculata

Stylaria fossularis

S. sp.

Hirudinea

Helobdella elongata  
Mooreobdella microstoma  
Placobdella multilineata

Arthropoda

Crustacea

Amphipoda

Gammarus sp.  
Hyalella azteca

Decapoda

Palaemonetes paludosus  
Procambarus sp.

Insecta

Odonata

Argia moesta  
A. sedula  
Enallagma cardenium  
E. sedula  
Epicordulia regina  
Gomphus dilatatus  
G. minutus  
G. plagiatus  
Hetaerina titia  
Macromia taeniolata  
Nasiaeschna pentacantha  
Perithemis tenera seminole

Ephemeroptera

Baetis intercalaris  
B. cf. spinosus  
Brachycercus maculatus  
Caenis diminuta  
Callibaetis floridanus  
Centroptilum hobbsi  
C. viridocularis  
Hexagenia munda elegans  
Pseudocloeon alachua  
Stenacron interpunctatum  
Stenonema exiguum  
Tricorythodes albilineatus

Hemiptera

Abdus sp.  
Belostoma sp.  
Pelocoris sp.  
Ranatra sp.  
unident. corixid

Trichoptera

Cheumatopsyche sp.  
Cyrnellus fraternus  
Hydropsyche sp. 1 - Cantrell  
Mayatrichia ayama  
Nectopsyche cf. exquisita  
N. pavida  
Neureclipsis sp.  
Oecetis sp. 1 - Cantrell  
O. sp. 3 - Cantrell  
O. inconspicua  
Orthotrichia sp.  
Oxyethira sp.  
Polycentropus cinereus

Megaloptera

Corydalis cornutus

Diptera

Ablabesmyia mallochi  
A. ornata  
A. parajanta  
A. tarella  
Anopheles sp.  
Chironomini sp. A (Beck)  
Chironomus sp.  
Cladotanytarsus sp. 2 - Cantrell  
Clinotanypus sp.  
Coelotanypus scapularis  
C. tricolor  
Corynoneura sp.  
Cricotopus bicinctus  
C. sp. 1 - Cantrell  
Cryptochironomus blarina  
C. fulvus  
C. sp.  
Dicrotendipes modestus  
D. neomodestus  
Glyptotendipes sp.  
Goeldichironomus holoprasinus  
Harnischia (Beck) - Cladopelma (Saether) sp.  
Labrundinia floridana  
Micropsectra sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Microtendipes sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Paracladopelma sp.  
Paralauterborniella nigrohalteralis  
Pentaneura inculta



Diptera (cont.)

Polypedilum convictum  
P. fallax  
P. halterale  
P. illinoense  
Procladius sp.  
Psectrocladius sp.  
Pseudochironomus sp.  
Rheocricotopus robacki  
Rheotanytarsus exiguus  
Simulium sp.  
Stenochironomus hilaris  
Tanytarsus sp. 1 - Cantrell  
T. sp. 3 - Cantrell  
Thienemanniella sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
Tribelos cf. fuscicornis  
 unident. sp.  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
 unident. ceratopogonid sp. 3 - Cantrell  
 unident. empidid  
 unident. tabanid

Coleoptera

Berosus sp.  
Dineutus sp.  
Dubiraphia sp.  
Gyrinus sp.  
Haliphus sp.  
Hydrochara sp.  
Laccophilus sp.  
Microcylloepus pusillus  
Pelonomus sp.  
Peltodytes sp.  
Stenelmis sp.

Arachnida

Acarina

unident. sp.

Mollusca

Gastropoda

Amnicola dalli johnsoni  
Gyraulus sp.  
Helisoma sp. 1 - Cantrell  
H. sp. 2 - Cantrell  
 cf. Hyalopyrgus aequicostatus  
Physa sp.

25.02.0004

Gastropoda (cont.)

Pseudosuccinea sp.  
unident. ancyliid

Pelecypoda

Corbicula manilensis  
unident. sphaeriid

DATA SUMMARY: Peace River

| Station Number | Date        | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>             | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |  |
|----------------|-------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|--|
|                |             | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                             |                                              | Total                            | Fecal |          |  |  |
|                |             | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                             |                                              |                                  |       |          |  |  |
|                |             |                    |             |       |                      |             |       |              |                                                             |                                              |                                  |       |          |  |  |
| 25.02.0004     | 4 Sep 73    |                    |             |       |                      |             |       |              |                                                             |                                              | 400                              | 160   |          |  |  |
|                | 26 Sep 73   |                    |             |       |                      | 0.080±0.011 | 35    |              |                                                             |                                              | 124                              | 48    |          |  |  |
|                | 8 Nov 73    | 0.335±0.297        | 1.000±0.124 | 4     |                      |             |       |              |                                                             |                                              |                                  |       |          |  |  |
|                | 18 Dec 73   |                    |             |       |                      |             |       |              |                                                             |                                              |                                  |       |          |  |  |
|                | 28 Dec 73   | 3.861±0.134        | 0.092±0.012 | 36    |                      |             |       |              |                                                             |                                              | 50                               | 1710  |          |  |  |
|                | 22 Jan 74   |                    |             |       |                      | 0.168±0.011 | 46    |              |                                                             |                                              |                                  |       |          |  |  |
|                | 19 Feb 74   |                    |             |       |                      |             |       |              |                                                             |                                              | 38                               | 10    |          |  |  |
|                | 18 Apr 74   | 2.571±0.203        | 0.190±0.030 | 14    |                      |             |       | 26           | 61                                                          |                                              |                                  |       |          |  |  |
|                | 9 Jul 74    |                    |             |       |                      |             |       |              |                                                             |                                              |                                  |       |          |  |  |
| 3 Sep 74       | 3.335±0.242 | 0.153±0.035        | 22          |       |                      |             | 24    | 40           | Coc BG 9<br>F11 BG 0<br>Coc Gr 123<br>F11 Gr 5<br>Gr Flag 5 | LT2                                          |                                  |       |          |  |  |

See Methods for explanation of table.

DATA SUMMARY: Peace River

| Station Number    | Date                | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                                   | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|---------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |                     | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                                                                                                   |                                              | Total                            | Fecal |          |
|                   |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                                                                                                   |                                              |                                  |       |          |
| 25.02.0004<br>301 | 3 Sep 74<br>(cont.) |                    |             |       |                      |             |       |              | Other Flag 0<br>Cen Dia 0<br>Pen Dia 0<br>Total 142                                                                               |                                              |                                  |       |          |
|                   | 4 Nov 74            |                    |             |       |                      |             |       |              | Coc BG 424<br>Flt BG 1220<br>Coc Gr 557<br>Flt Gr 303<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 696<br>Pen Dia 36800<br>Total 40000 | 230                                          | 60                               |       |          |
|                   | 14 Nov 74           | 3.140+0.227        | 0.263+0.045 | 30    | 3.147+0.083          | 0.169+0.013 | 35    |              |                                                                                                                                   |                                              |                                  |       |          |
|                   | 2 Jan 75            | 4.039+0.165        | 0.069+0.014 | 31    |                      |             |       | 6            |                                                                                                                                   |                                              |                                  |       |          |
|                   | 8 May 75            | 2.724+0.157        | 0.317+0.030 | 41    |                      |             |       | 12           |                                                                                                                                   |                                              |                                  |       | LT2      |
|                   | 2 Jun 75            |                    |             |       |                      |             |       |              |                                                                                                                                   |                                              |                                  |       |          |

See Methods for explanation of table.

**DATA SUMMARY: Peace River**

[illegible]

See Methods for explanation of table.

DATA SUMMARY: Peace River

| Station Number        | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                 | Periphyton Composition units/cm <sup>2</sup>                                            | Coliform Bacteria Colonies/100ml |       | Comments |
|-----------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                       |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                 |                                                                                         | Total                            | Fecal |          |
|                       |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                 |                                                                                         |                                  |       |          |
|                       |           |                    |             |       |                      |             |       |              |       |                                                                 |                                                                                         |                                  |       |          |
| 25.02.0004<br><br>303 | 22 Apr 76 | 2.623±0.161        | 0.280±0.024 | 30    |                      |             |       | 31           | 41    | Coc BG 0<br>Fil BG 504<br>Coc Gr 5711<br>Fil Gr 56<br>Gr Flag 0 |                                                                                         |                                  |       |          |
|                       | 21 Jul 76 | 2.152±0.967        | 0.354±0.025 | 26    |                      |             |       |              |       | Other Flag 0<br>Gen Dia 336<br>Pen Dia 8958<br>Total 15565      |                                                                                         |                                  |       |          |
|                       | 10 Nov 76 | 1.655±0.157        | 0.594±0.044 | 27    |                      |             |       |              |       |                                                                 |                                                                                         |                                  |       |          |
|                       | 3 Mar 77  | 2.251±0.172        | 0.422±0.042 | 30    |                      |             |       | 26           | 50    |                                                                 | Coc BG 35342<br>Fil BG 3879<br>Coc Gr 24316<br>Fil Gr 7758<br>Gr Flag 0<br>Other Flag 0 |                                  |       |          |
|                       | 8 Jun 77  | 2.370±0.186        | 0.411±0.046 | 28    | 2.992±0.149          | 0.214±0.023 | 30    |              |       |                                                                 |                                                                                         |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Peace River

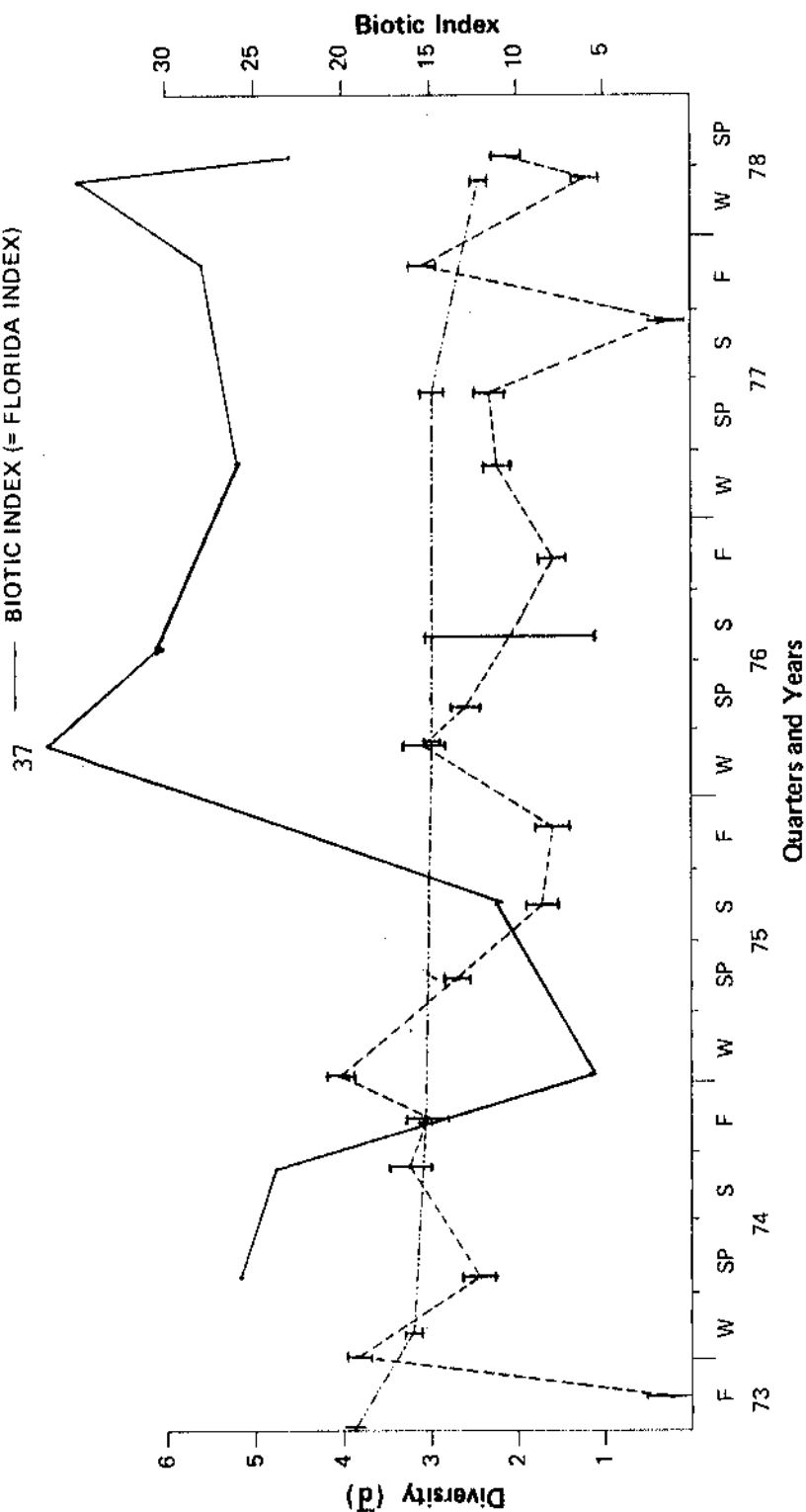
| Station Number | Date                | Macroinvertebrates |             |       |             |                      |       |    |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>    | Coliform Bacteria Colonies/100ml |       | Comments      |
|----------------|---------------------|--------------------|-------------|-------|-------------|----------------------|-------|----|-------|-------------------------------------------------|-------------------------------------------------|----------------------------------|-------|---------------|
|                |                     | Natural Substrate  |             |       |             | Artificial Substrate |       |    |       |                                                 |                                                 | Total                            | Fecal |               |
|                |                     | Diversity          | Redundancy  | #Spp. | Diversity   | Redundancy           | #Spp. | BI | #Spp. |                                                 |                                                 |                                  |       |               |
|                |                     |                    |             |       |             |                      |       |    |       |                                                 |                                                 |                                  |       |               |
| 25.02.0004     | 8 Jun 77<br>(cont.) |                    |             |       |             |                      |       |    |       |                                                 | Gen Dia 21981<br>Pen Dia 458584<br>Total 551680 |                                  |       | Florida Index |
|                | 7 Sep 77            | 0.319+0.205        | 0.965+0.076 | 5     |             |                      |       |    |       |                                                 |                                                 |                                  |       |               |
|                | 18 Nov 77           | 3.089+0.176        | 0.200+0.021 | 35    |             |                      |       |    |       |                                                 |                                                 |                                  |       |               |
|                | 15 Mar 78           | 1.266+0.164        | 0.577+0.064 | 9     | 2.456+0.089 | 0.230+0.016          | 22    | 28 | 54    |                                                 |                                                 |                                  |       |               |
|                | 5 Apr 78            | 2.153+0.188        | 0.364+0.047 | 19    |             |                      |       |    |       |                                                 |                                                 |                                  |       |               |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0004  
BODY OF WATER: PEACE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
--- ARTIFICIAL SUBSTRATE DIVERSITY  
--- BIOTIC INDEX (= FLORIDA INDEX)





Station No. 25.02.0005 Body of Water Charlie Creek  
Location \_\_\_\_\_ at US 17  
\_\_\_\_\_ County Hardee  
Type Body of Water stream Classification \_\_\_\_\_  
Sources of Pollution \_\_\_\_\_  
\_\_\_\_\_  
Nearby Land Use pasture  
Sampling Frequency annually Depth 0.5 - 1.0 m  
Bottom Type sand, shell % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
\_\_\_\_\_ Emergent \_\_\_\_\_  
\_\_\_\_\_

Macroinvertebrates:

Platyhelminthes

Turbellaria

Dugesia sp.

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Tubifex tubifex

unident. sp.

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus

Insecta

Odonata

Argia sedula

Hetaerina titia

Gomphus sp.

G. dilatatus

G. pallidus

Ischnura posita

Macromia illinoiensis

Odonata (cont.)

cf. Nehalennia sp. 1 - Pearce  
Progomphus sp.

Ephemeroptera

Baetis intercalaris  
Caenis diminuta  
Stenonema exiguum  
Stenacron interpunctatum

Hemiptera

Belostoma sp. 1 - Howton  
Lethocerus americanus  
Ranatra sp. 1 - Pearce  
unident. corixid

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Pearce  
Nectopsyche sp.

Megaloptera

Corydalus cornutus

Diptera

Ablabesmyia ornata  
Coelotanypus scapularis  
Dicrotendipes lobus  
Procladius sp.  
Probezzia apaca  
Polypedilum illinoense  
Psectrocladius sp.  
Rheotanytarsus exiguus  
Simulium sp. 1 - Dalton  
unident. ceratopogonid sp. 1 - Cantrell

Coleoptera

Bidessonotus sp. 1 - Pearce  
Dineutus sp. 1 - Pearce  
Gyrinus sp. 1 - Pearce  
Helobates sp. 1 - Pearce  
Haliphus sp. 1 - Pearce  
Stenelmis fuscata

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Physa sp. 1 - Pearce

25.02.0005

Pelecypoda

Anodonta sp.

Corbicula manilensis

Elliptio sp.

Pisidium sp. 1 - Pearce

DATA SUMMARY: Charlie Creek

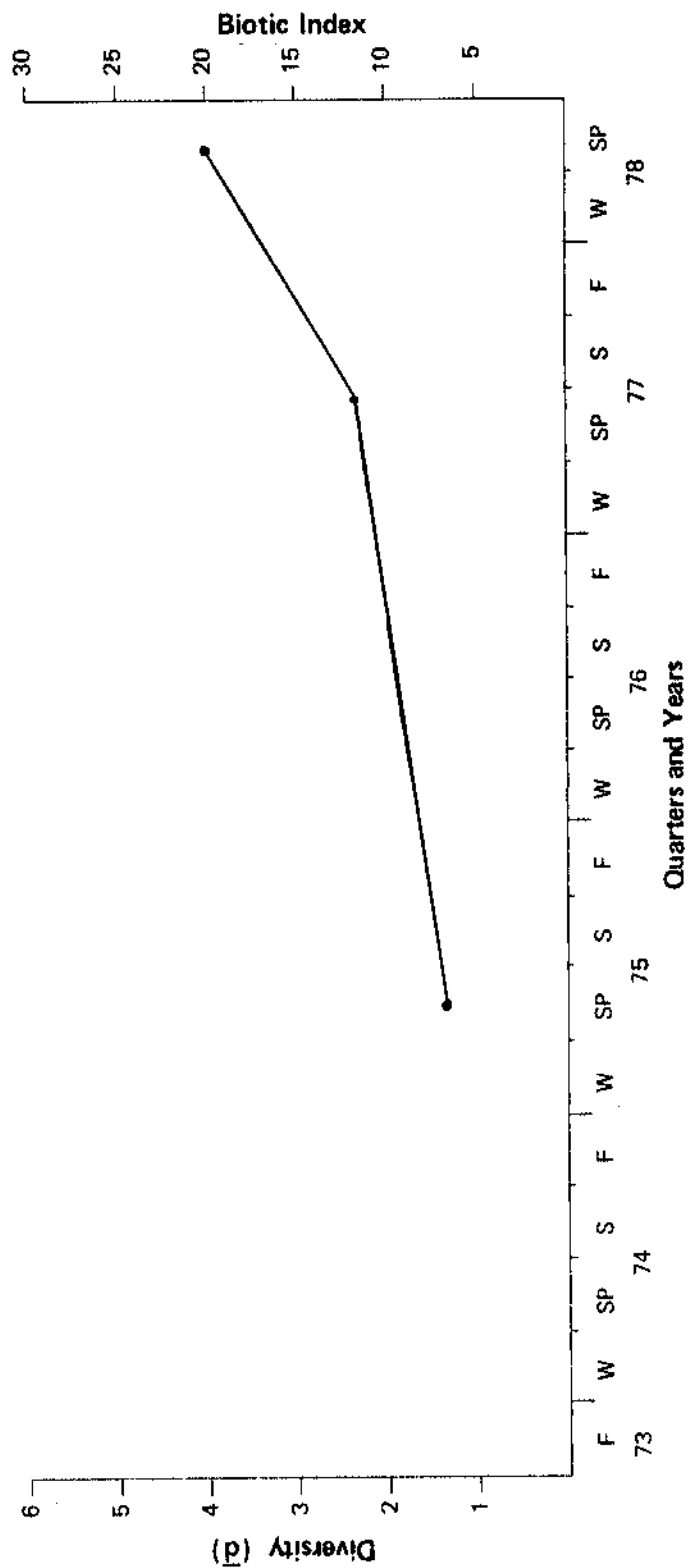
| Station Number | Date      | Macroinvertebrates |             |            |       |                      |  |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |               | Comments |
|----------------|-----------|--------------------|-------------|------------|-------|----------------------|--|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|---------------|----------|
|                |           | Natural Substrate  |             |            |       | Artificial Substrate |  |            |       |              |                                                 |                                              | Total                            | Fecal         |          |
|                |           | Diversity          |             | Redundancy | #Spp. | Diversity            |  | Redundancy | #Spp. |              |                                                 |                                              |                                  |               |          |
|                |           |                    |             |            |       |                      |  |            |       |              |                                                 |                                              |                                  |               |          |
| 25.02.0005     | 20 Apr 76 | 1.030±0.173        | 0.641±0.074 | 8          |       |                      |  |            | 7     | 19           |                                                 |                                              |                                  | Florida Index |          |
|                | 3 May 77  |                    |             |            |       |                      |  |            | 12    | 24           |                                                 |                                              |                                  |               |          |
|                | 28 Mar 78 |                    |             |            |       |                      |  |            | 20    | 26           |                                                 |                                              |                                  |               |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0005  
 BODY OF WATER: CHARLIE CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0006 Body of Water Peace River  
Location SR 64-A  
County Hardee  
Type Body of Water river Classification III  
Sources of Pollution agricultural runoff  
Nearby Land Use farming  
Sampling Frequency random Depth 2 - 2.5 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Vallisneria americana  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Annelida

Hirudinea

Helobdella fusca  
Placobdella ornata

Oligochaeta

Limnodrilus hoffmeisteri

Arthropoda

Insecta

Odonata

Enallagma cardenium  
E. sp.  
Gomphus sp.  
G. pallidus  
Ischnura sp.  
Libellula deplanata

Ephemeroptera

Baetis sp.  
B. spinosus  
Brachycercus maculatus  
Caenis diminuta  
Callibaetis floridanus  
Stenonema proximum  
S. exiguum

Ephemeroptera (cont.)  
Tricorythodes sp.

Hemiptera  
Mesovelgia sp.  
Ranatra sp. 1 - Pearce

Trichoptera  
Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Pearce

Diptera  
Ablabesmyia tarella  
Cricotopus bicinctus  
Chironomus attenuatus  
C. carus  
Clinotanypus sp. 1 - Pearce  
Cladotanytarsus sp. 1 - Cantrell  
Cryptochironomus fulvus  
Dicrotendipes modestus  
D. nervosus  
Harnischia sp.  
Pentaneura sp.  
Polypedilum illinoense  
P. convictum  
P. halterale  
Procladius sp.  
Pseudochironomus sp.  
Stictochironomus devinctus  
Tanypus neopunctipennis  
Tanytarsus sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
unident. ceratopogonid sp. 1 - Cantrell

Coleoptera  
Dineutus sp. 1 - Pearce  
Dubiraphia quadrinotata  
Haliphus sp. 1 - Pearce  
Hydrophila sp. 1 - Pearce  
unident. elmidae

Mollusca

Gastropoda

Helisoma sp. 1 - Pearce  
Physa sp. 1 - Pearce  
Viviparus georgianus

25.02.0006

Pelecypoda

Corbicula manilensis

Sphaerium sp. 1 - Pearce



DATA SUMMARY: Peace River

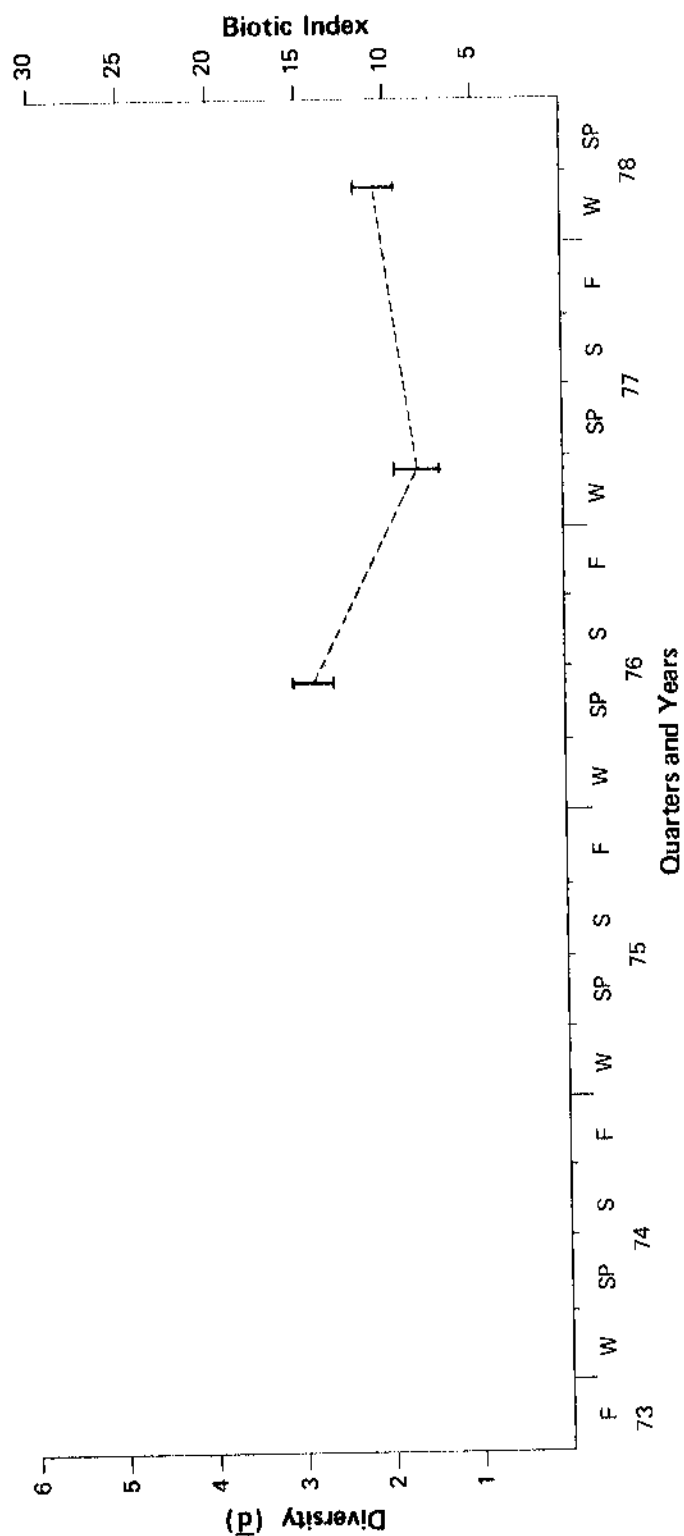
| Station Number    | Date      | Macroinvertebrates |                   |       |                      |                   |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------------|-------|----------------------|-------------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |                   |       | Artificial Substrate |                   |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy        | #Spp. | Diversity            | Redundancy        | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                   |           |                    |                   |       |                      |                   |       |              |       |                                                 |                                              |                                  |       |          |
| 25-02.0006<br>314 | 2 Jan 74  |                    |                   |       |                      |                   |       |              |       |                                                 |                                              | 900                              |       |          |
|                   | 18 Mar 74 |                    |                   |       |                      |                   |       |              |       |                                                 |                                              | 1400                             |       |          |
|                   | 15 Apr 74 |                    |                   |       |                      |                   |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 1 Jun 76  | 2.883 $\pm$ 0.254  | 0.260 $\pm$ 0.060 | 21    | 2.864 $\pm$ 0.223    | 0.189 $\pm$ 0.049 | 14    | 10           | 42    |                                                 |                                              |                                  |       |          |
|                   | 15 Mar 77 | 1.669 $\pm$ 0.259  | 0.542 $\pm$ 0.084 | 13    |                      |                   |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 8 Mar 78  | 2.132 $\pm$ 0.213  | 0.327 $\pm$ 0.063 | 12    |                      |                   |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0006  
 BODY OF WATER: PEACE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0008 Body of Water Peace River

Location SR 664

County Hardee

Type Body of Water river Classification III

Sources of Pollution agricultural runoff

Nearby Land Use farming

Sampling Frequency quarterly Depth 1.25 - 3 m

Bottom Type sand and rock % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged Vallisneria americana, Najas guadalupensis,

Hydrilla verticillata Emergent Salix sp.

#### Macroinvertebrates:

##### Platyhelminthes

Turbellaria  
    unident. sp.

##### Annelida

Oligochaeta  
    Ilyodrilus templetoni  
    Limnodrilus hoffmeisteri  
    Nais simplex  
    unident. sp.

##### Hirudinea

Helobdella sp.  
    H. phalera  
    Macrobdella sp.

##### Arthropoda

###### Crustacea

###### Amphipoda

Hyalella azteca

###### Isopoda

Asellus sp. 1 - Pearce

Insecta

Odonata

Argia apicalis  
A. sp.  
Boyeria vinosa  
Enallagma cardenium  
Hetaerina titia  
Ischnura sp.  
Macromia illinoiensis  
Neoneura sp.

Ephemeroptera

Baetis spiethi  
B. spinosus  
Caenis diminuta  
C. hilaris  
Pseudocloeon alachua  
Stenonema exiguum  
Stenacron interpunctatum  
Tricorythodes albilineatus

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Oxyethira sp. 1 - Pearce  
Oecetis sp.  
Nyctiophylax sp.  
Polycentropus sp.

Megaloptera

Corydalus cornutus

Diptera

Ablabesmyia tarella  
A. parajanta  
A. philosophagnos  
Atherix variegata  
Atrichopogon websteri  
Cladotanytarsus sp.  
Cricotopus sp. 1 - Cantrell  
Cryptochironomus sp.  
Corynoneura taris  
Dicrotendipes modestus  
Epoicocladus sp.  
Larsia lurida  
Microcricotopus sp.  
Nanocladus sp.  
Pedionomus beckae  
Paratanytarsus sp.  
Pentaneura inculata  
Polypedilum convictum  
P. halterale  
P. illinoense  
Procladius sp. 1 - Cantrell  
Pseudochironomus sp. 1 - Cantrell

Diptera (cont.)

Rheotanytarsus exiguus  
Stenochironomus sp.  
Tanytarsus sp. 1 - Cantrell  
Thienemanniella sp. 1 - Cantrell  
Tribelos fuscicornis  
Hemerodromia sp.  
unident ceratopogonid sp. 2 - Cantrell

Coleoptera

Dineutus sp.  
Dubiraphia quadrinotata  
Haliphus sp.  
Hydrophilus sp.  
Microcylloepus pusillus  
Ochthebius sp.  
Stenelmis fuscata

Arachnida

unident. sp.

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Physa sp. 1 - Pearce  
Pomacea sp. 1 - Pearce  
Viviparus cf. georgianus

Pelecypoda

Corbicula manilensis  
Sphaerium sp. 1 - Pearce

DATA SUMMARY: Peace River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                           | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                                                           |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Stp. |                                                                                                                           |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |              |       |                                                                                                                           |                                              |                                  |       |          |
| 25,02,0008     | 18 Mar 74 |                    |             |       |                      |             |       |              |       |                                                                                                                           |                                              | 4700                             |       |          |
|                | 29 Jul 74 |                    |             |       |                      |             |       |              |       |                                                                                                                           |                                              | 5100                             | 500   |          |
|                | 26 Aug 74 | 1.906±0.238        | 0.342±0.057 | 11    |                      |             |       |              |       | Coc BG 414<br>Fl BG 32<br>Coc Gr 1211<br>Fl Gr 9<br>Gr Flag 32<br>Other Flag 28<br>Cen Dia 23<br>Pen Dia 54<br>Total 1803 |                                              | 150                              | LT100 |          |
|                | 23 Sep 74 |                    |             |       |                      |             |       |              |       |                                                                                                                           |                                              | 1100                             | LT100 |          |
|                | 8 Oct 74  |                    |             |       |                      |             |       |              |       |                                                                                                                           |                                              | 300                              | LT100 |          |
|                | 5 Nov 74  | 4.073±0.130        | 0.072±0.011 | 35    | 2.480±0.129          | 0.129±0.023 | 10    |              |       |                                                                                                                           |                                              | 182                              | LT100 |          |
|                | 16 Dec 74 |                    |             |       |                      |             |       |              |       |                                                                                                                           |                                              | 100                              | LT100 |          |
|                | 12 Jan 75 |                    |             |       |                      |             |       |              |       |                                                                                                                           |                                              | 100                              | 400   |          |

See Methods for explanation of table.

## DATA SUMMARY: Peace River

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliforms |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|-----------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total     | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |           |       |          |
|                   |           |                    |             |       |                      |             |       |              |                                                 |                                              |           |       |          |
| 25-02.0008<br>320 | 10 Feb 75 | 3.121+0.136        | 0.121+0.020 | 18    |                      |             |       |              |                                                 |                                              | 100       | 0     |          |
|                   | 17 Mar 75 |                    |             |       |                      |             |       |              |                                                 |                                              | 300       | LT100 |          |
|                   | 14 Apr 75 | 2.704+0.227        | 0.231+0.033 | 22    |                      |             |       |              |                                                 |                                              | 100       | LT100 |          |
|                   | 12 May 75 |                    |             |       | 3.241+0.195          | 0.089+0.024 | 15    |              |                                                 |                                              | 400       | LT100 |          |
|                   | 9 Jun 75  |                    |             |       | 3.023+0.208          | 0.183+0.030 | 22    |              |                                                 |                                              | 800       | 100   |          |
|                   | 14 Jul 75 |                    |             |       |                      |             |       |              |                                                 |                                              | 3000      | 600   |          |
|                   | 11 Aug 75 |                    |             |       | 3.702+0.251          | 0.079+0.032 | 18    |              |                                                 |                                              | 300       |       |          |
|                   | 8 Sep 75  |                    |             |       |                      |             |       |              |                                                 |                                              | 1200      | LT100 |          |
|                   | 6 Oct 75  |                    |             |       |                      |             |       |              |                                                 |                                              | 3200      | 600   |          |
|                   |           |                    |             |       |                      |             |       |              |                                                 |                                              |           |       |          |

See Methods for explanation of table.

DATA SUMMARY: Peace River

| Station Number    | Date                | Macroinvertebrates |            |       |                      |             |       | Biotic Index |                         | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                               | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|---------------------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                   |                     | Natural Substrate  |            |       | Artificial Substrate |             |       | BI           | #Spp.                   |                                                 |                                                                                                                                            | Total                            | Fecal |          |
|                   |                     | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. |              |                         |                                                 |                                                                                                                                            |                                  |       |          |
| 321<br>25.02.0008 | 6 Oct 75<br>(cont.) |                    |            |       |                      |             |       |              | Pen Dia 17<br>Total 175 |                                                 |                                                                                                                                            |                                  |       |          |
|                   | 3 Nov 75            |                    |            |       |                      |             |       |              |                         |                                                 | 900                                                                                                                                        | LT100                            | LT100 |          |
|                   | 8 Dec 75            |                    |            |       |                      |             |       |              |                         |                                                 |                                                                                                                                            | 100                              | LT100 |          |
|                   | 5 Jan 76            |                    |            |       |                      |             |       |              |                         |                                                 | 107                                                                                                                                        | 47                               |       |          |
|                   | 2 Feb 76            |                    |            |       | 2.628±0.135          | 0.173±0.016 | 19    |              |                         |                                                 | Coc BG 391<br>FII BG 1563<br>Coc Gr 172675<br>FII Gr 5860<br>Gr Flag 4297<br>Other Flag 0<br>Cen Dia 32035<br>Pen Dia 3125<br>Total 219946 |                                  |       |          |
|                   | 12 Apr 76           |                    |            |       |                      |             |       |              |                         |                                                 | 380                                                                                                                                        | 20                               |       |          |

See Methods for explanation of table.



DATA SUMMARY: Peace River

| Station Number    | Date      | Macroinvertebrates |            |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                            | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |            |       | Artificial Substrate |             |       |              |       |                                                 |                                                                                         |                                  |       |          |
|                   |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                                                                         |                                  |       |          |
|                   |           |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         |                                  |       |          |
| 25.02.0008<br>322 | 10 May 76 |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         | 650                              | 10    |          |
|                   | 7 Jun 76  |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         | 275                              | 10    |          |
|                   | 15 Jul 76 |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         |                                  | 60    |          |
|                   | 18 Aug 76 |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         | 11000                            | 330   |          |
|                   | 15 Sep 76 |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         | 580                              | 133   |          |
|                   | 1 Nov 76  |                    |            |       | 2.605+0.319          | 0.324+0.087 | 15    |              |       |                                                 |                                                                                         | 1100                             | GT800 |          |
|                   | 6 Dec 76  |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         | 240                              | 20    |          |
|                   | 10 Jan 77 |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         | 420                              | 65    |          |
|                   | 31 Jan 77 |                    |            |       |                      |             |       |              |       |                                                 |                                                                                         | 120                              | 20    |          |
|                   |           |                    |            |       |                      |             |       |              |       |                                                 | Coc BG 2<br>Fil BG 2<br>Coc Gr 32<br>Fil Gr 6<br>Gr Flag 7<br>Other Flag 0<br>Gen Dia 9 |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Peace River

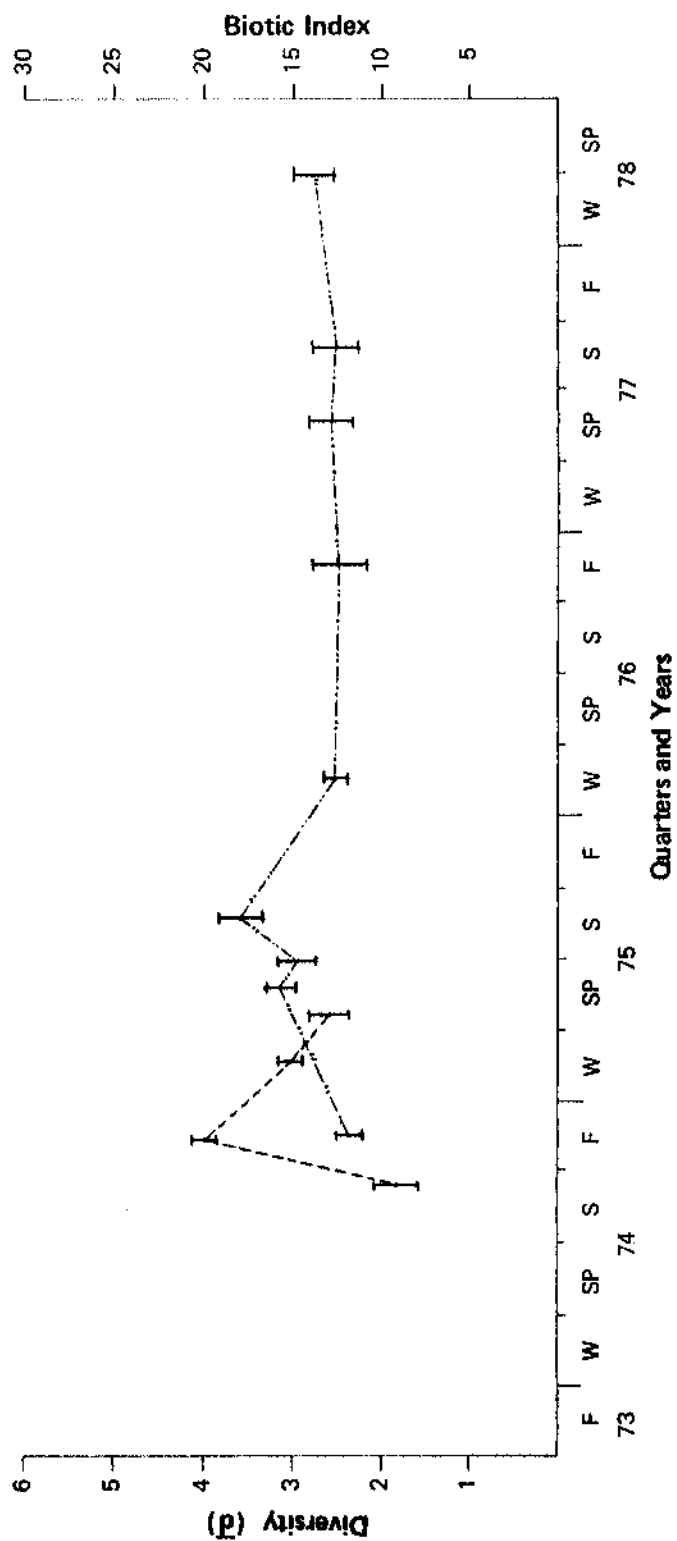
| Station Number    | Date                 | Macroinvertebrates |            |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                              | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|----------------------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |                      | Natural Substrate  |            |       | Artificial Substrate |             |       |              |       |                                                                                                                              |                                              | Total                            | Fecal |          |
|                   |                      | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                                                              |                                              |                                  |       |          |
| 25.02.0008<br>523 | 31 Jan 77<br>(cont.) |                    |            |       |                      |             |       |              |       | Pen Dia 14<br>Total 72                                                                                                       |                                              |                                  |       |          |
|                   | 7 Mar 77             |                    |            |       |                      |             |       |              |       |                                                                                                                              |                                              | 370                              | LT10  |          |
|                   | 11 Apr 77            |                    |            |       |                      |             |       |              |       |                                                                                                                              |                                              | 370                              | LT10  |          |
|                   | 9 May 77             |                    |            |       | 2.701±0.244          | 0.200±0.044 | 15    |              |       |                                                                                                                              |                                              | 4000                             | 40    |          |
|                   | 9 Aug 77             |                    |            |       | 2.627±0.274          | 0.360±0.067 | 21    |              |       | Coc BG 2738<br>Fil BG 0<br>Coc Gr 231593<br>Fil Gr 0<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 9855<br>Pen Dia 244186<br>Total |                                              |                                  |       |          |
|                   | 6 Dec 77             |                    |            |       |                      |             |       |              |       |                                                                                                                              |                                              | 2400                             | 1050  |          |
|                   | 20 Feb 78            |                    |            |       |                      |             |       |              |       |                                                                                                                              |                                              | 540                              | 2000  |          |
|                   | 21 Mar 78            |                    |            |       |                      |             | 16    |              |       |                                                                                                                              |                                              |                                  |       |          |
|                   | 10 Apr 78            |                    |            |       | 2.901±0.227          | 0.161±0.035 |       |              |       |                                                                                                                              |                                              | 2500                             | LT10  |          |
|                   | 5 Jun 78             |                    |            |       |                      |             |       |              |       |                                                                                                                              |                                              |                                  |       | 40       |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0008  
 BODY OF WATER: PEACE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0012 Body of Water Peace River  
Location at Mt. Pisgah Road  
County Polk  
Type Body of Water stream Classification III  
Sources of Pollution domestic and industrial  
Nearby Land Use undeveloped, phosphate mining  
Sampling Frequency annually Depth 1.0 m  
Bottom Type sand, silt % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Vallisneria sp.  
Emergent Salix sp.

**Macroinvertebrates:**

Platyhelminthes

Turbellaria

unident. sp.

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

unident. lumbriculid

Hirudinea

Actinobdella sp. 1 - Pearce

Helobdella cf. elongata

H. stagnalis

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Pearce

Sphaeroma sp. 1 - Meyers

Amphipoda

Hyaella azteca

Decapoda

Palaemonetes paludosus

Insecta

Odonata

Argia fumipennis

A. sedula

Dromogomphus spinosus

Gomphus pallidus

Gomphus (Gomphus) minutus

Hagenius brevistylus

cf. Nehalennia sp. 1 - Pearce

Perithemis seminole

Ephemeroptera

Baetis spinosus

Caenis diminuta

Callibaetis floridanus

Pseudocloeon alachua

Stenonema exiguum

Stenonema smithae

Stenacron interpunctatum

Tricorythodes albilineatus

Trichoptera

Cheumatopsyche sp. 1 - Dalton

Hydropsyche sp. 1 - Cantrell

Oecetis sp.

Polycentropus sp. 2 - Dalton

Megaloptera

Corydalis cornutus

Diptera

Ablabesmyia tarella

Chironomus attenuatus

Cladotanytarsus sp. 1 - Cantrell

Cryptochironomus fulvus

Dicrotendipes neomodestus

Polypedilum halterale

P. convictum

P. illinoense

Psectrocladius sp. 1 - Pearce

Pseudochironomus sp. 1 - Pearce

Rheotanytarsus exiguus

Simulium sp. 1 - Dalton

Tanytarsus sp. 1 - Cantrell

unident. ceratopogonid sp. 1 - Cantrell

unident. ceratopogonid sp. 2 - Cantrell

25.02.0012

Coleoptera

Dineutus sp.

Dubiraphia quadrinotata

Haliphus sp. 1 - Pearce

Stenelmis fuscata

Mollusca

Gastropoda

Helisoma sp. 1 - Pearce

Physa sp. 1 - Pearce

Sphaerium sp. 1 - Pearce

unident. hydrobiid sp. 1 - Pearce

unident. hydrobiid sp. 3 - Pearce

Pelecypoda

Corbicula manilensis

Pisidium sp. 1 - Pearce

DATA SUMMARY: Peace River

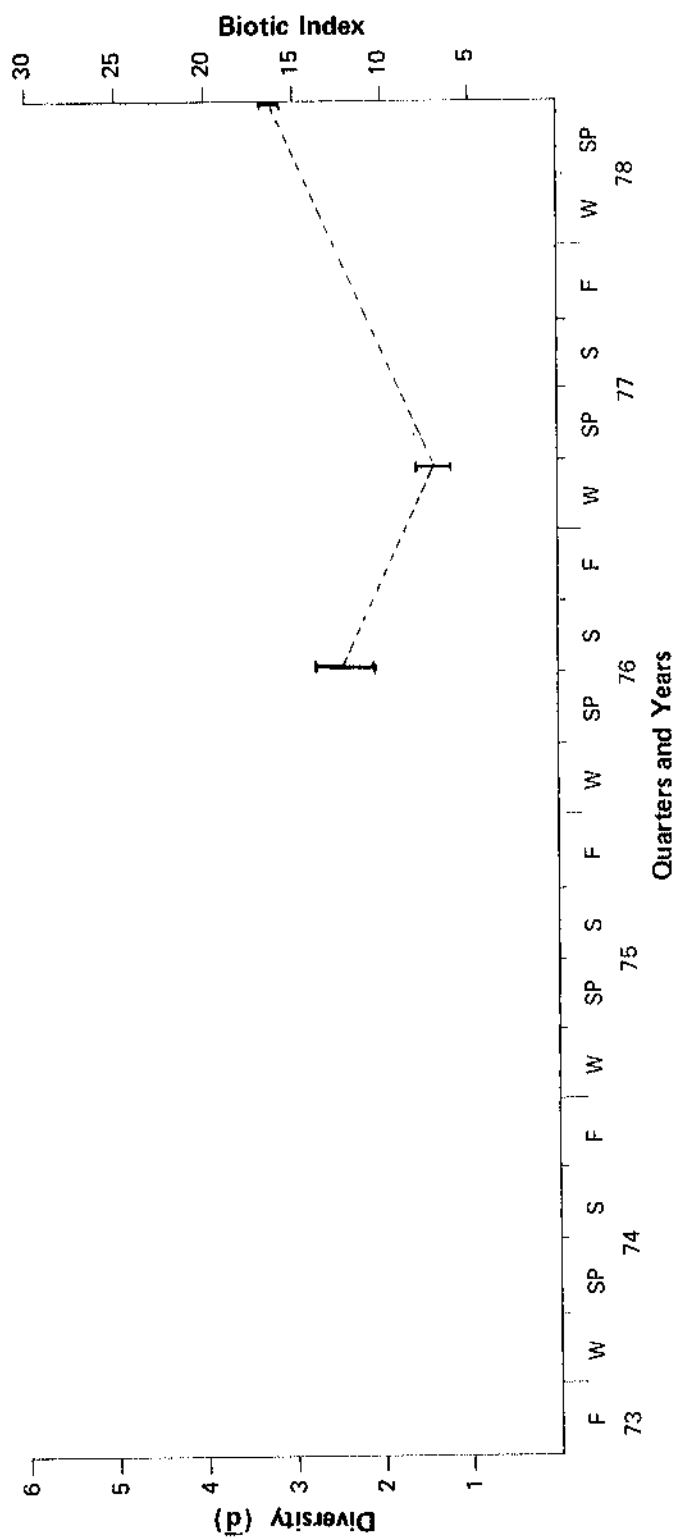
| Station Number | Date      | Macroinvertebrates |             |       |           |            |                      |    |    |  |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/Ingral |       | Comments |
|----------------|-----------|--------------------|-------------|-------|-----------|------------|----------------------|----|----|--|--|-------------------------------------------------|----------------------------------------------|-----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       |           |            | Artificial Substrate |    |    |  |  |                                                 |                                              | Total                             | Pecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity | Redundancy | #Spp.                |    |    |  |  |                                                 |                                              |                                   |       |          |
|                |           |                    |             |       |           |            |                      |    |    |  |  |                                                 |                                              |                                   |       |          |
| 25.02.0012     | 1 Jun 76  | 2.523±0.300        | 0.320±0.060 | 19    |           |            |                      | 10 | 41 |  |  |                                                 |                                              |                                   |       |          |
|                | 15 Mar 77 | 1.542±0.231        | 0.547±0.080 | 12    |           |            |                      |    |    |  |  |                                                 |                                              |                                   |       |          |
|                | 13 Jun 78 | 3.281±0.148        | 0.211±0.027 | 41    |           |            |                      |    |    |  |  |                                                 |                                              |                                   |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0012  
 BODY OF WATER: PEACE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 - - - - - BIOTIC INDEX (= FLORIDA INDEX)





Station No. 25,02,0108 Body of Water Little Payne Creek

Location @ SR 664

County Hardee

Type Body of Water fresh Classification III

Sources of Pollution industrial

Nearby Land Use agricultural

Sampling Frequency annually Depth 0.5 - 1.5 m

Bottom Type sand % Volatile Solids

Aquatic Plants: Submerged Hydrilla sp.

Emergent Salix sp.

#### Macroinvertebrates:

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri

##### Arthropoda

###### Crustacea

###### Isopoda

Asellus sp. 1 - Pearce

###### Amphipoda

Hyalella azteca

###### Decapoda

Palaemonetes paludosus

##### Insecta

###### Odonata

Argia sedula

Hetaerina titia

Gomphus plagiatus

G. (Gomphus) minutus

Macromia illinoensis

M. taeniolata

cf. Nehalennia sp. 1 - Pearce

Tetragoneuria sp.

Boyeria vinosa

Ephemeroptera

Baetis spinosus  
B. spiethi  
Caenis diminuta  
Callibaetis floridanus  
Centroptilium viridocularis  
Stenonema exiguum  
Stenacron interpunctatum  
Tricorythodes albilineatus

Hemiptera

Dubiraphia quadrinotata  
Mesovelgia mulsanti  
Ranatra sp. 1 - Howton  
Rhagovelia sp.

Trichoptera

Hydropsyche sp. 1 - Cantrell  
Oecetis spp.  
Triaenodes sp. 1 - Pearce

Megaloptera

Corydalus cornutus

Diptera

Clinotanytus sp. 1 - Pearce  
Cryptochironomus fulvus  
Palpomyia tibialis  
Polypedilum convictum  
P. fallax  
P. halterale  
P. illinoense  
Tanytarsus sp. 1 - Cantrell  
unident. simuliid sp. 1 - Dalton

Coleoptera

Stenelmis fuscata

Mollusca

Pelecypoda

Corbicula manilensis

DATA SUMMARY: Little Payne Creek

| Station Number         | Date      | Macroinvertebrates |             |                      |           |       |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |               | Comments |
|------------------------|-----------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|---------------|----------|
|                        |           | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |       |                                                 |                                              |                                  |               |          |
|                        |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |       | Redundancy   | #Spp. |                                                 |                                              | BI                               | #Spp.         |          |
| 25.02.0108<br>53<br>52 | 21 Oct 76 | 0.764±0.305        | 0.772±0.145 | 5                    |           |       |       | 27           | 36    |                                                 |                                              |                                  | Florida Index |          |
|                        | 13 Dec 77 |                    |             |                      |           |       |       | 29           | 42    |                                                 |                                              |                                  |               |          |

See Methods for explanation of table.

Station No. 25.02.0111 Body of Water Horse Creek

Location at SR 72, west of Arcadia

County DeSoto

Type Body of Water stream Classification III

Sources of Pollution agricultural runoff

Nearby Land Use agricultural

Sampling Frequency quarterly Depth 0.8 - 3.0 meters

Bottom Type sand, silt, gravel % Volatile Solids

Aquatic Plants: Submerged none

Emergent Salix sp.

#### Macroinvertebrates:

##### Cnidaria

Hydra sp.

##### Platyhelminthes

###### Turbellaria

unident. planariid

##### Rhynchocoela

Prostoma rubrum

##### Nematophora

unident. sp.

##### Annelida

###### Oligochaeta

Aulodrilus piqueti

A. pluriseta

Dero digitata

Limnodrilus sp.

Nais sp.

N. variabilis

Pelosclex sp.

Pristina sp.

P. bilongata

P. longiseta leidyi

P. osborni

Slavina appendiculata

Stylaria fossularis

Tubifex sp.

unident. lumbriculid

unident. naidid

Hirudinea

Melobdella triserialis  
Mooreobdella microstoma  
Placobdella papillifera  
P. multiliineata

Arthropoda

Crustacea

Decapoda

Palaemonetes paludosus  
Procambarus sp.

Insecta

Odonata

Argia fumipennis  
A. moesta  
A. sedula  
Dromogomphus spinosus  
Enallagma cardenium  
E. pollutum  
Epicordulia regina  
Gomphus (Gomphurus) dilatatus  
G. (Gomphus) minutus  
G. (Stylurus) plagiatus  
G. sp.  
Hagenius brevistylus  
Hetaerina titia  
Ischnura sp.  
Macromia taeniolata  
Nasiaeschna pentacantha  
Neurocordulia alabamensis  
Orthemis ferruginea  
Pachydiplax longipennis  
Perithemis tenera seminole  
Progomphus alachuensis  
Tetragoneuria sp.  
 unident. coenagrionid

Ephemeroptera

Baetis intercalaris  
B. spiothi  
B. cf. spinosus  
Brachycercus maculatus  
Caenis diminuta  
Callibaetis floridanus  
Centroptilum viridocularis  
Choroerpes hubbelli  
Hexagenia munda elegans  
Pseudocloeon alachua  
Stenonema exiguum  
Stenacron interpunctatum

Hemiptera

Ranatra sp.

## Trichoptera

Cheumatopsyche sp.  
Chimarra sp.  
Cyrnellus fraternus  
Hydropsyche sp. 1 - Cantrell  
Hydroptila sp.  
Nectopsyche cf. exquisita  
N. pavida  
Neotrichia sp.  
Neureclipsis sp.  
Oecetis sp. 1 - Cantrell  
O. sp. 3 - Cantrell  
O. inconspicua  
Oxyethira sp.  
Orthotrichia sp.  
Polycentropus cinereus  
Triaenodes sp.

## Megaloptera

Corydalus cornutus

## Lepidoptera

unident. pyraulid

## Diptera

Ablabesmyia mallochi  
A. parajanta  
A. tarella  
A. sp.  
Anopheles sp.  
Chironomus sp.  
Chironomini sp. A (Beck)  
Cladotanytarsus sp. 2 - Cantrell  
Clinotanypus sp.  
Coelotanypus scapularis  
"Cordites" sp. (Beck)  
Cryptochironomus blarina  
C. fulvus  
Cryptotendipes sp.  
Culex sp.  
Dicrotendipes modestus  
D. neomodestus  
Einfeldia natchitochea  
Eukiefferiella sp.  
Goeldichironomus holoprasinus  
Kiefferulus dux  
Labrundinia floridana  
L. johannseni  
L. pilosella  
L. virescens  
Larsia lurida  
Micropsectra sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Monopelopia boliekae  
Nilothauma bicornis  
Pagastiella sp.  
Parachironomus sp.

Diptera (cont.)

Paralauterborniella nigrohalteralis  
Pentaneura inculta  
Polypedilum convictum  
P. fallax  
P. halterale  
P. illinoense  
Pseudochironomus richardsoni  
P. cf. fulviventris  
Psectrocladius sp.  
Rheotanytarsus exiguus  
Simulium sp.  
Smittia sp.  
Stenochironomus hiliaris  
Tanytarsus sp. 1 - Cantrell  
T. sp. 3 - Cantrell  
Thienemanniella sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
Tipula sp.  
Tribelos cf. fuscicornis  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
 unident. ceratopogonid sp. 3 - Cantrell  
 unident. culicid  
 unident. dolichopodin  
 unident. ephydrid  
 unident. forcipomyiin

Coleoptera

Berosus sp.  
Dineutus sp.

Acarina

unident. sp.

Mollusca

Gastropoda

Amnicola dalli johnsoni  
Gyraulus sp.  
Helisoma sp. 1 - Cantrell  
H. sp. 2 - Cantrell  
Physa sp.  
Pomacea sp.  
Pseudosuccinea sp.  
 unident. ancyliid

Pelecypoda

Byssanodonta cubensis  
Corbicula manilensis  
 unident. sphaeriid  
 unident. unionid

DATA SUMMARY: Horse Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                            | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments                             |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|--------------------------------------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                                                            |                                              | Total                            | Fecal |                                      |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                                                            |                                              |                                  |       |                                      |
|                |           |                    |             |       |                      |             |       |              |       |                                                                                                                            |                                              |                                  |       |                                      |
| 337            | 6 Sep 73  |                    |             |       |                      |             |       |              |       |                                                                                                                            |                                              | 195                              | 24    |                                      |
|                | 18 Oct 73 |                    |             |       |                      |             |       |              |       |                                                                                                                            |                                              |                                  |       |                                      |
|                | 19 Aug 74 | 0.087±0.101        | 1.000±0.039 | 3     |                      |             |       | 13           | 18    | Coc BG 0<br>Fil BG 151<br>Coc Gr 714<br>Fil Gr 38<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 113<br>Pen Dia 188<br>Total 1204 |                                              |                                  |       |                                      |
|                | 16 Sep 74 |                    |             |       |                      |             |       |              |       |                                                                                                                            |                                              |                                  | 42    |                                      |
|                | 14 Oct 74 |                    |             |       |                      |             |       |              |       |                                                                                                                            |                                              |                                  | 10    |                                      |
|                | 4 Nov 74  |                    |             |       |                      |             |       |              |       |                                                                                                                            |                                              | 160                              | 40    |                                      |
|                | 12 Nov 74 | 3.332±0.184        | 0.211±0.023 | 44    | 4.025±0.141          | 0.093±0.014 | 41    |              |       |                                                                                                                            |                                              |                                  |       | Coc BG 48<br>Fil BG 160<br>Coc Gr 64 |

See Methods for explanation of table.



DATA SUMMARY: Horse Creek

| Station Number    | Date                 | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |    | Comments |
|-------------------|----------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----|----------|
|                   |                      | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                              |                                  |    |          |
|                   |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |    |          |
| 25.02.0111<br>338 | 12 Nov 74<br>(cont.) |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |    |          |
|                   | 9 Dec 74             |                    |             |       |                      |             |       |              |       |                                                 |                                              | 120                              | 10 |          |
|                   | 22 Jan 75            | 3.040±0.199        | 0.292±0.040 | 39    |                      |             |       | 4            | 31    |                                                 |                                              | 100                              | 20 |          |
|                   | 10 Feb 75            |                    |             |       |                      |             |       |              |       |                                                 | 70                                           | 20                               |    |          |
|                   | 3 Mar 75             |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |    |          |
|                   | 27 May 75            | 2.633±0.158        | 0.325±0.032 | 33    | 4.404±0.150          | 0.070±0.010 | 50    |              |       |                                                 |                                              | 200                              |    |          |
|                   | 23 Jun 75            |                    |             |       |                      |             |       |              |       |                                                 |                                              | 520                              |    |          |
|                   | 15 Jul 75            |                    |             |       |                      |             |       |              |       |                                                 |                                              | 300                              | 20 |          |
|                   | 11 Aug 75            |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |    |          |

See Methods for explanation of Table.

DATA SUMMARY: Horse Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |    |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|----|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |                                                 |                                              |                                  |     |          |    |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |                                                 |                                              |                                  |     |          |    |
|                |           |                    |             |       |                      |             |       |                                                 |                                              |                                  |     |          | BI |
| 25.02.0113     | 8 Sep 75  | 0.290+0.132        | 0.978+0.036 | 10    | 2.933+0.120          | 0.163+0.022 | 19    | 22                                              | 29                                           |                                  | 680 | 112      |    |
|                | 15 Sep 75 |                    |             |       |                      |             |       |                                                 |                                              |                                  |     |          |    |
|                | 20 Oct 75 | 0.874+0.130        | 0.838+0.034 | 25    |                      |             |       |                                                 |                                              |                                  | 150 | 45       |    |
|                | 17 Nov 75 |                    |             |       |                      |             |       |                                                 |                                              |                                  | 60  | 11       |    |
|                | 15 Dec 75 |                    |             |       |                      |             |       |                                                 |                                              |                                  |     |          |    |
|                | 17 Dec 75 |                    |             |       | 3.022+0.110          | 0.180+0.020 | 32    |                                                 |                                              |                                  |     |          | 14 |
|                | 12 Jan 76 |                    |             |       |                      |             |       |                                                 |                                              |                                  |     |          |    |
|                | 13 Jan 76 |                    |             |       | 2.985+0.097          | 0.183+0.014 | 36    |                                                 |                                              |                                  |     |          |    |
|                | 9 Feb 76  |                    |             |       | 3.272+0.117          | 0.143+0.012 | 34    |                                                 |                                              |                                  |     |          |    |
|                | 16 Feb 76 |                    |             |       |                      |             |       |                                                 |                                              |                                  | 100 | 51       |    |
|                | 8 Mar 76  | 3.239+0.121        | 0.224+0.017 | 55    | 3.330+0.150          | 0.143+0.016 | 33    | 40                                              | 72                                           |                                  |     |          | 4  |
|                | 15 Mar 76 |                    |             |       |                      |             |       |                                                 |                                              |                                  |     |          |    |

See Methods for explanation of table.

DATA SUMMARY: Horse Creek

| Station Number        | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-----------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                       |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |
|                       |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |
|                       |           |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
| 25.02.0111<br><br>340 | 7 Apr 76  |                    |             |       | 4.140±0.186          | 0.068±0.019 | 29    |              |                                                 |                                              |                                  | 6     |          |
|                       | 12 Apr 76 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 2     |          |
|                       | 5 May 76  | 1.970±0.183        | 0.452±0.050 | 25    | 3.975±0.153          | 0.136±0.020 | 50    |              |                                                 |                                              |                                  |       |          |
|                       | 10 May 76 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
|                       | 2 Jun 76  |                    |             |       | 4.139±0.132          | 0.077±0.011 | 41    |              |                                                 |                                              |                                  |       |          |
|                       | 14 Jun 76 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 8     |          |
|                       | 30 Jun 76 | 0.701±0.161        | 0.856±0.049 | 13    | 2.711±0.178          | 0.342±0.041 | 31    | 31           | 45                                              |                                              |                                  | 410   |          |
|                       | 19 Jul 76 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
|                       | 29 Jul 76 |                    |             |       | 2.510±0.159          | 0.406±0.151 | 18    |              |                                                 |                                              |                                  | 360   | 17       |
|                       | 16 Aug 76 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
|                       | 26 Aug 76 |                    |             |       | 2.334±0.476          | 0.406±0.151 | 10    |              |                                                 |                                              |                                  | 330   | 10       |
|                       | 20 Sep 76 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 410   | 20       |

See Methods for explanation of table.

DATA SUMMARY: Horse Creek

| Station Number | Date      | Macroinvertebrates |             |       |             |             |                      |    |       |  |  | Biotic Index |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|-------------|-------------|----------------------|----|-------|--|--|--------------|--|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       |             |             | Artificial Substrate |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity   | Redundancy  | #Spp.                | BI | #Spp. |  |  |              |  |                                                 |                                              |                                  |  |          |
|                |           |                    |             |       |             |             |                      |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |
| 341            | 24 Sep 76 |                    |             |       | 3.034±0.171 | 0.137±0.022 | 19                   |    |       |  |  |              |  | 176                                             | 36                                           |                                  |  |          |
|                | 18 Oct 76 |                    |             |       |             |             |                      |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |
|                | 25 Oct 76 | 1.376±0.155        | 0.718±0.040 | 35    | 3.296±0.239 | 0.216±0.044 | 28                   |    |       |  |  |              |  | 308                                             | 16                                           |                                  |  |          |
|                | 8 Nov 76  |                    |             |       |             |             |                      |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |
|                | 22 Nov 76 |                    |             |       | 3.729±0.205 | 0.137±0.023 | 36                   |    |       |  |  |              |  | 136                                             | 4                                            |                                  |  |          |
|                | 13 Dec 76 |                    |             |       |             |             |                      |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |
|                | 20 Dec 76 |                    |             |       | 3.452±0.153 | 0.135±0.019 | 34                   |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |
|                | 17 Jan 77 | 1.596±0.186        | 0.686±0.046 | 36    | 2.907±0.192 | 0.271±0.041 | 27                   | 35 | 54    |  |  |              |  | 144                                             | 24                                           |                                  |  |          |
|                | 14 Feb 77 |                    |             |       | 3.421±0.156 | 0.271±0.041 | 27                   |    |       |  |  |              |  | 112                                             | 18                                           |                                  |  |          |
|                | 14 Mar 77 |                    |             |       | 3.016±0.257 | 0.276±0.037 | 33                   |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |
|                | 11 Apr 77 |                    |             |       | 3.866±0.335 | 0.173±0.050 | 27                   |    |       |  |  |              |  | 42                                              | 10                                           |                                  |  |          |
|                | 18 Apr 77 |                    |             |       |             |             |                      |    |       |  |  |              |  |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

DATA SUMMARY: Horse Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                                     | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |    | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|----|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                                                                     |                                              |                                  |    |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                                                                     |                                              |                                  |    |          |
|                |           |                    |             |       |                      |             |       |              |       |                                                                                                                                     |                                              |                                  |    |          |
| 342            | 9 May 77  | 3.222±0.231        | 0.322±0.044 | 47    | 4.512±0.200          | 0.060±0.014 | 38    |              |       | Coc BG 200<br>Fil BG 2600<br>Coc Gr 1500<br>Fil Gr 3700<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 900<br>Pen Dia 78700<br>Total 87600 | 176                                          | 66                               |    |          |
| 25.02.0111     | 24 May 77 |                    |             |       | 4.334±0.217          | 0.081±0.022 | 35    |              |       |                                                                                                                                     |                                              |                                  |    |          |
|                | 6 Jun 77  |                    |             |       |                      |             |       |              |       |                                                                                                                                     |                                              |                                  |    |          |
|                | 13 Jun 77 |                    |             |       |                      |             |       |              |       |                                                                                                                                     |                                              |                                  |    |          |
|                | 5 Jul 77  |                    |             |       | 3.657±0.241          | 0.145±0.027 | 32    |              |       |                                                                                                                                     |                                              | 490                              | 58 |          |
|                | 11 Jul 77 |                    |             |       |                      |             |       |              |       |                                                                                                                                     |                                              | 300                              |    |          |
|                | 2 Aug 77  | 3.601±0.181        | 0.147±0.017 | 43    | 4.251±0.210          | 0.088±0.018 | 39    |              |       |                                                                                                                                     |                                              |                                  |    |          |

See Methods for explanation of table.

DATA SUMMARY: Horse Creek

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
| 343<br>25-02-0111 | 30 Aug 77 |                    |             |       | 3.211±0.296          | 0.204±0.062 | 19    |              |                                                 |                                              |                                  |       |          |
|                   | 27 Sep 77 |                    |             |       | 3.660±0.296          | 0.132±0.023 | 32    |              |                                                 |                                              |                                  |       |          |
|                   | 27 Oct 77 | 3.171±0.276        | 0.184±0.038 | 22    | 3.138±0.257          | 0.251±0.049 | 28    | 53           |                                                 |                                              |                                  |       |          |
|                   | 23 Nov 77 |                    |             |       | 3.718±0.212          | 0.126±0.022 | 33    |              |                                                 |                                              |                                  |       |          |
|                   | 12 Dec 77 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 272   |          |
|                   | 22 Dec 77 |                    |             |       | 2.733±0.137          | 0.138±0.016 | 15    | 53           |                                                 |                                              |                                  |       |          |
|                   | 5 Jan 78  |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 135   | 40       |
|                   | 19 Jan 78 |                    |             |       | 2.282±0.298          | 0.129±0.011 | 11    |              |                                                 |                                              |                                  |       |          |
|                   | 6 Feb 78  |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       | 54       |
|                   | 16 Feb 78 | 1.131±0.439        | 0.729±0.189 | 6     | 2.833±0.087          | 0.129±0.011 | 17    | 23           |                                                 |                                              |                                  | 210   |          |
|                   | 6 Mar 78  |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       | 144      |
|                   | 10 Mar 78 |                    |             |       | 2.364±0.071          | 0.235±0.021 | 13    |              |                                                 |                                              |                                  | 304   |          |

See Methods for explanation of table.

DATA SUMMARY: Horse Creek

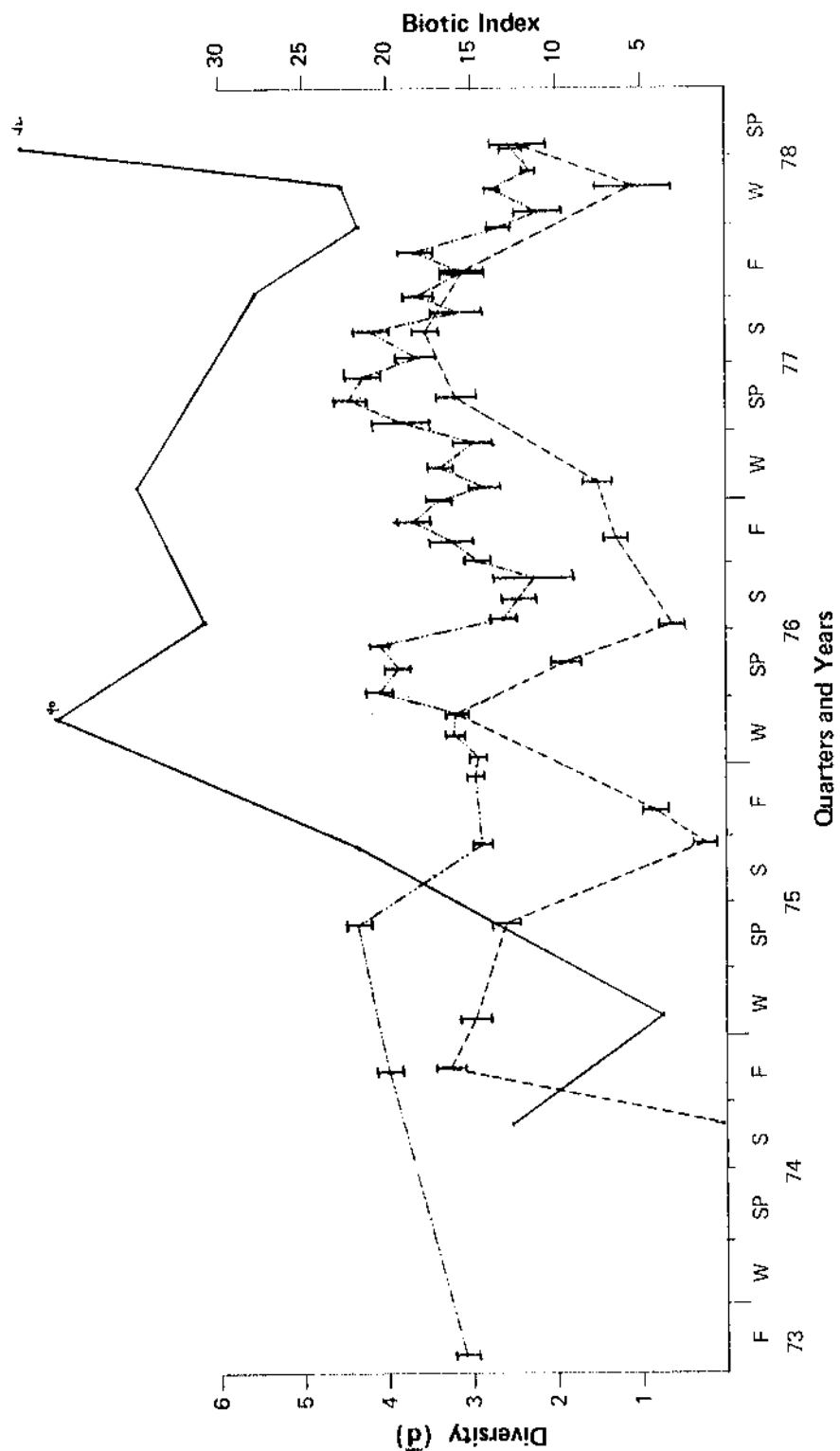
| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       |       | Biotic Index |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|-------|--------------|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |       |              |  |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | #Spp. |              |  |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |             |       |       |              |  |                                                 |                                              |                                  |       |          |
| 25.02.0111<br>344 | 12 Apr 78 |                    |             |       |                      |             |       |       |              |  |                                                 |                                              | 170                              | 12    |          |
|                   | 13 Apr 78 | 2.485±0.341        | 0.372±0.078 | 18    | 2.596±0.146          | 0.242±0.029 | 21    | 42    | 59           |  |                                                 |                                              | 44                               | 22    |          |
|                   | 15 May 78 |                    |             |       |                      |             |       |       |              |  |                                                 |                                              |                                  |       | 1088     |
|                   | 6 Jun 78  |                    |             |       |                      |             |       |       |              |  |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0111  
 BODY OF WATER: HORSE CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)





Station No. 25.02.0124 Body of Water Shell Creek

Location 6 miles upstream from SR 764

County Charlotte

Type Body of Water stream Classification I

Sources of Pollution agricultural runoff

Nearby Land Use agriculture

Sampling Frequency quarterly Depth 1.5 - 2.7 meters

Bottom Type \_\_\_\_\_ % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged Vallisneria americana

Emergent Taxodium sp., Typha sp., Nuphar sp.,

Eleocharis sp.

#### Macroinvertebrates:

Platyhelminthes  
Turbellaria

unident. planariid

Rhyncocoela

Prostoma rubrum

Annelida

Oligochaeta

Allonais sp.

Aulodrilus piqueti

Dero sp.

Limnodrilus sp.

Nais variabilis

N. sp.

Pristina longiseta leidyi

P. osborni

P. sp.

unident. sp.

Hirudinea

Helobdella sp.

Placobdella multilineata

Arthropoda

Crustacea

Isopoda

Asellus sp.

Sphaeroma terebrans

Amphipoda

Hyalella azteca

## Crustacea cont.

## Decapoda

Palaemonetes paludosus  
Procambarus sp.

## Insecta

## Odonata

## Anisoptera

Dromogomphus spinosus  
Epicordulia regina  
Erythemis simplicicollis  
Gomphus minutus  
G. plagiatus  
Macromia taeniolata  
Neurocordulia alabamensis  
Tetragoneuria sepia  
T. sp.

## Zygoptera

Argia fumipennis  
A. moesta  
A. sedula  
Enallagma cardenium  
E. pollutum  
E. sp.  
Hetaerina titia  
Ischnura cf. posita  
I. ramburii

## Ephemeroptera

Baetis intercalaris  
B. spiethi  
B. cf. spinosus  
Brachycercus maculatus  
Caenis diminuta  
Callibaetis floridanus  
Centroptilum hobbsi  
C. viridocularis  
Choroterpes hubbelli  
Hexagenia munda elegans  
Pseudocloeon alachua  
Stenacron interpunctatum  
Stenonema exiguum  
Tricorythodes albilineatus

## Hemiptera

Lethocerus americanus  
Ranatra sp.

## Trichoptera

Cheumatopsyche sp.  
Cynellus fraternus  
Hydropsyche sp. 1 - Cantrell  
Hydroptila sp.  
Nectopsyche cf. exquisita  
N. pavidula  
Oecetis inconspicua  
O. sp. 1 - Cantrell  
Orthotrichia sp.  
Oxyethira sp.  
Polycentropus cinereus

## Insecta cont.

## Megaloptera

Corydalis cornutus

## Diptera

Ablabesmyia mallochiiA. ornataA. parajantaA. cf. rampheA. tarellaChironomus sp.Cladotanytarsus sp. 1 - CantrellC. sp. 2 - CantrellClinotanypus sp.Coelotanypus scapularisCorynoneura sp.Cricotopus bicinctusC. sp. 1 (Beck)Cryptochironomus blarinaCryptotendipes sp.Dicrotendipes modestusD. neomodestusD. cf. nervosusEinfeldia sp.Glyptotendipes sp.Harnischia (Beck) - Cladopelma (Saether) sp.Labrundinia floridanaL. johannseniMicropsectra sp. 1 - CantrellM. sp. 2 - CantrellMicrotendipes sp. 1 - CantrellM. sp. 2 - CantrellNilothauma bicornisParachironomus sp.Paralauterborniella nigrohalteralisParatanytarsus sp.Pedionomus beckaePentaneura incultaPolypedilum convictumP. halteraleP. illinoenseProcladius sp.Psectrocladius sp. (Beck)Pseudochironomus sp.Rheotanytarsus exiguusSimulium sp.Stenochironomus hilarisTanypus stellatusTanytarsus sp. 1 - CantrellT. sp. 2 - CantrellTribelos cf. fuscicornis

unident. ceratopogonid sp. 1 - Cantrell

unident. ceratopogonid sp. 2 - Cantrell

unident. forcipomyiin

unident. sp.

## Insecta cont.

## Coleoptera

Celina sp.  
Dineutus sp.  
Dubiraphia sp.  
Gyrinus sp.  
Haliphus sp.  
Microcylloepus pusillus  
Peltodytes sp.  
Stenelmis sp.

## Mollusca

## Gastropoda

Amnicola dalli johnsoni  
Gyraulus sp.  
Helisoma sp. 1 - Cantrell  
H. sp. 2 - Cantrell  
cf. Hyalopyrgus aequicostatus  
Physa sp.  
unident. ancylid

## Pelecypoda

Byssanodonta cubensis  
Corbicula manilensis  
unident. sphaeriid  
unident. unionid

DATA SUMMARY: Shell Creek

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                           | Coliform Bacteria Colonies/100ml | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                                                                                                        |                                  |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                                                                                                        |                                  |          |
|                   |           |                    |             |       |                      |             |       |              |                                                 |                                                                                                                        |                                  |          |
| 25.02.0124<br>350 | 26 Jul 73 |                    |             |       | 3.270±0.153          | 0.161±0.025 | 25    |              |                                                 |                                                                                                                        |                                  |          |
|                   | 9 Sep 73  |                    |             |       | 3.745±0.142          | 0.108±0.013 | 39    |              |                                                 |                                                                                                                        |                                  |          |
|                   | 23 Oct 73 |                    |             |       | 3.232±0.190          | 0.198±0.033 | 31    |              |                                                 |                                                                                                                        |                                  |          |
|                   | 16 Jan 74 |                    |             |       | 3.720±0.186          | 0.151±0.022 | 43    |              |                                                 |                                                                                                                        |                                  |          |
|                   | 4 Mar 74  |                    |             |       | 3.684±0.272          | 0.210±0.047 | 34    |              |                                                 |                                                                                                                        |                                  |          |
|                   | 5 Jun 74  |                    |             |       | 3.097±0.159          | 0.270±0.026 | 55    |              |                                                 |                                                                                                                        |                                  |          |
|                   | 24 Jul 74 | 3.638±0.234        | 0.144±0.030 | 30    |                      |             |       | 14           | 37                                              | Coc BG 9<br>Fil BG 0<br>Coc Gr 16<br>Fil Gr 17<1<br>Gr Flag 17<1<br>Other Flag 0<br>Cen Dia 5<br>Pen Dia 2<br>Total 33 |                                  |          |
|                   |           |                    |             |       |                      |             |       |              |                                                 |                                                                                                                        |                                  |          |
|                   | 24 Oct 74 | 3.218±0.210        | 0.228±0.039 | 32    | 3.450±0.193          | 0.183±0.032 | 34    |              |                                                 |                                                                                                                        |                                  |          |

See Methods for explanation of table.

DATA SUMMARY: Shell Creek

| Station Number | Date       | Macroinvertebrates |             |             |             |             |                      |    |             |             |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|-------------|-------------|-------------|----------------------|----|-------------|-------------|----|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             |             |             |             | Artificial Substrate |    |             |             |    |                                                 |                                              | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy  | #Spp.       | Diversity   | Redundancy  | #Spp.                |    |             |             |    |                                                 |                                              |                                  |       |          |
|                |            |                    |             |             |             |             |                      |    |             |             |    |                                                 |                                              |                                  |       |          |
| 351            | 25.02.0124 | 21 Nov 74          |             |             |             |             |                      |    | 3.536±0.193 | 0.126±0.028 | 26 |                                                 |                                              |                                  |       |          |
|                |            | 19 Dec 74          |             |             |             |             |                      |    | 2.522±0.179 | 0.415±0.041 | 39 |                                                 |                                              |                                  |       |          |
|                |            | 4 Feb 75           | 4.216±0.208 | 0.089±0.020 | 37          | 3.353±0.220 | 0.200±0.040          | 29 | 27          | 54          |    |                                                 |                                              |                                  |       |          |
|                |            | 10 Mar 75          |             |             |             | 3.218±0.202 | 0.164±0.029          | 23 |             |             |    |                                                 |                                              |                                  |       |          |
|                |            | 8 Apr 75           |             |             |             | 4.093±0.200 | 0.086±0.018          | 35 |             |             |    |                                                 |                                              |                                  |       |          |
|                |            | 5 May 75           | 2.791±0.179 | 0.255±0.027 | 32          | 4.115±0.195 | 0.077±0.015          | 34 |             |             |    |                                                 |                                              |                                  |       |          |
|                |            | 3 Jun 75           |             |             |             | 2.295±0.124 | 0.418±0.029          | 35 |             |             |    |                                                 |                                              |                                  |       |          |
|                |            | 5 Aug 75           | 1.240±0.151 | 0.540±0.039 | 30          |             |                      |    |             |             |    | 15                                              | 44                                           |                                  |       |          |
|                |            | 2 Sep 75           |             |             |             | 3.429±0.153 | 0.076±0.017          | 18 |             |             |    |                                                 |                                              |                                  |       |          |
|                |            | 30 Sep 75          |             |             |             | 3.521±0.119 | 0.081±0.013          | 22 |             |             |    |                                                 |                                              |                                  |       |          |
|                | 27 Oct 75  | 1.613±0.213        | 0.624±0.060 | 20          | 3.177±0.158 | 0.179±0.023 | 31                   |    |             |             |    |                                                 |                                              |                                  |       |          |
|                |            | 25 Nov 75          |             |             |             | 2.573±0.192 | 0.285±0.045          | 21 |             |             |    |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

**DATA SUMMARY: Shell Creek**

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |             | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria colonies/100ml | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |             |              |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp.       |              |                                                 |                                              |                                  |          |
|                |           |                    |             |       |                      |             |             |              |                                                 |                                              |                                  |          |
| 352            | 23 Dec 75 |                    |             |       |                      |             | 3.360±0.192 | 0.131±0.030  | 23                                              |                                              |                                  |          |
|                | 19 Jan 76 |                    |             |       |                      |             | 3.250±0.154 | 0.173±0.030  | 29                                              |                                              |                                  |          |
|                | 16 Feb 76 |                    |             |       |                      |             | 3.804±0.246 | 0.101±0.022  | 26                                              |                                              |                                  |          |
|                | 17 Mar 76 | 3.423±0.271        | 0.224±0.050 | 30    | 3.682±0.150          | 0.124±0.020 | 36          | 25           | 50                                              |                                              |                                  |          |
|                | 14 Apr 76 |                    |             |       | 3.815±0.241          | 0.131±0.031 | 32          |              |                                                 |                                              |                                  |          |
|                | 12 May 76 | 2.944±0.163        | 0.213±0.020 | 39    | 2.831±0.123          | 0.272±0.026 | 36          |              |                                                 |                                              |                                  |          |
|                | 7 Jul 76  |                    |             |       | 2.965±0.205          | 0.256±0.043 | 26          |              |                                                 |                                              |                                  |          |
|                | 4 Aug 76  | 2.847±0.160        | 0.264±0.029 | 33    | 2.316±0.162          | 0.352±0.036 | 24          | 30           | 50                                              |                                              |                                  |          |
|                | 2 Sep 76  |                    |             |       | 2.623±0.194          | 0.247±0.036 | 20          |              |                                                 |                                              |                                  |          |
|                | 1 Oct 76  |                    |             |       | 3.464±0.197          | 0.135±0.029 | 26          |              |                                                 |                                              |                                  |          |
|                | 29 Oct 76 | 4.490±0.190        | 0.055±0.011 | 38    | 3.166±0.134          | 0.175±0.020 | 34          |              |                                                 |                                              |                                  |          |
|                | 1 Mar 77  | 4.073±0.163        | 0.086±0.017 | 36    |                      |             |             | 19           | 44                                              |                                              |                                  |          |

**See Methods for explanation of table.**

DATA SUMMARY: Shell Creek (Cont.)

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                           | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                                                                                                                        | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                                                                                                                        |                                  |       |          |
| 25-02-0124     | 31 May 77 | 3.67±0.186         | 0.098±0.17  | 28    | 3.674±0.193          | 0.155±0.023 | 41    |              |       |                                                 | Coc BG 1900<br>Fil BG 900<br>Coc Gr 2100<br>Fil Gr 3900<br>Gr Flag 0<br>Other Flag 400<br>Cen Dia 1100<br>Pen Dia 34500<br>Total 48800 |                                  |       |          |
| 553            | 17 Aug 77 | 4.43±0.248         | 0.078±0.022 | 33    | 2.185±0.144          | 0.453±0.038 | 28    |              |       |                                                 | Coc BG 42788<br>Fil BG 103592<br>Coc Gr 4504<br>Fil Gr 0<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 2252<br>Pen Dia 231956                |                                  |       |          |

See Methods for explanation of table.



DATA SUMMARY: Shell Creek (Cont.)

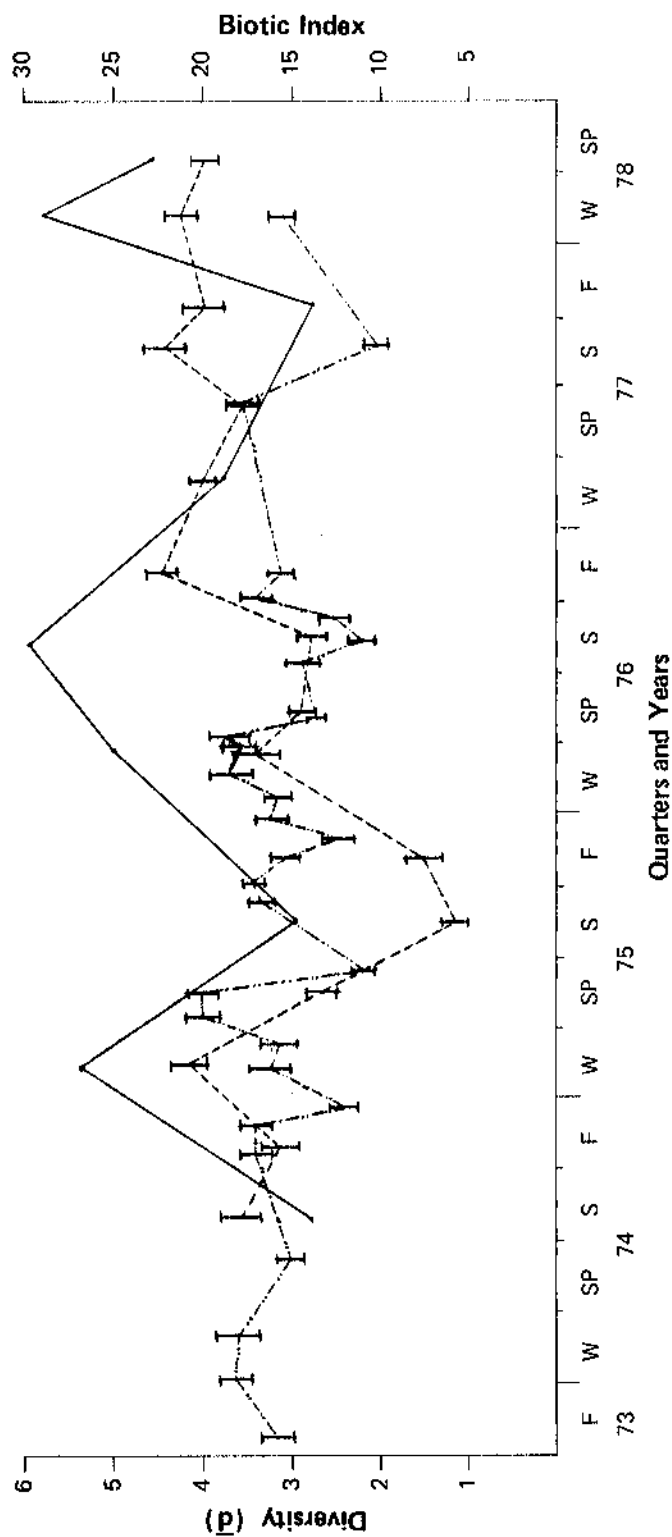
| Station Number    | Date                 | Macroinvertebrates |             |       |             |                      |       |    |    | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|-------------------|----------------------|--------------------|-------------|-------|-------------|----------------------|-------|----|----|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                   |                      | Natural Substrate  |             |       |             | Artificial Substrate |       |    |    |              |                                                 |                                              |                                  |          |
|                   |                      | Diversity          | Redundancy  | #Spp. | Diversity   | Redundancy           | #Spp. |    |    |              |                                                 |                                              |                                  |          |
|                   |                      |                    |             |       |             |                      |       |    |    |              |                                                 |                                              |                                  |          |
| 25.02.0124<br>354 | 17 Aug 77<br>(Cont.) |                    |             |       |             |                      |       |    |    |              | Total<br>3.85x10 <sup>5</sup>                   | Total Fecal                                  |                                  |          |
|                   | 14 Oct 77            | 4.007±0.237        | 0.089±0.021 | 28    |             |                      |       | 14 | 32 |              |                                                 |                                              |                                  |          |
|                   | 6 Feb 78             | 4.274±0.194        | 0.081±0.016 | 40    | 3.160±0.166 | 0.187±0.026          | 32    | 29 | 32 |              |                                                 |                                              |                                  |          |
|                   | 18 Apr 78            | 4.082±0.165        | 0.063±0.010 | 32    |             |                      |       | 23 | 51 |              |                                                 |                                              |                                  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0124  
 BODY OF WATER: SHELL CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0126 Body of Water Lake Swoope  
Location north shore  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution agricultural runoff, industrial waste  
Nearby Land Use residential, agricultural  
Sampling Frequency annually Depth 1.77 - 3 m  
Bottom Type sand, peat, silt % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Salix sp., Panicum hemitomon,  
Pontederia sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Ephemeroptera

Caenis diminuta

Diptera

Chironomus crassicaudatus

Cladotanytarsus sp. 1 - Cantrell

C. sp. 2 - Cantrell

Coelotanypus concinnus

Cryptochironomus fulvus

Einfeldia sp. 1 - Cantrell

Glyptotendipes paripes

Nimbocera sp. 1 - Pearce

Polypedilum halterale

Procladius sp. 1 - Cantrell

Tanypus neopunctipennis

Tanytarsus sp. 1 - Cantrell

T. sp. 3 - Cantrell

unident. ceratopogonid sp. 1 - Cantrell

DATA SUMMARY: Lake Supe

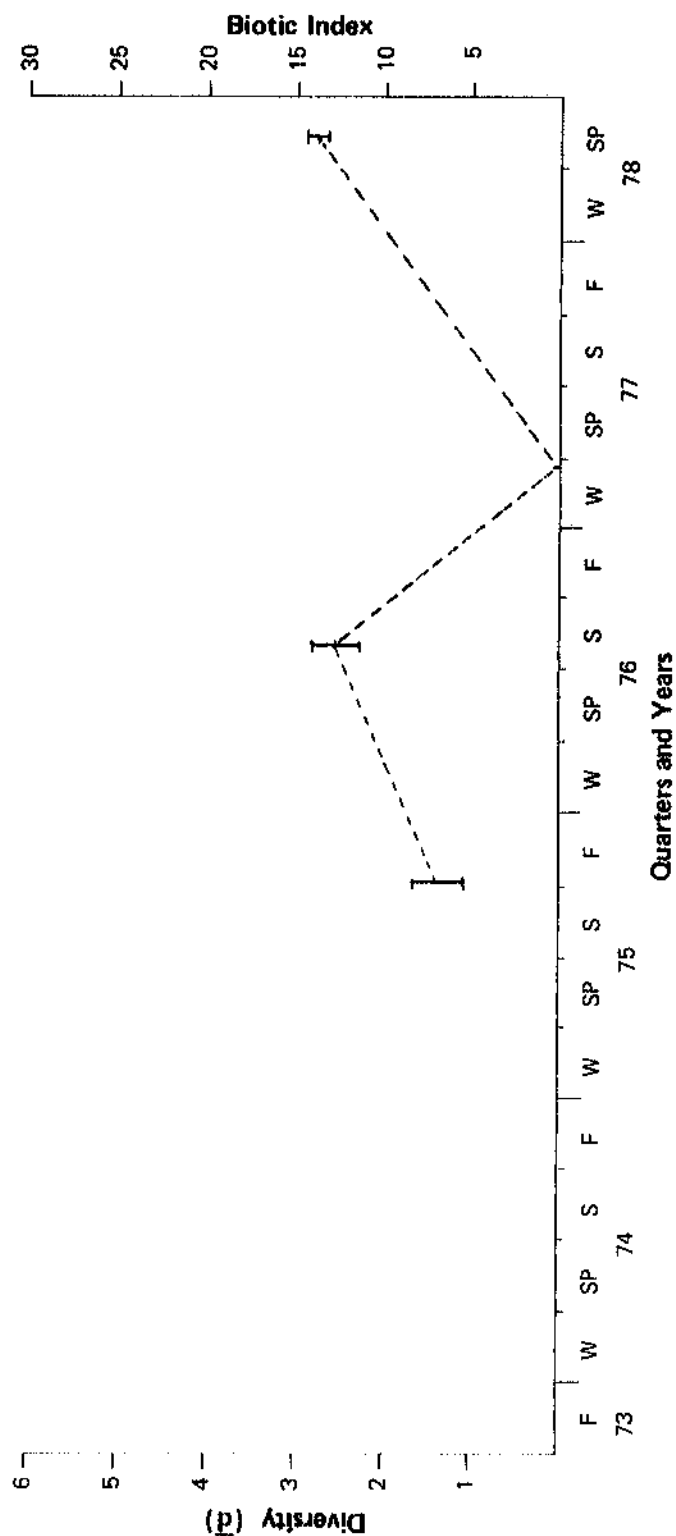
| Station Number    | Date      | Macroinvertebrates |             |            |       |           |                      |       |    |       |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |                       | Comments |
|-------------------|-----------|--------------------|-------------|------------|-------|-----------|----------------------|-------|----|-------|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-----------------------|----------|
|                   |           | Natural Substrate  |             |            |       |           | Artificial Substrate |       |    |       |  |                                                 |                                              | Total                            | Fecal                 |          |
|                   |           | Diversity          |             | Redundancy | #Spp. | Diversity | Redundancy           | #Spp. | BI | #Spp. |  |                                                 |                                              |                                  |                       |          |
|                   |           | Diversity          | Redundancy  |            |       |           |                      |       |    |       |  |                                                 |                                              |                                  |                       |          |
| 25.02.0126<br>357 | 29 Sep 75 | 1.422±0.280        | 0.518±0.118 |            | 7     |           |                      |       |    |       |  |                                                 | 200                                          | LT100                            | Citrus molasses spill |          |
|                   | 28 Jul 76 | 2.611±0.260        | 0.147±0.069 |            | 9     |           |                      |       |    |       |  |                                                 |                                              |                                  |                       |          |
|                   | 17 Mar 77 | 0.000              |             |            | 0     |           |                      |       |    |       |  |                                                 |                                              |                                  |                       |          |
|                   | 25 May 78 | 2.811±0.150        | 0.133±0.026 |            | 13    |           |                      |       |    |       |  |                                                 |                                              |                                  |                       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0126  
 BODY OF WATER: LAKE SWOOPE

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0157 Body of Water Lake Conine

Location \_\_\_\_\_

County Polk

Type Body of Water lake Classification III

Sources of Pollution municipal STP effluent, residential runoff,  
industrial effluent

Nearby Land Use residential, industrial

Sampling Frequency annually Depth 2 - 2.2 m

Bottom Type sand % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged

Emergent Panicum hemitomom, Typha sp.

#### Macroinvertebrates:

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri

##### Arthropoda

###### Crustacea

###### Amphipoda

Hyalella azteca

##### Insecta

###### Diptera

Chaoborus punctipennis

Cladotanytarsus sp. 1 - Cantrell

Coelotanypus concinnus

Conchapelopia sp. 1 - Dalton

Cryptochironomus fulvus

Dicrotendipes leucoscelis

Glyptotendipes paripes

Procladius sp. 1 - Pearce

Polypedilum halterale

Tanytarsus sp. 1 - Cantrell

unident. ceratopogonid sp. 2 - Cantrell

##### Mollusca

###### Gastropoda

Viviparus cf. georgianus

###### Pelecypoda

Corbicula manilensis

DATA SUMMARY: Lake Conine

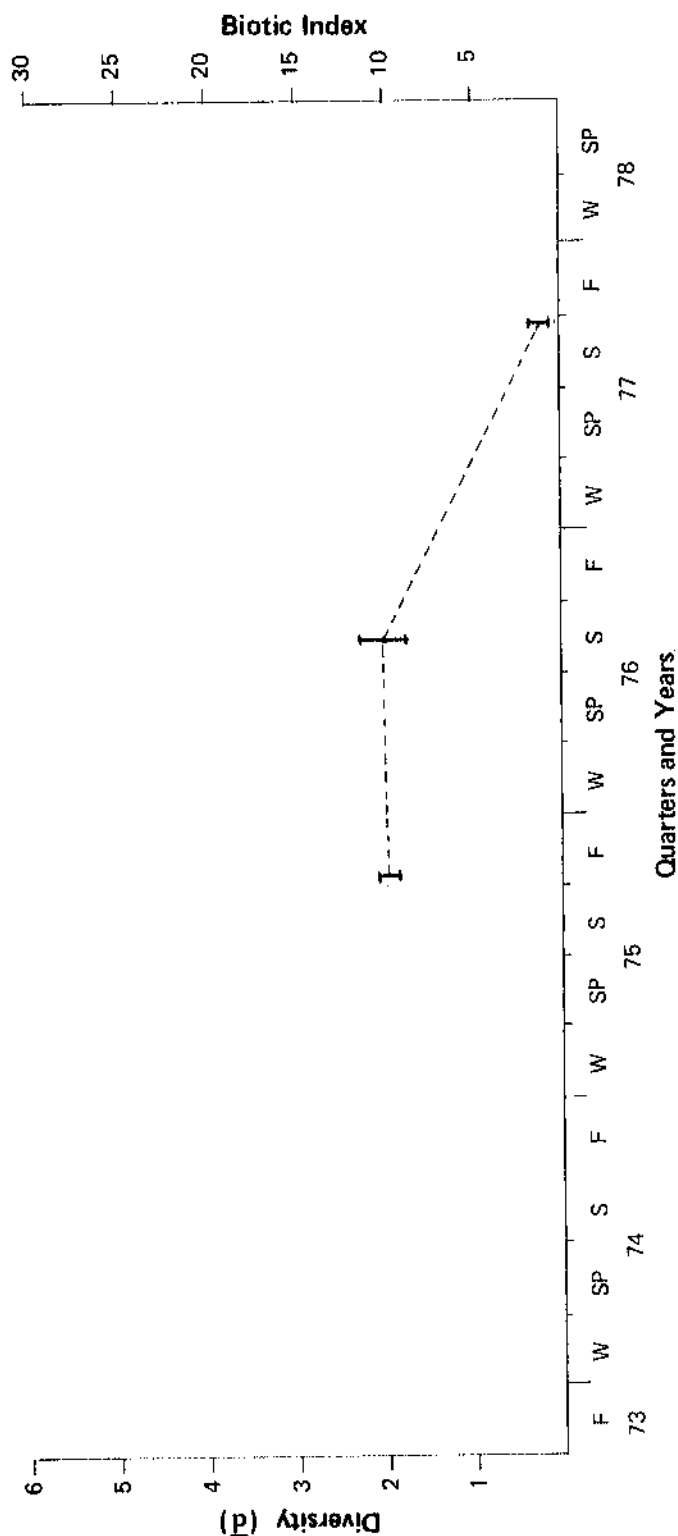
| Station Number        | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-----------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                       |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |  |                                                 |                                              | Total                            | Fecal |          |
|                       |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |  |                                                 |                                              |                                  |       |          |
|                       |           | BI                 | #Spp.       |       |                      |            |       |              |  |                                                 |                                              |                                  |       |          |
| 25.02.0157<br><br>360 | 29 Sep 75 | 2.000±0.143        | 0.227±0.025 | 11    |                      |            |       |              |  |                                                 |                                              | LT100                            | LT100 |          |
|                       | 28 Jul 76 | 2.084±0.209        | 0.336±0.059 | 13    |                      |            |       |              |  |                                                 |                                              |                                  |       |          |
|                       | 13 Sep 77 | 0.333±0.106        | 0.880±0.053 | 4     |                      |            |       |              |  |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0157  
 BODY OF WATER: LAKE CONINE

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)





Station No. 25.02.0159 Body of Water Lake Haines  
Location 75 yards north of shore  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution STP, storm runoff (residential, agricultural)  
Nearby Land Use residential, agricultural  
Sampling Frequency annual Depth 1.0 - 1.8 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Typha sp., Nuphar sp., Alternanthera sp.,  
Panicum sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
unident. tubificid

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Ephemeroptera

Hexagenia munda orlando

Trichoptera

Oecetis sp.

Diptera

Chaoborus punctipennis  
Chironomus stigmaterus  
Cryptochironomus fulvus  
Glyptotendipes paripes  
Pseudochironomus sp. 1 - Pearce  
Rheotanytarsus exiguus  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell

25.02.0159

Mollusca

Gastropoda

Physa 'sp. 1 - Pearce

Pelecypoda

Corbicula manilensis

DATA SUMMARY: Lake Haines

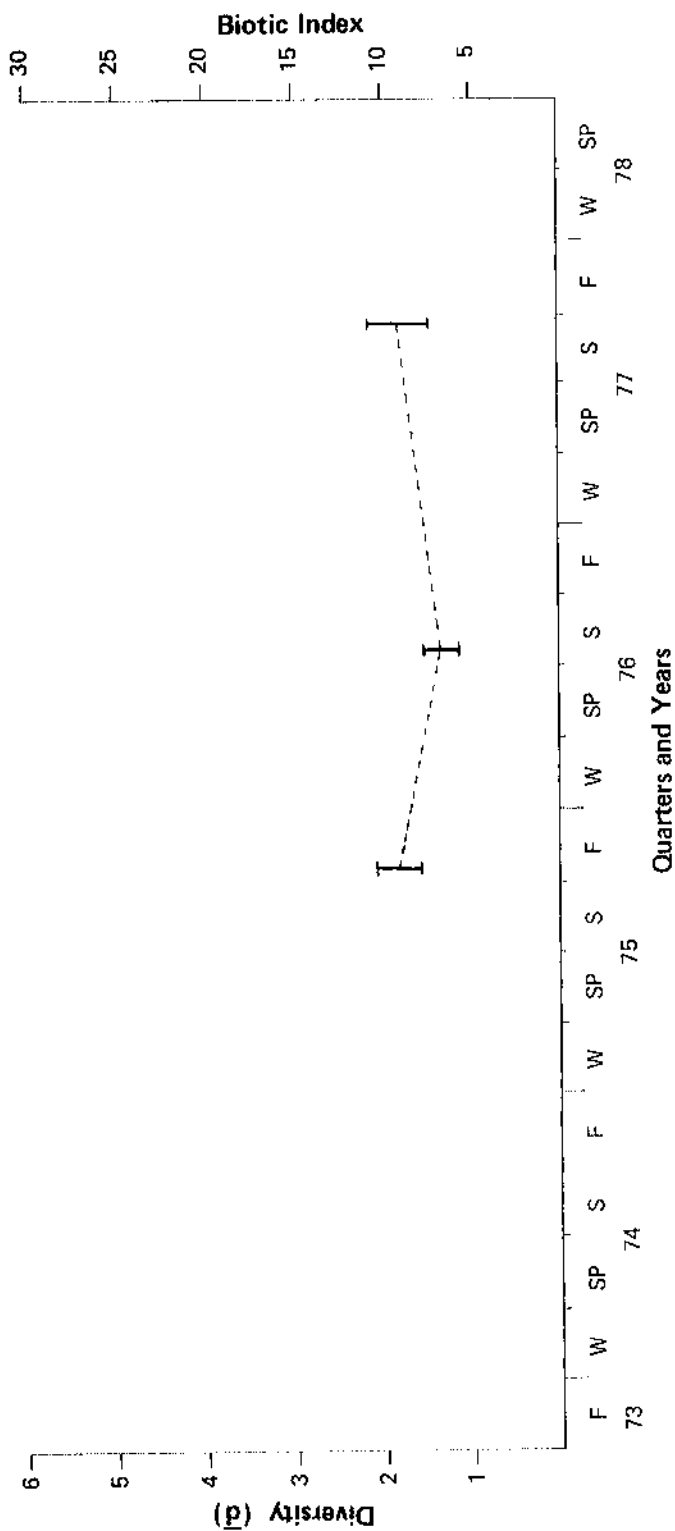
| Station Number        | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-----------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                       |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                       |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              | Total                            | Fecal |          |
| 25.02.0159<br><br>364 | 29 Sep 75 | 1.960±0.255        | 0.344±0.091 | 8     |                      |            |       |              |       |                                                 |                                              | LT100                            | LT100 |          |
|                       | 28 Jul 76 | 1.409±0.227        | 0.363±0.097 | 5     |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                       | 13 Sep 77 | 1.917±0.311        | 0.460±0.077 | 15    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0159  
 BODY OF WATER: LAKE HAINES

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 \_\_\_\_\_ BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0207 Body of Water Lake Hancock  
Location 200 ft. off point on NW shore  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution STP and agricultural runoff, citrus plant effluent  
Nearby Land Use agricultural  
Sampling Frequency annually Depth 1.7 - 2 m  
Bottom Type silt, sand, hyacinth detritus & Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Typha sp., Salix sp., Eichhornia crassipes

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Diptera

Chaoborus punctipennis

Chironomus carus

C. crassicaudatus

Cladotanytarsus sp.

Coelotanypus concinnus

C. tricolor

Glyptotendipes paripes

Nimboera patagonica

Parachironomus pectinatellae

DATA SUMMARY: Lake Hancock

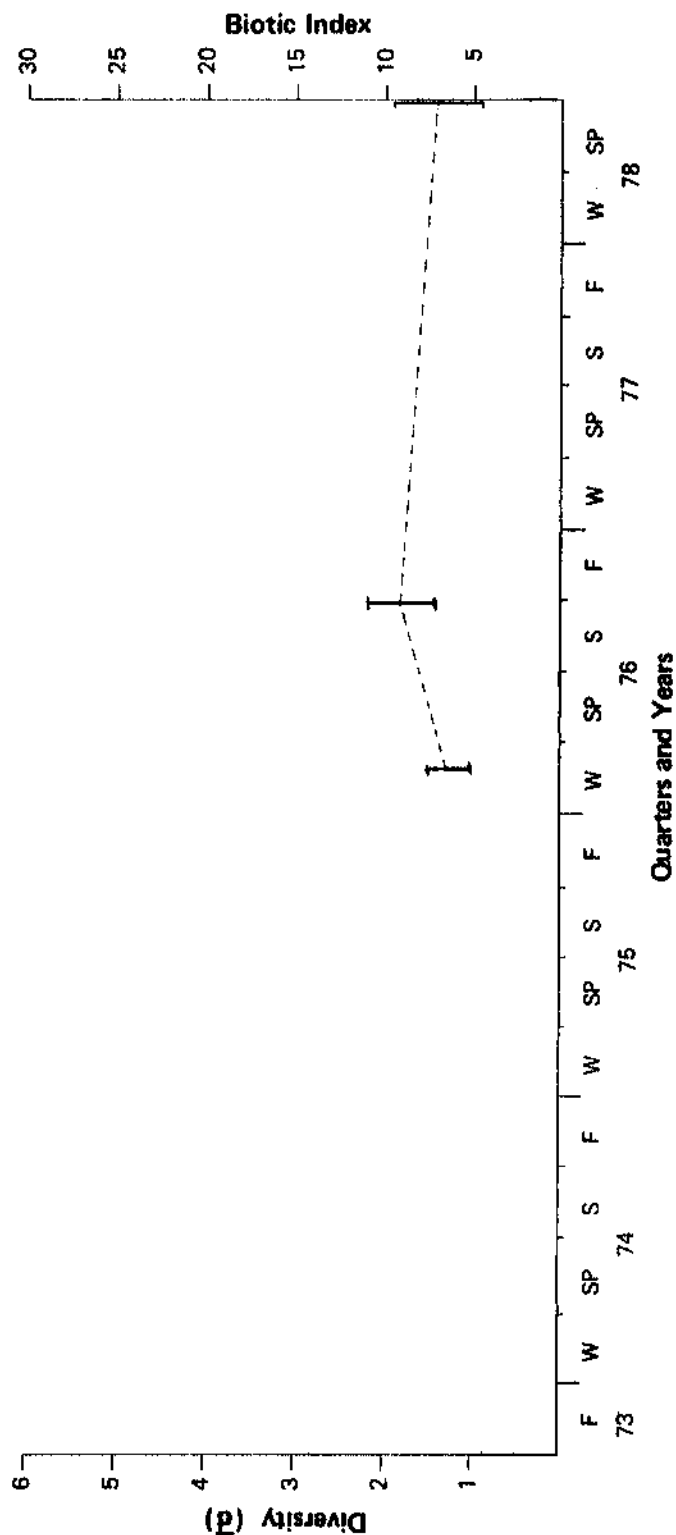
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       |    |              |  |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|----|--------------|--|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |    | Biotic Index |  | Total |                                                 |                                              | Fecal                            |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI | #Spp.        |  |       |                                                 |                                              |                                  |  |          |
|                |           |                    |             |       |                      |            |       |    |              |  |       |                                                 |                                              |                                  |  |          |
| 25.02.0207     | 17 Feb 76 | 1.356±0.262        | 0.515±0.116 | 6     |                      |            |       |    |              |  |       |                                                 |                                              |                                  |  |          |
|                | 1 Sep 76  | 1.961±0.366        | 0.216±0.164 | 5     |                      |            |       |    |              |  |       |                                                 |                                              |                                  |  |          |
|                | 14 Jun 78 | 1.500±0.490        |             | 3     |                      |            |       |    |              |  |       |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0207  
 BODY OF WATER: LAKE HANCOCK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0208 Body of Water Lake Ariana  
Location 200 ft. off north shore  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution residential runoff  
Nearby Land Use residential, citrus groves  
Sampling Frequency annually Depth 1.0 - 1.5 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Chara sp.  
Emergent Panicum hemitomom, Typha sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
unident. tubificid

Hirudinea

Dina anoculata  
Helobdella sp.

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Diptera

Chironomus attenuatus  
Coelotanypus scapularis  
Cryptochironomus blarina  
C. fulvus  
Glyptotendipes paripes  
Paralauterborniella nigrohalteralis  
Polypedilum halterale  
Procladius sp. 1 - Cantrell  
Tanytarsus sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell



25.02.0208

Mollusca

Gastropoda

Goniobasis sp. 1 - Pearce

Viviparus georgianus

DATA SUMMARY: Lake Ariana

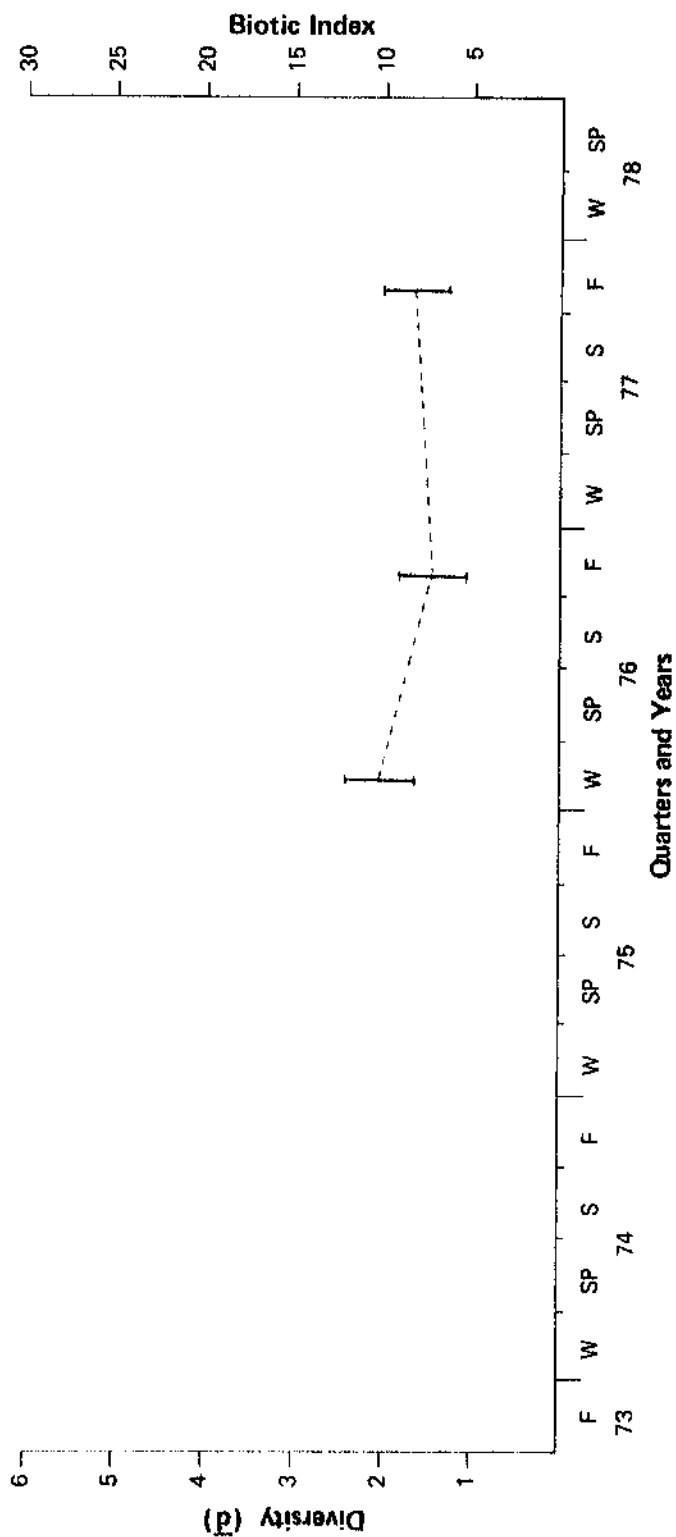
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
| 25.02.0208     | 17 Feb 76 | 2.142±0.290        | 0.343±0.087 | 11    |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 1 Sep 76  | 1.638±0.306        | 0.463±0.101 | 9     |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 15 Sep 77 | 1.704±0.335        | 0.494±0.126 | 8     |                      |            |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0208  
 BODY OF WATER: LAKE ARIANA

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0247 Body of Water Lake Parker  
Location 200 ft. off south shore  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution urban runoff, power plant effluent  
Nearby Land Use residential commercial  
Sampling Frequency annually Depth 0.75 - 2.5 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Typha sp.

**Macroinvertebrates:**

Annelida  
    Oligochaeta  
        Limnodrilus hoffmeisteri

Arthropoda  
    Insecta  
        Diptera  
            Chaoborus punctipennis  
            Chironomus attenuatus  
            C. crassicaudatus  
            Cladotanytarsus sp. 1 - Cantrell  
            C. sp. 2 - Cantrell  
            Coelotanypus scapularis  
            Cryptochironomus blarina  
            C. fulvus  
            Einfeldia sp. 1 - Cantrell  
            Glyptotendipes paripes  
            Polypedilum halterale  
            Procladius sp. 1 - Cantrell

Mollusca  
    Gastropoda  
        Viviparus sp. 1 - Pearce

DATA SUMMARY: Lake Parker

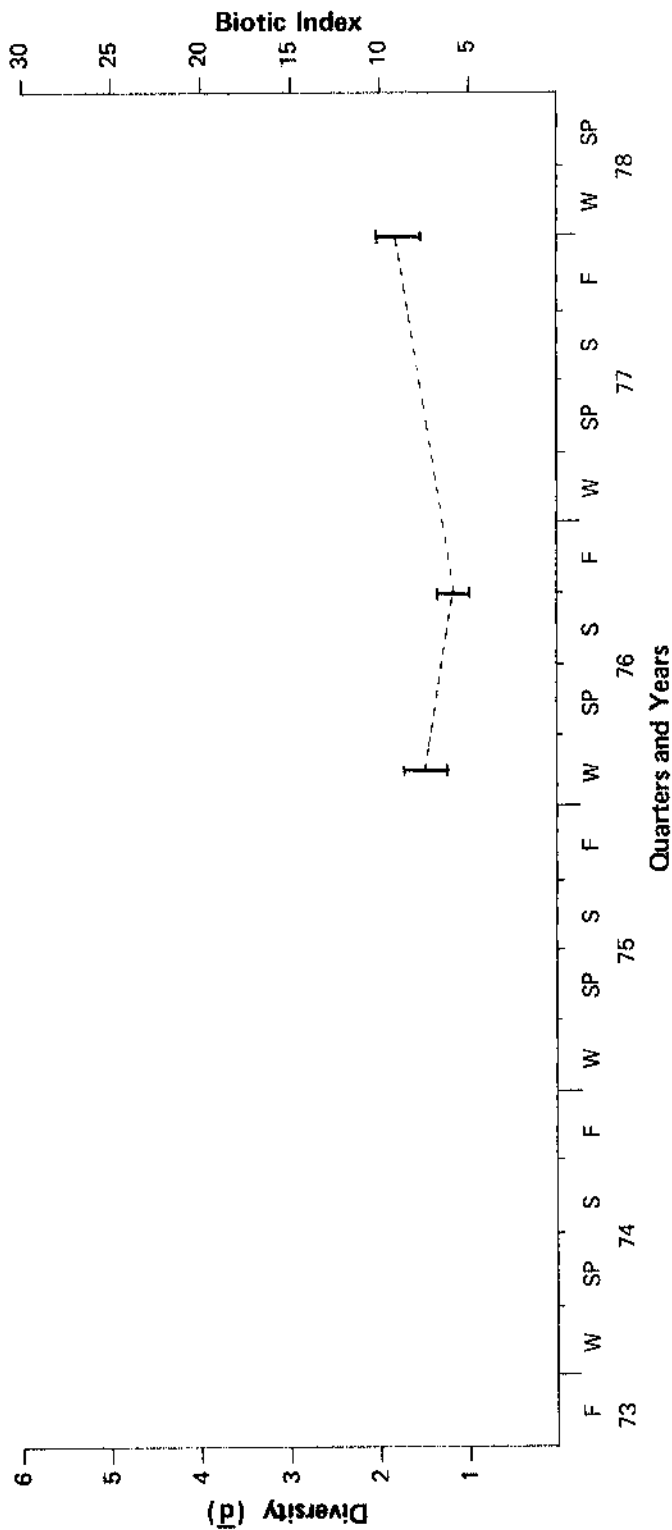
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 25.02.0247<br>374 | 17 Feb 76 | 1.660±0.242        | 0.344±0.073 | 7     |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 2 Sep 76  | 1.250±0.199        | 0.529±0.084 | 7     |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                   | 9 Dec 77  | 1.898±0.264        | 0.359±0.090 | 9     |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0247  
 BODY OF WATER: LAKE PARKER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — Biotic Index (= FLORIDA INDEX)



Station No. 25.02.0251 Body of Water Lake Tracy  
Location north side of Lake Tracy, 30 yards offshore, 50 yards  
NE of outfall canal County Polk  
Type Body of Water lake Classification III  
Sources of Pollution citrus processing effluent, residential runoff  
  
Nearby Land Use industrial, residential  
Sampling Frequency annually Depth 1.5 - 3 m  
Bottom Type sand, silt % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Typha sp., Nuphar sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Branchiura sowerbyi  
Limnodrilus hoffmeisteri

Arthropoda

Insecta

Ephemeroptera

Caenis diminuta  
Callibaetis floridanus

Trichoptera

Leptocercus americanus

Diptera

Chaoborus punctipennis  
Cladotanytarsus sp. 1 - Cantrell  
Cryptochironomus fulvus  
Dicrotendipes modestus  
D. lobus  
Glyptotendipes paripes  
Leptochironomus sp. 2 - Pearce  
Harnischia sp. 1 - Pearce  
Polypedilum halterale  
Procladius sp. 1 - Cantrell  
Tanytarsus sp. 1 - Cantrell

25.02.0251

Diptera (cont.)

unident. ceratopogonid sp. 2 - Cantrell

Arachnida

Acarina

unident. sp.

Mollusca

Gastropoda

Gyraulus sp. 1 - Pearce

Helisoma sp. 1 - Pearce



DATA SUMMARY: Lake Tracy

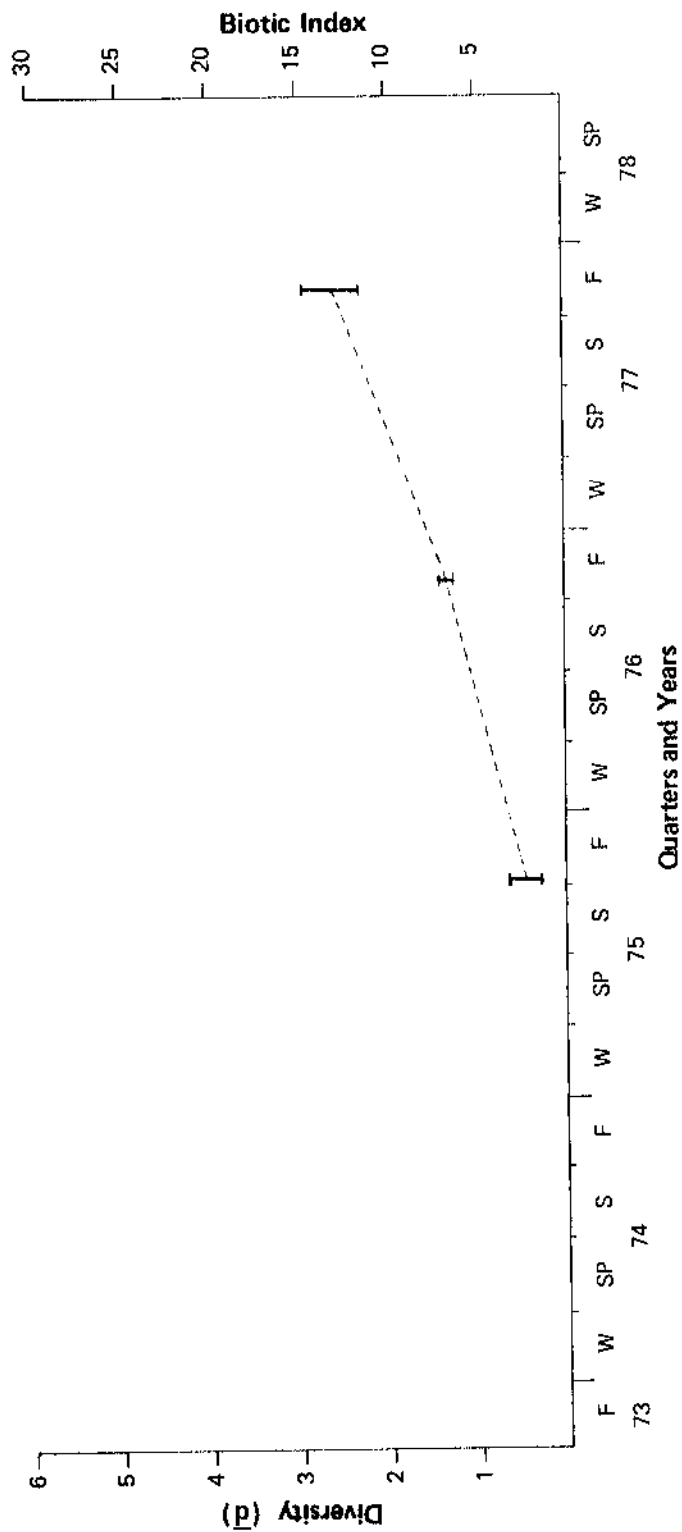
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |           | Total              | Fecal       |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 25.02.0251     | 29 Sep 75 | 0.578±0.195        | 0.871±0.070 | 7     |                      |            |       |              |       |                                                 |                                              | 200                              | LT100 |          |
|                | 28 Sep 76 | 1.385±0.070        | 0.406±0.071 | 6     |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 15 Sep 77 | 2.673±0.296        | 0.232±0.052 | 15    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0251  
 BODY OF WATER: LAKE TRACY

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0253 Body of Water Troublesome Creek

Location @ SR 64

County Hardee

Type Body of Water stream Classification III

Sources of Pollution \_\_\_\_\_

Nearby Land Use pasture

Sampling Frequency annually Depth 0.5 - 1 m

Bottom Type sand, silt, detritus % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged \_\_\_\_\_

Emergent Nuphar sp., Polygonum sp., Ludwigia sp.,

Panicum sp., Hydrocotyle sp.

#### Macroinvertebrates:

##### Annelida

###### Oligochaeta

Limnodrilus hoffmeisteri

##### Arthropoda

###### Crustacea

###### Isopoda

Asellus sp. 1 - Pearce

###### Decapoda

unident. macruran

##### Insecta

###### Odonata

Argia sedula

Enallagma cardenium

Progomphus sp. 1 - Pearce

Gomphus pallidus

Hetaerina titia

Libellula deplanata

Macromia illinoiensis

Nasiaeschna penthacantha

cf. Nehalennia sp. 1 - Pearce

Ephemeroptera

Baetis spinosus  
Caenis diminuta  
Centroptilum viridocularis  
Stenacron interpunctatum  
Stenonema exiguum  
S. smithae

Hemiptera

cf. Gerris sp. 1 - Howton  
Rhagovelia cf. choreutes

Trichoptera

Cheumatopsyche sp. 1 - Dalton

Megaloptera

Corydalus cornutus

Diptera

Ablabesmyia americana  
Cricotopus bicinctus  
Clinotanytus sp. 1 - Pearce  
Cryptochironomus fulvus  
Paralauterborniella nigrohalteralis  
Polypedilum convictum  
P. halterale  
P. illinoense  
Rheotanytarsus exiguus  
Rheocricotopus sp. 1 - Pearce  
Simulium sp. 1 - Dalton  
Tanytarsus sp. 1 - Cantrell  
Tribelos fuscicornis  
unident. ceratopogonid sp. 2 - Cantrell

Coleoptera

Dubiraphia quadrinotata  
Hydroporus sp. 1 - Howton  
Stenelmis fuscata

Mollusca

Gastropoda

Pomacea sp. 1 - Pearce  
Viviparus cf. georgianus  
unident. hydrobiid sp. 1 - Pearce

Pelecypoda

Corbicula manilensis

25.02.0253

Pelecypoda (cont.)

Elliptio sp. 1 - Pearce

Musculium sp. 1 - Pearce

Pisidium sp. 1 - Pearce

DATA SUMMARY: Troublesome Creek

| Station Number | Date      | Macroinvertebrates |            |       |                      |            |       |              |       |       |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |               | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|---------------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |            |       | Biotic Index |       | Total | Fecal |                                                 |                                              |                                  |               |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |       |       |       |                                                 |                                              |                                  |               |          |
|                |           |                    |            |       |                      |            |       | BI           | #Spp. |       |       |                                                 |                                              |                                  |               |          |
| 25.02.0253     | 9 Nov 76  |                    |            |       |                      |            |       |              | 26    | 24    |       |                                                 |                                              |                                  | Florida Index |          |
|                | 20 Mar 78 |                    |            |       |                      |            |       |              | 19    | 28    |       |                                                 |                                              |                                  |               |          |
| 383            |           |                    |            |       |                      |            |       |              |       |       |       |                                                 |                                              |                                  |               |          |

See Methods for explanation of table.

Station No. 25.02.0254 Body of Water Payne Creek  
Location Center Hill Road  
County Hardee  
Type Body of Water stream Classification III  
Sources of Pollution phosphate mining  
Nearby Land Use pasture, grove  
Sampling Frequency annually Depth 0.5 - 1 m  
Bottom Type sand, detritus, logs % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Polygonium sp., Salix sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Hirudinea

unident. sp.

Arthropoda

Crustacea

Decapoda

Palaemonetes paludosus  
unident. astacid

Insecta

Odonata

Argia fumipennis  
Boyeria vinosa  
Calopteryx maculatum  
Dromogomphus spinosus  
Gomphus plagiatus  
Hetaerina titia  
Libellula deplanata  
Macromia illinoiensis  
M. taeniolata

Odonata (cont.)

- cf. Nehalennia sp. 1 - Pearce  
cf. Sympetrum sp. 1 - Dalton

Ephemeroptera

- Baetis spinosus  
Brachycercus maculatus  
Caenis diminuta  
Callibaetis floridanus  
C. pretiosus  
Centroptilum viridocularis  
Pseudocloeon alachua  
Stenonema exiguum

Hemiptera

- Ranatra sp. 1 - Howton  
Rhagovelia sp.  
Rheumatobates sp.

Trichoptera

- Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Cantrell  
Hydroptila sp. 1 - Dalton  
Nectopsyche sp. 1 - Dalton  
Nyctiophylax sp.  
Oecetis sp.  
Polycentropus sp. 2 - Dalton  
Triaenodes cf. tarda

Megaloptera

- Corydalis cornutus

Diptera

- Clinotanytus sp. 1 - Cantrell  
Coelotanytus scapularis  
Cryptochironomus blarina  
C. fulvus  
Polypedilum convictum  
P. halterale  
Simulium sp. 1 - Dalton  
Stenochironomus sp. 1 - Pearce  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell  
unident. ceratopogonid sp. 3 - Cantrell

Coleoptera

- Dineutus sp.  
Dubiraphia quadrinotata  
Haliplus sp. 1 - Pearce  
Stenelmis fuscata



25.02.0254

Arachnida

Acarina

Hydrachna sp.

Mollusca

Gastropoda

Pomacea sp. 1 - Pearce  
unident. hydrobiid

Pelecypoda

Corbicula manilensis  
Musculium sp. 1 - Pearce  
Pisidium sp. 1 - Pearce

DATA SUMMARY: Payne Creek

| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Riotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |               | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|---------------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal         |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |               |          |
|                   |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |               |          |
| 387<br>25.02.0254 | 21 Oct 76 | 1.334±0.363        | 0.631±0.138 | 8     |                      |            |       | 21           | 38                                              |                                              |                                  | Florida Index |          |
|                   | 13 Dec 77 |                    |             |       |                      |            |       | 25           | 39                                              |                                              |                                  |               |          |

See Methods for explanation of table.

Station No. 25.02.0428 Body of Water Horse Creek  
Location @ SR 64  
County Hardee  
Type Body of Water stream Classification III  
Sources of Pollution \_\_\_\_\_  
Nearby Land Use pasture  
Sampling Frequency annually Depth 0.5 m  
Bottom Type sand, limestone & Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Panicum sp., Hydrocotyle sp., Ludwigia palustris  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
Tubifex tubifex

Hirudinea

cf. Placobdella cf. multineata

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Odonata

Enallagma sp.  
Gomphus plagiatus  
G. pallidus  
Ischnura sp.  
Libellula sp. 1 - Pearce  
L. deplanata  
Macromia illinoensis  
cf. Nehalennia sp. 1 - Pearce  
Progomphus sp. 1 - Pearce  
Tetragoneuria sepia

Ephemeroptera

Baetis spinosus  
Caenis diminuta  
Callibaetis floridanus  
Choroterpes hubbelli  
Ephemerella trilineata  
Pseudocloeon sp.  
Stenacron interpunctatum

Hemiptera

Belostoma sp. 1 - Howton  
Ranatra sp. 1 - Howton

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Nectopsyche sp. 1 - Dalton  
Nyctiophylax sp.  
Oecetis sp.

Megaloptera

Corydalus cornutus

Diptera

Ablabesmyia parajanta  
Chironomus attenuatus  
Cladotanytarsus sp. 1 - Cantrell  
Coelotanypus sp.  
Cricotopus bicinctus  
Cryptochironomus fulvus  
Dicrotendipes lobus  
D. modestus  
D. neomodestus  
Glyptotendipes paripes  
Kiefferulus dux  
Pentaneura inculta  
Polypedilum convictum  
P. halterale  
P. illinoense  
Procladius sp. 1 - Cantrell  
Psectrotanypus sp. 1 - Pearce  
Rheotanytarsus exiguus  
Simulium sp. 1 - Dalton  
Tanytarsus sp. 1 - Cantrell  
Thienemanniella sp. 1 - Pearce  
Tipula sp. 1 - Pearce  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell

Coleoptera

Dineutus sp. 1 - Pearce

Coleoptera (cont.)

Dubiraphia quadrinotata  
Hydrophilus sp. 1 - Pearce  
Peltodytes floridensis  
Stenelmis fuscata

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Physa sp. 1 - Pearce

Pelecypoda

Eupera cubensis  
Musculium sp. 1 - Pearce  
Pisidium sp. 1 - Pearce  
Sphaerium sp. 1 - Pearce

DATA SUMMARY: Horse Creek

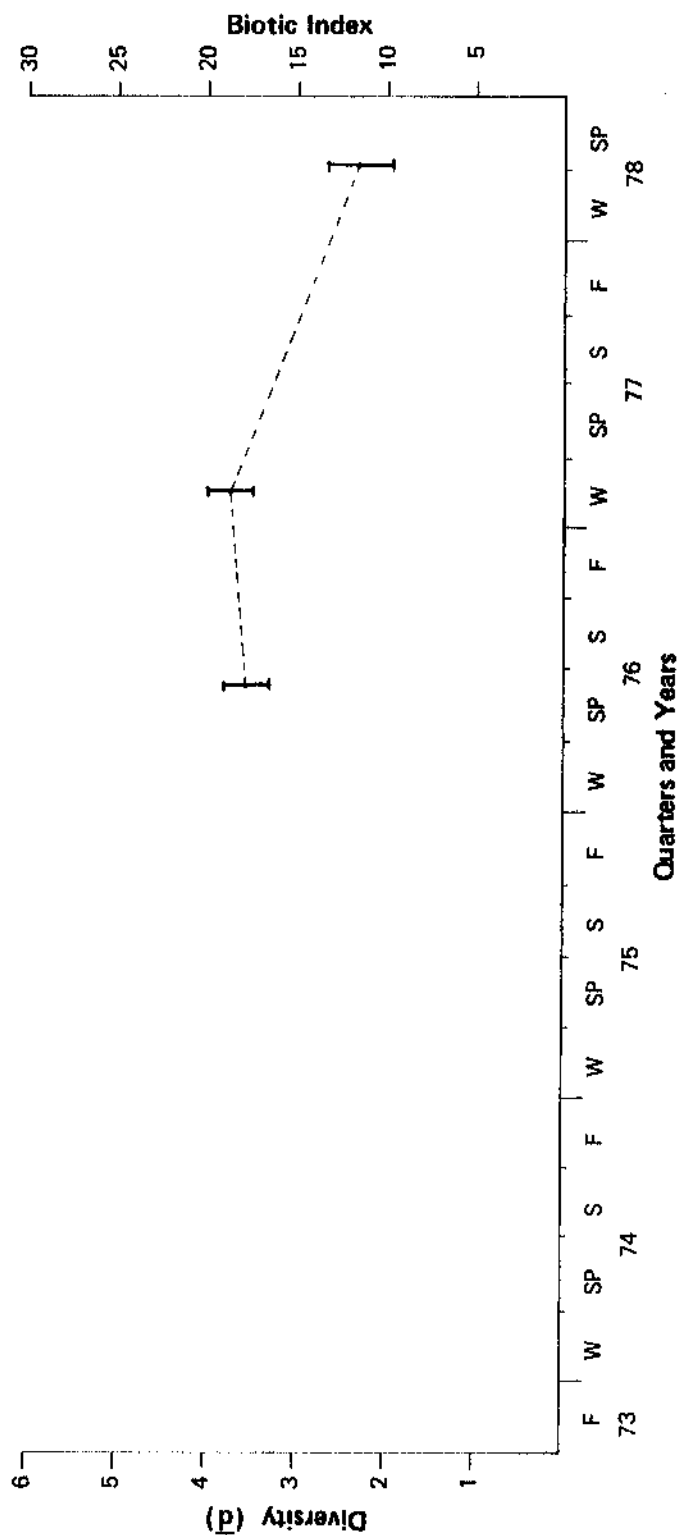
| Station Number    | Date      | Macroinvertebrates |             |       |           |                      |       |  |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|-----------|----------------------|-------|--|----|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       |           | Artificial Substrate |       |  |    |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity | Redundancy           | #Spp. |  |    |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |           |                      |       |  |    |                                                 |                                              |                                  |       |          |
| 25.02.0428<br>391 | 12 Nov 74 |                    |             |       |           |                      |       |  |    |                                                 |                                              | 880                              | 690   |          |
|                   | 18 May 76 | 3.600+0.241        | 0.094+0.031 | 19    |           |                      |       |  | 14 | 43                                              |                                              |                                  |       |          |
|                   | 16 Feb 77 | 3.773+0.245        | 0.121+0.036 | 25    |           |                      |       |  |    |                                                 |                                              |                                  |       |          |
|                   | 20 Mar 78 | 2.427+0.368        | 0.431+0.095 | 19    |           |                      |       |  |    |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0428  
 BODY OF WATER: HORSE CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0430 Body of Water Horse Creek  
Location SR 663 west  
County Hardee  
Type Body of Water stream Classification \_\_\_\_\_  
Sources of Pollution hyacinth jam  
Nearby Land Use native pasture  
Sampling Frequency annually Depth 1.5 - 2 m  
Bottom Type sand, detritus, silt % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Potamogeton sp.  
Emergent Paspalum sp., Polygonium sp., Eichhornia  
crassipes, Ludwigia sp.  
Macroinvertebrates:

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

unident. sp.

unident. tubificid

Hirudinea

Dina sp.

Helobdella sp. 1 - Cantrell

Placobdella ornata

P. papillifera

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Pearce

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus

unident. macruran



Insecta

Odonata

Agrion sp.  
Enallagma sp.  
Libellula pulchella  
Macromia taeniolata  
cf. Nehalennia sp. 1 - Pearce  
Pachydiplax longipennis  
Perithemis seminole

Ephemeroptera

Baetis intercalaris  
Caenis diminuta  
Callibaetis floridanus  
Stenonema exiguum  
Tricorythodes albalineatus

Hemiptera

cf. Trichocorixa sp. 1 - Howton

Trichoptera

Cheumatopsyche sp. 1 - Dalton

Diptera

Cryptochironomus fulvus  
Eukiefferiella cerulescens  
Paralauterborniella nigrohalteralis  
Polypedilum illinoense  
Rheotanytarsus exiguus  
Simulium sp. 1 - Dalton  
Thienemanniella sp. 1 - Pearce

Coleoptera

Haliphus sp.

Mollusca

Gastropoda

Helisoma sp. 1 - Pearce  
Physa sp. 1 - Pearce

Pelecypoda

Sphaerium sp. 1 - Pearce

DATA SUMMARY: Horse Creek

| Station<br>Number | Date      | Macroinvertebrates |            |                      |           |            |       | Biotic<br>Index |       | Phytoplankton<br>Composition<br>units/cm <sup>3</sup> | Periphyton<br>Composition<br>units/cm <sup>2</sup> | Coliform<br>Bacteria<br>Colonies/<br>100ml |               | Comments |
|-------------------|-----------|--------------------|------------|----------------------|-----------|------------|-------|-----------------|-------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------|---------------|----------|
|                   |           | Natural Substrate  |            | Artificial Substrate |           |            |       |                 |       |                                                       |                                                    |                                            |               |          |
|                   |           | Diversity          | Redundancy | #Spp.                | Diversity | Redundancy | #Spp. | BI              | #Spp. |                                                       |                                                    |                                            |               |          |
|                   |           |                    |            |                      |           |            |       |                 |       |                                                       |                                                    |                                            |               |          |
| 25.02.0430<br>395 | 12 Nov 74 |                    |            |                      |           |            |       |                 |       |                                                       |                                                    |                                            | Florida Index |          |
|                   | 9 Nov 76  |                    |            |                      |           |            | 3     | 14              |       |                                                       |                                                    | LT10                                       |               |          |
|                   | 20 May 78 |                    |            |                      |           |            | 18    | 26              |       |                                                       |                                                    |                                            |               |          |

See Methods for explanation of table.

Station No. 25.02.0459 Body of Water Peace River  
Location near Gardner  
County Hardee  
Type Body of Water stream Classification \_\_\_\_\_  
Sources of Pollution phosphate industry, STP's  
Nearby Land Use pasture  
Sampling Frequency \_\_\_\_\_ Depth 0.07 - 1.2 m  
Bottom Type pebble, sand, limestone % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Najas sp.  
Emergent Polygonum sp., Panicum sp., Salix sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
unident. tubificid

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Decapoda

Palaeomonetes paludosus

Insecta

Collembola

cf. Isotomurus palustris

Odonata

Enallagma sp.

Gomphus sp.

G. plagiatus

Hetaerina titia

Macromia illinoensis

cf. Nephelennia sp. 1 - Pearce

Ephemeroptera

Baetis intercalaris  
B. spinosus  
Brachycercus floridanus  
Caenis diminuta  
C. hilaris  
Callibaetis floridanus  
Stenonema exiguum  
Pseudocloeon sp.  
Tricorythodes albilineatus

Hemiptera

Belostoma sp. 1 - Howton  
Lethocercus sp. 1 - Dalton  
Plea striola  
Ranatra sp. 1 - Pearce  
cf. Trichocorixa sp. 1 - Howton

Trichoptera

Cheumatopsyche sp. 1 - Dalton  
Hydropsyche sp. 1 - Pearce  
Nectopsyche sp. 1 - Dalton  
Oecetis sp. 1 - Pearce  
O. sp. 2 - Pearce  
Oxyethira sp. 1 - Pearce

Megaloptera

Corydalus cornutus

Diptera

Cladotanytarsus sp. 1 - Cantrell  
Cricotopus sp. 1 - Cantrell  
C. bicinctus  
Cryptochironomus blarina  
C. fulvus  
Demicryptochironomus sp.  
Dicrotendipes lobus  
D. neomodestus  
Micropsectra sp. 1 - Cantrell  
Orthocladius sp. 1 - Pearce  
Parachironomus demeijerea  
Paralauterborniella nigrohalteralis  
Paratendipes subaequalis  
Pentaneura inculta  
Polypedilum convictum  
P. halterale  
P. illinoense  
Psectrocladius sp. 1 - Pearce  
Rheotanytarsus exiguus

Diptera (cont.)

Simulium sp. 1 - Dalton  
Stenochironomus sp. 1 - Pearce  
Tanytarsus sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
Xenochironomus sp. 1 - Cantrell  
X. sp. 2 - Pearce

Coleoptera

cf. Berosus sp. 1 - Howton  
Dubiraphia quadrinotata  
Gyrinus sp. 1 - Pearce  
Malipius sp. 1 - Pearce  
Hydrophilus sp. 1 - Pearce  
Hydraena sp.  
Stenelmis fuscata

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce  
Helisoma sp. 1 - Pearce  
Physa sp. 1 - Pearce  
Pseudosuccinea sp. 1 - Pearce

Pelecypoda

Corbicula manilensis  
Sphaerium sp. 1 - Pearce

DATA SUMMARY: Peace River

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |  |          |
|                |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
| 25.02.0459     | 2 Jun 75  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 6                                |  |          |
|                | 12 Nov 75 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 8                                |  |          |
|                | 20 Apr 76 | 2.780±0.142        | 0.130±0.030 | 12    |                      |            | 23    | 38           |       |                                                 |                                              | 600                              |  |          |
|                | 16 Feb 77 | 2.861±0.282        | 0.248±0.066 | 17    |                      |            | 23    | 45           |       |                                                 |                                              |                                  |  |          |
|                | 28 Mar 78 | 2.760±0.202        | 0.080±0.028 | 9     |                      |            |       |              |       |                                                 |                                              |                                  |  |          |

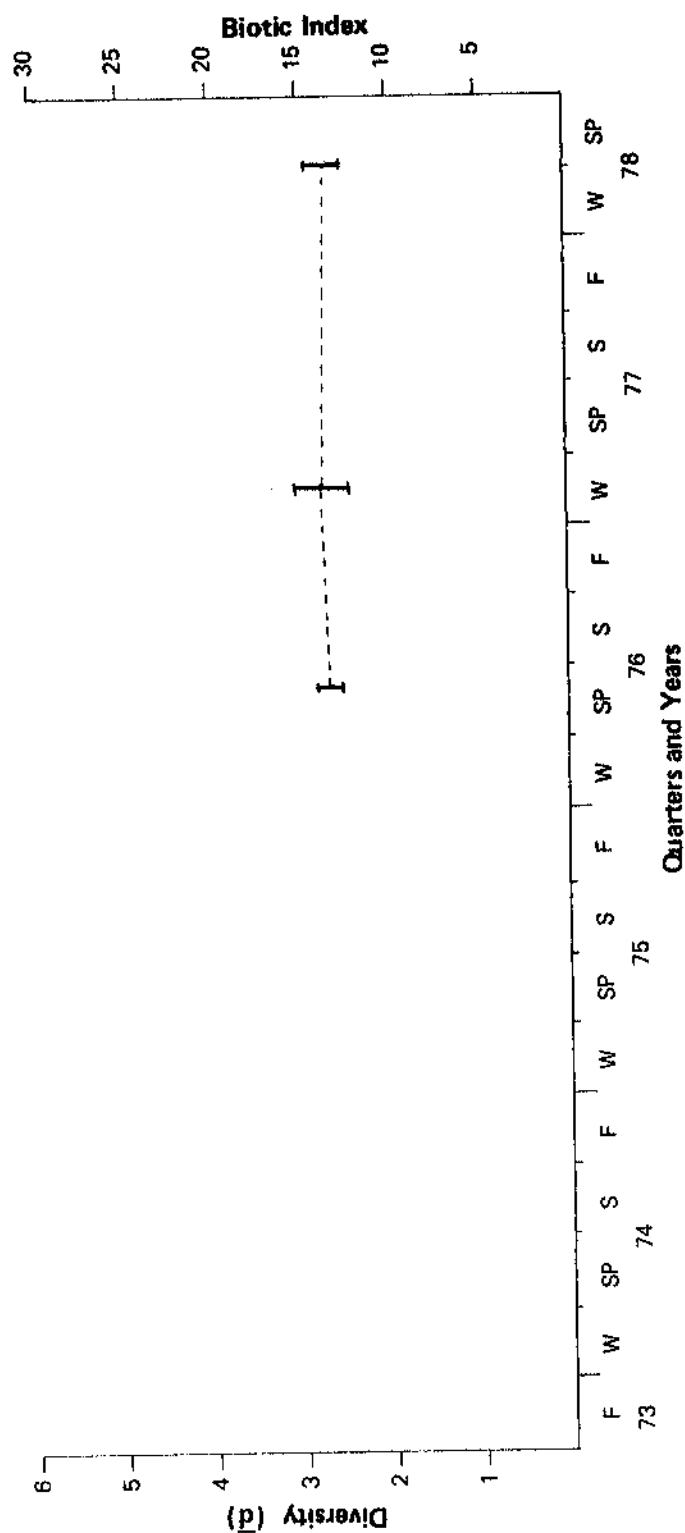
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See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0459  
 BODY OF WATER: PEACE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.02.0524 Body of Water Joshua Creek  
Location northeast of Nocatee  
County DeSoto  
Type Body of Water stream Classification \_\_\_\_\_  
Sources of Pollution pasture and citrus grove runoff, upstream channelization  
  
Nearby Land Use cattle grazing and citrus groves  
Sampling Frequency \_\_\_\_\_ Depth 0.8 - 1.5 m  
Bottom Type sand, organic detritus % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Platyhelminthes  
Turbellaria  
    unident. planariid  
  
Rhynchocoela  
    Prostoma rubrum  
  
Annelida  
    Oligochaeta  
        Branchiobdella sp.  
        Limnodrilus sp.  
        Nais variabilis  
        unident. sp.  
    Hirudinea  
        Mooreobdella microstoma  
  
Nematomorpha  
    unident. sp.  
  
Arthropoda  
    Crustacea  
        Decapoda  
            Palaemonetes paludosus  
            Procambarus sp.  
    Insecta  
        Odonata  
            Aphylla williamsoni  
            Epicordulia regina  
            Gomphus dilatatus



## Insecta cont.

## Odonata cont.

Gomphus minutus  
G. plagiatus  
Macromia taeniolata  
Neurocordulia alabamensis  
Argia sedula  
Enallagma cardenium  
E. pollutum  
Hetaerina titia

## Ephemeroptera

Baetis spieethi  
B. spinosus  
Brachycercus maculatus  
Caenis diminuta  
Centroptilum viridomaculis  
Stenacron interpunctatum  
S. exiguum  
Tricorythodes albilineatus

## Trichoptera

Cheumatopsyche sp.  
Hydropsyche sp. 1 - Cantrell  
Nectopsyche cf. exquisita  
N. pavida  
Nyctiophylax sp.  
Oecetis sp. 1 - Cantrell  
O. sp. 2 - Cantrell  
O. sp. 3 - Cantrell  
O. inconspicua  
Oxyethria sp.  
Polycentropus cinereus  
Triaenodes sp.

## Megaloptera

Corydalus cornutus

## Diptera

Ablabesmyia parajanta  
A. tarella  
Cladotanytarsus sp. 2 - Cantrell  
Clinotanytus sp.  
Cricotopus bicinctus  
C. sp. 1 (Beck)  
Cryptochironomus blarina  
C. sp.  
Cryptotendipes sp.  
Pagastiella sp.  
Paralauterborniella nigrohalteralis  
Pentaneura inculta  
Polypedilum convictum  
P. halterale  
Procladius sp.  
Pseudochironomus sp.  
Rheotanytarsus exiguus  
Simulium sp.  
Stenochironomus hiliaris  
Tanytarsus sp. 1 - Cantrell

## Insecta cont.

## Diptera cont.

Thienemanniella sp. 1 - Cantrellcf. Palpomyia sp. 1 - Cantrellcf. Palpomyia sp. 2 - Cantrell

## Coleoptera

Berosus sp.Dubiraphia sp.Microcylloepus pusillusStenelmis sp.

## Mollusca

## Gastropoda

Amnicola dalli johnsoniGyraulus sp.Physa sp.

unident. ancylid

## Pelecypoda

Corbicula manilensis

unident. sphaeriid

unident. unionid

DATA SUMMARY: Joshua Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |  |          |
|                |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
| 25.02.0524     | 19 Nov 75 | 2.652±0.170        | 0.345±0.040 | 29    |                      |            |       | 26           | 40    |                                                 |                                              |                                  |  |          |
|                | 6 Dec 76  | 3.341±0.270        | 0.312±0.053 | 38    |                      |            |       | 31           | 41    |                                                 |                                              |                                  |  |          |
|                | 2 Nov 77  | 3.655±0.209        | 0.158±0.024 | 42    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |

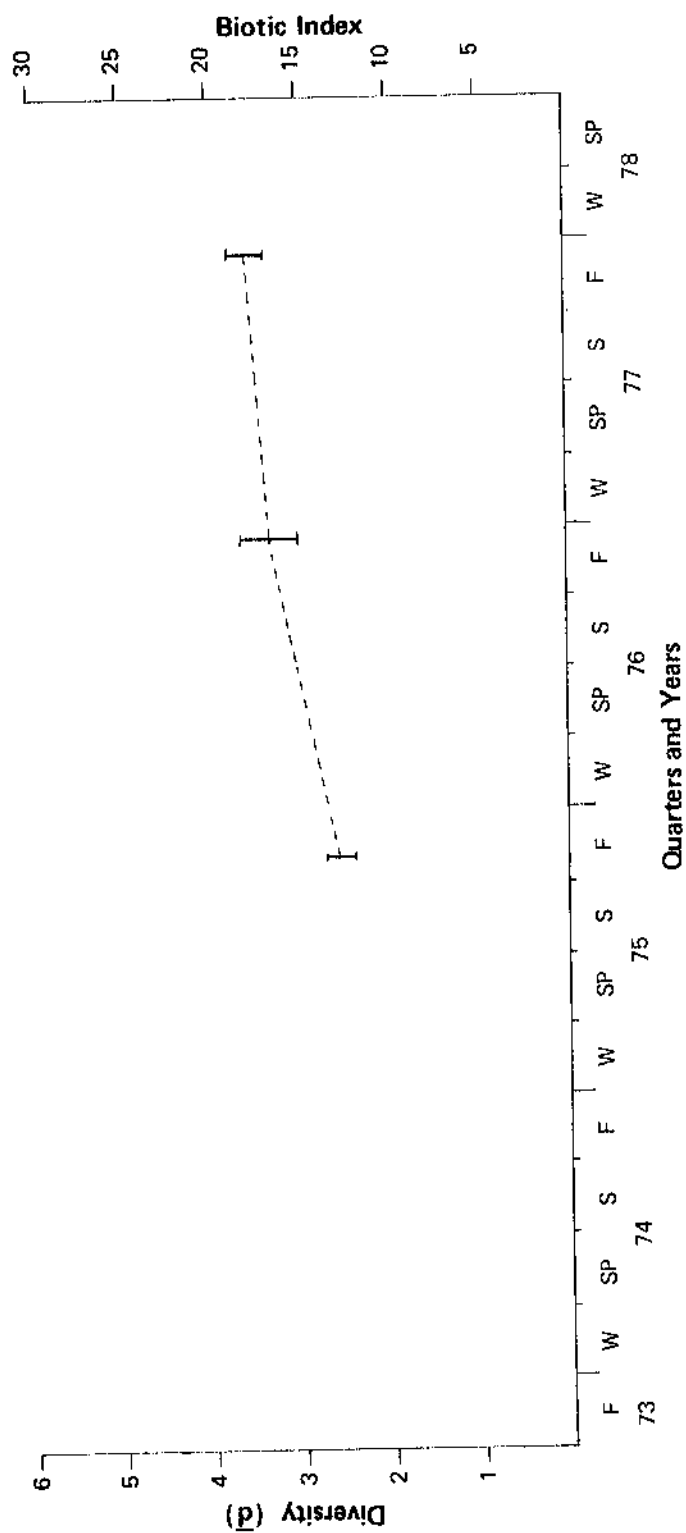
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See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0524  
 BODY OF WATER: JOSHUA CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 25.03.0403 Body of Water Mvakka River  
Location wooden bridge on Border Drive, off Jackson Road  
County Sarasota  
Type Body of Water river Classification I  
Sources of Pollution agricultural runoff, impoundments upstream, saline  
intrusion, pasture runoff  
Nearby Land Use agriculture, native pasture, mining  
Sampling Frequency quarterly Depth 1.5 - 2.6 meters  
Bottom Type sand, limestone, detritus, silt Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged none  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Platyhelminthes

Turbellaria

unident. planariid

Rhyncocoela

Prostoma rubrum

Annelida

Oligochaeta

Aulodrilus piqueti

Dero sp.

Limnodrilus sp.

Nais variabilis

Pristina longiseta leidyi

P. osborni

Slavina appendiculata

Stylaria fossularis

Hirudinea

Helobdella elongata

Moorcobdella microstoma

Placobdella multilineata

Polychaeta

Boccardia sp.

Laconeris culveri

## Arthropoda

## Crustacea

## Isopoda

Cyathura polita  
Eosphaeroma sp.  
Munna sp.  
Sphaeroma terebrans

## Amphipoda

Corophium sp.  
Gammarus sp.  
Grandidierella bonnieroides  
Hyaella azteca

## Decapoda

Callinectes sapidus  
Palaemonetes paludosus  
cf. Rhithropanopeus harrisii

## Mysidacea

Mysidopsis bahia  
Taphromysis cf. louisianae

## Tanaidacea

Tanais sp.

## Insecta

## Odonata

Argia sedula  
Enallagma cardenium  
E. pollutum  
Ischnura sp.  
Macromia sp.  
Miathyria marcella  
Tetragoneuria sp.

## Ephemeroptera

Baetis cf. spinosus  
Brachycercus maculatus  
Caenis diminuta  
Callibaetis floridanus  
Choroterpes hubbelli  
Stenacron interpunctatum  
Stenonema exiguum

## Hemiptera

Pelocoris sp.  
Ranatra sp.

## Trichoptera

Ceraclea sp.  
Cheumatopsyche sp.  
Chimarra sp.  
Cyrnellus fraternus  
Hydroptila sp.  
Nectopsyche cf. exquisita  
N. pavida  
Neotrichia sp.  
Polycentropus cinereus  
Oecetis inconspicua  
O. sp. 3 - Cantrell  
O. sp. 7 - Cantrell  
Orthotrichia sp.  
Oxyethira sp.

## Insecta cont.

## Diptera

Ablabesmyia americana  
A. parajanta  
A. tarella  
Anopheles sp.  
Chironomus carus  
C. sp.  
Cladotanytarsus sp. 2 - Cantrell  
Clinotanypus sp.  
Coelotanypus sp.  
C. scapularis  
C. tricolor  
Corynoneura sp.  
Cricotopus bicinctus  
Cricotopus sp. 1 - Cantrell  
Cryptochironomus blarina  
C. fulvus  
C. sp.  
Dicrotendipes modestus  
D. neomodestus  
Dicrotendipes cf. nervosus  
Einfeldia sp.  
Endochironomus nigricans  
Glyptotendipes sp.  
Goeldichironomus holoprasinus  
Harnischia (Beck) - Cladopelma (Saether) sp.  
Labrundinia floridana  
Megistocera longipennis  
Micropsectra sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Nilothauma bicornis  
Pagastiella sp.  
Parachironomus sp.  
Paralauterborniella nigrohalteralis  
Paratanytarsus sp.  
Pedionomus beckae  
Pentaneura inculta  
Polypedilum convictum  
P. halterale  
P. illinoense  
Pseudochironomus sp.  
Psectrocladius sp. (Beck)  
Rheotanytarsus exiguus  
Simulium sp.  
Stictochironomus devinctus  
Tanytarsus sp. 1 - Cantrell  
T. sp. 3 - Cantrell  
Thienemanniella sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
Tribelos cf. fuscicornis  
Xenochironomus xenolabis  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell

## Mollusca

## Gastropoda

Amnicola dalli johnsoni  
Gyraulus sp.  
Helisoma sp. 1 - Cantrell  
H. sp. 2 - Cantrell  
Littoridinops cf. monroensis  
Neritina reclinata  
Physa sp.  
unident. ancylid

## Pelecypoda

Byssanodonta cubensis  
Corbicula manilensis  
Mytilopsis leucophaeata  
Rangia cuneata



**DATA SUMMARY: Myakka River**

| Station Number        | Date        | Macroinvertebrates |             |                      |           |       |       | Biotic Index |                                                 | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |      | Comments |
|-----------------------|-------------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------------------------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------------|------|----------|
|                       |             | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |                                                 |                                                 |                                              |                                  |      |          |
|                       |             | Diversity          | Redundancy  | #Spp.                | Diversity |       |       | Redundancy   | #Spp.                                           |                                                 |                                              |                                  |      |          |
| 25.03.0403<br><br>410 | 4 Sep 73    |                    |             |                      |           |       |       |              |                                                 |                                                 |                                              | 110                              | 20   |          |
|                       | 21 Nov 73   | 3.117±0.365        | 0.288±0.078 | 21                   |           |       |       |              |                                                 |                                                 |                                              | 143                              |      |          |
|                       | 18 Dec 73   |                    |             |                      |           |       |       |              |                                                 |                                                 |                                              | 140                              | LT10 |          |
|                       | 7 Jan 74    | 4.146±0.324        | 0.151±0.030 | 34                   |           |       |       |              |                                                 |                                                 |                                              | 80                               |      | 21       |
|                       | 22 Jan 74   |                    |             |                      |           |       |       |              |                                                 |                                                 |                                              |                                  |      |          |
|                       | 19 Feb 74   |                    |             |                      |           |       |       |              |                                                 |                                                 |                                              | 164                              | 102  |          |
|                       | 24 Apr 74   | 4.368±0.245        | 0.070±0.017 | 34                   |           |       |       | 15           | 47                                              |                                                 |                                              |                                  |      |          |
|                       | 9 Jul 74    |                    |             |                      |           |       |       |              |                                                 |                                                 |                                              | LT2                              |      |          |
|                       | 12 Aug 74   |                    |             |                      |           |       |       | 7            | 31                                              |                                                 |                                              | 10                               |      | 2        |
| 22 Aug 74             | 4.180±0.255 | 0.075±0.020        | 26          |                      |           |       |       |              | Coc BG<br>Fil BG<br>Coc Gr<br>Fil Gr<br>Gr Flag | LT1<br>LT1<br>2<br>LT1<br>LT1                   |                                              |                                  |      |          |

See Methods for explanation of table.

DATA SUMMARY: Myakka River

| Station Number    | Date                 | Macroinvertebrates |             |       |                      |             |       | Phytoplankton Composition units/cm <sup>3</sup>       | Periphyton Composition units/cm <sup>2</sup>                                                                               | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|----------------------|--------------------|-------------|-------|----------------------|-------------|-------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                   |                      | Natural Substrate  |             |       | Artificial Substrate |             |       |                                                       |                                                                                                                            | Total                            | Fecal |          |
|                   |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |                                                       |                                                                                                                            |                                  |       |          |
| 411<br>25.03.0403 | 22 Aug 74<br>(cont.) |                    |             |       |                      |             |       | Other Flag 0<br>Cen Dia LTI<br>Pen Dia LTI<br>Total 4 |                                                                                                                            |                                  |       |          |
|                   | 16 Sep 74            |                    |             |       |                      |             |       |                                                       |                                                                                                                            |                                  | 14    |          |
|                   | 14 Oct 74            |                    |             |       |                      |             |       |                                                       |                                                                                                                            |                                  | 12    |          |
|                   | 4 Nov 74             |                    |             |       |                      |             |       |                                                       |                                                                                                                            |                                  | 10    |          |
|                   | 6 Nov 74             | 4.144±0.123        | 0.052±0.008 | 32    | 2.657±0.107          | 0.178±0.015 | 19    |                                                       | Coc BG 610<br>Fil BG 39<br>Coc Gr 521<br>Fil Gr 398<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 22<br>Pen Dia 49<br>Total 1635 | 210                              |       |          |
|                   | 9 Dec 74             |                    |             |       |                      |             |       |                                                       |                                                                                                                            | 160                              | 10    |          |

See Methods for explanation of table.

DATA SUMMARY: Myakka River

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |  |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |  |
|                   |           |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |  |
| 25.03.0403<br>412 | 9 Dec 74  |                    |             |       |                      |             |       |              |                                                 |                                              | 160                              | 10    |          |  |
|                   | 2 Jan 75  | 3.880+0.291        | 0.105+0.029 | 23    |                      |             |       | 6            | 14                                              |                                              |                                  |       |          |  |
|                   | 10 Feb 75 |                    |             |       |                      |             |       |              |                                                 |                                              | 140                              | 1710  |          |  |
|                   | 3 Mar 75  |                    |             |       |                      |             |       |              |                                                 |                                              | 230                              | 30    |          |  |
|                   | 14 Apr 75 |                    |             |       |                      |             |       |              |                                                 |                                              | 50                               |       |          |  |
|                   | 30 Apr 75 | 2.318+0.250        | 0.242+0.045 | 12    | 0.334+0.083          | 0.915+0.029 | 7     |              |                                                 |                                              | 172                              |       |          |  |
|                   | 19 May 75 |                    |             |       |                      |             |       |              |                                                 |                                              | 90                               |       |          |  |
|                   | 15 Jul 75 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |  |
|                   | 7 Aug 75  | 3.189+0.357        | 0.168+0.049 | 15    | 2.769+0.277          | 0.325+0.054 | 22    | 5            | 35                                              |                                              |                                  | 120   | 30       |  |
|                   | 11 Aug 75 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 450   | 40       |  |
|                   | 15 Sep 75 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |  |
|                   | 29 Oct 75 | 3.766+0.274        | 0.127+0.036 | 25    |                      |             |       |              |                                                 |                                              |                                  |       |          |  |

See Methods for explanation of table.

DATA SUMMARY: Myakka River

| Station Number        | Date      | Macroinvertebrates |             |                      |             |             |       | Biotic Index |   | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-----------------------|-----------|--------------------|-------------|----------------------|-------------|-------------|-------|--------------|---|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                       |           | Natural Substrate  |             | Artificial Substrate |             | Total       | Fecal |              |   |                                                 |                                              |                                  |       |          |
|                       |           | Diversity          | Redundancy  | #Spp.                | Diversity   |             |       |              |   |                                                 |                                              | Redundancy                       | #Spp. |          |
| 25.03.0403<br><br>413 | 3 Nov 75  |                    |             |                      |             |             |       |              |   |                                                 |                                              | 340                              | 88    |          |
|                       | 29 Dec 75 |                    |             |                      |             |             |       |              |   |                                                 |                                              | 207                              | 20    |          |
|                       | 12 Jan 76 |                    |             |                      |             |             |       |              |   |                                                 |                                              |                                  | 40    |          |
|                       | 3 Feb 76  | 3.420±0.200        | 0.100±0.030 | 18                   | 2.600±0.120 | 0.180±0.020 | 16    | 30           |   |                                                 | LT160                                        | 47                               |       |          |
|                       | 23 Feb 76 |                    |             |                      |             |             |       |              |   |                                                 |                                              | 37                               |       |          |
|                       | 15 Mar 76 |                    |             |                      |             |             |       |              |   |                                                 |                                              | 28                               |       |          |
|                       | 12 Apr 76 |                    |             |                      |             |             |       |              |   |                                                 |                                              |                                  |       |          |
|                       | 19 Apr 76 | 2.140±0.191        | 0.341±0.040 | 19                   |             |             |       |              |   |                                                 |                                              | 210                              | 90    |          |
|                       | 10 May 76 |                    |             |                      |             |             |       |              |   |                                                 |                                              | 100                              | 4     |          |
|                       | 14 Jun 76 |                    |             |                      |             |             |       |              |   |                                                 |                                              | 192                              | 54    |          |
|                       | 12 Jul 76 |                    |             |                      |             |             |       |              |   |                                                 |                                              |                                  |       |          |
|                       | 27 Jul 76 | 2.540±0.256        | 0.242±0.043 | 16                   |             |             |       |              | 9 | 29                                              |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Wyakka River

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |                                                                                                                | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |    | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                                                                                |                                                 |                                              |                                  |    |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp.                                                                                                          |                                                 |                                              |                                  |    |          |
|                   |           |                    |             |       |                      |             |       |              |                                                                                                                |                                                 |                                              |                                  |    |          |
| 25.03.0403<br>414 | 10 Aug 76 |                    |             |       |                      |             |       |              |                                                                                                                |                                                 |                                              | 264                              | 50 |          |
|                   | 20 Sep 76 |                    |             |       |                      |             |       |              |                                                                                                                |                                                 |                                              | 116                              | 36 |          |
|                   | 11 Sep 76 |                    |             |       |                      |             |       |              |                                                                                                                |                                                 |                                              | 410                              | 18 |          |
|                   | 8 Nov 76  | 4.209+0.285        | 0.090+0.023 | 25    | 3.468+0.176          | 0.163+0.027 | 31    |              | Coc BG 112<br>Fll BG 4031<br>Coc Gr 224<br>Fll Gr 56<br>Gr Flag 0<br>Cen Dia 840<br>Pen Dia 2687<br>Total 8062 |                                                 | 460                                          | 6                                |    |          |
|                   | 13 Dec 76 |                    |             |       |                      |             |       |              |                                                                                                                |                                                 | 264                                          | 48                               |    |          |
|                   | 10 Jan 77 | 4.521+0.287        | 0.102+0.025 | 32    |                      |             |       | 15           | 37                                                                                                             |                                                 | 212                                          | 160                              |    |          |
|                   | 14 Feb 77 |                    |             |       |                      |             |       |              |                                                                                                                |                                                 | 460                                          | 42                               |    |          |
|                   | 14 Mar 77 |                    |             |       |                      |             |       |              |                                                                                                                |                                                 |                                              |                                  |    |          |

See Methods for explanation of table.

DATA SUMMARY: Wyakka River

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                             | Coliform Bacteria Colonies/100ml |    | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                                                                                                                          |                                  |    |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                                                                                                                          |                                  |    |          |
|                   |           |                    |             |       |                      |             |       |              |       |                                                 |                                                                                                                                          |                                  |    |          |
| 25.03.0403<br>415 | 4 Apr 77  |                    |             |       |                      |             |       |              |       |                                                 |                                                                                                                                          | 102                              | 26 |          |
|                   | 2 May 77  |                    |             |       |                      |             |       |              |       |                                                 |                                                                                                                                          | 76                               | 28 |          |
|                   | 4 May 77  | 4.315±0.193        | 0.422±0.013 | 26    |                      |             |       |              |       |                                                 |                                                                                                                                          |                                  |    |          |
|                   | 13 Jun 77 |                    |             |       |                      |             |       |              |       |                                                 |                                                                                                                                          | 104                              | 14 |          |
|                   | 11 Jul 77 |                    |             |       |                      |             |       |              |       |                                                 |                                                                                                                                          | 80                               |    |          |
|                   | 8 Aug 77  | 3.637±0.278        | 0.159±0.033 | 29    | 3.434±0.132          | 0.110±0.013 | 30    |              |       |                                                 | Coc BG 54290<br>Fil BG 69920<br>Coc Gr 1940<br>Fil Gr 920<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 9200<br>Pen Dia 131560<br>Total 267720 |                                  |    |          |
|                   | 19 Oct 77 | 4.232±0.222        | 0.066±0.018 | 29    |                      |             |       | 10           | 30    |                                                 |                                                                                                                                          |                                  |    |          |

See Methods for explanation of table.

DATA SUMMARY: Wyakka River

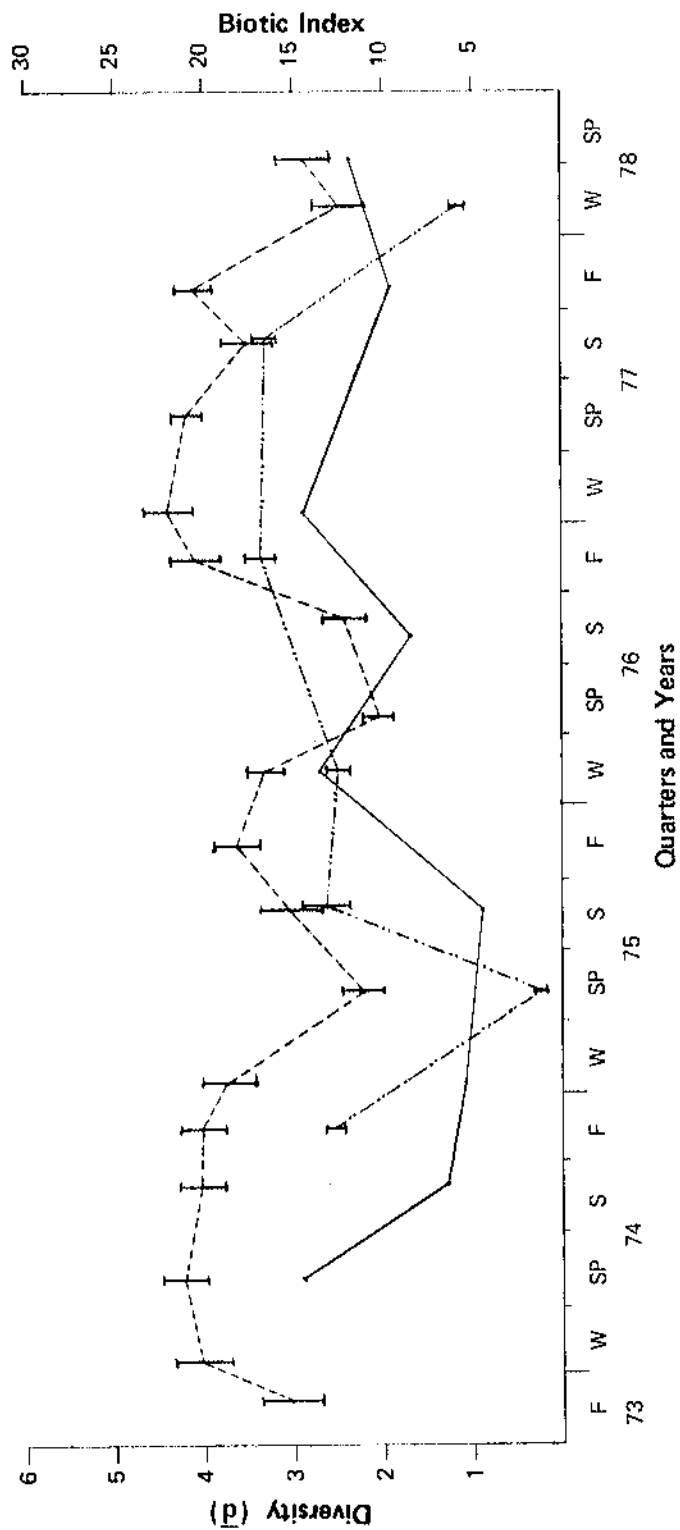
| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |    | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                              |                                  |    |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |    |          |
| 416<br>25.03.0403 | 21 Dec 77 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 100                              | 74 |          |
|                   | 9 Jan 78  |                    |             |       |                      |             |       |              |       |                                                 |                                              | 288                              | 64 |          |
|                   | 31 Jan 78 | 2.606±0.300        | 0.456±0.070 | 30    | 1.286±0.090          | 0.556±0.027 | 19    |              |       |                                                 |                                              | 135                              | 8  |          |
|                   | 6 Feb 78  |                    |             |       |                      |             |       |              |       |                                                 |                                              | 92                               | 42 |          |
|                   | 6 Mar 78  |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |    |          |
|                   | 29 Mar 78 | 3.070±0.307        | 0.220±0.048 | 21    |                      |             |       | 12           | 31    |                                                 |                                              | 132                              | 8  |          |
|                   | 11 Apr 78 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 64                               | 6  |          |
|                   | 15 May 78 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 75                               | 18 |          |
|                   | 6 Jun 78  |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |    |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.03.0403  
 BODY OF WATER: MYAKKA RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)





## KISSIMMEE DRAINAGE BASIN

The Kissimmee River drainage basin includes approximately 4,400 square miles of south-central peninsular Florida. The only major stream in the basin is the Kissimmee River, which originates as the effluent stream from Lake Kissimmee and flows southeastward for approximately 90 miles to Lake Okeechobee. Tributary streams rising in Polk and Orange Counties and flowing through numerous lakes in Polk, Osceola and Highlands Counties augment the flow of the Kissimmee River. Fisheating Creek rises in Highlands County and drains approximately 300 square miles of Highlands and Glades Counties to Lake Okeechobee. Beginning in 1965, the main stream of the Kissimmee River, which had meandered through an extensive flood-plain marsh was channelized and control structures were constructed at intervals along the canal. The basin is not divided into sub-basins.

Lake Butler, station 26.01.0107, is the northernmost monitoring location in this basin. It lies in southwest Orange County near Windermere. Four natural substrate samples were analyzed, during 1975-78. Macroinvertebrate diversity was very good in each of the samples. Bacteria counts were low throughout the period of record. Also, although only two samples were analyzed, the phytoplankton counts were notably low for a central Florida lake.

Shingle Creek, which flows from the Orlando area to Lake Tohopekaliga, was sampled routinely throughout the report period. But in 1975, monitoring was shifted from station 26.01.0151, at US 192, to station 26.01.0016, at US 17/92 and no comparisons should be made between the two stations. The stream is subject to domestic wastes and agricultural runoff.

At station 26.01.0151, during 1973-75, macroinvertebrate diversities were quite good but Biotic Index numbers were slightly less impressive. This may reflect a slightly oxygen deficient stream in which good diversity was possible but in which some of the less pollution tolerant taxa were sometimes stressed.

Station 26.01.0016, during 1975-78, exhibited macroinvertebrate diversities ranging from fair to very good and Biotic Index values in the poor to fair range. No significant trends were evident from the data. The flow rate was occasionally quite fast, which could have conflicting effects. It could cause stream bed scouring and thereby reduce macroinvertebrate populations or, in turbulent areas, it could act to reoxygenate water under oxygen demand. Both total and fecal coliform concentrations were noted

to exceed Class III standards, probably due to pasture runoff and sewage effluent, although no direct relationships were established.

East Lake Tohopekaliga, station 26.01.0946, is in the northern part of Osceola County and is the most upstream major lake in what is known as the Upper Chain (East Lake Tohopekaliga, and Lakes Tohopekaliga, Cypress, Hatchineha and Kissimmee) of lakes in the Kissimmee River basin. It receives agricultural and residential runoff. It was sampled for macroinvertebrates only twice during the report period, in 1976 and 1977. The diversities were good; 3.22 and 2.27, respectively.

Lake Tohopekaliga, downstream (via St. Cloud Canal) from East Lake Tohopekaliga, receives polluted water from Shingle Creek and other sources. The monitoring station, 26.01.0073, is located near the southern end of the lake. Macroinvertebrate diversity was variable during the report period but fair overall. No significant change was determined from the data. Phytoplankton concentrations were occasionally high. Bacteria counts were usually low.

Reedy Creek, station 26.01.0164, at US 192, flows from southwest Orange County swampland through Lake Russell to Dead River which enters Lake Hatchineha. Part of the drainage has been developed into the Walt Disney World resort complex which has added domestic waste and urban runoff to the stream. Macroinvertebrate diversities were good at the station the two times it was sampled, in 1976-77.

Lake Marion, station 26.01.0256, is in Polk County east of Haines City. Its water flows to Lake Hatchineha. It was sampled for macroinvertebrates in 1976, when diversity was good (2.55) and in 1978, when the diversity was poor (0.61). The low diversity was caused by dominance of the sample by larvae of the midge Glyptotendipes paripes. Their density was over 63000 per square meter, which was ninety percent of the total fauna collected. This is a natural phenomenon in central Florida lakes.

Lake Hatchineha, station 26.01.0224, is part of the Upper Chain of lakes in the basin. It has virtually undeveloped shoreline. The two times that macroinvertebrate diversity was determined, in 1976-77, it was good.

Lake Weohyakapka, station 26.01.0311, in eastern Polk County, drains to Lake Rosalie which drains to Tiger Lake, from which water flows to Lake Kissimmee. The lake shore is mostly undeveloped but receives a small amount of domestic waste. Three macroinvertebrate samples were analyzed from Lake Weohyakapka, in 1976-78. Two of the three samples had very good diversities and the third, which was still fairly good, was lower because of domination of the sample by mayfly larvae, Hexagenia munda orlando in a manner similiar to that in Lake Marion above.

Lake Rosalie, station 26.01.0216, is also undeveloped. In 1976-77, it was sampled twice for macroinvertebrates. The diversity was fairly good, but not what might be expected, and only nine taxa were represented in the two samples. This is unexplained with the data available.

Lake Marian, station 26.01.0952, in Osceola County east of Lake Kissimmee is surrounded by pastureland. Two macroinvertebrate samples were analyzed, during 1976-77. Diversity numbers of 3.01 and 1.69, respectively, were obtained. More data would be required to better understand the water quality in the lake as the lower of the two diversities was indeed caused by a depauperate fauna. The lake appears to have more muck on the bottom than other lakes in the area.

Lake Kissimmee, in western Osceola County, receives most of the water from the upper part of the basin before it enters the Kissimmee River and flows southward to Lake Okeechobee. Station 26.01.0094 is located at the extreme southern end of the lake. Two macroinvertebrate samples were analyzed, in 1976-77, and diversity was fairly good. Bacteria were sampled throughout the report period and counts were usually low.

Station 26.01.0028 is on the Kissimmee River near Bluff Hammock, upstream from lock S-65E. The river is actually a canal, with depths recorded at this station of up to 6.9 meters. Samples were usually taken from depths of 1-3 meters. Macroinvertebrate diversities were, surprisingly, very good during the report period. However, the two unimpressive Biotic Index numbers (4 and 11) obtained during the period indicate that the macroinvertebrate community may have been diverse, but that it also was made up of many types other than those considered to be pollution intolerant. Bacteria concentrations were acceptable when measured.

Crooked Lake, station 26.01.0313, is in southern Polk County. It was sampled three times during the report period, in 1976-78. Macroinvertebrate diversity was very good each time, although not a large number of species was collected from the lake. There are few sources of pollution to the lake.

Reedy Lake (Lake Reedy), station 26.01.0201, receives sewage effluent from the town of Frostproof and citrus processing wastes. Macroinvertebrate diversity was generally fair during the monitoring period. It showed a significant improvement but no specific reason was immediately apparent. Also, phytoplankton counts were frequently high and dominated by blue-green forms, evidence of over-enrichment.

Lake Arbuckle, station 26.01.0312, has no notable pollution sources other than some pasture runoff. Macroinvertebrate diversity was excellent the two times it was determined, in 1976-77.

Carter Creek, station 26.01.0518, at Arbuckle Creek Road, flows from Bonnet Lake on the Lake Wales Ridge downward to Arbuckle Creek at an average rate of approximately 1-2 feet per second. It was sampled for macroinvertebrates three times, in 1977-78. The Biotic Index numbers obtained were very good. It is especially notable for the many different Odonata (dragonflies and damselflies) and Trichoptera (caddisflies) larvae which it supports. It also is one of the southernmost collection points for the mayfly, Ephemerella trilineata.

Arbuckle Creek, station 26.01.0029, a mile south of Arbuckle Creek Road, flows from Lake Arbuckle through pastureland to Lake Istokpoga. Upstream from the sampling station, it is diked to permit cattle grazing on more of the flood plain. Backpumping from behind the dike during heavy rainfall, such as during the summer of 1979, could stress the biota. The 1979 data will be available for the next report, to assess the effects. Macroinvertebrate diversity during the report period was generally very good and exhibited a significant improvement. Biotic Index numbers were less impressive, perhaps indicating occasional oxygen deficiencies, but also showed a significant upward trend. No specific cause and effect explanation was evident. Occasional moderate increases in bacteria concentrations were evidently due to runoff.

Lake Placid, station 26.01.0523, is in central Highlands County near the town of Lake Placid. It is a deep (sample depth = 6.5 - 7 m), clear lake with sandy sediment. It was sampled for macroinvertebrates three times, in 1975-77, and the diversity was good each time.

Lake Juno-In-Winter, station 26.01.0551, is near Lake Placid and similar to it except for more residential development around the shoreline. When sampled, 1975-77, macroinvertebrate diversity was twice very good and once only fair. The low number was caused by dominance of the sample by Glyptotendipes sp. larvae, a natural phenomenon mentioned above in reference to other lakes.

Lake Istokpoga, station 26.01.0502, east of Lake Placid, receives the majority of its inflow from Arbuckle Creek. Its outflow goes to the Kissimmee River and Lake Okeechobee. It is a shallow, tannic lake with sand and peat sediments. Macroinvertebrate diversity was generally good throughout the report period and exhibited no significant trend. Field biologists have noted that cat-tails (Typha sp.) have been gaining dominance in recent years. This

probably is a result of over-regulation of the lake water levels, to the detriment of plants which require greater fluctuation to compete. Bacteria concentrations were normally low throughout the period of record.

Station 26.01.0007, north of SR 78, is on the Kissimmee River just upstream from Lake Okeechobee. The river is a deep canal (sample depth = 2.4 - 7.5 m) flowing through pastureland along the Okeechobee-Glades County line. Macroinvertebrate diversity was good for six natural substrate samples analyzed during the study period. Biotic Index values, however, were poor the three times that they were determined, which suggests possible occasional oxygen deficiencies. More comprehensive sampling would be necessary to substantiate this hypothesis.

Fisheating Creek originates in western Highlands County and flows southward to Glades County then eastward to Lake Okeechobee. Station 26.01.0516 is on the creek at SR 70. This part of the stream is channelized and there is considerable agricultural activity in the area. Three natural substrate macroinvertebrate samples were analyzed, during 1975-77. Diversity indices were variable; from fair to very good. Flow regulation probably had a marked effect on the community stability but more data would be necessary to pursue this possibility. Waterhyacinths (Eichhornia crassipes) are prominent at the station.

Station 26.01.0592 is on Fisheating Creek approximately three miles downstream from US 27. This part of the stream is unaltered and flows through a cypress swamp. During high flow periods, the stream is deep and fast-flowing. At low flow, intermittent pools develop. Macroinvertebrate diversities were very good and exhibited no significant change during the report period. Biotic Index numbers were good, with two exceptions, and exhibited a significant improvement, although no specific reason was apparent. Bacteria counts were occasionally somewhat elevated, probably because of runoff. Of biological interest, this station produced the southernmost collection of the mayfly, Stenonema integrum.

Taylor Creek, station 26.01.0407, at US 441 south, flows through Okeechobee County pastureland and dairy operations to the northern end of Lake Okeechobee. Runoff from these areas contributes significant organic loads to the stream and the lake. Also, the streambed has been dredged. During the study period, natural and artificial substrates were analyzed for macroinvertebrate diversities. Both methods provided variable diversities, ranging from fair to very good, and exhibited significant downward trends. Biotic Index numbers were very good from 1973 through early 1976 and slightly better from mid-1976 through the end of the report period. A significant upward trend was apparent. However, the noticeably better

numbers began at the same time that the biologist assigned to the station changed. Apparently, the latter biologist was more diligent in his collecting efforts than those who preceded him. Despite such discrepancies, the Biotic Index numbers indicated apparent problems due to low dissolved oxygen concentrations. Total and fecal concentrations were occasionally somewhat elevated.

Lake Okeechobee is the second largest lake entirely within the boundaries of the United States. It has an area of approximately 1919 square kilometers (741 square miles) yet an average depth of just over three meters. For flood control and water conservation purposes, structures have been built around the lake so that all inflows and outflows are regulated, except for the inflow from Fisheating Creek. Only the perimeter of the northern half of the lake is included with this basin. Further discussion of the lake is included in the Lower Florida Drainage Basin section.

Station 26.01.0523 is on Lake Okeechobee, approximately one mile south of the mouth of Taylor Creek, so it receives much the same pollutants as the creek. Macroinvertebrate diversity at the station was fairly good during the report period and no significant trend was noted. Estuarine crustaceans were collected at this station as was the introduced snail Melanoides tuberculata. Bacteria levels were usually low.

Station 26.01.0524 is on Lake Okeechobee near the entrance to the St. Lucie Canal at Port Myaca, which flows from the lake to the Atlantic Ocean. Macroinvertebrates were sampled five times, during 1975-77. The diversity was only fair and the number of taxa collected was rather small. The sediment was variable (i.e., rock, shell, mud) perhaps due to dredging, and not considered good habitat for a wide variety of freshwater invertebrates. Unrelated, but notable, estuarine forms were also collected at this station as was Melanoides tuberculata. Bacteria counts were usually low when monitored.

#### Summary

In the extreme northern part of the basin, Lake Butler had excellent water quality as evidenced by the biological data. Several lakes in the upper part of the basin were sampled and, according to the analyses used, were judged to be generally good or very good. Those lakes included were East Lake Tohopekaliga, and Lakes Marion (Polk County), Hatchineha, and Weohyakapka. The Reedy Creek station also fell in this category.

There were also several lakes in the area that either were not apparently

in very good condition or were not to be characterized with the present information. Lakes Marian (Osceola County) and Rosalie fell in the latter group.

Lake Tohopekaliga had only fair macroinvertebrate diversities and exhibited no significant trends during the report period. Apparently, Shingle Creek has had an effect on Lake Tohopekaliga. Shingle Creek had good macroinvertebrate diversity during the report period. Low Biotic Index values, and total and fecal coliform levels above Class III standards, indicated depressed water quality from domestic wastes and agricultural runoff. It also showed no significant change during the study period. Lake Kissimmee's macroinvertebrate diversity was apparently not quite as low as that of Lake Tohopekaliga, but was also not as high as in several of the other lakes in the region. This may indicate a negative effect from collecting water from the upstream areas before it flows south to Lake Okeechobee. More data would be needed to confirm this.

Near Frostproof, Lake Arbuckle, Crooked Lake and Reedy Lake were monitored. The first two, free from notable pollution sources, had very good water quality, apparently. Conversely, Reedy Lake, which receives sewage effluent and citrus processing waste, had only fair macroinvertebrate diversity and frequently had blue-green algae blooms. The diversity displayed a significant upward trend but no specific explanation was apparent.

Carter and Arbuckle Creeks both had apparently very healthy macroinvertebrate communities, according to the methods used, and the latter exhibited a significant, though currently unexplained, improvement. Lakes Placid and June-In-Winter also had good water quality according to the biological data. Lake Istokpoga had good macroinvertebrate diversity with no significant change detected, but restrictive water level regulation may have given cat-tails an artificial competitive advantage over other plants in the lake.

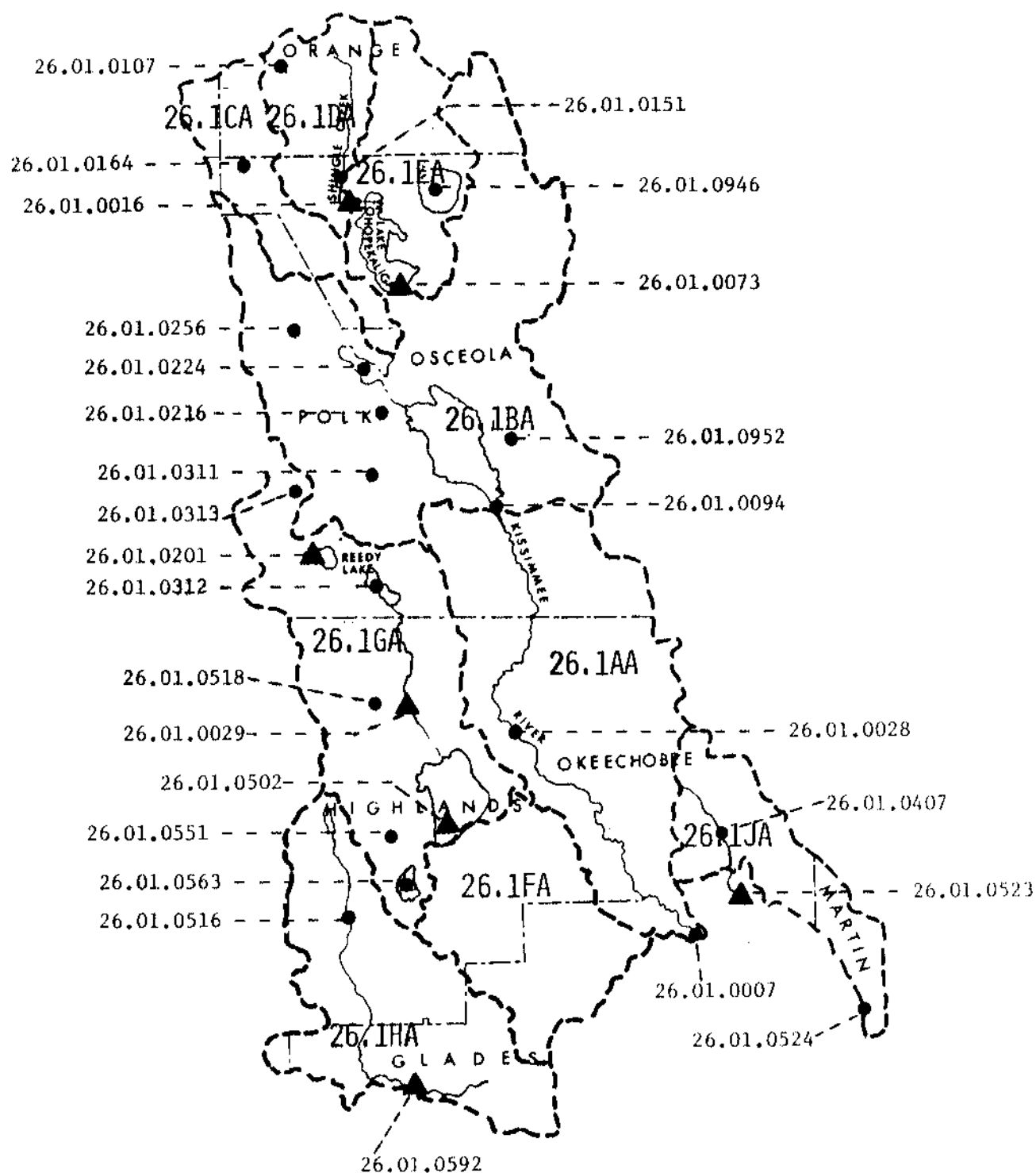
On the Kissimmee River at Bluff Hammock macroinvertebrate diversity was very good and just upstream from Lake Okeechobee it was good, but low Biotic Index numbers suggested that low-dissolved oxygen was preventing many intolerant taxa from occurring in the river.

Fisheating Creek was monitored in its upper reaches where it is channelized and downstream where it is not. The former location had macroinvertebrate diversities ranging from fair to very good. The latter had better diversity indices and a generally good Biotic Index which showed a significant improvement, though no explanation was apparent.

On the north side of Lake Okeechobee, Taylor Creek had macro-invertebrate diversity which was variable from fair to very good and which exhibited a significant decline during the report period. This decline, consistently poor Biotic Index numbers, and occasional total and fecal coliform problems, reflect degradation due to nutrient and organic inputs from agricultural and dairy practices in the region. In Lake Okeechobee, offshore from Taylor Creek, macroinvertebrate diversity was fairly good and exhibited no significant trend. At Port Myaca, Lake Okeechobee diversities were only fair, probably due, in part, to the poor habitat provided by the variable sediments.



# KISSIMMEE RIVER BASIN



Station No. 26.01.0007 Body of Water Kissimmee River  
Location just North of SR 78  
County Glades  
Type Body of Water river Classification III  
Sources of Pollution channelization of stream, runoff from pasture  
Nearby Land Use pasture and development (recreation), marina  
Sampling Frequency random Depth \_\_\_\_\_  
Bottom Type sand, mud % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged none visible  
Emergent Phragmites, Schinus terebinthifolius

**Macroinvertebrates:**

Annelida

Oligochaeta

Aulodrilus piqueti  
Branchiura sowerbyi  
Limnodrilus sp.  
Nais sp.  
Potamotheix vejovskyi  
Tubifex sp.

Hirudinea

Helobdella stagnalis  
Placobdella multilineata  
Mooreobdella microstoma

Arthropoda

Crustacea

Isopoda

Cassidinisca lunifrons  
Cyathura polita

Amphipoda

Gammarus sp.  
Hyalella azteca

Decapoda

Palaemonetes paludosus

Insecta

Odonata

Aphylla williamsoni  
Macromia taeniolata  
Pachydiplax longipennis  
Tetragoneuria sp.

Ephemeroptera

Caenis diminuta  
Callibaetis floridanus

Trichoptera

Cynellus fraternus  
Oecetis sp. 5 - Cantrell  
Orthotrichia sp.

Diptera

Chironomus sp.  
Cladotanytarsus sp.  
Clinotanytus sp.  
Coelotanytus scapularis  
C. tricolor  
Cryptochironomus fulvus  
Cricotopus bicinctus  
C. remus  
Dicrotendipes modestus  
D. neomodestus  
Glyptotendipes sp.  
Goeldichironomus holoprasinus  
Nilothauma bicornis  
Nimbocera sp.  
Parachironomus sp.  
Polypedilum halterale  
Procladius sp.  
Psectrocladius sp. (Beck)  
Rheotanytarsus exiguus  
Tanytarsus sp. 1 - Cantrell  
Thienemanniella sp. 2 - Cantrell  
Xenochironomus (Anceus) sp.  
X. xenolabis  
Chaoborus sp.  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
 unident. forcipomyiin

Coleoptera

Gyrinus sp.

26.01.0007

Arachnida

Acarina

unident. sp.

Mollusca

Gastropoda

Amnicola sp.

Helisoma sp. 1 - Cantrell

Melanoides tuberculata

Physa sp.

Pyrgophorus platyrachis

Pseudosuccinea sp.

Viviparus sp.

Pelecypoda

Byssanodonta cubensis

Corbicula manilensis

unident. sphacriid

unident. unionid

DATA SUMMARY: Kissimmee River

| Station Number        | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |
|-----------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|----|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|
|                       |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |    |                                                 |                                              | Total                            | Fecal |          |  |
|                       |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |    |                                                 |                                              |                                  |       |          |  |
|                       |           | BI                 | #Spp.       |       |                      |             |       |              |    |                                                 |                                              |                                  |       |          |  |
| 26.01.0007<br><br>430 | 4 Sep 73  |                    |             |       |                      |             |       |              |    |                                                 |                                              | 130                              | 20    |          |  |
|                       | 6 Dec 73  | 2.973±0.373        | 0.180±0.069 | 12    |                      |             |       | 5            | 17 |                                                 |                                              | 70                               |       |          |  |
|                       | 11 Dec 73 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 20                               | LT10  |          |  |
|                       | 18 Dec 73 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 20                               | 10    |          |  |
|                       | 23 Jan 74 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 2                                |       |          |  |
|                       | 20 Feb 74 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 36                               | 4     |          |  |
|                       | 27 Mar 74 | 2.447±0.126        | 0.179±0.022 | 13    | 1.251±0.082          | 0.595±0.026 | 18    |              |    |                                                 |                                              |                                  | 13    |          |  |
|                       | 29 May 74 | 2.916±0.163        | 0.141±0.025 | 17    |                      |             |       | 7            | 44 |                                                 |                                              |                                  |       |          |  |
|                       | 9 Jul 74  |                    |             |       |                      |             |       |              |    |                                                 |                                              |                                  |       |          |  |
|                       | 25 Sep 74 |                    |             |       |                      |             |       |              |    |                                                 |                                              |                                  | LT2   |          |  |
|                       | 18 Feb 75 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 380                              | 30    |          |  |
|                       |           |                    |             |       |                      |             |       |              |    |                                                 |                                              | 30                               | 10    |          |  |

See Methods for explanation of table.

DATA SUMMARY: Kissimmee River

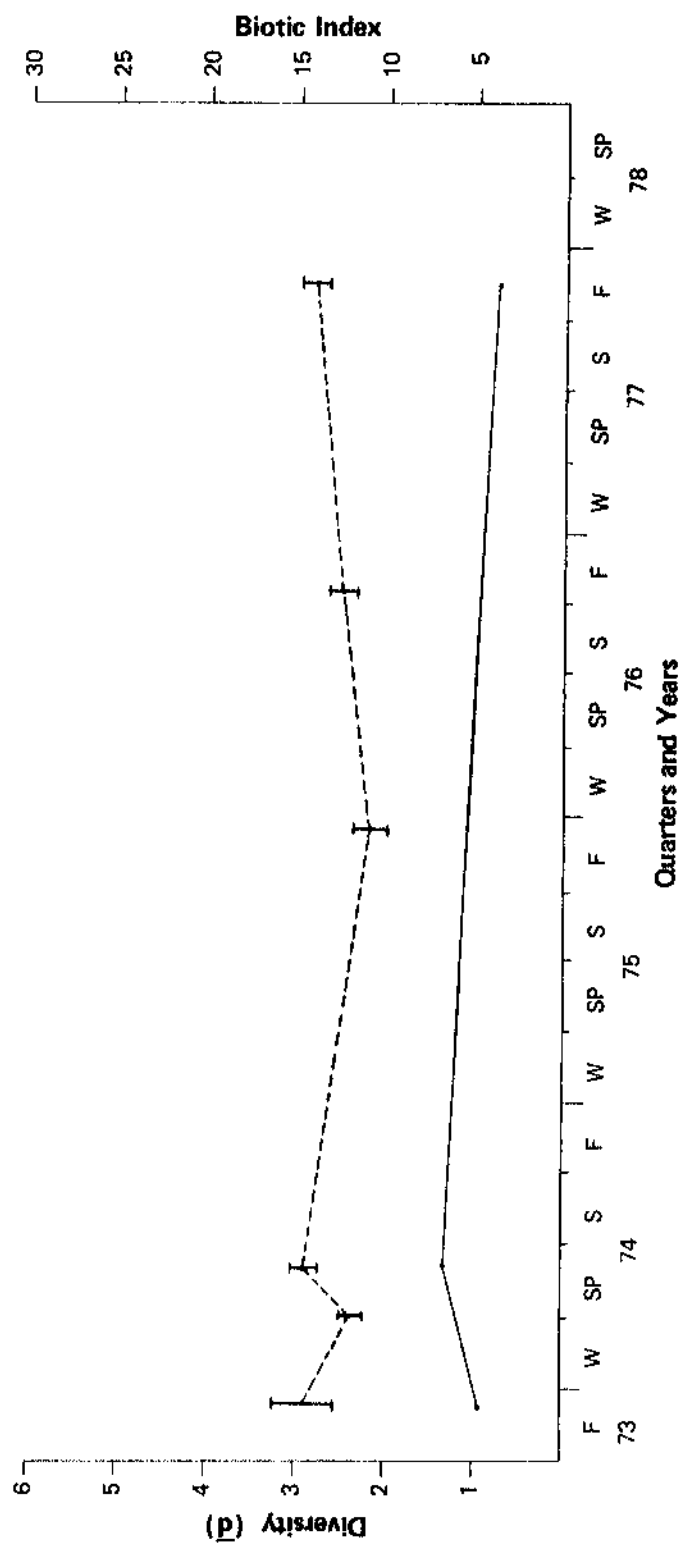
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |
|                |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |          |
| 26.01.0007     | 5 Dec 75  | 2.245±0.202        | 0.235±0.041 | 11    |                      |            |       |              |       |                                                 |                                              | Florida Index                    |          |
|                | 5 Jan 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |          |
|                | 18 Oct 76 | 2.564±0.152        | 0.198±0.020 | 19    |                      |            |       | 4            | 30    |                                                 |                                              |                                  |          |
|                | 9 Nov 77  | 2.891±0.144        | 0.169±0.027 | 18    |                      |            |       |              |       |                                                 | 8                                            |                                  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0007  
 BODY OF WATER: KISSIMMEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0016 Body of Water Shingle Creek

Location US Hwy. 17/92, downstream from Kissimmee Airport

County Osceola

Type Body of Water river Classification III

Sources of Pollution domestic waste, agricultural runoff

Nearby Land Use agriculture

Sampling Frequency quarterly Depth 2.5 m

Bottom Type sand, silt, detritus % Volatile Solids

Aquatic Plants: Submerged

Emergent Eichhornia crassipes, Alternanthera philoxeroides,

Panicum sp., Salix sp., Pistia stratiotes, Panicum hemitomon, Taxodium sp., Lemna sp.

#### Macroinvertebrates:

##### Platyhelminthes

##### Turbellaria

Dugesia sp. 1 - Hart

D. tigrina

Eukalyptorhynchia sp. 1 - Rohlke

Planaria sp. 1 - Rohlke

##### Annelida

##### Oligochaeta

Limnodrilus hoffmeisteri

Stylaria fossularis

S. lacustris

Tubifex tubifex

unident. tubificid sp. 1 - Rohlke

##### Hirudinea

Helobdella sp. 1 - Hart

H. fusca

Placobdella sp. 1 - Rohlke

unident. sp. 1 - Rohlke

##### Arthropoda

##### Crustacea

##### Isopoda

Cassidinisca sp. 1 - Rohlke

##### Amphipoda

Hyaella azteca



Decapoda

Palaemonetes paludosus  
unident. astacid sp. 1 - Hart

Insecta

Odonata

Agrion sp. 1 - Hart  
Argia sedula  
A. translata  
Enallagma sp. 1 - Hart  
Erythemis simplicollis  
Gomphus pallidus  
G. sp. 1 - Hart  
Hetaerina americana  
Ischnura sp. 1 - Hart  
Macromia illinoiensis  
M. sp. 1 - Hart  
Perithemis seminole  
Tetragoneuria sp. 1 - Hart

Ephemeroptera

Baetis spiethi  
B. interpunctatum  
B. spinosus  
Caenis diminuta  
C. hilaris  
Callibaetis floridanus  
C. pretiosus

Hemiptera

Ranatra sp. 1 - Hart  
Trichocorixa sp. 1 - Hart

Trichoptera

Agraylea sp. 1 - Rohlke  
Oecetis sp. 1 - Rohlke  
Oxyethira sp. 1 - Rohlke  
Polycentropus sp. 1 - Hart

Megaloptera

Sialis sp. 1 - Rohlke

Diptera

Ablabesmyia sp.  
A. hauberi  
A. parajanta  
A. ornata  
A. tarella  
Chaoborus punctipennis  
Chironomus crassicaudatus

Diptera (cont.)

Cladotanytarsus sp. 1 - Hart  
Clinotanypus sp. 1 - Hart  
Coelotanypus concinnus  
C. scapularis  
C. tricolor  
Cricotopus sp. 1 - Hart  
Cryptochironomus blarina  
C. fulvus  
Cryptotendipes sp. 1 - Hart  
Dicrotendipes leucoscelis  
D. lobus  
D. modestus  
D. neomodestus  
D. nervosus  
Endochironomus nigricans  
Eulalia sp. 1 - Rohlke  
Glyptotendipes paripes  
Harnischia sp. 1 - Hart  
Labrundinia virescens  
L. johannseni  
Micropsectra sp. 1 - Hart  
Microtendipes sp. 1 - Hart  
Orthocladius sp. 1 - Hart  
Pagastiella sp. 1 - Hart  
Palpomyia tibialis  
Parachironomus pectinatellae  
P. monochromus  
Paralauterborniella nigrohalteralis  
Pedionomus beckae  
Pentaneura inculta  
Polypedilum halterale  
P. falsa  
P. illinoense  
Procladius sp. 1 - Hart  
Psectrocladius flavius  
Pseudochironomus sp. 1 - Hart  
Rheotanytarsus sp.  
Stictochironomus devinctus  
Tanytarsus sp. 1 - Hart  
Tribelos jucundus  
T. fuscicornis  
Zavrelia sp. 1 - Hart  
 unident. orthocladiin sp. 1 - Rohlke  
 unident. ceratopogonid sp. 1 - Rohlke

Coleoptera

Dineutus sp. 1 - Hart  
D. discolor  
Dubiraphia quadrinotata

Coleoptera (cont.)

Dubiraphia sp. 1 - Hart  
D. vittata  
Peltodytes lengi  
P. floridensis

Mollusca

Gastropoda

Ferrissia sp. 1 - Hart  
Gyraulus sp. 1 - Hart  
Helisoma sp. 1 - Hart  
Physa sp. 1 - Hart  
Pseudosuccinea sp. 1 - Hart  
P. columella

Pelecypoda

Corbicula manilensis  
Elliptio buckleyi  
Musculium sp. 1 - Rohlke

DATA SUMMARY: Shingle Creek

| Station Number | Date      | Macroinvertebrates |            |                      |           |       |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |
|----------------|-----------|--------------------|------------|----------------------|-----------|-------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|
|                |           | Natural Substrate  |            | Artificial Substrate |           | Total | Fecal |              |       |                                                 |                                              |                                  |     |          |
|                |           | Diversity          | Redundancy | #Spp.                | Diversity |       |       | Redundancy   | #Spp. |                                                 |                                              |                                  |     |          |
|                |           | B1                 | #Spp.      |                      |           |       |       |              |       |                                                 |                                              |                                  |     |          |
| 26.01.0016     | 7 Nov 73  |                    |            |                      |           |       |       |              |       |                                                 |                                              | 1700                             | 200 |          |
|                | 17 Dec 73 |                    |            |                      |           |       |       |              |       |                                                 |                                              | 2100                             | 560 |          |
|                | 22 Jan 74 |                    |            |                      |           |       |       |              |       |                                                 |                                              | 960                              | 240 |          |
|                | 10 Sep 74 |                    |            |                      |           |       |       |              |       |                                                 |                                              | 4700                             | 460 |          |
|                | 8 Oct 74  |                    |            |                      |           |       |       |              |       |                                                 |                                              | 710                              | 180 |          |
|                | 5 Nov 74  |                    |            |                      |           |       |       |              |       |                                                 |                                              | 410                              | 130 |          |
|                | 3 Dec 74  |                    |            |                      |           |       |       |              |       |                                                 |                                              |                                  | 30  |          |
|                | 6 Jan 75  |                    |            |                      |           |       |       |              |       |                                                 |                                              | 820                              | 200 |          |
|                | 21 Jan 75 |                    |            |                      |           |       |       |              |       |                                                 |                                              | 1190                             | 650 |          |
|                | 4 Mar 75  |                    |            |                      |           |       |       |              |       |                                                 |                                              | 310                              | 40  |          |
|                | 1 Apr 75  |                    |            |                      |           |       |       |              |       |                                                 |                                              | 30                               | 20  |          |

See Methods for explanation of table.

DATA SUMMARY: Shingle Creek

| Station Number | Date     | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>               | Periphyton Composition units/cm <sup>2</sup>                                             | Coliform Bacteria Colonies/100ml |        | Comments |
|----------------|----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|---------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------|--------|----------|
|                |          | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                               |                                                                                          |                                  |        |          |
|                |          | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                               |                                                                                          |                                  |        |          |
|                |          |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          |                                  |        |          |
| 438            | 26.01.76 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          | 3700                             | 1980   |          |
|                | 3 Jun 75 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          | 580                              | 16     |          |
|                | 8 Jul 75 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          | 7500                             | GT1000 |          |
|                | 5 Aug 75 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          | 40                               | 6      |          |
|                | 3 Sep 75 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          | 1400                             | LT100  |          |
|                | 6 Oct 75 | 1.049±0.318        | 0.522±0.173 | 4     |                      |             |       |              |       |                                                               |                                                                                          | 400                              | 300    |          |
|                | 3 Nov 75 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          | 200                              | 100    |          |
|                | 8 Dec 75 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          | 1000                             | 200    |          |
|                | 5 Jan 76 | 1.601±0.576        | 0.728±0.215 | 8     | 2.080±0.302          | 0.483±0.083 | 18    | 10           | 41    | Coc BG<br>F11 BG<br>Coc Gr<br>F11 Gr<br>Gr Flag<br>Other Flag | 1 Coc BG 84861<br>LT1 F11 BG 30858<br>9 Coc Gr<br>2 F11 Gr 365157<br>2 F11 Gr 66860<br>0 | 300                              | 87     |          |
|                | 2 Feb 76 |                    |             |       |                      |             |       |              |       |                                                               |                                                                                          |                                  |        |          |

See Methods for explanation of table.

DATA SUMMARY: Shingle Creek

| Station Number    | Date                | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                       | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|---------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                   |                     | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                                                                    | Total                            | Fecal |          |
|                   |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                                                                    |                                  |       |          |
|                   |                     |                    |             |       |                      |            |       |              |                                                 |                                                                                    |                                  |       |          |
| 26.01.0016<br>439 | 2 Feb 76<br>(cont.) |                    |             |       |                      |            |       |              | Cen Dia 5<br>Pen Dia 5<br>Total 24              | 5 Br Flag 36001<br>Other Flag 0<br>Cen Dia 74574<br>Pen Dia 115719<br>Total 774030 |                                  |       |          |
|                   | 12 Apr 76           | 2.164+0.250        | 0.291+0.070 | 11    |                      |            |       |              |                                                 |                                                                                    | 310                              | 10    |          |
|                   | 10 May 76           |                    |             |       |                      |            |       |              |                                                 |                                                                                    | 440                              | 90    |          |
|                   | 7 Jun 76            |                    |             |       |                      |            |       |              |                                                 |                                                                                    | 1000                             | 130   |          |
|                   | 12 Jul 76           | 1.828+0.238        | 0.426+0.072 | 12    |                      |            |       | 12           | 30                                              |                                                                                    | 960                              | 150   |          |
|                   | 2 Aug 76            |                    |             |       |                      |            |       |              |                                                 |                                                                                    | 2200                             | 160   |          |
|                   | 13 Sep 76           |                    |             |       |                      |            |       |              |                                                 |                                                                                    | 1800                             | 85    |          |

See Methods for explanation of table.

DATA SUMMARY: Shingle Creek

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                          | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                                                                                          |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                                                                                          |                                              |                                  |       |          |
|                   |           |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |
| 440<br>26.01.0016 | 18 Nov 76 | 2.302±0.476        | 0.465±0.141 | 12    |                      |             |       |              |       | Coc BG 64<br>Fil BG 111<br>Coc Gr 60<br>Fil Gr 60<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 56<br>Pen Dia 133<br>Total 484 |                                              |                                  |       |          |
|                   | 15 Dec 76 |                    |             |       |                      |             |       | 15           | 36    |                                                                                                                          |                                              | 180                              | 180   |          |
|                   | 10 Feb 77 | 3.022±0.381        | 0.268±0.074 | 18    |                      |             |       |              |       |                                                                                                                          |                                              | 275                              | 135   |          |
|                   | 21 Mar 77 |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              | 64                               | 64    |          |
|                   | 11 Apr 77 |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              | 66                               | 66    |          |
|                   | 9 May 77  |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  | 35    |          |
|                   | 6 Jun 77  | 3.169±0.243        | 0.146±0.034 | 18    | 4.378±0.188          | 0.045±0.011 | 30    |              |       | Coc BG 6780<br>Fil BG 1690                                                                                               |                                              |                                  |       | GT630    |

See Methods for explanation of table.

DATA SUMMARY: Shingle Creek

| Station Number | Date                   | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                            | Periphyton Composition units/cm <sup>2</sup>                                                                                    | Coliform Bacteria Colonies/100ml |            | Comments |
|----------------|------------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------|----------|
|                |                        | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                            |                                                                                                                                 | Total                            | Fecal      |          |
|                |                        | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                            |                                                                                                                                 |                                  |            |          |
|                |                        |                    |             |       |                      |            |       |              |                                                                                                            |                                                                                                                                 |                                  |            |          |
| 441            | 26 Jul 77<br>(cont.)   |                    |             |       |                      |            |       |              | Coc Gr 5080<br>Fil Gr 17790<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 9320<br>Pen Dia 581890<br>Total 622550 |                                                                                                                                 |                                  |            |          |
|                | 12 Jul 77<br>10 Aug 77 | 3.009±0.309        | 0.249±0.008 | 19    |                      |            |       |              |                                                                                                            | Coc BG 0<br>Fil BG 600<br>Coc Gr 1900<br>Fil Gr 200<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 700<br>Pen Dia 11200<br>Total 14600 | 660<br>1060                      | 600<br>111 |          |
|                | 1 Oct 77               | 2.315±0.451        | 0.362±0.139 | 9     |                      |            |       | 3 18         |                                                                                                            |                                                                                                                                 |                                  |            |          |

See Methods for explanation of table.



DATA SUMMARY: Shingle Creek

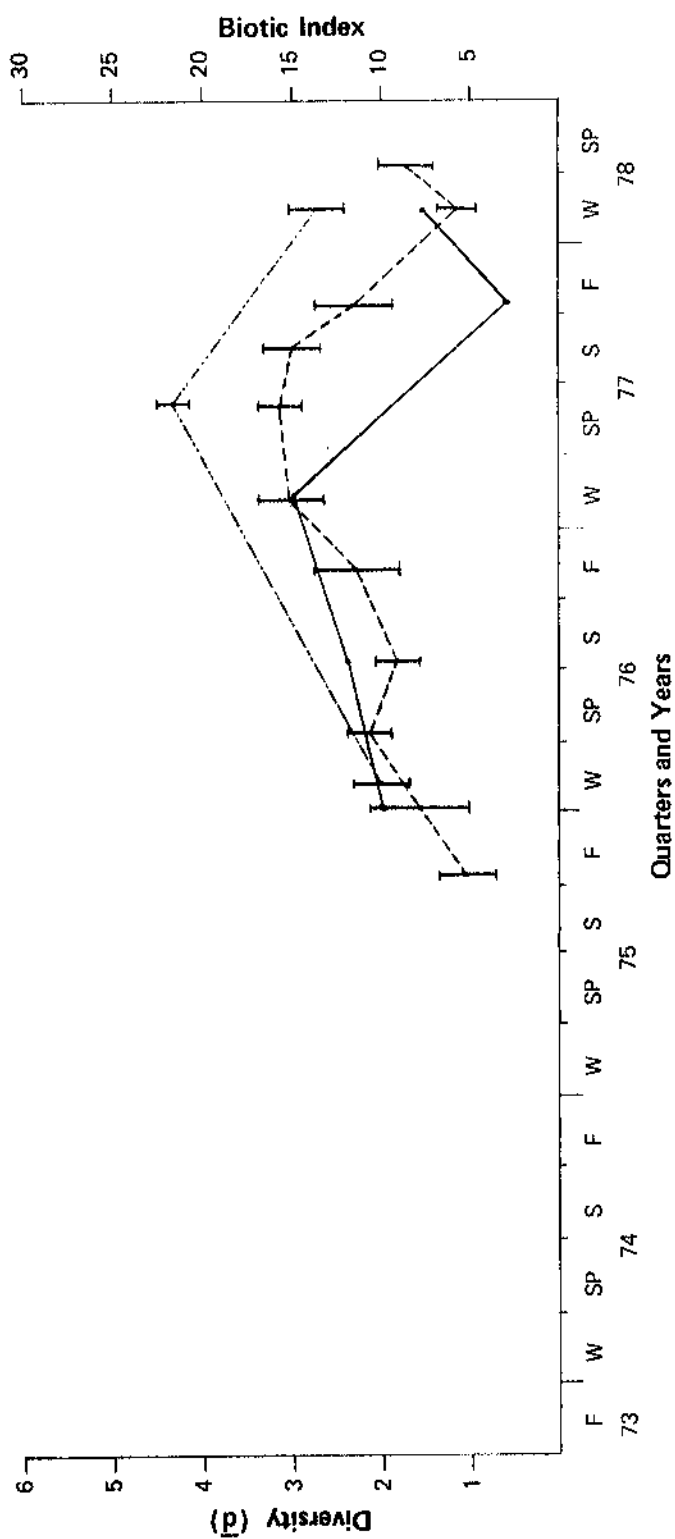
| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|----|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |    |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |    |                                                 |                                              |                                  |       |          |
|                   |           | #BI                | #Spp.       |       |                      |             |       |              |    |                                                 |                                              |                                  |       |          |
| 442<br>26.01.0016 | 16 Jan 78 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 439                              | 363   |          |
|                   | 16 Feb 78 | 1.171±0.218        | 0.626±0.086 | 8     | 2.761±0.308          | 0.239±0.050 | 17    |              |    |                                                 |                                              |                                  |       |          |
|                   | 8 Mar 78  |                    |             |       |                      |             |       |              |    |                                                 |                                              | 1370                             | 160   |          |
|                   | 3 Apr 78  | 1.726±0.308        | 0.451±0.054 | 13    |                      |             |       | 8            | 33 |                                                 |                                              | 420                              | 133   |          |
|                   | 15 May 78 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 300                              | 90    |          |
|                   | 14 Jun 78 |                    |             |       |                      |             |       |              |    |                                                 |                                              | 991                              | 124   |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0016  
BODY OF WATER: SHINGLE CREEK

--- NATURAL SUBSTRATE DIVERSITY  
- - - ARTIFICIAL SUBSTRATE DIVERSITY  
— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0028 Body of Water Kissimmee River  
Location north lock S-65 E, Bluff Hammock  
County Highlands  
Type Body of Water river Classification III  
Sources of Pollution channelization, agricultural, urban runoff  
Nearby Land Use pasture  
Sampling Frequency \_\_\_\_\_ Depth 0.7 - 6.9  
Bottom Type sand with silt overlay % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged none visible  
Emergent Typha sp., Pontederia sp., Salix sp.

**Macroinvertebrates:**

Cnidaria

Cordylophora lacustris

Platyhelminthes

Turbellaria

unident. planariid

Annelida

Oligochaeta

Aulodrilus piqueti  
Branchiura sowerbyi  
Haemonais waldvogeli  
Limnodrilus sp.  
Nais variabilis  
Pristina osborni  
P. sp.

Hirudinea

Helobdella elongata  
H. stagnalis  
Placobdella mutilineata

Arthropoda

Crustacea

Isopoda

Cassidinisca lunifrons

Amphipoda

Gammarus sp.

Hyalella azteca

Decapoda

Palaemonetes paludosus

Procambarus sp.

Insecta

Odonata

Coryphaeschna sp.

Enallagma pollutum

Ischnura ramburii

Macromia taeniolata

Pachydiplax longipennis

Perithemis tenera seminole

Tetragoneuria sp.

Ephemeroptera

Baetis cf. spinosus

Caenis diminuta

Callibaetis floridanus

Hemiptera

Ranatra sp.

Trichoptera

Cyrnellus fraternus

Oecetis sp. 3 - Cantrell

Orthotrichia sp.

Diptera

Ablabesmyia parajanta

Chironomus sp.

Cladotanytarsus sp. 1 - Cantrell

C. sp. 2 - Cantrell

Clinotanypus sp.

Coelotanypus scapularis

Cricotopus bicinctus

C. remus

Cryptochironomus blarina

C. fulvus

Cryptotendipes sp.

Dicrotendipes modestus

D. neomodestus

Diptera (cont.)

Einfeldia natchitoea  
Endochironomus nigricans  
Glyptotendipes sp.  
Harnischia (Beck) - Cladopelma (Saether) sp.  
Lauterborniella sp.  
Nimbocera sp.  
Parachironomus sp.  
Paratanytarsus sp.  
Pedionomus beckae  
Polypedilum halterale  
Procladius sp.  
Tanypus sp.  
Tanytarsus sp. 1 - Cantrell  
T. sp. 3 - Cantrell  
Xenochironomus (Anceus) sp.  
X. xenolabis  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell

Coleoptera

Gyrinus sp.

Arachnida

Acarina

unident. spp.

Mollusca

Gastropoda

Helisoma sp. 1 - Cantrell  
Physa sp.  
Pomacea sp.  
Pyrgophorus platyrachis  
Viviparus sp.  
unident. ancylid

Pelecypoda

Byssanodonta cubensis  
Corbicula manilensis  
unident. sphaeriid  
unident. unionid

DATA SUMMARY: Kissimee River

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          |             | #Spp. | Diversity            | Redundancy  | #Spp. |                                                 |                                              |                                  |       |          |
|                |           | Diversity          | Redundancy  |       |                      |             |       |                                                 |                                              |                                  |       |          |
| 447            | 4 Sep 73  |                    |             |       |                      |             |       |                                                 |                                              | 50                               | 40    |          |
|                | 1 Oct 73  |                    |             |       |                      |             |       |                                                 |                                              | 150                              | 150   |          |
|                | 6 Dec 73  | 3.287±0.217        | 0.132±0.035 | 19    |                      |             |       |                                                 |                                              | 89                               | 35    |          |
|                | 13 Dec 73 |                    |             |       |                      |             |       |                                                 |                                              | 190                              | LT10  |          |
|                | 18 Dec 73 |                    |             |       |                      |             |       |                                                 |                                              | 110                              | 10    |          |
|                | 23 Jan 74 |                    |             |       |                      |             |       |                                                 |                                              | 2                                |       |          |
|                | 20 Feb 74 |                    |             |       |                      |             |       |                                                 |                                              | 16                               | 2     |          |
|                | 28 Mar 74 | 3.641±0.283        | 0.153±0.035 | 27    | 1.679±0.197          | 0.568±0.058 | 20    |                                                 |                                              |                                  |       |          |
|                | 30 May 74 | 3.665±0.134        | 0.092±0.011 | 31    |                      |             |       | 11                                              | 59                                           |                                  |       |          |
|                | 9 Jul 74  |                    |             |       |                      |             |       |                                                 |                                              |                                  |       |          |
|                | 25 Sep 75 |                    |             |       |                      |             |       |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |                                                 |                                              | 112                              | 20    |          |
|                |           |                    |             |       |                      |             |       |                                                 |                                              | 240                              |       |          |

See Methods for explanation of table.

DATA SUMMARY: Kissimmee River

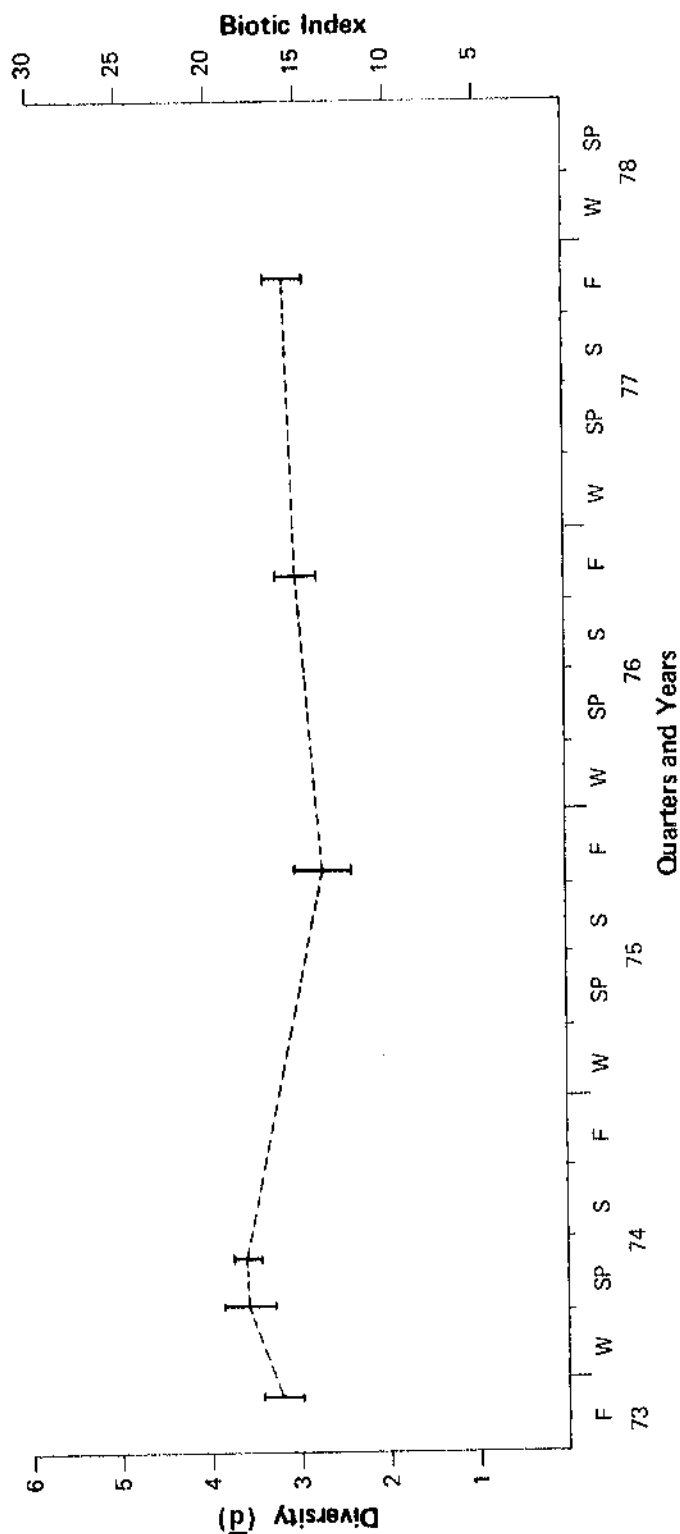
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments      |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|---------------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |               |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |               |
|                   |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |               |
| 26.01.0028<br>448 | 18 Feb 76 |                    |             |       |                      |            |       |              |                                                 |                                              | 40                               | LT10  | Florida Index |
|                   | 1 Oct 75  | 2.791±0.306        | 0.215±0.056 | 15    |                      |            |       |              |                                                 |                                              |                                  |       |               |
|                   | 5 Jan 76  |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |               |
|                   | 21 Oct 76 | 3.026±0.230        | 0.203±0.033 | 26    |                      |            |       |              |                                                 |                                              |                                  |       |               |
|                   | 7 Nov 77  | 3.164±0.209        | 0.145±0.032 | 20    |                      |            |       | 4            | 29                                              |                                              |                                  |       |               |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0028  
 BODY OF WATER: KISSIMMEE RIVER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)





450

Arthropoda

Crustacea

Isopoda

Asellus sp.

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus

Procambarus sp.

Insecta

Odonata

Aphyllia williamsoni

Argia sedula

Enallagma cardenium

E. pollutum

Epicordulia regina

Erythemis simplicollis

Gomphus minutus

Ischnura cf. posita

I. cf. prognatha

I. ramburii

Libellula sp.

Macromia taeniolata

Miathyria marcella

Pachydiplax longipennis

Telebasis byersi

Tetragoneuria sp.

Ephemeroptera

Baetis spiethi

B. cf. spinosus

Brachycercus maculatus

Caenis diminuta

Callibaetis floridanus

Centroptilum viridocularis

Stenacron interpunctatum

Stenonema exiquum

Hemiptera

Abedus sp.

Belostoma sp.

Pelocoris sp.

Ranatra sp.

Trichoptera

Ceraclea sp.

Cheumatopsyche sp.

Cyrrnellus fraternus

Nectopsyche cf. exquisita

N. pavida

Oecetis inconspicua

O. sp. 1 - Cantrell

O. sp. 5 - Cantrell

## Diptera

Ablabesmyia hauberi  
A. mallochi  
A. ornata  
A. parajanta  
A. peleenis  
A. tarella  
Chironomus attenuatus  
C. carus  
C. sp.  
Cladotanytarsus sp. 1 - Cantrell  
C. sp. 2 - Cantrell  
Clinotanypus sp.  
Coelotanypus scapularis  
C. sp.  
Cricotopus bicinctus  
Cryptochironomus fulvus  
Cryptotendipes sp.  
Demicryptochironomus sp.  
Dicrotendipes modestus  
D. neomodestus  
D. cf. nervosus  
Glyptotendipes sp.  
Goeldichironomus holoprasinus  
Einfeldia sp.  
Labrundinia floridana  
L. johannseni  
Lauterborniella sp.  
Micropsectra sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Nilothauma bicornis  
Pagastiella sp.  
Paracladopelma sp. (Beck)  
Parachironomus sp.  
Paralauterborniella nigrohalteralis  
Pedionomus beckae  
Pentaneura inculta  
cf. Phaenopsectra sp.  
Polypedilum halterale  
P. illinoense  
Procladius sp.  
Psectrocladius sp.  
Pseudochironomus sp.  
Rheotanytarsus exiguus  
Stenochironomus hilaris  
Tanytarsus sp. 1 - Cantrell  
Thienemanniella sp. 2 - Cantrell  
Tribelos fuscicornis  
Xenochironomus (Anceus) sp.  
X. xenolabis  
unident. tanytarsine  
Tabanus sp.

Diptera (cont.)

Anopheles sp.

Chaoborus sp.

unident. ceratopogonid sp. 1 - Cantrell

unident. ceratopogonid sp. 2 - Cantrell

unident. ceratopogonid sp. 3 - Cantrell

Coleoptera

Berosus sp.

Dineutus sp.

Dubiraphia sp.

Gyrinus sp.

Peltodytes sp.

Pronoterus sp.

Stenelmis sp.

Tropisternus sp.

Mollusca

Gastropoda

Amnicola dalli johnsoni

Gyraulus sp.

Helisoma sp. 1 - Cantrell

H. sp. 2 - Cantrell

Physa sp.

Viviparus sp.

unident. ancylid

Pelecypoda

Corbicula manilensis

unident. unionid

unident. sphaeriid

DATA SUMMARY: Arbuckle Creek

| Station Number | Date       | Macroinvertebrates |             |                      |           |       |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |                                                 |                                              |                                  |       |          |
|                |            | Diversity          | Redundancy  | #Spp.                | Diversity |       |       |              |                                                 |                                              | Redundancy                       | #Spp. |          |
|                |            |                    |             |                      |           |       |       |              |                                                 |                                              |                                  |       |          |
| 454            | 26.01.0029 | 27 Aug 74          |             |                      |           |       |       |              |                                                 |                                              | 99990                            | 2000  |          |
|                |            | 9 Sep 74           | 0.356±0.132 | 0.921±0.047          | 6         |       |       | 10           | 23                                              |                                              | 9280                             | 295   |          |
|                |            |                    |             |                      |           |       |       |              |                                                 |                                              |                                  |       |          |
|                |            |                    |             |                      |           |       |       |              |                                                 |                                              |                                  |       |          |
|                |            |                    |             |                      |           |       |       |              |                                                 |                                              |                                  |       |          |
|                |            | 16 Sep 74          |             |                      |           |       |       |              |                                                 |                                              | 80                               | 14    |          |
|                |            | 14 Oct 74          |             |                      |           |       |       |              |                                                 |                                              | 410                              | 12    |          |
|                | 18 Nov 74  |                    |             |                      |           |       |       |              |                                                 | 150                                          | 10                               |       |          |
|                | 26 Nov 74  | 2.515±0.192        | 0.275±0.026 | 28                   |           |       |       |              |                                                 |                                              |                                  |       |          |
|                | 9 Dec 74   |                    |             |                      |           |       |       |              |                                                 | 150                                          | LT10                             |       |          |

See Methods for explanation of table.

DATA SUMMARY: Arbuckle Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |  |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|--|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |     |          |  |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | #1           | #Spp. |                                                 |                                              |                                  |     |          |  |
|                |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |     |          |  |
| 455            | 26 Jan 75 | 2.076±0.223        | 0.327±0.049 | 14    |                      |            |       | 0            | 7     |                                                 |                                              | 340                              | 10  |          |  |
|                | 10 Feb 75 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 70                               | 10  |          |  |
|                | 3 Mar 75  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 350                              |     |          |  |
|                | 14 Apr 75 |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |     |          |  |
|                | 12 May 75 | 3.615±0.328        | 0.136±0.044 | 19    |                      |            |       |              |       |                                                 |                                              | 60                               |     |          |  |
|                | 19 May 75 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 400                              |     |          |  |
|                | 23 Jun 75 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 80                               |     |          |  |
|                | 15 Jul 75 |                    |             |       |                      |            |       |              |       |                                                 |                                              | 880                              | 432 |          |  |
|                | 31 Aug 75 |                    |             |       |                      |            |       |              | 7     | 30                                              |                                              |                                  |     |          |  |
|                | 13 Aug 75 | 3.346±0.360        | 0.259±0.068 | 24    |                      |            |       |              |       |                                                 |                                              |                                  | 600 | 1100     |  |
| 15 Sep 75      |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |     |          |  |

See Methods for explanation of table.

DATA SUMMARY: Arbuckle Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm3 | Periphyton Composition units/cm2 | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------|----------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                     |                                  | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                     |                                  |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       |          |
| 456            | 2 Oct 75  | 2.244+0.386        | 0.183+0.120 | 6     |                      |            |       |              |                                     |                                  | 270                              | 10    |          |
|                | 17 Nov 75 |                    |             |       |                      |            |       |              |                                     |                                  | 410                              |       |          |
|                | 15 Dec 75 |                    |             |       |                      |            |       |              |                                     |                                  |                                  | 66    |          |
|                | 12 Jan 76 |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       |          |
|                | 10 Feb 76 | 3.322+0.250        | 0.184+0.040 | 26    |                      |            |       | 14           | 45                                  |                                  | 390                              | 206   |          |
|                | 16 Feb 76 |                    |             |       |                      |            |       |              |                                     |                                  | 132                              | 126   |          |
|                | 15 Mar 76 |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       |          |
|                | 12 Apr 76 |                    |             |       |                      |            |       |              |                                     |                                  | 440                              | 24    |          |
|                | 10 May 76 |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       |          |
|                | 24 May 76 | 3.740+0.185        | 0.110+0.017 | 34    |                      |            |       |              |                                     |                                  | 160                              | 4     |          |
|                | 14 Jun 76 |                    |             |       |                      |            |       |              |                                     |                                  | 670                              | 122   |          |
|                | 12 Jul 76 |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Arbuckle Creek

| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |          |
| 26.01.0029<br>457 | 16 Aug 76 |                    |             |       |                      |            |       |              |       |                                                 | 600                                          | 36                               |          |
|                   | 31 Aug 76 | 3.334±0.340        | 0.150±0.050 | 16    |                      |            |       | 11           | 22    |                                                 | 340                                          | 20                               |          |
|                   | 13 Sep 76 |                    |             |       |                      |            |       |              |       |                                                 | 180                                          | 10                               |          |
|                   | 11 Oct 76 |                    |             |       |                      |            |       |              |       |                                                 | 340                                          | 8                                |          |
|                   | 15 Nov 76 |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |          |
|                   | 18 Nov 76 | 2.854±0.263        | 0.258±0.040 | 25    |                      |            |       |              |       |                                                 |                                              |                                  |          |
|                   | 23 Feb 77 | 3.471±0.200        | 0.208±0.031 | 45    |                      |            |       | 28           | 57    |                                                 | 250                                          | 36                               |          |
|                   | 21 Mar 77 |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |          |
|                   | 18 Apr 77 |                    |             |       |                      |            |       |              |       |                                                 | 352                                          | 2                                |          |
|                   | 9 May 77  |                    |             |       |                      |            |       |              |       |                                                 | 210                                          | 38                               |          |
|                   | 16 May 77 | 4.556±0.191        | 0.054±0.013 | 38    |                      |            |       |              |       |                                                 |                                              |                                  |          |

See Methods for explanation of table.



DATA SUMMARY: Arbuckle Creek

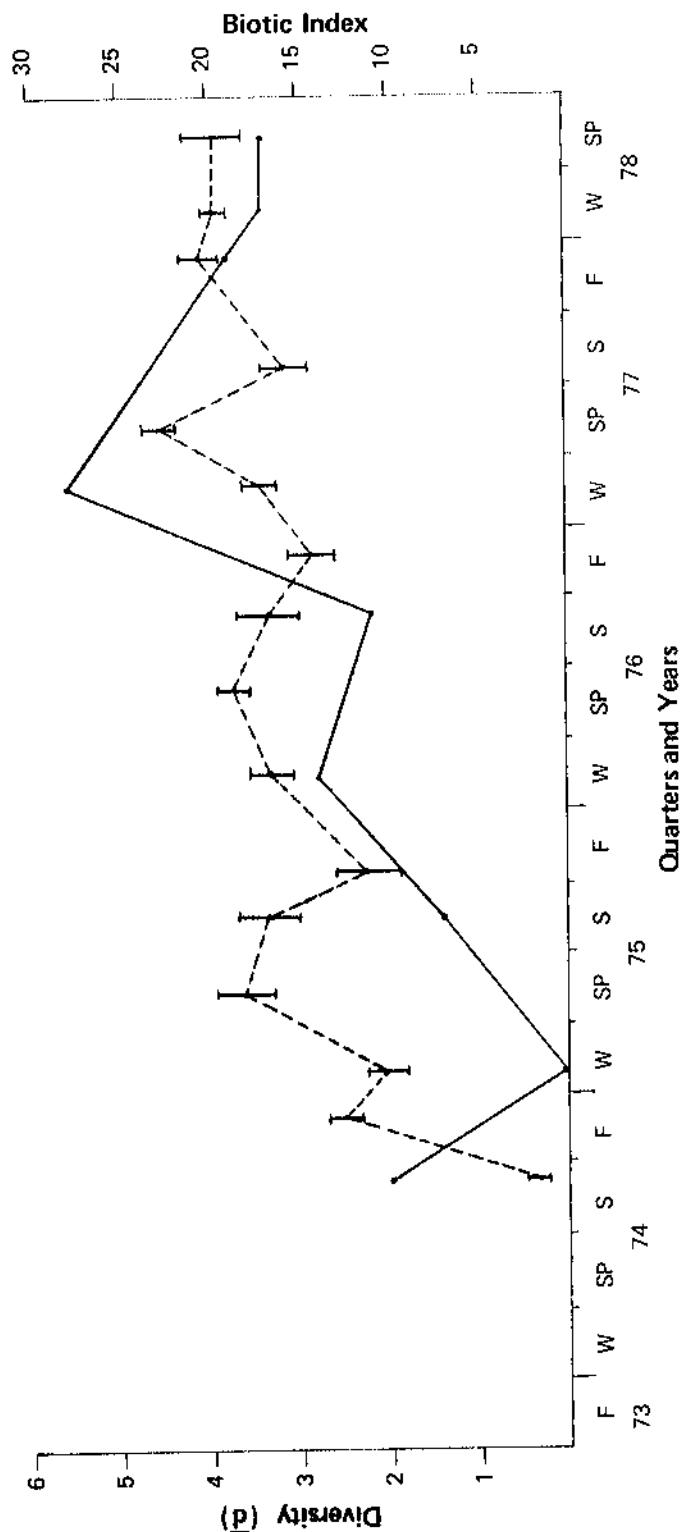
| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments      |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|---------------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |               |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |               |
|                |           |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |               |
| 458            | 27 Jun 77 |                    |             |       |                      |             |       |              |                                                 |                                              | 210                              | 12    | Florida Index |
|                | 11 Jul 77 |                    |             |       |                      |             |       |              |                                                 |                                              | 990                              | 720   |               |
|                | 21 Jul 77 | 3.137±0.286        | 0.279±0.055 | 29    | 3.283±0.156          | 0.145±0.024 | 26    |              |                                                 |                                              |                                  |       |               |
|                | 12 Dec 77 | 4.100±0.211        | 0.110±0.022 | 40    |                      |             |       | 19           | 62                                              |                                              | 96                               | 16    |               |
|                | 16 Jan 78 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 30    |               |
|                | 14 Feb 78 | 3.940±0.155        | 0.075±0.013 | 31    |                      |             |       | 17           | 47                                              |                                              | 46                               | 4     |               |
|                | 13 Mar 78 |                    |             |       |                      |             |       |              |                                                 |                                              | 373                              | 12    |               |
|                | 24 Apr 78 |                    |             |       |                      |             |       |              |                                                 |                                              | 144                              | 4     |               |
|                | 8 May 78  | 3.920±0.322        | 0.247±0.054 | 19    |                      |             |       | 17           | 40                                              |                                              | 176                              | 44    |               |
|                | 26 Jun 78 |                    |             |       |                      |             |       |              |                                                 |                                              | 365                              | 18    |               |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0029  
 BODY OF WATER: ARBUCKLE CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0073 Body of Water Lake Tohopekaliga  
Location 250 yards north of Southport Lock  
County Osceola  
Type Body of Water lake Classification III  
Sources of Pollution Orange County and other STP's, agricultural drainage  
Nearby Land Use agricultural  
Sampling Frequency quarterly Depth 2.54 m  
Bottom Type sand, mud, shell % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Panicum hemitomom, Scirpus sp.

**Macroinvertebrates:**

Nematoda

unident. mermithoidean sp. 1 - Rohlke

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
Potamotheix vejovskyi  
Tubifex tubifex

Hirudinea

Dina sp.  
Helobdella elongata  
H. punctatolineata  
H. stagnalis  
unident. glossiphonid sp. 1 - Hart

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Odonata

unident. zygopteran

Ephemeroptera

Caenis diminuta

Trichoptera

Cyrnellus sp. 1 - Hart

Oecetis sp. 1 - Hart

Orthotrichia sp.

Diptera

Chaoborus punctipennis

Chironomus attenuatus

C. crassicaudatus

C. stigmaterus

Cladotanytarsus sp. 1 - Hart

Coelotanypus sp. 1 - Hart

C. concinnus

Cricotopus bicinctus

C. remus

Cryptochironomus sp. 1 - Hart

C. blarina

Dicrotendipes modestus

Glyptotendipes paripes

G. lobiferus

Kiefferulus dux

Leptochironomus sp. 1 - Hart

Parachironomus hirtalatus

Palpomyia tibialis

Polypedilum halterale

P. illinoense

Procladius sp. 1 - Hart

Psectrocladius sp. 1 - Hart

Tanytarsus sp. 1 - Hart

Thienemanniella sp. 1 - Hart

unident. ceratopogonid sp. 1 - Rohlke

Mollusca

Gastropoda

Campeloma sp. 1 - Hart

Viviparus sp. 1 - Hart

Pelecypoda

Elliptio buckleyi

## 462

See Methods for explanation of table.

See Methods for explanation of table.

DATA SUMMARY: Lake Tolupekaliga

| Station Number | Date       | Macroinvertebrates  |             |              |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                      | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|------------|---------------------|-------------|--------------|----------------------|------------|-------|--------------|-------|--------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |            | Natural Substrate   |             |              | Artificial Substrate |            |       |              |       |                                                                                      |                                              |                                  |  |          |
|                |            | Diversity           | Redundancy  | #Spp.        | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                      |                                              |                                  |  |          |
|                |            |                     |             |              |                      |            |       |              |       |                                                                                      |                                              |                                  |  |          |
| 463            | 26.01.0073 | 5 Sep 74<br>(cont.) |             |              |                      |            |       |              |       | Cen Dia 1674<br>Pen Dia 1540<br>Total 15072                                          |                                              |                                  |  |          |
|                |            | 10 Sep 74           |             |              |                      |            |       |              |       |                                                                                      | 10                                           | 30                               |  |          |
|                |            | 8 Oct 74            |             |              |                      |            |       |              |       |                                                                                      | 30                                           | 0                                |  |          |
|                |            | 5 Nov 74            |             |              |                      |            |       |              |       |                                                                                      | 130                                          | 20                               |  |          |
|                |            | 3 Dec 74            |             |              |                      |            |       |              |       |                                                                                      |                                              | 2100                             |  |          |
|                |            | 6 Jan 75            |             |              |                      |            |       |              |       |                                                                                      | 50                                           | 0                                |  |          |
|                |            | 21 Jan 75           |             |              |                      |            |       |              |       |                                                                                      | 60                                           | 220                              |  |          |
|                |            | 11 Feb 75           | 2.739±0.029 | 0.065 ±0.029 | 9                    |            |       |              |       | Coc BG 2391<br>Fil BG 389<br>Coc Gr 5004<br>Fil Gr 0<br>Gr Flag 1001<br>Other Flag 0 |                                              |                                  |  |          |
|                |            |                     |             |              |                      |            |       |              |       |                                                                                      |                                              |                                  |  |          |
|                |            |                     |             |              |                      |            |       |              |       |                                                                                      |                                              |                                  |  |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Tohopekaliga

| Station Number    | Date                 | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                              | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |        | Comments |
|-------------------|----------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|----------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|--------|----------|
|                   |                      | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                              |                                              | Total                            | Fecal  |          |
|                   |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                              |                                              |                                  |        |          |
| 464<br>26.01.0073 | 11 Feb 75<br>(cont.) |                    |             |       |                      |            |       |              |       | Cen Dia 890<br>Pen Dia 224<br>Total 9897                                                     |                                              |                                  |        |          |
|                   | 4 Mar 75             |                    |             |       |                      |            |       |              |       |                                                                                              |                                              | 70                               | 0      |          |
|                   | 1 Apr 75             |                    |             |       |                      |            |       |              |       |                                                                                              |                                              | 20                               | 0      |          |
|                   | 3 Jun 75             |                    |             |       |                      |            |       |              |       |                                                                                              |                                              | 0                                | 10     |          |
|                   | 8 Jul 75             |                    |             |       |                      |            |       |              |       |                                                                                              |                                              | 0                                | 0      |          |
|                   | 5 Aug 75             |                    |             |       |                      |            |       |              |       |                                                                                              |                                              | 0                                | 20     |          |
|                   | 2 Sep 75             |                    |             |       |                      |            |       |              |       |                                                                                              |                                              | 178000                           | 0      |          |
|                   | 6 Oct 75             | 1.158±0.261        | 0.639±0.108 | 7     |                      |            |       |              |       | Coc BG 23062<br>F11 BG 5062<br>Coc Gr 31500<br>F11 Gr 2250<br>Gr Flag 2250<br>Other Flag 562 |                                              | 17100                            | LT 100 |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Tohopekaliga

| Station Number | Date                | Macroinvertebrates |            |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                  | Coliform Bacteria Colonies/100ml | Comments |
|----------------|---------------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------|----------|
|                |                     | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                                                 |                                                                                                               |                                  |          |
|                |                     | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                                                                                               |                                  |          |
|                |                     |                    |            |       |                      |            |       |              |                                                 |                                                                                                               |                                  |          |
| 465            |                     |                    |            |       |                      |            |       |              |                                                 |                                                                                                               |                                  |          |
| 26.01.0073     | 6 Oct 75<br>(cont.) |                    |            |       |                      |            |       |              | Cen Dia 2812<br>Pen Dia 2250<br>Total 69748     |                                                                                                               |                                  |          |
|                | 3 Nov 75            |                    |            |       |                      |            |       |              |                                                 |                                                                                                               | 100                              | LT100    |
|                | 8 Dec 75            |                    |            |       |                      |            |       |              |                                                 |                                                                                                               | 100                              | LT100    |
|                | 5 Jan 76            |                    |            |       |                      |            |       |              |                                                 |                                                                                                               | 100                              | LT100    |
|                | 2 Feb 76            |                    |            |       |                      |            |       |              |                                                 | Coc BG 66045<br>F11 BG 100288<br>Coc Gr 81645<br>F11 Gr 1286<br>Gr Flag 27645<br>Other Flag 0<br>Cen Dia 2571 | 70                               | 13       |

See Methods for explanation of table.



DATA SUMMARY: Lake Tokopukaliga

| Station Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Date | Macroinvertebrates |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
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                                                                                                                                                                                                                                                                                                                                                                                            |      | Natural Substrate  |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| 26.01.0073<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><b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|      |                    |            |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Tohopekaliga

| Station Number | Date                 | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                               | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |
|----------------|----------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|
|                |                      | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                                                               |                                              |                                  |     |          |
|                |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                               |                                              |                                  |     |          |
|                |                      |                    |             |       |                      |            |       |              |       |                                                                                                                               |                                              |                                  |     |          |
| 467            | 12 Jul 76<br>(cont.) |                    |             |       |                      |            |       |              |       | Other Flag 533<br>Cen Dia 3200<br>Pen Dia 1067<br>Total 120000                                                                |                                              |                                  |     |          |
|                | 2 Aug 76             |                    |             |       |                      |            |       |              |       |                                                                                                                               |                                              | 10                               | LT5 |          |
|                | 13 Sep 76            |                    |             |       |                      |            |       |              |       |                                                                                                                               |                                              | 30                               | LT5 |          |
|                | 15 Dec 76            |                    |             |       |                      |            |       |              |       |                                                                                                                               |                                              | 40                               | 8   |          |
|                | 10 Feb 77            | 1.640±0.212        | 0.506±0.066 | 13    |                      |            |       |              |       | Coc BG 6641<br>Fil BG 81<br>Coc Gr 7316<br>Fil Gr 891<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 0<br>Pen Dia 135<br>Total 15064 |                                              | 140                              | 13  |          |
|                | 21 Mar 77            |                    |             |       |                      |            |       |              |       |                                                                                                                               |                                              | 9                                |     | 1        |

See Methods for explanation of table.

DATA SUMMARY: Lake Tohopekaliga

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                               | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |  |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|----------|--|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                               |                                              |                                  |          |  |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                                               |                                              |                                  |          |  |
|                |           |                    |             |       |                      |            |       |              |                                                                                                                               |                                              |                                  |          |  |
| 26.01.0073     | 11 Apr 77 |                    |             |       |                      |            |       |              |                                                                                                                               |                                              | LT1                              |          |  |
|                | 6 Jun 77  |                    |             |       |                      |            |       |              |                                                                                                                               |                                              | 1                                |          |  |
|                | 11 Oct 77 | 2.050±0.139        | 0.214±0.028 | 9     |                      |            |       |              | Coc BG 6280<br>Fil BG 2440<br>Coc Gr 2800<br>Fil Gr 40<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 0<br>Pen Dia 40<br>Total 11600 |                                              |                                  |          |  |
|                | 16 Jan 78 |                    |             |       |                      |            |       |              |                                                                                                                               |                                              | LT3                              |          |  |
|                | 8 Mar 78  |                    |             |       |                      |            |       |              |                                                                                                                               |                                              | 1640                             | 37       |  |
|                | 4 Apr 78  | 0.893±0.212        | 0.808±0.068 | 12    |                      |            |       |              | Coc BG 38<br>Fil BG 274<br>Coc Gr 533<br>Fil Gr 0                                                                             |                                              | 22                               | LT3      |  |

468

See Methods for explanation of table.

DATA SUMMARY: Lake Tohopekaliga

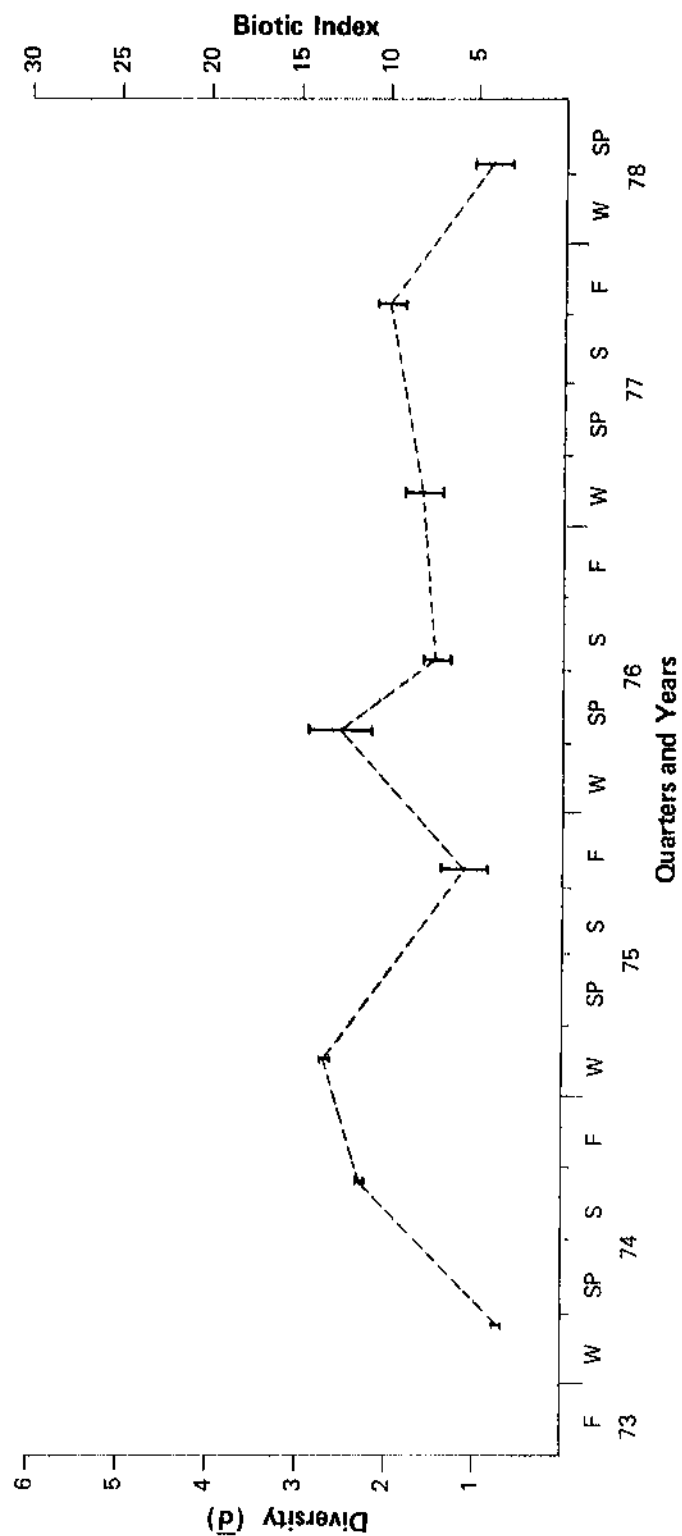
| Station Number | Date               | Macroinvertebrates |            |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                  | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|--------------------|--------------------|------------|-------|----------------------|------------|-------|--------------|------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                    | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                                                                  |                                              | Total                            | Fecal |          |
|                |                    | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                  |                                              |                                  |       |          |
|                |                    |                    |            |       |                      |            |       |              |                                                                  |                                              |                                  |       |          |
| 469            | 26.01.0073         |                    |            |       |                      |            |       |              | Gr Flag 0<br>Other Flag 0<br>Cen Dia 0<br>Pen Dia 0<br>Total 845 |                                              | 100                              | LT3   |          |
|                | 4 Apr 78<br>(cont) |                    |            |       |                      |            |       |              |                                                                  |                                              |                                  | LT3   |          |
|                | 15 May 78          |                    |            |       |                      |            |       |              |                                                                  |                                              |                                  |       |          |
|                | 14 Jun 78          |                    |            |       |                      |            |       |              |                                                                  |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0073  
 BODY OF WATER: LAKE TOHOPEKALIGA

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 --- BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0094 Body of Water Lake Kissimmee  
Location bridge at SR 60  
County Osceola  
Type Body of Water lake Classification III  
Sources of Pollution domestic and agricultural runoff  
Nearby Land Use agricultural, domestic  
Sampling Frequency annually Depth 3 m  
Bottom Type silt, sand, detritus % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Panicum sp.

**Macroinvertebrates:**

Nematoda

unident. mermithoidean sp. 1 - Rohlke

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Tubifex tubifex

Hirudinea

Dina sp. 1 - Hart

Helobdella elongata

H. fusca

Arthropoda

Crustacea

Isopoda

Asellus sp. 1 - Hart

Amphipoda

Hyalella azteca

Insecta

Ephemeroptera

Caenis diminuta

Hexagenia munda orlando

26.01.0094

Hemiptera

unident. corixid sp. 1 - Hart

Diptera

Chaoborus punctipennis

Chironomus crassicaudatus

Coelotanypus tricolor

C. concinnus

Cryptochironomus fulvus

Glyptotendipes paripes

Palpomyia tibialis

Procladius sp. 1 - Hart

Tanytarsus sp. 1 - Hart

unident. ceratopogonid sp. 1 - Rohlke

Mollusca

Gastropoda

Amnicola sp. 1 - Hart

Hyalopyrgus sp. 1 - Hart

Pelecypoda

Corbicula manilensis

DATA SUMMARY: Lake Kissimmee

| Station Number | Date      | Macroinvertebrates |            |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
| 473            | 7 Nov 73  |                    |            |       |                      |            |       |              |                                                 |                                              | 40                               | 10    |          |
| 26.01.0094     | 29 Nov 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 110                              | 20    |          |
|                | 17 Dec 73 |                    |            |       |                      |            |       |              |                                                 |                                              | 90                               | 0     |          |
|                | 22 Jan 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 0                                |       |          |
|                | 12 Feb 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 40                               | 10    |          |
|                | 9 Apr 74  |                    |            |       |                      |            |       |              |                                                 |                                              | 50                               | 10    |          |
|                | 13 Aug 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 400                              | 200   |          |
|                | 16 Dec 74 |                    |            |       |                      |            |       |              |                                                 |                                              | 100                              | LT100 |          |
|                | 10 Feb 75 |                    |            |       |                      |            |       |              |                                                 |                                              | LT100                            | 0     |          |
|                | 17 Mar 75 |                    |            |       |                      |            |       |              |                                                 |                                              | 200                              | LT100 |          |
|                | 14 Apr 75 |                    |            |       |                      |            |       |              |                                                 |                                              | LT100                            | LT100 |          |

See Methods for explanation of table.



DATA SUMMARY: Lake Kissimmee

| Station Number | Date       | Macroinvertebrates |             |                      |           |       |            | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |            | Comments |       |            |       |
|----------------|------------|--------------------|-------------|----------------------|-----------|-------|------------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|------------|----------|-------|------------|-------|
|                |            | Natural Substrate  |             | Artificial Substrate |           | #Spp. | Redundancy |              |                                                 |                                              | Diversity                        | Redundancy |          | #Spp. |            |       |
|                |            | Diversity          | Redundancy  | #Spp.                | Diversity |       |            |              |                                                 |                                              |                                  |            |          |       | Redundancy | #Spp. |
|                |            |                    |             |                      |           |       |            |              |                                                 |                                              |                                  |            |          |       |            |       |
| 474            | 26.01.0094 | 12 May 75          |             |                      |           |       |            |              |                                                 |                                              | 100                              | LT100      |          |       |            |       |
|                |            | 14 Jul 75          |             |                      |           |       |            |              |                                                 |                                              | LT100                            | LT100      |          |       |            |       |
|                |            | 11 Aug 75          |             |                      |           |       |            |              |                                                 |                                              | LT100                            |            |          |       |            |       |
|                |            | 3 Nov 75           |             |                      |           |       |            |              |                                                 |                                              | LT100                            | LT100      |          |       |            |       |
|                |            | 8 Dec 75           |             |                      |           |       |            |              |                                                 |                                              | 100                              | 100        |          |       |            |       |
|                |            | 5 Jan 76           |             |                      |           |       |            |              |                                                 |                                              | LT100                            | LT100      |          |       |            |       |
|                |            | 2 Feb 76           |             |                      |           |       |            |              |                                                 |                                              | 32                               | 20         |          |       |            |       |
|                |            | 12 Apr 76          |             |                      |           |       |            |              |                                                 |                                              | 225                              | 15         |          |       |            |       |
|                |            | 10 May 76          | 2.015±0.318 | 0.513±0.092          | 16        |       |            |              |                                                 |                                              | 200                              | 10         |          |       |            |       |
|                |            | 7 Jun 76           |             |                      |           |       |            |              |                                                 |                                              | 150                              | 50         |          |       |            |       |
|                |            | 15 Jul 76          |             |                      |           |       |            |              |                                                 |                                              | 100                              | 30         |          |       |            |       |

See Methods for explanation of table.

DATA SUMMARY : Lake Kissimmee

| Station Number | Date       | Macroinvertebrates |             |             |                      |            |       | Biotic Index | Phytoplankton Composition units/cm3 | Periphyton Composition units/cm2 | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|-------------|----------------------|------------|-------|--------------|-------------------------------------|----------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             |             | Artificial Substrate |            |       |              |                                     |                                  | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy | #Spp. |              |                                     |                                  |                                  |       |          |
|                |            |                    |             |             |                      |            |       |              |                                     |                                  |                                  |       |          |
| 475            | 26.01.0094 | 18 Aug 76          |             |             |                      |            |       |              |                                     |                                  | 190                              | 55    |          |
|                |            | 13 Sep 76          |             |             |                      |            |       |              |                                     |                                  | 130                              | 60    |          |
|                |            | 13 Dec 76          |             |             |                      |            |       |              |                                     |                                  | 25                               | 14    |          |
|                |            | 12 Jan 77          |             |             |                      |            |       |              |                                     |                                  |                                  | 5     |          |
|                |            | 7 Feb 77           |             |             |                      |            |       |              |                                     |                                  | 20                               | 13    |          |
|                |            | 7 Mar 77           |             |             |                      |            |       |              |                                     |                                  | 1760                             | 60    |          |
|                |            | 13 Apr 77          |             |             |                      |            |       |              |                                     |                                  |                                  | 19    |          |
|                |            | 8 Jun 77           |             |             |                      |            |       |              |                                     |                                  |                                  | 340   |          |
|                |            | 11 Jul 77          | 2.463±0.313 | 0.253±0.093 | 10                   |            |       |              |                                     |                                  | LT3                              | LT3   | LT3      |
|                |            | 18 Jan 78          |             |             |                      |            |       |              |                                     |                                  | LT3                              | LT3   | LT3      |
|                | 14 Feb 78  |                    |             |             |                      |            |       |              |                                     | LT3                              | LT3                              | LT3   |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Kissimmee

| Station Number    | Date      | Macroinvertebrates |            |                      |           |            |              |    |       |  |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |
|-------------------|-----------|--------------------|------------|----------------------|-----------|------------|--------------|----|-------|--|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|
|                   |           | Natural Substrate  |            | Artificial Substrate |           |            | Biotic Index |    |       |  |  |                                                 |                                              |                                  |     |          |
|                   |           | Diversity          | Redundancy | #Spp.                | Diversity | Redundancy | #Spp.        | BI | #Spp. |  |  |                                                 |                                              |                                  |     |          |
|                   |           |                    |            |                      |           |            |              |    |       |  |  |                                                 |                                              |                                  |     |          |
| 476<br>26.01.0094 | 4 Apr 78  |                    |            |                      |           |            |              |    |       |  |  |                                                 |                                              | LT3                              | LT3 |          |
|                   | 17 May 78 |                    |            |                      |           |            |              |    |       |  |  |                                                 |                                              | 30                               | LT3 |          |
|                   | 13 Jun 78 |                    |            |                      |           |            |              |    |       |  |  |                                                 |                                              | LT2                              | LT2 |          |

See Methods for explanation of table.

Station No. 26.01.0107 Body of Water Lake Butler  
Location near center  
County Orange  
Type Body of Water lake Classification III  
Sources of Pollution none  
Nearby Land Use residential  
Sampling Frequency annually Depth 3.0 - 3.5 m  
Bottom Type sand & Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged Nitella sp.  
Emergent Eleocharis acicularis

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
Lumbriculus sp. 1 - Daigle

Hirudinea

Batracobdella phalera  
Placobdella sp. 1 - Daigle

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Odonata

Celithemis bertha

Ephemeroptera

Caenis diminuta  
Hexagenia munda orlando

Diptera

Bezzia sp. 1 - Daigle  
Cladotanytarsus sp. 1 - Daigle  
Clinotanypus pinguis  
Coelotanypus tricolor  
C. concinnus  
Cryptochironomus blarina

Diptera (cont.)

Cryptochironomus fulvus  
Cryptocladopelma edwardsi  
Dicrotendipes sp. 1 - Daigle  
D. sp. 2 - Daigle  
D. sp. 3 - Daigle  
Glyptotendipes sp. 1 - Daigle  
Nilothauma bicornis  
Orthocladius sp. 1 - Daigle  
O. sp. 2 - Daigle  
Pagastiella sp. 1 - Daigle  
Parachironomus sp. 1 - Daigle  
Paralauterborniella nigrohalteralis  
Paratanytarsus sp. 1 - Daigle  
Polypedilum halterale  
Psectrocladius sp. 1 - Daigle  
P. sp. 2 - Daigle  
Tanytarsus sp. 1 - Daigle

Trichoptera

Cernotina truncona  
Oecetis inconspicua  
Oxyethira walteri

Mollusca

Gastropoda

Helisoma duryi

Pelecypoda

Popenaias buckleyi

DATA SUMMARY: Lake Butler

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                      | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |      | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                                                      |                                              |                                  |      |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                      |                                              |                                  |      |          |
| 479            |           |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              |                                  |      |          |
| 26.01.0107     | 3 Mar 75  |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | LT20                             |      |          |
|                | 19 Mar 75 | 3.700±0.029        | 0.048±0.003 | 19    |                      |            |       |              |       | Coc BG 61<br>Fil BG 0<br>Coc Gr 122<br>Fil Gr 0<br>Gr Flag 0<br>Other Flag 8<br>Cen Dia 0<br>Pen Dia 14<br>Total 205 |                                              |                                  |      |          |
|                | 19 May 75 |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | 250                              |      |          |
|                | 9 Jun 75  |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | LT50                             | LT10 |          |
|                | 7 Jul 75  |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | LT20                             | LT10 |          |
|                | 4 Aug 75  |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              |                                  | LT10 |          |
|                | 2 Sep 75  |                    |             |       |                      |            |       |              |       |                                                                                                                      |                                              | LT100                            | LT20 |          |

See Methods for explanation of table.

## DATA SUMMARY: Lake Huller

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 26.01.0107     | 22 Sep 75 |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT20                             | LT10  |          |
|                | 7 Oct 75  |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  | LT10  |          |
|                | 3 Nov 75  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT20  |          |
|                | 8 Dec 75  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT20                             | LT10  |          |
|                | 1 Mar 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT Q2                            | LT Q2 |          |
|                | 5 Apr 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 970                              | LT10  |          |
|                | 3 May 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT100                            | LT20  |          |
|                | 7 Jun 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 250                              | 40    |          |
|                | 2 Aug 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 50                               | LT10  |          |
|                | 6 Oct 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | 30                               | LT10  |          |
|                | 2 Nov 76  |                    |             |       |                      |            |       |              |       |                                                 |                                              | LT20                             | LT10  |          |
|                | 8 Dec 76  | 3.55340.208        | 0.07140.023 | 17    |                      |            |       |              |       | Coc BG 110<br>FII BG 20                         |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Butler

| Station Number    | Date                | Macroinvertebrates |             |             |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                             | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|-------------------|---------------------|--------------------|-------------|-------------|----------------------|------------|-------|--------------|---------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                   |                     | Natural Substrate  |             |             | Artificial Substrate |            |       |              |                                                                                             |                                              |                                  |          |
|                   |                     | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy | #Spp. |              |                                                                                             |                                              |                                  |          |
|                   |                     |                    |             |             |                      |            |       |              |                                                                                             |                                              |                                  |          |
| 481<br>26.01.0107 | 8 Dec 76<br>(cont.) |                    |             |             |                      |            |       |              | Coc Gr 0<br>Fil Gr 0<br>Gr Flag 20<br>Other Flag 0<br>Cen Dia 10<br>Pen Dia 20<br>Total 180 |                                              |                                  |          |
|                   | 22 Dec 76           |                    |             |             |                      |            |       |              |                                                                                             |                                              | LT10 LT10                        |          |
|                   | 7 Feb 77            |                    |             |             |                      |            |       |              |                                                                                             |                                              | 20 LT 10                         |          |
|                   | 8 Mar 77            |                    |             |             |                      |            |       |              |                                                                                             |                                              | 1100 LT 3                        |          |
|                   | 13 Apr 77           |                    |             |             |                      |            |       |              |                                                                                             |                                              | LT 100 LT-O.1                    |          |
|                   | 9 May 77            |                    |             |             |                      |            |       |              |                                                                                             |                                              | LT100 LT0.1                      |          |
|                   | 19 Oct 77           |                    |             |             |                      |            |       |              |                                                                                             |                                              | LT20 LT20                        |          |
|                   | 9 Nov 77            |                    |             |             |                      |            |       |              |                                                                                             |                                              | LT20 LT20                        |          |
|                   | 14 Dec 77           |                    | 3.635±0.203 | 0.090±0.021 | 22                   |            |       |              |                                                                                             | Coc Gr 60<br>Total 69                        |                                  |          |

See Methods for explanation of table.



DATA SUMMARY: Lake Butler

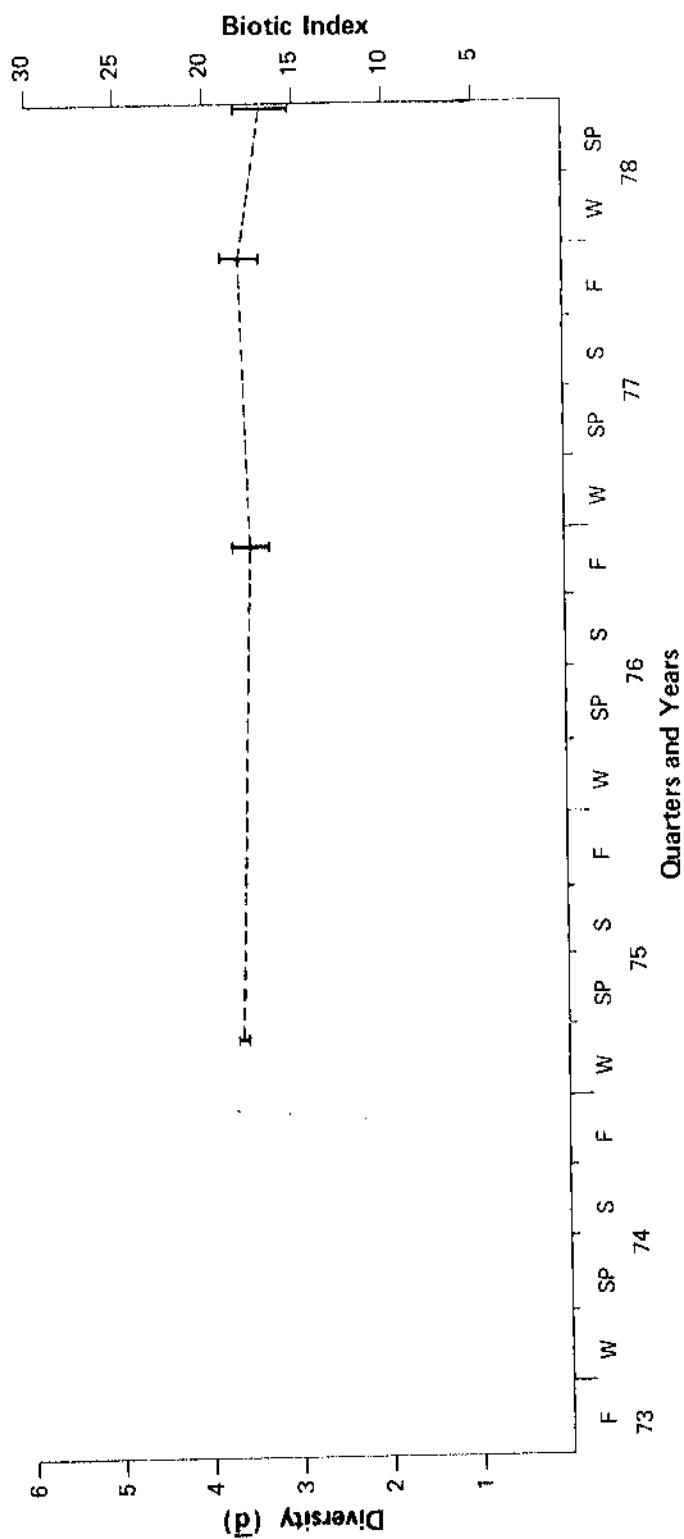
| Station Number | Date       | Macroinvertebrates |            |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |            |                    |            |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 482            | 26.01.0107 | 10 Jan 78          |            |       |                      |            |       |              |                                                 |                                              | LT20                             | LT20  |          |
|                |            | 8 Feb 78           |            |       |                      |            |       |              |                                                 |                                              | LT20                             | LT20  |          |
|                |            | 7 Mar 78           |            |       |                      |            |       |              |                                                 |                                              | LT20                             | LT20  |          |
|                |            | 11 Apr 78          |            |       |                      |            |       |              |                                                 |                                              | LT20                             | LT20  |          |
|                |            | 13 Jun 78          |            |       |                      |            |       |              |                                                 |                                              | 64                               | LT20  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0107  
 BODY OF WATER: LAKE BUTLER

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0151 Body of Water Shingle Creek  
Location at US 192  
County Osceola  
Type Body of Water river Classification   
Sources of Pollution Orlando and Orange County STP's  
Nearby Land Use agricultural, cattle pastures  
Sampling Frequency quarterly Depth 1.2 - 1.7 m  
Bottom Type sand, silt, detritus & Volatile Solids   
Aquatic Plants: Submerged Hydrodictyon, Bacopa  
Emergent Eichhornia sp., Azolla sp., Salvinia sp.,  
Lemna sp., Myriophyllum sp., Panicum repens, Panicum pubescens, Paspalum sp.

**Macroinvertebrates:**

Platyhelminthes

Turbellaria  
unident. sp.

Annelida

Oligochaeta

Aulodrilus piqueti  
Limnodrilus hoffmeisteri  
cf. Tubifex sp.  
unident. lumbriculid  
unident. tubificid

Hirudinea

2 unident. spp.

Arthropoda

Crustacea

Decapoda

Palaemonetes paludosus  
unident. astacid

Insecta

Odonata

Aphylla williamsoni  
Argia sedula  
Enallagma sp.  
Gomphus sp.  
Ischnura sp.  
Libellula sp.  
Macromia illinoiensis  
M. taeniolata  
Neurocordulia sp.  
cf. Nannothemis

Ephemeroptera

Baetis spiethi  
B. sp.  
Brachycercus sp.  
Caenis diminuta  
Callibaetis floridanus  
Stenonema exiguum  
Stenacaron interpunctatum

Hemiptera

Ranatra sp.  
Trepobates sp.  
unident. corixid  
unident. gerrid  
unident. hydrometrid  
unident. pleid  
unident. mesoveliid  
unident. naucorid  
unident. veliid sp.

Trichoptera

Cheumatopsyche sp.  
Cyrnellus sp.  
Hydroptila sp.  
Neureclipsis sp.  
Oecetis sp.  
Polycentropus sp.

Megaloptera

Sialis sp.

Lepidoptera

2 unident. pyralidid spp.

Diptera

Ablabesmyia tarella  
A. parajanta

## Diptera

Ablabesmyia mallochi  
A. ornata  
Alluaudomyia sp.  
Anopheles sp.  
Bezzia sp.  
Chaoborus punctipennis  
Chironomus attenuatus  
Cladotanytarsus sp.  
Clinotanypus sp.  
Coelotanypus sp.  
Cricotopus bicinctus  
C. remus  
C. sp.  
Cryptochironomus sp.  
Cryptotendipes casuarius  
Culex sp.  
Dicrotendipes modestus  
Harnischia boydi  
H. edwardsi  
Labrundinia floridana  
L. johannseni  
L. virescens  
Larsia lurida  
Nilothauma bicornis  
Pagastiella sp.  
Paralauterborniella nigrohalteralis  
Pentaneura inculta  
Parachironomus schneideri  
Phaenopsectra sp.  
Polypedilum halterale  
P. scalaenum  
Procladius sp.  
Rheotanytarsus exiguus  
Stenochironomus hilaris  
Einfeldia sp.  
Tanypus carinatus  
Tanytarsus sp. 1 - Hulbert  
T. sp. 2 - Hulbert  
T. sp. 3 - Hulbert  
T. sp. 4 - Hulbert  
T. sp. 1.1 - Hulbert  
T. sp. 1.2 - Hulbert  
Thienemanniella xena  
Tribelos fuscicornis

## Coleoptera

Dubirapnia sp.  
 unident. dytiscid  
 unident. elmid  
 unident. gyrid  
 unident. haliplid

26.01.0151

Arachnida

Acarina

2 unident. spp.

Mollusca

Gastropoda

Ferrissia dalli

Helisoma sp.

Physa sp.

Promenetus sp.

Pelecypoda

Musculium sp.

unident. sphaeriid

unident. unionid

See Methods for explanation of table.

See Methods for explanation of table.

DATA SUMMARY: Shingle Creek

| Station Number | Date                 | Macroinvertebrates |             |       |                      |             |       | Biotic Index |           | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|----------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-----------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                      | Natural Substrate  |             |       | Artificial Substrate |             |       |              |           |                                                 |                                              | Total                            | Fecal |          |
|                |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp.     |                                                 |                                              | Total                            | Fecal |          |
| 489            | 25 Feb 75<br>(cont.) |                    |             |       |                      |             |       |              | Total 251 |                                                 |                                              |                                  |       |          |
|                | 19 Jun 75            | 3.187±0.038        | 0.105±0.006 | 17    | 3.414±0.071          | 0.114±0.008 |       | 4            |           |                                                 |                                              |                                  |       | 27       |

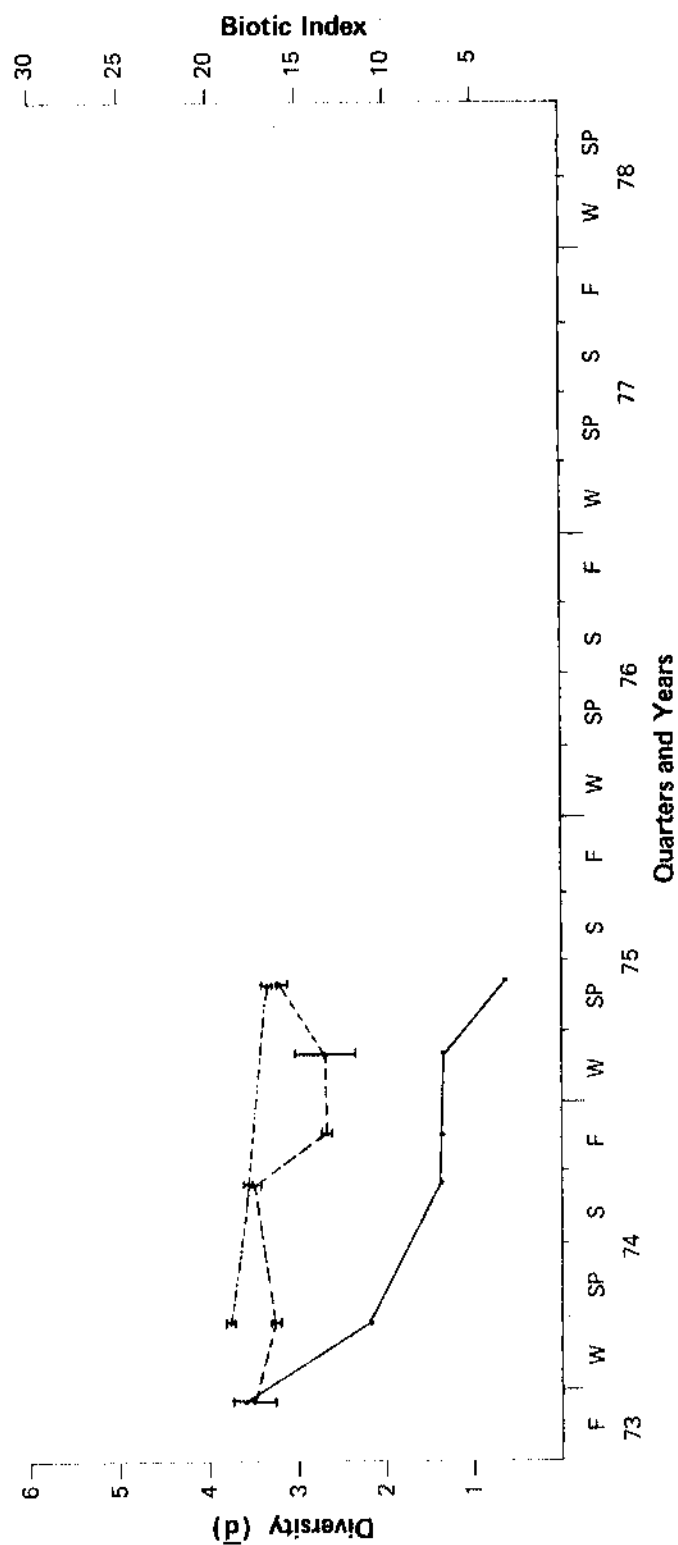
See Methods for explanation of table.



# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0151  
 BODY OF WATER: SHINGLE CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0164 Body of Water Reedy Creek  
 Location at SR 192  
 County Osceola  
 Type Body of Water creek Classification III  
 Sources of Pollution urban runoff, Disneyworld STP  
 Nearby Land Use amusement park  
 Sampling Frequency annually Depth 0.8 - 2 m  
 Bottom Type silt, detritus % Volatile Solids \_\_\_\_\_  
 Aquatic Plants: Submerged \_\_\_\_\_  
 Emergent Panicum sp., Pontederia sp., Salix sp.  
Eichhornia crassipes  
**Macroinvertebrates:**

Annelida  
     Oligochaeta  
         Limnodrilus hoffmeisteri  
     Hirudinea  
         Placobdella ornata  
 Arthropoda  
     Crustacea  
         Isopoda  
             Asellus sp. 1 - Hart  
         Amphipoda  
             Hyalella azteca  
         Decapoda  
             unident. astacid  
     Insecta  
         Odonata  
             Gomphus sp. 1 - Rohlke  
             G. sp. 2 - Hart  
             Macromia illinoiensis

Ephemeroptera

Caenis diminuta

Trichoptera

Oecetis sp. 1 - Rohlke

Diptera

Ablabesmyia americana

A. ornata

A. parajanta

A. tarella

Cladotanytarsus sp.

Clinotanypus sp.

Coelotanypus sp. 1 - Hart

Cryptochironomus sp. 1 - Hart

Culicoides sp. 1 - Hart

Demicryptochironomus sp.

Eulalia sp. 1 - Rohlke

Micropsectra sp. 1 - Hart

Palpomyia sp. 1 - Hart

Paralauterborniella nigrohalteralis

Polypedilum halterale

P. ontario

Procladius sp. 1 - Hart

Tanytarsus sp. 1 - Hart

Tribelos jucundus

Coleoptera

Dubiraphia sp. 1 - Rohlke

Mollusca

Pelecypoda

Corbicula manilensis

Sphaerium sp. 1 - Rohlke

DATA SUMMARY: Reedy Creek

| Station Number    | Date      | Macroinvertebrates |             |                      |           |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |           |            |       |              |       |                                                 |                                              |                                  |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |          |
| 493<br>26.01.0164 | 2 Aug 73  |                    |             |                      |           |            |       |              |       |                                                 |                                              | 5000                             |          |
|                   | 25 Sep 73 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 5000                             |          |
|                   | 23 Oct 73 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 2100                             |          |
|                   | 19 Nov 73 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 5000                             |          |
|                   | 18 Dec 73 |                    |             |                      |           |            |       |              |       |                                                 |                                              | 700                              |          |
|                   | 15 Jan 76 | 2.993±0.200        | 0.173±0.031 | 20                   |           |            |       |              |       |                                                 |                                              |                                  |          |
|                   | 8 Aug 77  | 2.260±0.430        | 0.517±0.118 | 16                   |           |            |       |              |       |                                                 |                                              |                                  |          |

See Methods for explanation of table.

Station No. 26.01.0201 Body of Water Lake Reedy  
Location center of lake  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution STP and citrus processing  
Nearby Land Use citrus groves and residential  
Sampling Frequency annually Depth 4 m  
Bottom Type muck % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_  
Macroinvertebrates:

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
L. profundicola

Hirudinea

Dina sp. 1 - Pearce  
Helobdella elongata  
H. stagnalis

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Trichoptera

Nyctiophylax sp.

Diptera

Anatopynia sp. 1 - Pearce  
Chaoborus punctipennis  
Chironomus carus

Diptera (cont.)

Chironomus attenuatus  
C. crassicaudatus  
Coelotanypus concinnus  
C. scapularis  
C. tricolor  
Conchapelopia sp. 1 - Pearce  
Dicrotendipes lobiferus  
D. modestus  
D. nervosus  
Einfeldia sp. 1 - Cantrell  
Glyptotendipes lobiferus  
G. paripes  
Goeldichironomus holoprasinus  
Kiefferulus dux  
Pentaneura inculta  
Polypedilum halterale  
Procladius sp. 1 - Cantrell  
Tanytarsus sp. 1 - Cantrell  
Tanypus neopunctipennis

Arachnida

Limnesia sp.

Mollusca

Gastropoda

Viviparus cf. georgianus

DATA SUMMARY: Lake Reedy

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                                  | Periphyton Composition units/cm <sup>2</sup>                                                                                   | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                                                                                                  |                                                                                                                                | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                                                                                                  |                                                                                                                                |                                  |       |          |
|                |           |                    |             |       |                      |             |       |              |                                                                                                                                  |                                                                                                                                |                                  |       |          |
| 496            | 29 Jul 74 |                    |             |       |                      |             |       |              |                                                                                                                                  |                                                                                                                                | 1900                             | LT100 |          |
|                | 26 Aug 74 | 1.478±0.223        | 0.355±0.071 | 6     | 1.950±0.183          | 0.027±0.070 | 4     |              | Coc BG 2232<br>Fil BG 5994<br>Coc Gr 2961<br>Fil Gr 0<br>Gr Flag 297<br>Other Flag 153<br>Cen Dia 0<br>Pen Dia 18<br>Total 11655 | Coc BG 300<br>Fil BG 2900<br>Coc Gr 400<br>Fil Gr 600<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 300<br>Pen Dia 200<br>Total 4700 | 100                              | LT100 |          |
|                | 23 Sep 74 |                    |             |       |                      |             |       |              |                                                                                                                                  |                                                                                                                                | 300                              | 100   |          |
|                | 5 Nov 74  |                    |             |       |                      |             |       |              |                                                                                                                                  |                                                                                                                                | 2300                             | 400   |          |
|                | 16 Dec 74 |                    |             |       |                      |             |       |              |                                                                                                                                  |                                                                                                                                | 21000                            | 800   |          |
|                | 13 Jan 75 |                    |             |       |                      |             |       |              |                                                                                                                                  |                                                                                                                                | 37000                            | 9000  |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Reedy

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                                            | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                                            |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                                                            |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              |                                  |       |          |
| 497            |           |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              |                                  |       |          |
| 26.01.0201     | 10 Feb 75 | 1.034±0.187        | 0.686±0.071 | 9     |                      |            |       |              | Coc BG 85172<br>Fil BG 14502<br>Coc Gr 8170<br>Fil Gr 3268<br>Gr Flag 1634<br>Other Flag 408<br>Pen Dia 408<br>Pen Dia 817<br>Total 114379 |                                              | 1700                             | 100   |          |
|                | 17 Mar 75 |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              | 1100                             | LT100 |          |
|                | 14 Apr 75 |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              | 400                              | 100   |          |
|                | 12 May 75 |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              | LT100                            | LT100 |          |
|                | 9 Jun 75  |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              | LT100                            | LT100 |          |
|                | 14 Jul 75 |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              | 500                              | LT100 |          |
|                | 11 Aug 75 |                    |             |       |                      |            |       |              |                                                                                                                                            |                                              | LT100                            |       |          |

See Methods for explanation of table.



DATA SUMMARY: Lake Reedy

| Station Number | Date     | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                                         | Periphyton Composition units/cm <sup>2</sup>                                         | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |          | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                                                                         |                                                                                      |                                  |       |          |
|                |          | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                                                         |                                                                                      |                                  |       |          |
| 498            |          |                    |             |       |                      |            |       |              |       |                                                                                                                                         |                                                                                      |                                  |       |          |
| 26.01.0201     | 6 Oct 75 | 1.439±0.445        | 0.509±0.216 | 5     |                      |            |       |              |       | Coc BG 6187<br>Fil BG 61875<br>Coc Gr 15750<br>Fil Gr 0<br>Gr Flag 562<br>Other Flag 0<br>Cen Dia 3937<br>Pen Dia 12937<br>Total 101248 |                                                                                      | 200                              | LT100 |          |
|                | 3 Nov 75 |                    |             |       |                      |            |       |              |       |                                                                                                                                         |                                                                                      | LT100                            | LT100 |          |
|                | 8 Dec 75 |                    |             |       |                      |            |       |              |       |                                                                                                                                         |                                                                                      | 300                              | LT100 |          |
|                | 5 Jan 76 |                    |             |       |                      |            |       |              |       |                                                                                                                                         |                                                                                      | 200                              | LT100 |          |
|                | 2 Feb 76 |                    |             |       |                      |            |       |              |       |                                                                                                                                         | Coc BG 468<br>Fil BG 585<br>Coc Gr 2662<br>Fil Gr 234<br>Gr Flag 117<br>Other Flag 0 | 53                               | 8     |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Reedy

| Station Number | Date                | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                                    | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|---------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                     | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                                    |                                              | Total                            | Fecal |          |
|                |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                                                    |                                              |                                  |       |          |
|                |                     |                    |             |       |                      |            |       |              |                                                                                                                                    |                                              |                                  |       |          |
| 499            | 2 Feb 76<br>(cont.) |                    |             |       |                      |            |       |              |                                                                                                                                    |                                              |                                  |       |          |
|                | 12 Apr 76           | 1.188±0.230        | 0.400±0.080 | 10    |                      |            |       |              | Coc BG 2583<br>Fil BG 2460<br>Coc Gr 2780<br>Fil Gr 369<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 1600<br>Pen Dia 738<br>Total 10458 | Cen Dia 1375<br>Pen Dia 380<br>Total 5821    | 620                              | 75    |          |
|                | 10 May 76           |                    |             |       |                      |            |       |              |                                                                                                                                    |                                              | 60                               | 75    |          |
|                | 7 Jun 76            |                    |             |       |                      |            |       |              |                                                                                                                                    |                                              | 60                               | 20    |          |
|                | 15 Jul 76           | 1.794±0.174        | 0.366±0.048 | 12    |                      |            |       |              | Coc BG 10845<br>Fil BG 1422<br>Coc Gr 2133<br>Fil Gr 178                                                                           |                                              | 30                               | 175   |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Reedy

| Station Number    | Date                 | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                     | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|----------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |                      | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                     |                                              | Total                            | Fecal |          |
|                   |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                     |                                              |                                  |       |          |
| 500<br>26.01.0201 | 15 Jul 76<br>(cont.) |                    |             |       |                      |            |       |              | Gr Flag 533<br>Other Flag 178<br>Cen Dia 178<br>Pen Dia 356<br>Total 15823                          |                                              |                                  |       |          |
|                   | 18 Aug 76            |                    |             |       |                      |            |       |              |                                                                                                     |                                              | 20                               | 175   |          |
|                   | 15 Sep 76            |                    |             |       |                      |            |       |              |                                                                                                     |                                              | 60                               | 37    |          |
|                   | 1 Nov 76             |                    |             |       |                      |            |       |              |                                                                                                     |                                              | 70                               | 275   |          |
|                   | 10 Jan 77            |                    |             |       |                      |            |       |              |                                                                                                     |                                              | 700                              | 430   |          |
|                   | 31 Jan 77            | 1.454±0.301        | 0.485±0.123 | 7     |                      |            |       |              | Coc BG 12522<br>Fl BG 1240<br>Coc Gr 2667<br>Fl Gr 0<br>Gr Flag 531<br>Other Flag 28<br>Cen Dia 103 |                                              | 2400                             | 1280  |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Reedy

| Station Number | Date                 | Macroinvertebrates |            |       |                      |            |       | Biotic Index |                            | Phytoplankton Composition units/cm <sup>3</sup>                                                         | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|----------------------|--------------------|------------|-------|----------------------|------------|-------|--------------|----------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                      | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                            |                                                                                                         |                                              | Total                            | Fecal |          |
|                |                      | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp.                      |                                                                                                         |                                              |                                  |       |          |
| 501            | 31 Jan 77<br>(cont.) |                    |            |       |                      |            |       |              | Pen Dia 317<br>Total 17408 |                                                                                                         |                                              |                                  |       |          |
|                | 7 Mar 77             |                    |            |       |                      |            |       |              |                            |                                                                                                         | 270                                          | 10                               |       |          |
|                | 11 Apr 77            |                    |            |       |                      |            |       |              |                            |                                                                                                         | 270                                          | 10                               |       |          |
|                | 9 May 77             |                    |            |       |                      |            |       |              |                            | Coc BG 46034<br>F11 BG 59636<br>Coc Gr 20829<br>F11 Gr 877<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 1973 | 1710                                         | 1710                             |       |          |
|                | 9 Aug 77             |                    |            |       |                      |            |       |              |                            |                                                                                                         |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Reedy

| Station Number | Date                | Macroinvertebrates |             |       |                      |            |       | Biotic Index |                                                                                                                                                 | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|---------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |                     | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                                                 |                                                 |                                              |                                  |  |          |
|                |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp.                                                                                                                                           |                                                 |                                              |                                  |  |          |
|                |                     |                    |             |       |                      |            |       |              |                                                                                                                                                 |                                                 |                                              |                                  |  |          |
| 26.01.0201     | 9 Aug 77<br>(cont.) |                    |             |       |                      |            |       |              |                                                                                                                                                 |                                                 |                                              |                                  |  |          |
|                | 11 Oct 77           | 1.882±0.154        | 0.137±0.047 | 5     |                      |            |       |              | Coc BG 117550<br>Fll BG 153470<br>Coc GR 66940<br>Fll Gr 14690<br>Gr Flag 4900<br>Other Flag 0<br>Cen Dia 16330<br>Pen Dia 6530<br>Total 380410 | Pen Dia 8112<br>Total 137461                    | 5400                                         | LT100                            |  |          |
|                | 6 Dec 77            |                    |             |       |                      |            |       |              |                                                                                                                                                 |                                                 | 200000                                       | 2180                             |  |          |
|                | 24 Jan 78           |                    |             |       |                      |            |       |              |                                                                                                                                                 |                                                 | 3000                                         | 40                               |  |          |
|                | 20 Feb 78           |                    |             |       |                      |            |       |              |                                                                                                                                                 |                                                 | 20                                           | 10                               |  |          |
|                | 21 Mar 78           | 1.076±0.178        | 0.531±0.088 | 5     |                      |            |       |              | Coc BG 2911<br>Fll BG 1102<br>Coc Gr 11173                                                                                                      |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Reedy

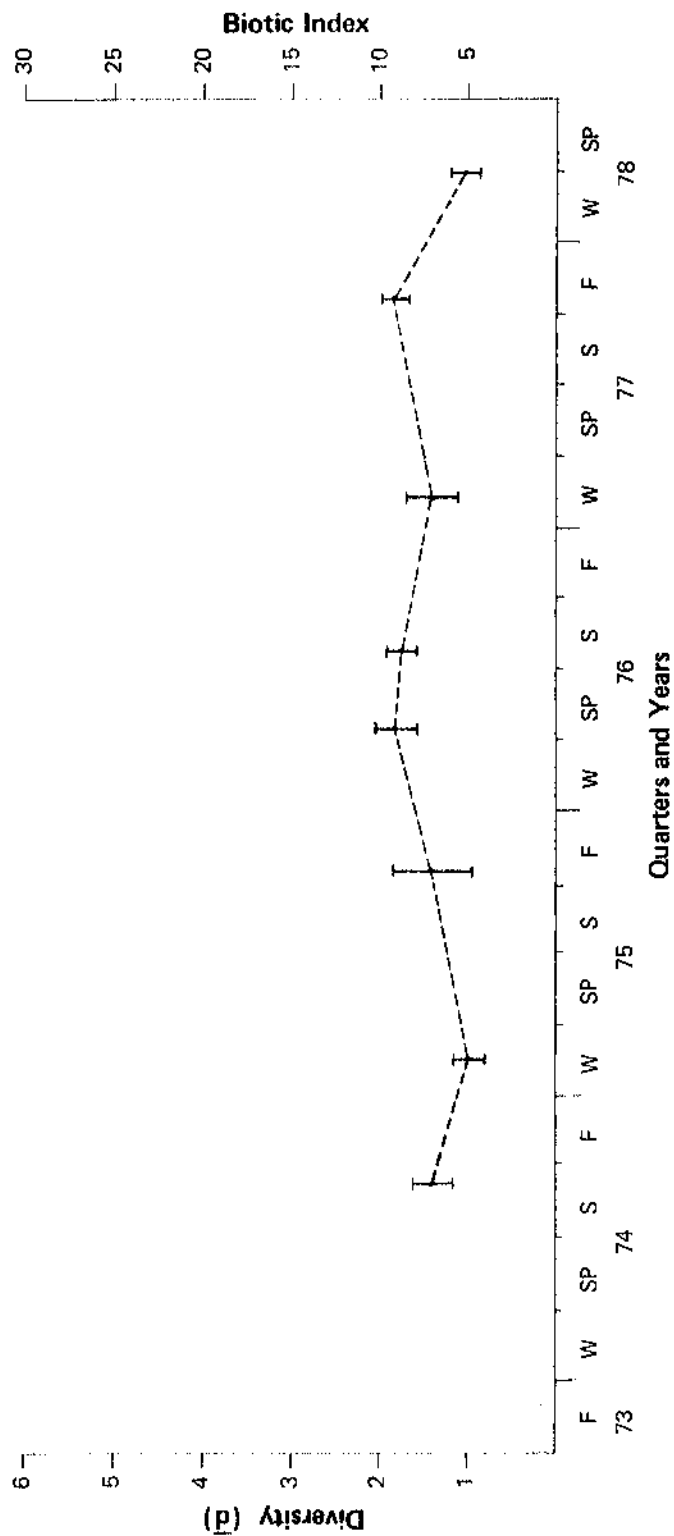
| Station Number | Date                 | Macroinvertebrates |            |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                      | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|----------------------|--------------------|------------|-------|----------------------|------------|-------|--------------|--------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                      | Natural Substrate  |            |       | Artificial Substrate |            |       |              |                                                                                      |                                              | Total                            | Fecal |          |
|                |                      | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                      |                                              |                                  |       |          |
|                |                      |                    |            |       |                      |            |       |              |                                                                                      |                                              |                                  |       |          |
| 503            | 21 Mar 78<br>(cont.) |                    |            |       |                      |            |       |              | Fla Gr 236<br>Gr Flag 40<br>Other Flag 0<br>Gen Dia 118<br>Pen Dia 197<br>Total 1577 |                                              | 45                               | LT10  |          |
|                | 10 Apr 78            |                    |            |       |                      |            |       |              |                                                                                      |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0201  
 BODY OF WATER: LAKE REEDY

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — Biotic Index (= FLORIDA INDEX)



Station No. 26.01.0216 Body of Water Lake Rosalie  
Location 300 ft. east of County Park, 300 feet off vegetation line,  
south shore County Polk  
Type Body of Water lake Classification III  
Sources of Pollution none  
  
Nearby Land Use pasture, park  
Sampling Frequency annually Depth 1.25 m  
Bottom Type sand % Volatile Solids   
Aquatic Plants: Submerged   
 Emergent Panicum hemitomon, Typha sp.

**Macroinvertebrates:**

Platyhelminthes  
Turbellaria  
    unident. sp.  
  
Annelida  
Oligochaeta  
    Limnodrilus hoffmeisteri  
  
Arthropoda  
Crustacea  
    Amphipoda  
        Hyaella azteca  
  
Insecta  
Diptera  
    Polypedilum halterale  
    Procladius sp. 1 - Cantrell  
    unident. ceratopogonid sp. 2 - Cantrell  
  
Mollusca  
Gastropoda  
    Amnicola sp. 1 - Pearce  
    Physa sp. 1 - Pearce  
  
Pelecypoda  
    Corbicula manilensis



DATA SUMMARY: Lake Rosalie

| Station Number | Date      | Macroinvertebrates |             |            |       |                      |            |            |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|------------|-------|----------------------|------------|------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |            |       | Artificial Substrate |            |            |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          |             | Redundancy | #Spp. | Diversity            |            | Redundancy | #Spp. |                                                 |                                              |                                  |       |          |
|                |           | Diversity          | Redundancy  |            |       | Diversity            | Redundancy |            |       |                                                 |                                              |                                  |       |          |
| 26.01.0216     | 30 Mar 76 | 2.040±0.362        | 0.395±0.130 | 8          |       |                      |            |            |       |                                                 |                                              |                                  |       |          |
|                | 14 May 77 | 1.675±0.227        | 0.247±0.094 | 5          |       |                      |            |            |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

Station No. 26.01.0224 Body of Water Lake Hatchineha  
Location 150 yards off Point South Port Hatchinaha  
County Polk  
Type Body of Water lake Classification \_\_\_\_\_  
Sources of Pollution none  
Nearby Land Use pasture  
Sampling Frequency annually Depth 1 m  
Bottom Type sand, silt, shell % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Panicum hemitomon, Scirpus sp.

**Macroinvertebrates:**

Platyhelminthes  
  Turbellaria  
    Dugesia sp. 1 - Hart  
  
Annelida  
  Oligochaeta  
    Limnodrilus hoffmeisteri  
    Tubifex tubifex  
  
Hirudinea  
  Dina sp. 1 - Hart  
  Helobdella elongata  
  H. stagnalis  
  
Arthropoda  
  Crustacea  
    Amphipoda  
      Hyalella azteca  
  
  Insecta  
    Odonata  
      Gomphus sp. 1 - Hart  
      G. sp. 2 - Hart

Ephemeroptera

Brachycercus sp. 1 - Hart  
Caenis diminuta  
Hexagenia munda orlando

Trichoptera

Leptocella sp. 1 - Hart  
Oecetis sp. 1 - Hart  
Polycentropus sp. 1 - Hart

Diptera

Chaoborus sp. 1 - Hart  
Cladotanytarsus sp.  
Coelotanypus concinnus  
C. scapularis  
Cryptochironomus fulvus  
C. sp.  
Glyptotendipes paripes  
Palpomyia tibialis  
Parachironomus pectinatellae  
Paracladopelma sp. 1 - Hart  
Paralauterborniella nigrohalteralis  
P. ontario  
Procladius sp. 1 - Hart  
Pseudochironomus sp. 1 - Hart

Mollusca

Gastropoda

Pomatiopsis sp.  
Viviparus sp. 1 - Hart

Pelecypoda

Corbicula manilensis  
Elliptio sp. 1 - Hart

DATA SUMMARY: Lake Hatchinaka

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
| 26.01.0224     | 30 Mar 76 | 2.854±0.230        | 0.106±0.023 | 30    |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 22 Dec 77 | 2.331±0.167        | 0.247±0.034 | 16    |                      |            |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

Station No. 26.01.0256 Body of Water Lake Marion  
Location 300 ft. off county ramp on south side  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution runoff  
Nearby Land Use pasture, sparse residential  
Sampling Frequency annually Depth 2.4 m  
Bottom Type sand, silt % Volatile Solids   
Aquatic Plants: Submerged  
Emergent Panicum hemitomom

Macroinvertebrates:

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Hirudinea

Helobdella cf. elongata

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Diptera

Chaoborus punctipennis

Cladotanytarsus sp. 2 - Cantrell

C. sp. 1 - Cantrell

Coelotanypus tricolor

Cryptochironomus blarina

C. fulvus

Glyptotendipes paripes

Palpomyia tibialis

Polypedilum halterale

Procladius sp. 1 - Cantrell

Tanytarsus sp. 1 - Cantrell

unident. ceratopogonid sp. 1 - Cantrell

26.01.0256

Arachnida

Acarina

unident. sp.

Mollusca

Gastropoda

Ferrissia sp. 1 - Pearce

Pomacea sp. 1 - Pearce

unident. hydrobiid sp. 1 - Pearce

unident. hydrobiid sp. 3 - Pearce

DATA SUMMARY: Lake Marion

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 26.01.0256     | 30 Mar 76 | 2.550±0.212        | 0.222±0.041 | 15    |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 14 Jun 78 | 0.610±0.071        | 0.806±0.027 | 11    |                      |            |       |              |                                                 |                                              |                                  |       |          |

Station No. 26.01.0311 Body of Water Lake Weohyakapka

Location 300 ft. from west shore, 450 ft. north of county landing

County PolkType Body of Water lake Classification III

Sources of Pollution runoff

Nearby Land Use pasture and residential

Sampling Frequency annually Depth 1.75 - 3 m.

Bottom Type sand, silt % Volatile Solids                     

**Aquatic Plants: Submerged**

**Emergent** Panicum hemitomom, Typha sp.

**Macroinvertebrates:**

## Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Hirudinea

Placobdella cf. ornata

Arthropoda

Crustacea

Amphipoda

*Hyalella azteca*

## Insecta

Odonata

*Gomphus plagiatus*

## Ephemeroptera

Hexagenia munda orlando

Trichoptera

Nyctiophylax sp.

*Oecetis* sp.

Polycentropus sp. 1 - Pearce



26.01.0311

Diptera

Coelotanypus concinnus  
C. tricolor  
Cryptochironomus blarina  
C. fulvus  
Demicryptochironomus sp. 1 - Pearce  
Epoicocladus sp. 1 - Pearce  
Glyptotendipes paripes  
Pentaneura inculta  
Polypedilum halterale  
Pseudochironomus sp. 1 - Pearce  
Zavrelia sp. 1 - Pearce  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell

Mollusca

Pelecypoda

Corbicula manilensis  
Elliptio sp. 1 - Pearce  
Pisidium sp. 1 - Pearce  
Sphaerium sp. 1 - Pearce

DATA SUMMARY: Lake Neohyapakpa

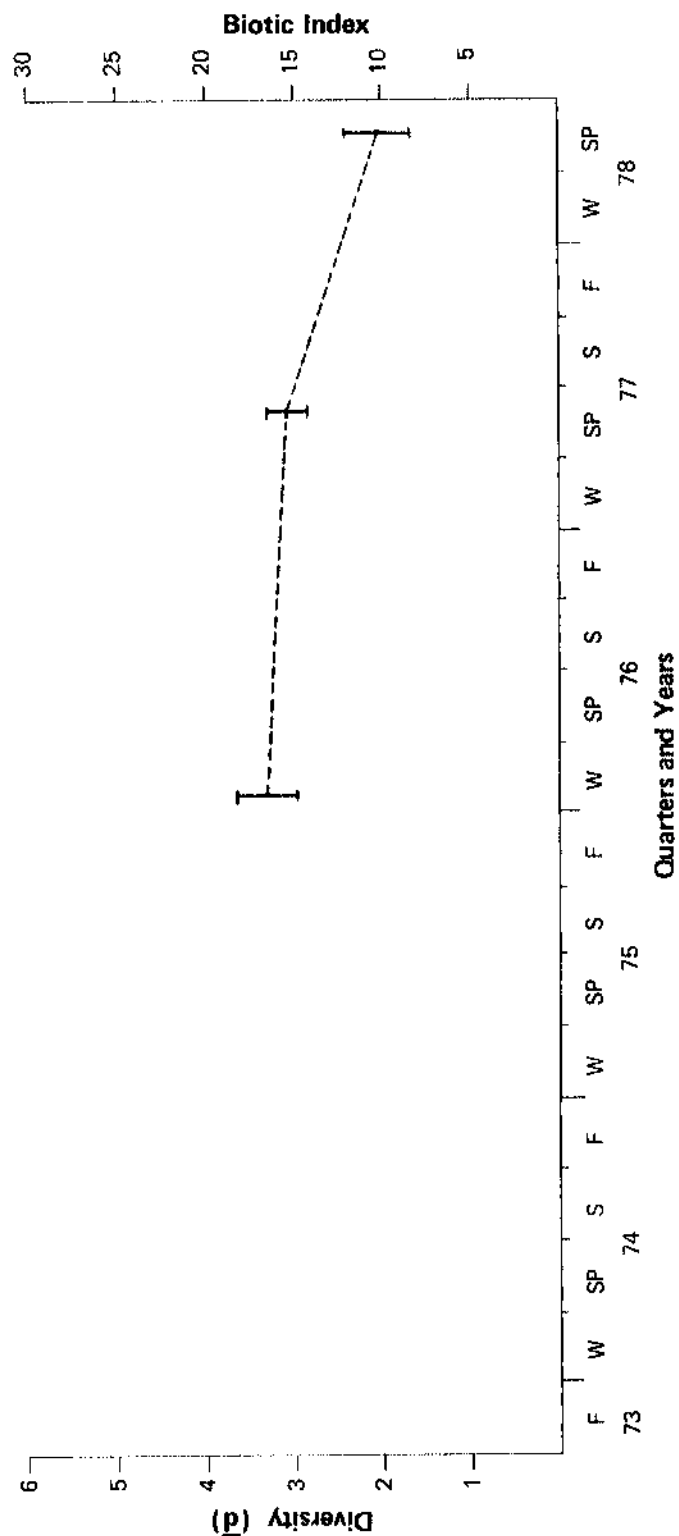
| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |  |          |
|                   |           |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
| 515<br>26.01.0311 | 20 Jan 76 | 3.358±0.331        | 0.144±0.050 | 16    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 24 May 77 | 3.116±0.225        | 0.070±0.033 | 11    |                      |            |       |              |       |                                                 |                                              |                                  |  |          |
|                   | 16 May 78 | 2.026±0.390        | 0.416±0.135 | 9     |                      |            |       |              |       |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0311  
 BODY OF WATER: LAKE WEOHYAKAPKA

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0312 Body of Water Lake Arbuckle

Location 300 feet from east shore, 1 mi. south of County park

County Polk

Type Body of Water lake Classification

Sources of Pollution none

Nearby Land Use pasture & natural

Sampling Frequency annually Depth 1.1 - 2.4 m

Bottom Type sand, mud, detritus % Volatile Solids

Aquatic Plants: Submerged

Emergent Nuphar sp., Panicum sp., Taxodium sp.,

Typha sp.

#### Macroinvertebrates:

Platyhelminthes

Turbellaria

unident. sp.

Annelida

Oligochaeta

Limnodrilus sp.

Pristina osborni

unident. sp.

Hirudinea

Helobdella elongata

H. stagnalis

Mooreobdella microstoma

Arthropoda

Crustacea

Amphipoda

Hyaella azteca

Decapoda

Palaemonetes paludosus

Insecta

Ephemeroptera

Caenis diminuta

Hexagenia munda elegans

26.01.0312

Mollusca

Gastropoda

Amnicola dalli johnsoni

Viviparus sp.

Pelecypoda

Corbicula manilensis

unident. unionid

DATA SUMMARY: Lake Arbuckle

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
| 26.01.0312     | 20 Jan 76 | 3.660±0.184        | 0.092±0.027 | 21    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                | 25 Aug 77 | 4.297±0.192        | 0.060±0.015 | 32    |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

Station No. 26.01.0313 Body of Water Crooked Lake  
Location east side  
County Polk  
Type Body of Water lake Classification III  
Sources of Pollution runoff  
Nearby Land Use residential, citrus  
Sampling Frequency annually Depth 2 - 5 m  
Bottom Type sand, silt % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri  
unident. lumbriculid  
unident. tubificid

Hirudinea

Dina sp. 1 - Pearce  
Helobdella sp. 2 - Pearce

Arthropoda

Crustacea

Amphipoda

Hyalella azteca  
Gammarus sp. 2 - Pearce

Insecta

Ephemeroptera

Hexagenia munda orlando

Trichoptera

Oecetis sp.

26.01.0313

Diptera

Anatopynia sp. 1 - Pearce  
Chaoborus punctipennis  
Cladotanytarsus sp. 1 - Cantrell  
Coelotanypus tricolor  
C. concinnus  
Cryptochironomus blarina  
C. fulvus  
Glyptotendipes paripes  
Harnischia sp. 1 - Pearce  
Parachironomus demeijerei  
Polypedilum halterale  
Stempellina sp. 1 - Pearce  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell

Mollusca

Pelecypoda

Sphaerium sp. 1 - Pearce



DATA SUMMARY: Crooked Lake

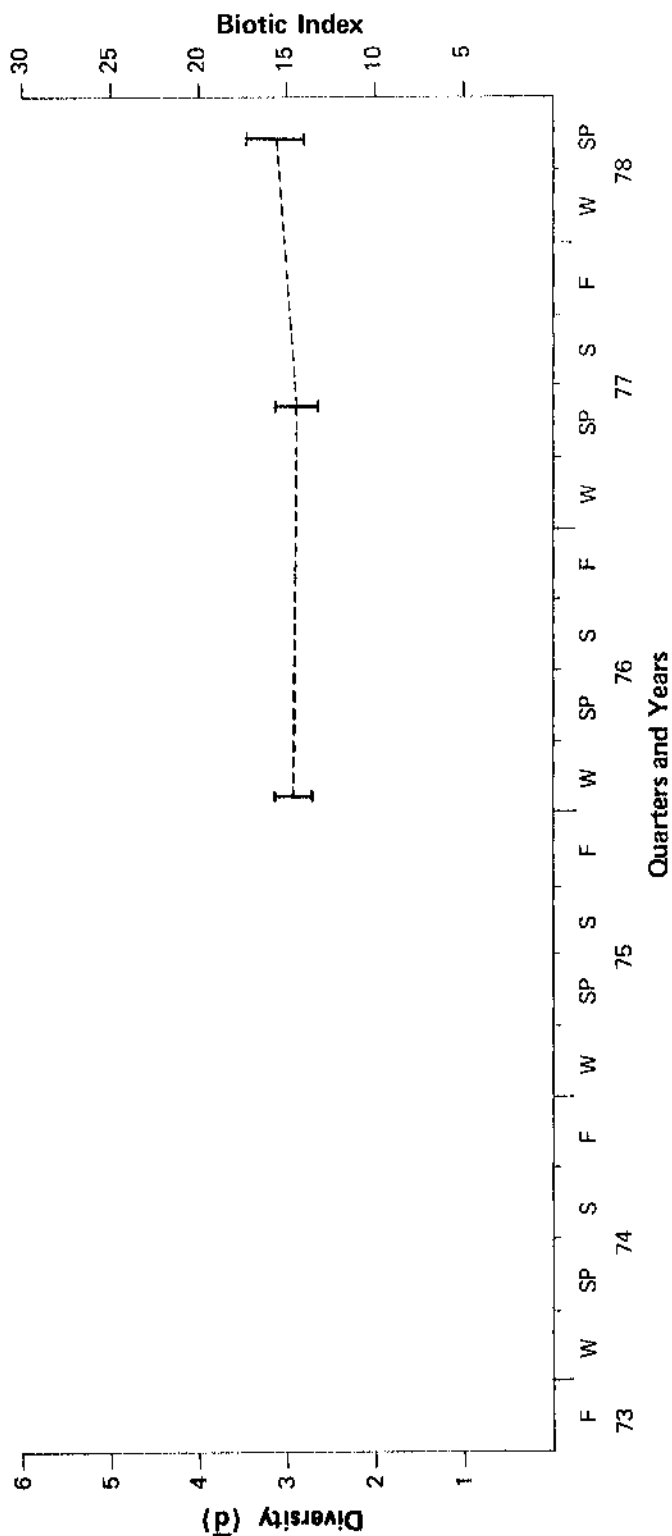
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       |       |         |    |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|-------|---------|----|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       | Total | Percent |    |       |              |                                                 |                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |       |         |    |       |              |                                                 |                                              |                                  |  |          |
|                |           |                    |             |       |                      |            |       |       |         | BI | #Spp. |              |                                                 |                                              |                                  |  |          |
| 522            | 20 Jan 76 | 2.969±0.212        | 0.191±0.035 | 27    |                      |            |       |       |         |    |       |              |                                                 |                                              |                                  |  |          |
|                | 24 May 77 | 2.925±0.248        | 0.096±0.049 | 10    |                      |            |       |       |         |    |       |              |                                                 |                                              |                                  |  |          |
|                | 16 May 78 | 3.142±0.329        | 0.157±0.061 | 14    |                      |            |       |       |         |    |       |              |                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0313  
 BODY OF WATER: CROOKED LAKE

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0407 Body of Water Taylor Creek

Location at US 441 south

County Okeechobee

Type Body of Water stream Classification III

Sources of Pollution mobile home park using septic tank on W. shore upstream  
agricultural run-off, single family on septic tanks, cattle

Nearby Land Use trailer park, residential, agriculture

Sampling Frequency annually Depth 1.0 - 1.5 m

Bottom Type firm sand, mud and organic layer Volatile Solids

Aquatic Plants: Submerged Ruppia sp., Elodea densa, Elodea canadensis, Ceratophyllum

sp. Emergent Salvinia rotundifolia, Pistia stratiotes,

Nymphaea sp., Typha sp., Nuphar luteum, Eichhornia crassipes, Phragmites communis,

Macroinvertebrates: Lemna sp., Cladium jamaicense, Eleocharis sp., Cyperus sp., Wolffia columbiana  
Azolla caroliniana, Pontederia lanceolata, Hydrilla verticillata  
Panicum hemitomon, Paspalum fluitans, Ludwigia peruviana,  
Taxodium distichum, Leersia sp.

#### Platyhelminthes

Cura foremanii  
Planaria sp. 1 - Hart

#### Annelida

##### Oligochaeta

Aeolosoma sp.  
Amphichaeta americana  
Aulodrilus sp.  
Branchiura sowerbyi  
Chaetogaster sp.  
Limnodrilus hoffmeisteri  
Nais breviseta  
N. sp. 1 - Rohlke  
N. osborni  
Pristina osborni  
P. aequiseta  
Stylaria lacustris  
Tubifex tubifex

Hirudinea

Batracobdella picta  
Glossiphonia heteroclita  
Helobdella sp. 1 - Hart  
H. stagnalis

Arthropoda

Crustacea

Isopoda

Cyathura polita  
Exosphaeroma sp.  
unident. sphaeromid sp.

Amphipoda

Gammarus fasciatus  
Hyalella azteca

Decapoda

Orconectes sp.  
Palaemonetes paludosus

Mysidacea

Taphromysis louisianae

Insecta

Odonata

Agrion sp. 1 - Hart  
Aphylla sp. 1 - Rohlke  
Argia sp. 1 - Rohlke  
Enallagma elausum  
E. sp. 1 - Rohlke  
Erythemis sp. 1 - Hart  
E. simplicollis  
Epicordulia regina  
Ischnura credula  
Lestes sp. 1 - Hart  
Macrodiplax balteata  
Miathyria marcella  
Perithemis domitia  
Somatochlora sp. 1 - Hart  
Sympetrum sp. 1 - Hart

Ephemeroptera

Callibaetis floridanus  
Caenis diminuta

Hemiptera

Abodus sp. 1 - Hart  
Belostoma sp. 1 - Hart  
Mesovelgia mulsanti  
M. sp. 1 - Rohlke  
Nerthra sp. 1 - Hart  
Pelocoris sp. 1 - Hart  
Ranatra sp. 1 - Hart  
Velia sp. 1 - Rohlke

Trichoptera

Agraylea sp. 1 - Hart  
Apatania sp. 1 - Hart  
Cynellus sp. 1 - Hart  
Molanna sp. 1 - Hart  
Ptilostomis sp. 1 - Hart  
unident. psychomiid sp. 1 - Hart

Diptera

Ablabesmyia parajanta  
Anopheles sp. 1 - Rohlke  
Atherix sp. 1 - Hart  
Brillia par  
Chaoborus punctipennis  
Chironomus attenuatus  
C. carus  
C. crassicaudatus  
C. stigmaterus  
cf. Culicoides sp. 1 - Hart  
Chrysops sp. 1 - Hart  
Cladotanytarsus sp. 1 - Hart  
Clinotanytus sp. 1 - Hart  
Coelotanytus concinnus  
C. tricolor  
Conchapelopia sp. 1 - Hart  
Cricotopus sp. 1 - Hart  
Cryptochironomus sp. 1 - Hart  
C. abortivus  
C. blarina  
C. fulvus  
Dicrotendipes leucoscelis  
D. lobus  
D. modestus  
D. neomodestus  
D. nervosus  
Einfeldia sp. 1 - Hart  
Endochironomus tendens  
E. nigricans  
Eukiefferiella sp. 1 - Hart

## Diptera (cont.)

Goeldichironomus holoprasinus  
Glyptotendipes paripes  
Harnischia edwardsi  
H. boydi  
Kiefferulus sp. 1 - Hart  
Labrundinia neopilosella  
Monopelopia sp. 1 - Hart  
Nimbocera sp. 1 - Hart  
Orthocladius sp. 1 - Rohlke  
Palpomyia sp. 1 - Hart  
Parachironomus directus  
P. alatus  
P. hirtalatus  
P. monochromus  
P. sublettei  
P. sp. 1 - Hart  
Paralauterborniella nigrohalteralis  
Paratanytarsus sp. 1 - Hart  
Pedionomus beckae  
Pentaneura sp. 1 - Hart  
Polypedilum halterale  
P. illinoense  
P. sp. 1 - Hart  
Procladius sp. 1 - Hart  
Psectrocladius flavius  
Rheotanytarsus sp. 1 - Hart  
Smittia sp. 1 - Hart  
Tanypus sp. 1 - Hart  
T. neopunctipennis  
T. stellatus  
Tanytarsus sp. 1 - Hart  
 unident. orthocladiin sp. 1 - Rohlke  
 unident. ceratopogonid sp. 1 - Hart

## Coleoptera

Anchyteis sp. 1 - Hart  
Brachyvatus seminulum  
Celina sp. 1 - Hart  
Epimetopus sp. 1 - Hart  
Gyrinus sp. 1 - Hart  
Helichus sp. 1 - Hart  
Hydrocanthus oblongus  
Laccophilus sp. 1 - Hart  
Peltodytes sp. 1 - Hart  
 unident. dytiscid sp. 1 - Hart  
 unident. haliplid sp. 1 - Hart  
 unident. rhynchophorin sp. 1 - Hart

Mollusca

Gastropoda

Gyraulus sp. 1 - Hart  
Hebetancylus excentricus  
Helisoma sp. 1 - Hart  
Melanoides sp. 1 - Hart  
Physa sp.  
P. heterostropha  
Planorbula sp. 1 - Hart  
Pomacea paludosa  
Pomatiopsis sp. 1 - Hart  
Pleurocera sp. 1 - Hart  
Pyrgophorus sp. 1 - Hart  
Viviparus sp. 1 - Hart  
V. georgianus  
unident. bythiniid sp. 1 - Hart  
unident. bythiniid sp. 2 - Hart  
unident. ancylid sp. 1 - Hart  
unident. lymnaeid sp.  
unident. hydrobiid sp.  
unident. viviparid sp.

Pelecypoda

Corbicula manilensis  
Musculium sp. 1 - Hart  
Amygdalum sagittata  
Elliptio sp. 1 - Hart  
Pisidium sp. 1 - Hart  
Villosa vibex  
unident. sp. 1 - Hart

DATA SUMMARY: Taylor Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
| 529            | 7 Nov 73  | 2.591±0.160        | 0.235±0.035 | 17    |                      |            | 2     | 19           |       |                                                 | 171                                          | 43                               |       |          |
|                | 9 Jan 74  |                    |             |       |                      |            |       |              |       |                                                 | 170                                          |                                  |       |          |
|                | 7 Feb 74  | 3.193±0.138        | 0.107±0.016 | 19    |                      |            |       |              |       |                                                 | 120                                          | 49                               |       |          |
|                | 5 Mar 74  |                    |             |       |                      |            | 3     | 36           |       |                                                 | 200                                          | 22                               |       |          |
|                | 7 May 74  | 3.210±0.213        | 0.135±0.034 | 17    |                      |            |       |              |       |                                                 | 144                                          | 20                               |       |          |
|                | 2 Apr 74  |                    |             |       |                      |            |       |              |       |                                                 | 200                                          | 20                               |       |          |
|                | 7 May 74  |                    |             |       |                      |            |       |              |       |                                                 | 120                                          | 60                               |       |          |
|                | 4 Jun 74  |                    |             |       |                      |            |       |              |       |                                                 | 370                                          | 26                               |       |          |
|                | 8 Jul 74  |                    |             |       |                      |            |       |              |       |                                                 | 430                                          | 108                              |       |          |
|                | 12 Aug 74 | 2.168±0.194        | 0.323±0.051 | 15    |                      |            | 3     | 35           |       |                                                 | 550                                          | 13                               |       |          |
|                | 9 Sep 74  |                    |             |       |                      |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.



DATA SUMMARY: Taylor Creek

| Station Number | Date                 | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                          | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |  |  |
|----------------|----------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|--|--|
|                |                      | Natural Substrate  |             |       | Artificial Substrate |             |       | BI           | #Spp. |                                                                                                                          |                                              | Total                            | Fecal |          |  |  |
|                |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
| 530            | 26.01.0407 18 Sep 74 |                    |             |       |                      |             |       |              |       | Coc BG 380<br>Fil BG 46<br>Coc Gr 120<br>Fil Gr 6<br>Gr Flag 78<br>Other Flag 3<br>Cen Dia 65<br>Pen Dia 61<br>Total 759 |                                              |                                  |       |          |  |  |
|                | 7 Oct 74             |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  | 78    | 54       |  |  |
|                | 4 Nov 74             | 2.006+0.231        | 0.402+0.063 | 14    | 3.086+0.093          | 0.095+0.018 | 14    |              |       |                                                                                                                          |                                              |                                  | 11    | 9        |  |  |
|                | 14 Nov 74            |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |
|                |                      |                    |             |       |                      |             |       |              |       |                                                                                                                          |                                              |                                  |       |          |  |  |

See Methods for explanation of table.

DATA SUMMARY: Taylor Creek

| Station Number    | Date                 | Macroinvertebrates |             |             |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|----------------------|--------------------|-------------|-------------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |                      | Natural Substrate  |             |             | Artificial Substrate |             |       |              |       |                                                 |                                              | Total                            | Fecal |          |
|                   |                      | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
| 531<br>26.01.0407 | 14 Nov 74<br>(cont.) |                    |             |             |                      |             |       |              |       |                                                 | Pen Dia<br>49300<br>Total 147100             |                                  |       |          |
|                   | 3 Dec 74             |                    |             |             |                      |             |       |              |       |                                                 |                                              | 20                               | 4     |          |
|                   | 6 Jan 75             |                    |             |             |                      |             |       |              |       |                                                 |                                              | 92                               | 52    |          |
|                   | 11 Feb 75            | 3.229±0.341        | 0.215±0.065 | 19          |                      |             | 3     | 38           |       |                                                 |                                              | 243                              | 97    |          |
|                   | 13 Mar 75            |                    |             |             |                      |             |       |              |       |                                                 |                                              | 79                               | 79    |          |
|                   | 16 Apr 75            |                    |             |             |                      |             |       |              |       |                                                 |                                              | 235                              | 59    |          |
|                   | 14 May 75            |                    |             |             |                      |             |       |              |       |                                                 |                                              | 195                              | 48    |          |
|                   | 16 Jun 75            | 1.838±0.098        | 0.188±0.032 | 6           | 2.434±0.107          | 0.192±0.023 | 13    |              |       |                                                 |                                              | 130                              | 19    |          |
|                   | 7 Jul 75             |                    |             |             |                      |             |       |              |       |                                                 |                                              | 90                               | 90    |          |
| 4 Aug 75          | 2.297±0.237          | 0.299±0.051        | 16          | 2.288±0.107 | 0.240±0.024          | 14          | 2     | 17           |       |                                                 | 70                                           | 12                               |       |          |

See Methods for explanation of table.

DATA SUMMARY: Taylor Creek

| Station Number | Date       | Macroinvertebrates |             |                      |           |            |       | Biotic Index |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                           | Coliform Bacteria Colonies/100ml |    | Comments |
|----------------|------------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|----|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----|----------|
|                |            | Natural Substrate  |             | Artificial Substrate |           |            |       |              |    |                                                 |                                                                                                                                        |                                  |    |          |
|                |            | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. |              |    |                                                 |                                                                                                                                        |                                  |    |          |
|                |            | B1                 | #Spp.       |                      |           |            |       |              |    |                                                 |                                                                                                                                        |                                  |    |          |
| 532            | 26.01.0407 | 3 Sep 75           |             |                      |           |            |       |              |    |                                                 | 100                                                                                                                                    | 70                               |    |          |
|                |            | 7 Oct 75           | 1.312±0.283 | 0.553±0.125          | 6         |            |       |              |    |                                                 | 82                                                                                                                                     | 50                               |    |          |
|                |            | 5 Nov 75           |             |                      |           |            |       |              |    |                                                 | 284                                                                                                                                    | 45                               |    |          |
|                |            | 9 Dec 75           |             |                      |           |            |       |              |    |                                                 | 168                                                                                                                                    | 54                               |    |          |
|                |            | 12 Jan 76          |             |                      |           |            |       |              |    |                                                 | 273                                                                                                                                    | 132                              |    |          |
|                |            | 3 Feb 76           | 2.838±0.168 | 0.164±0.034          | 14        |            |       | 2            | 21 |                                                 | Coc BG 2200<br>Fil BG 0<br>Coc Gr 300<br>Fil Gr 300<br>Gr Flag 200<br>Other Flag 200<br>Cen Dia 5700<br>Pen Dia 220000<br>Total 228900 | 208                              | 28 |          |

See Methods for explanation of table.

DATA SUMMARY: Taylor Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
| 533            | 8 Mar 76  |                    |             |       | 1.089±0.291          | 0.741±0.109 | 9     |              |                                                 |                                              | 257                              | 51    |          |
|                | 21 May 76 | 2.610±0.160        | 0.230±0.030 | 20    |                      |             |       |              |                                                 |                                              |                                  |       |          |
|                | 20 Aug 76 | 3.542±0.217        | 0.115±0.036 | 19    |                      |             |       | 6            | 35                                              |                                              |                                  |       |          |
|                | 17 Nov 76 | 2.657±0.108        | 0.173±0.108 | 18    | 2.605±0.174          | 0.235±0.028 | 21    |              |                                                 |                                              | 6156                             | 12    |          |
|                |           |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
|                | 13 Dec 76 |                    |             |       |                      |             |       |              |                                                 |                                              | 270                              | 240   |          |
|                | 12 Jan 77 |                    |             |       |                      |             |       |              |                                                 |                                              |                                  | 127   |          |
|                | 8 Feb 77  | 2.550±0.161        | 0.252±0.026 | 20    |                      |             |       | 6            | 29                                              |                                              | 650                              | 171   |          |

See Methods for explanation of table.

DATA SUMMARY: Taylor Creek

| Station Number | Date       | Macroinvertebrates |             |             |                      |             |             | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                                      | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|------------|--------------------|-------------|-------------|----------------------|-------------|-------------|--------------|-------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |            | Natural Substrate  |             |             | Artificial Substrate |             |             |              |       |                                                                                                                                      |                                              |                                  |  |          |
|                |            | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy  | #Spp.       | BI           | #Spp. |                                                                                                                                      |                                              |                                  |  |          |
|                |            |                    |             |             |                      |             |             |              |       |                                                                                                                                      |                                              |                                  |  |          |
| 534            | 26.01.0407 | 22 Mar 77          |             |             |                      |             |             |              |       |                                                                                                                                      | 110                                          | 110                              |  |          |
|                |            | 13 Apr 77          |             |             |                      |             |             |              |       |                                                                                                                                      |                                              | 116                              |  |          |
|                |            | 8 Jun 77           | 2.338±0.190 | 0.375±0.048 | 21                   | 1.986±0.169 | 0.419±0.051 | 15           |       | Coc BG 2930<br>Fil BG 2640<br>Coc Gr 22190<br>Fil Gr 610<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 130<br>Pen Dia 35970<br>Total 64470 | 24                                           |                                  |  |          |
|                |            | 9 Aug 77           | 2.004±0.185 | 0.349±0.057 | 12                   |             |             |              |       | Coc BG 700<br>Fil BG 1600<br>Coc Gr 1600<br>Fil Gr 300<br>Gr Flag 0<br>Other Flag 0                                                  | 125                                          | 10                               |  |          |

See Methods for explanation of table.

DATA SUMMARY: Taylor Creek

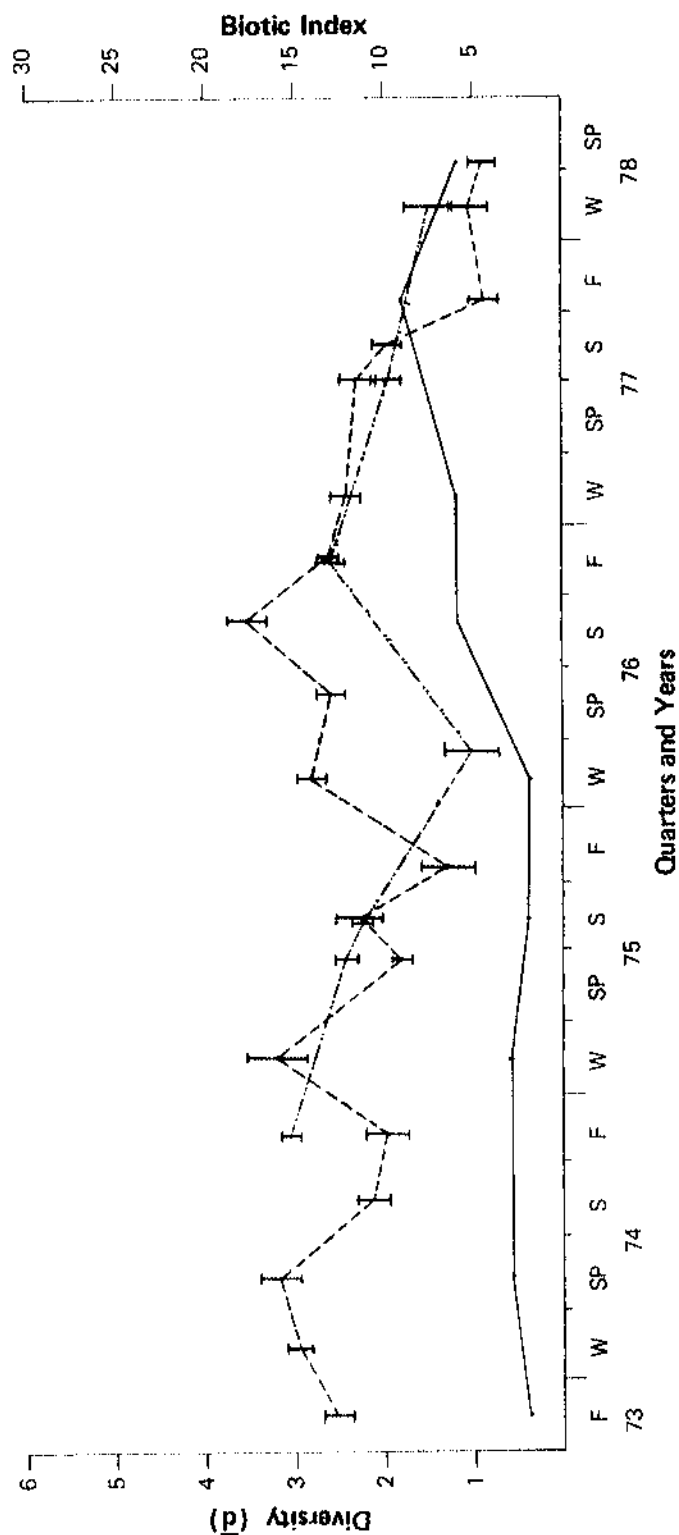
| Station Number | Date                | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |               |
|----------------|---------------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|---------------|
|                |                     | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |               |
|                |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |               |
|                |                     |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |               |
| 26.01.0407     | 9 Aug 77<br>(cont.) |                    |             |       |                      |             |       |              |                                                 | Gen Dia 100<br>Pen Dia 9200<br>Total 13500   |                                  |       |          |               |
| 53             | 10 Oct 77           | 0.903±0.173        | 0.700±0.071 | 5     |                      |             |       | 9            | 31                                              |                                              |                                  | 500   | 124      | Florida Index |
| 55             | 14 Feb 78           | 1.062±0.217        | 0.787±0.064 | 16    | 1.507±0.264          | 0.604±0.087 | 12    | 6            | 29                                              |                                              |                                  |       | 127      |               |
|                | 4 Apr 78            | 0.912±0.147        | 0.680±0.063 | 7     |                      |             |       |              |                                                 |                                              |                                  |       |          |               |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0407  
 BODY OF WATER: TAYLOR CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — Biotic Index (= FLORIDA INDEX)



Station No. 26.01.0502 Body of Water Lake Istokpoga  
Location south end  
County Highlands  
Type Body of Water lake Classification III  
Sources of Pollution urbanization, muck farming  
Nearby Land Use muck farm; residential; pasture  
Sampling Frequency quarterly Depth 1.55 - 2.75  
Bottom Type mud, sand, detritus % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged none  
Emergent Taxodium sp., Typha sp.

**Macroinvertebrates:**

Annelida

Oligochaeta

Aulodrilus piqueti  
Limnodrilus sp.  
Nais sp.

Hirudinea

Helbodeella elongata  
H. stagnalis  
Mooreobdella microstoma

Arthropoda

Crustacea

Amphipoda

Crangonyx floridanus  
Hyalella azteca

Insecta

Ephemeroptera

Caenis diminuta  
Hexagenia munda orlando



Trichoptera

Cynnellus fraternus  
Oecetis sp.

Diptera

Ablabesmyia cinctipes  
Coclotanypus scapularis  
C. tricolor  
Cricotopus bicinctus  
Epoicocladius sp.  
Glyptotendipes paripes  
Paracladopelma sp. (Beck)  
Polypedilum halterale  
Tanytarsus sp. 1 - Cantrell  
unident. ceratopogonid sp. 1 - Cantrell  
unident. ceratopogonid sp. 2 - Cantrell  
unident. ceratopogonid sp. 3 - Cantrell

Coleoptera

Stenelmis sp.

Arachnida

Acarina  
unident. sp.

Mollusca

Gastropoda  
Viviparus sp.

Pelecypoda

Byssanodonta cubensis  
unident. sphaeriid  
unident. unionid

DATA SUMMARY: Lake Istokpoga

| Station Number | Date       | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |            |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
| 539            | 26.01.0502 |                    |             |       |                      |             |       |              |                                                 |                                              | 10                               | 10    |          |
|                | 4 Sep 73   |                    |             |       |                      |             |       |              |                                                 |                                              | LT10                             | LT10  |          |
|                | 1 Oct 73   |                    |             |       |                      |             |       |              |                                                 |                                              |                                  |       |          |
|                | 18 Dec 73  |                    |             |       |                      |             |       |              |                                                 |                                              | 20                               | 10    |          |
|                | 23 Jan 74  |                    |             |       |                      |             |       |              |                                                 |                                              | 10                               |       |          |
|                | 20 Feb 74  |                    |             |       |                      |             |       |              |                                                 |                                              | 112                              | 2     |          |
|                | 27 May 74  |                    |             |       | 1.951±0.540          | 0.368±0.185 | 5     |              |                                                 |                                              | LT2                              |       |          |
|                | 9 Jul 74   |                    |             |       |                      |             |       |              |                                                 |                                              | 2                                | 2     |          |
|                | 6 Aug 74   |                    |             |       |                      |             |       |              |                                                 |                                              | 49                               | 9     |          |
|                | 10 Sep 74  | 3.535±0.195        | 0.075±0.020 | 18    |                      |             |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Istokpoga

| Station Number | Date                 | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                     | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|----------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|---------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |                      | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                     |                                              | Total                            | Fecal |          |
|                |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                     |                                              |                                  |       |          |
| 26.01.0502     | 10 Sep 74<br>(cont.) |                    |             |       |                      |            |       |              | Gr Flag 0<br>Other Flag 0<br>Cen Dia LTI<br>Pen Dia LTI<br>Total 27 |                                              | 22                               | 8     |          |
|                | 16 Sep 74            |                    |             |       |                      |            |       |              |                                                                     |                                              | 90                               | 2     |          |
|                | 14 Oct 74            |                    |             |       |                      |            |       |              |                                                                     |                                              | 60                               | LTI0  |          |
|                | 18 Nov 74            |                    |             |       |                      |            |       |              |                                                                     |                                              | 70                               | 20    |          |
|                | 9 Dec 74             |                    |             |       |                      |            |       |              |                                                                     |                                              |                                  |       |          |
|                | 28 Jan 75            | 2.233±0.258        | 0.295±0.075 | 11    |                      |            |       |              |                                                                     |                                              | 0                                | 10    |          |
|                | 10 Feb 75            |                    |             |       |                      |            |       |              |                                                                     |                                              | 12                               | LTI2  |          |
|                | 25 Feb 75            |                    |             |       |                      |            |       |              |                                                                     |                                              | 130                              | LTI0  |          |
|                | 3 Mar 75             |                    |             |       |                      |            |       |              |                                                                     |                                              |                                  |       |          |
|                | 19 May 75            |                    |             |       |                      |            |       |              |                                                                     |                                              | 36                               |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Istokpoga

| Station Number    | Date      | Macroinvertebrates |             |                      |           |       |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                                          | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-----------|-------|-------|--------------|-------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |           | Total | Fecal |              |       |                                                                                                                          |                                              |                                  |       |          |
|                   |           | Diversity          | Redundancy  | #Spp.                | Diversity |       |       | Redundancy   | #Spp. |                                                                                                                          |                                              | BI                               | #Spp. |          |
| 26.01.0502<br>541 | 15 Jul 75 |                    |             |                      |           |       |       |              |       |                                                                                                                          |                                              | LT2                              |       |          |
|                   | 11 Aug 75 |                    |             |                      |           |       |       |              |       |                                                                                                                          |                                              | 2                                | 0     |          |
|                   | 15 Sep 75 |                    |             |                      |           |       |       |              |       |                                                                                                                          |                                              |                                  |       | LT1      |
|                   | 1 Oct 75  | 2.865±0.279        | 0.170±0.043 | 43                   |           |       |       |              |       | Coc BG LT1<br>Fil BG 27<br>Coc Gr LT1<br>Fil Gr LT1<br>Gr Flag LT1<br>Other Flag 2<br>Cen Dia 5<br>Pen Dia 3<br>Total 38 |                                              |                                  |       |          |
|                   | 17 Nov 75 |                    |             |                      |           |       |       |              |       |                                                                                                                          |                                              | 264                              | 68    |          |
|                   | 15 Dec 75 |                    |             |                      |           |       |       |              |       |                                                                                                                          |                                              | 60                               | 3     |          |
|                   | 12 Jan 76 |                    |             |                      |           |       |       |              |       |                                                                                                                          |                                              | 40                               | LT2   |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Istokpoga

| Station Number | Date      | Macroinvertebrates |             |                      |           |            |       | Biotic Index |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|-----------|--------------------|-------------|----------------------|-----------|------------|-------|--------------|--|-------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |           | Natural Substrate  |             | Artificial Substrate |           |            |       |              |  |                                                 |                                              |                                  |  |          |
|                |           | Diversity          | Redundancy  | #Spp.                | Diversity | Redundancy | #Spp. |              |  |                                                 |                                              |                                  |  |          |
|                |           | BI                 | #Spp.       |                      |           |            |       |              |  |                                                 |                                              |                                  |  |          |
| 542            | 26 Apr 76 |                    |             |                      |           |            |       |              |  |                                                 |                                              | 4                                |  |          |
|                | 10 May 76 |                    |             |                      |           |            |       |              |  |                                                 | 112                                          | LT2                              |  |          |
|                | 14 Jun 76 | 2.432±0.254        | 0.251±0.050 | 14                   |           |            |       |              |  |                                                 | 208                                          | LT2                              |  |          |
|                | 12 Jul 76 |                    |             |                      |           |            |       |              |  |                                                 |                                              |                                  |  |          |
|                | 28 Jul 76 | 2.830±0.317        | 0.157±0.060 | 11                   |           |            |       |              |  |                                                 |                                              |                                  |  |          |
|                | 18 Aug 76 | 2.659±0.273        | 0.201±0.058 | 12                   |           |            |       |              |  |                                                 |                                              |                                  |  |          |
|                | 20 Sep 76 |                    |             |                      |           |            |       |              |  |                                                 | 32                                           | LT2                              |  |          |
|                | 11 Oct 76 |                    |             |                      |           |            |       |              |  |                                                 | 222                                          | 90                               |  |          |
|                | 27 Oct 76 | 3.336±0.241        | 0.093±0.030 | 14                   |           |            |       |              |  |                                                 |                                              |                                  |  |          |
|                | 15 Nov 76 |                    |             |                      |           |            |       |              |  |                                                 |                                              |                                  |  |          |
|                | 24 Jan 77 | 2.124±0.278        | 0.411±0.081 | 14                   |           |            |       |              |  |                                                 | 224                                          | 12                               |  |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Istokpoga

| Station Number | Date       | Macroinvertebrates |             |             |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |     | Comments |  |
|----------------|------------|--------------------|-------------|-------------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-----|----------|--|
|                |            | Natural Substrate  |             |             | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |     |          |  |
|                |            | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |     |          |  |
|                |            |                    |             |             |                      |            |       |              |       |                                                 |                                              |                                  |     |          |  |
| 543            | 26.01.0502 | 21 Mar 77          |             |             |                      |            |       |              |       |                                                 |                                              | 28                               | LT4 |          |  |
|                |            | 28 Apr 77          | 2.229±0.375 | 0.439±0.106 | 14                   |            |       |              |       |                                                 |                                              | 68                               | 4   |          |  |
|                |            | 9 May 77           |             |             |                      |            |       |              |       |                                                 |                                              | LT 4                             | LT4 |          |  |
|                |            | 28 Jun 77          |             |             |                      |            |       |              |       |                                                 |                                              |                                  |     |          |  |
|                |            | 26 Jul 77          | 2.811±0.268 | 0.190±0.063 | 13                   |            |       |              |       |                                                 |                                              | 28                               | 4   |          |  |
|                |            | 16 Nov 77          |             |             |                      |            |       |              |       |                                                 |                                              | 35                               | 10  |          |  |
|                |            | 21 Dec 77          |             |             |                      |            |       |              |       |                                                 |                                              |                                  | 32  |          |  |
|                |            | 16 Jan 78          |             |             |                      |            |       |              |       |                                                 |                                              | 16                               | 2   |          |  |
|                |            | 14 Feb 78          |             |             |                      |            |       |              |       |                                                 |                                              |                                  |     |          |  |
|                |            | 2 Mar 78           | 2.727±0.249 | 0.170±0.047 | 12                   |            |       |              |       |                                                 |                                              |                                  |     |          |  |
|                |            | 4 May 78           | 2.869±0.249 | 0.253±0.056 | 19                   |            |       |              |       |                                                 |                                              | 52                               | LT4 |          |  |
|                |            | 26 Jun 78          |             |             |                      |            |       |              |       |                                                 |                                              | 14                               | 14  |          |  |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

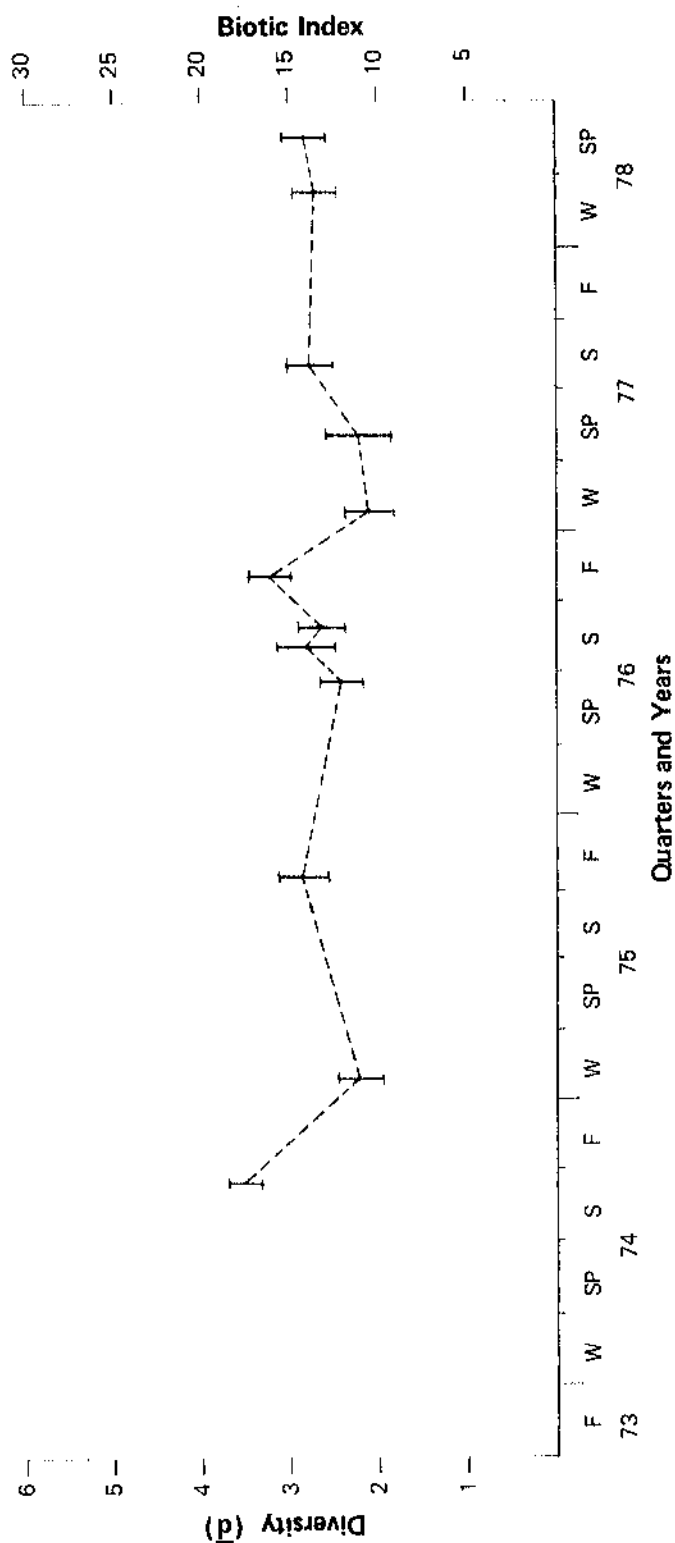
STATION NO.: 26.01.0502

BODY OF WATER: LAKE ISTOKPOGA

--- NATURAL SUBSTRATE DIVERSITY

----- ARTIFICIAL SUBSTRATE DIVERSITY

— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0516 Body of Water Fisheating Creek  
Location at SR 70  
County Highlands  
Type Body of Water stream Classification   
Sources of Pollution runoff from pasture and citrus  
Nearby Land Use agricultural  
Sampling Frequency annually Depth 1.6 - 2 m  
Bottom Type mud, detritus % Volatile Solids   
Aquatic Plants: Submerged   
Emergent Panicum sp., Eichhornia crassipes

**Macroinvertebrates:**

Platyhelminthes  
  Turbellaria  
    unident. sp.  
  
Rhynchocoela  
  Prostoma rubrum  
  
Annelida  
  Oligochaeta  
    Aulodrilus piqueti  
    Haemonais waldvogeli  
    Limnodrilus sp.  
    Nais sp.  
    Pristina osborni  
    P. longiseta leidyi  
  
  Hirudinea  
    Helobdella sp.  
    Mooreobdella microstoma  
    Placobdella papillifera  
  
Arthropoda  
  Crustacea  
    Amphipoda  
      Hyalella azteca



Insecta

Odonata

Perithemis tenera seminole

Ephemeroptera

Caenis diminuta

Trichoptera

Oecetis sp. 2 - Cantrell

Orthotrichia sp.

Diptera

Ablabesmyia parajanta

Chaoborus sp.

Chironomus sp.

Clinotanypus sp.

Cryptochironomus blarina

C. fulvus

Glyptotendipes sp.

Goeldichironomus holoprasinus

Harnischia (Beck) - Cladopelma (Saether) sp.

Lauterborniella sp.

Nimboera sp.

Parachironomus sp.

Pedionomus beckae

Polypedilum halterale

P. illinoense

Procladius sp.

Tanypus carinatus

T. stellatus

Tanytarsus sp. 1 - Cantrell

T. sp. 3 - Cantrell

unident. ceratopogonid sp. 2 - Cantrell

Coleoptera

Berosus sp.

Mollusca

Gastropoda

Gyraulus sp.

Helisoma sp. 2 - Cantrell

unident. ancyliid

Pelecypoda

Byssanodonta cubensis

unident. sphaeriid

unident. unionid

DATA SUMMARY: Fisheating Creek

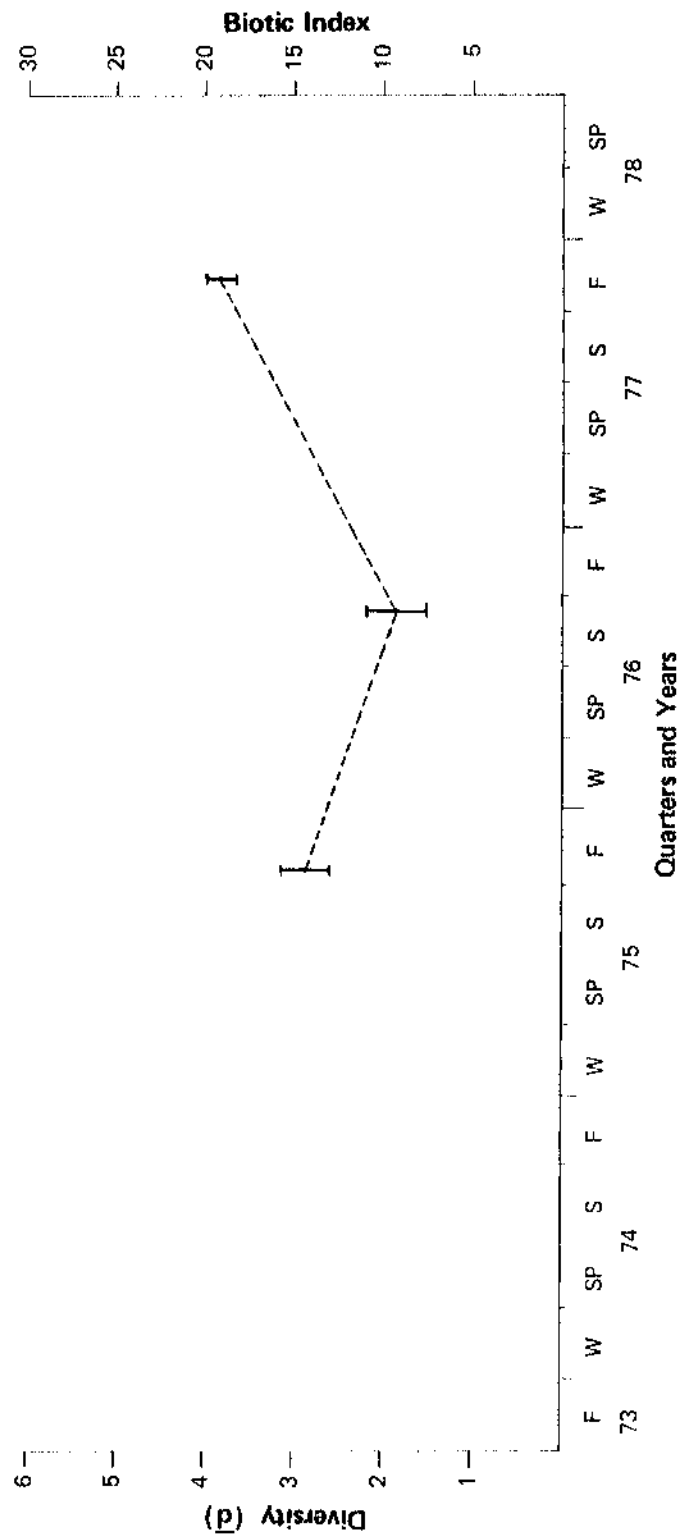
| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |                      |            |       |              |                                                 |                                              |                                  |       |          |
| 547            | 16 Dec 74 |                    |             |       |                      |            |       |              |                                                 |                                              | 720                              | 380   |          |
|                | 7 Jul 75  |                    |             |       |                      |            |       |              |                                                 |                                              | 250                              | 0     |          |
|                | 1 Oct 75  | 2.886±0.272        | 0.188±0.044 | 16    |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 24 May 76 |                    |             |       |                      |            |       |              |                                                 |                                              |                                  | 50    |          |
|                | 9 Sep 76  | 1.865±0.334        | 0.381±0.103 | 9     |                      |            |       |              |                                                 |                                              |                                  |       |          |
|                | 7 Nov 77  | 3.836±0.156        | 0.118±0.017 | 40    |                      |            |       |              |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0516  
 BODY OF WATER: FISHEATING CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0518 Body of Water Carter Creek  
Location at Arbuckle Creek Rd.  
County Highlands  
Type Body of Water stream Classification \_\_\_\_\_  
Sources of Pollution urban runoff  
Nearby Land Use pasture  
Sampling Frequency annual Depth 0.7 - 1.0 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Eleocharis acicularis, Potamogeton sp.

**Macroinvertebrates:**

Platyhelminthes  
Turbellaria  
    unident. planariid  
  
Rhynchocoela  
    Prostoma rubrum  
  
Annelida  
    Oligochaeta  
        Allonais paraguayensis  
        Pristina bilongata  
        P. osborni  
        Stylaria fossularis  
        Slavina appendiculata  
        unident. sp.  
  
Arthropoda  
    Crustacea  
        Amphipoda  
            Gammarus sp.  
            Hyalella azteca  
  
            Decapoda  
                Palaemonetes paludosus  
                Procambarus sp.  
  
    Insecta  
        Odonata  
            Argia fumipennis

Odonata (cont.)

Argia sedula  
Boyeria vinosa  
Calopteryx spp.  
Dromogomphus spinosus  
Enallagma cardenium  
E. cf. divagans  
Gomphus dilatatus  
G. minutus  
Hetaerina titia  
Ischnura sp.  
Libellula sp.  
L. incesta  
Macromia taeniolata  
Neurocordulia alabamensis  
Pachydiplax longipennis

Ephemeroptera

Baetis spinosus  
B. spiethi  
Caenis diminuta  
Centroptilum viridocularis  
Ephemerella trilineata  
Pseudocloeon alachua  
Stenacron interpunctatum  
Stenonema exiguum

Hemiptera

Ranatra sp.

Trichoptera

Cheumatopsyche sp.  
Chimarra sp.  
Cynellus fraternus  
Hydroptila sp.  
Hydropsyche decalda  
Neotrichia sp.  
Nectopsyche exquisita  
N. pavida  
Neureclipsis sp.  
Nyctiophylax sp.  
Oecetis sp. 1 - Cantrell  
Oxyethira sp.  
Polycentropus cinereus  
P. sp. 1 - Cantrell  
Triaenodes sp.

Megaloptera

Corydalus cornutus

Lepidoptera

cf. Munroessa sp.  
Neargyractis sp.  
Parargyractis sp.

Lepidoptera (cont.)

Parapoynx sp.

Diptera

Ablabesmyia hauberi  
A. sp.  
A. tarella  
Chironomus sp.  
"Cordites" sp. (Beck)  
Corynoneura sp.  
Cricotopus bicinctus  
C. sp. 1 (Beck)  
Conchapelopia sp.  
Eukiefferiella sp.  
Labrundinia floridana  
Micropsectra sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Nilothauma bicornis  
Orthocladius annectens  
Pagastiella sp.  
Pentaneura inculta  
Polypedilum sp.  
P. fallax  
P. illinoense  
P. halterale  
Procladius sp.  
Psectrocladius sp. (Beck)  
Rheotanytarsus exiguus  
Tanytarsus sp. 1 - Cantrell  
Thienemanniella sp. 2 - Cantrell  
T. sp. 2 - Cantrell  
Tipula sp.  
Tribelos fuscicornis  
Simulium sp.  
cf. Palpomyia sp. 1 - Cantrell  
unident. empidid  
unident. tipulid

Coleoptera

Dineutus sp.  
Gyrinus sp.  
Microcylloepus pusillus  
Stenelmis sp.

Mollusca

Gastropoda

Amnicola dalli johnsoni  
Helisoma sp. 1 - Cantrell  
Physa sp.  
Pseudosuccinea sp.  
unident. ancylid

26.01.0518

Pelecypoda

Corbicula manilensis

cf. Pisidium sp.

unident. sphaeriid

unident. unionid

DATA SUMMARY: Carter Creek

| Station Number | Date      | Macroinvertebrates |            |       |                      |            |       |  | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments      |
|----------------|-----------|--------------------|------------|-------|----------------------|------------|-------|--|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|---------------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |            |       |  |              |                                                 |                                              | Total                            | Fecal |               |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |  |              |                                                 |                                              |                                  |       |               |
|                |           |                    |            |       |                      |            |       |  |              |                                                 |                                              |                                  |       |               |
| 553            | 27 Aug 74 |                    |            |       |                      |            |       |  |              |                                                 |                                              | 76                               | 2     | Florida index |
|                | 20 Jan 75 |                    |            |       |                      |            |       |  |              |                                                 |                                              |                                  | 350   |               |
|                | 19 Jan 76 |                    |            |       |                      |            |       |  |              |                                                 |                                              |                                  | 358   |               |
|                | 27 Dec 77 |                    |            |       |                      |            |       |  | 23           | 24                                              |                                              |                                  |       |               |
|                | 24 Jan 78 |                    |            |       |                      |            |       |  | 39           | 55                                              |                                              |                                  |       |               |
|                | 22 Mar 78 |                    |            |       |                      |            |       |  | 30           | 35                                              |                                              |                                  |       |               |

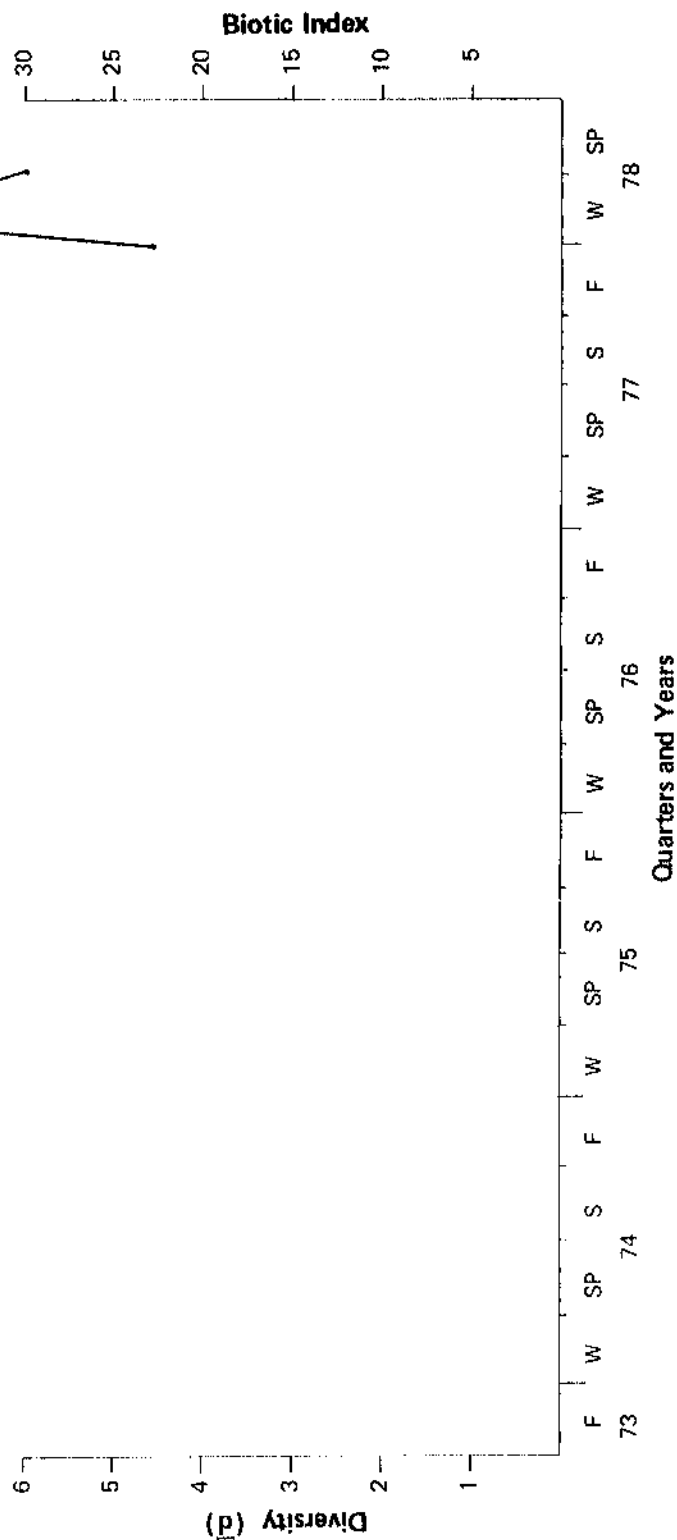
See Methods for explanation of table.



# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0518  
 BODY OF WATER: CARTER CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0523 Body of Water Lake Okeechobee

Location approximately 50 feet west of channel marker #1 at Taylor Creek

(N. end, 1 mi. so. of Taylor Creek) County Okeechobee

Type Body of Water lake Classification III

Sources of Pollution agricultural and urban runoff

Nearby Land Use recreational (campsites), residential, agricultural

Sampling Frequency quarterly Depth 1.2 - 3.4 m

Bottom Type fine silt % Volatile Solids

Aquatic Plants: Submerged

Emergent

#### Macroinvertebrates:

##### Annelida

###### Oligochaeta

Branchiura sowerbyi  
Limnodrilus hoffmeisteri  
Pristina osborni  
Tubifex tubifex

##### Arthropoda

###### Crustacea

###### Isopoda

Cyathura polita  
Exosphaeroma sp. 1 - Hart  
unident. asellid sp. 1 - Hart

###### Amphipoda

Ampelisca sp. 1 - Hart  
Gammarus fasciatus

###### Mysidacea

Taphromysis lousianae

##### Insecta

###### Odonata

Enallagma sp. 1 - Hart

Diptera

Chironomus crassicaudatus  
Coelotanypus concinnus  
C. tricolor  
Dicrotendipes sp. 1 - Hart  
Psectrocladius sp. 1 - Hart  
Tanytarsus sp. 1 - Hart

Mollusca

Gastropoda

Aphaestracon pachynotus  
Melanoides tuberculata  
Physa sp.  
Pleurocera sp. 1 - Hart  
Viviparus sp. 1 - Hart  
V. georgianus

Pelecypoda

Corbicula manilensis

DATA SUMMARY: Lake Okeechobee

| Station Number | Date      | Macroinvertebrates |            |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |            |       | Artificial Substrate |             |       |              |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                              |                                  |          |
|                |           |                    |            |       |                      |             |       |              |                                                 |                                              |                                  |          |
| 26.01.0523     | 7 Nov 73  |                    |            |       |                      |             |       |              |                                                 |                                              | 5                                |          |
|                | 9 Jan 74  |                    |            |       |                      |             |       |              |                                                 |                                              | 5                                |          |
|                | 7 Feb 74  |                    |            |       | 0.606±0.007          | 1.000±0.003 | 2     |              |                                                 |                                              | 37                               | 2        |
|                | 5 Mar 74  |                    |            |       | 0.016±0.019          | 0.097±0.008 | 2     |              |                                                 |                                              | 55                               | LT1      |
|                | 2 Apr 74  |                    |            |       |                      |             |       |              |                                                 |                                              | 30                               | LT1      |
|                | 7 May 74  |                    |            |       |                      |             |       |              |                                                 |                                              | 200                              | 11       |
|                | 6 Jun 74  |                    |            |       |                      |             |       |              |                                                 |                                              | 50                               | LT1      |
|                | 2 Jul 74  |                    |            |       |                      |             |       |              |                                                 |                                              | 35                               | 1        |
|                | 12 Aug 74 |                    |            |       |                      |             |       |              |                                                 |                                              | 28                               | LT1      |
|                | 9 Sep 74  |                    |            |       |                      |             |       |              |                                                 |                                              |                                  |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Okeechobee

| Station Number | Date                | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                    | Periphyton Composition units/cm <sup>2</sup>                              | Coliform Bacteria Colonies/100ml |       | Comments |  |
|----------------|---------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------|-------|----------|--|
|                |                     | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                    |                                                                           | Total                            | Fecal |          |  |
|                |                     | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                    |                                                                           |                                  |       |          |  |
|                |                     |                    |             |       |                      |            |       |              |                                                                                                    |                                                                           |                                  |       |          |  |
| 558            |                     |                    |             |       |                      |            |       |              |                                                                                                    |                                                                           |                                  |       |          |  |
| 26.01.0523     | 9 Sep 74<br>(cont.) |                    |             |       |                      |            |       |              | Gr Flag 0<br>Other Flag 14<br>Cen Dia 321<br>Pen Dia 303<br>Total 3409                             | Gr Flag 0<br>Other Flag 0<br>Cen Dia 9030<br>Pen Dia 28560<br>Total 53230 | 6                                | LT2   |          |  |
|                | 7 Oct 74            |                    |             |       |                      |            |       |              |                                                                                                    |                                                                           | LT2                              | LT2   |          |  |
|                | 4 Nov 74            |                    |             |       |                      |            |       |              |                                                                                                    |                                                                           | 4                                | 1     |          |  |
|                | 3 Dec 74            |                    |             |       |                      |            |       |              |                                                                                                    |                                                                           | 8                                | LT2   |          |  |
|                | 6 Jan 75            |                    |             |       |                      |            |       |              |                                                                                                    |                                                                           | 3                                | LT2   |          |  |
|                | 11 Feb 75           | 2.261±0.233        | 0.180±0.056 | 8     |                      |            |       |              | Coc BG 161<br>Fil BG 259<br>Coc Gr 250<br>Fil Gr 162<br>Gr Flag 64<br>Other Flag 96<br>Cen Dia 517 |                                                                           |                                  |       |          |  |

See Methods for explanation of table.

DATA SUMMARY: Lake Okeechobee

| Station Number | Date                 | Macroinvertebrates |             |       |                      |            |       | Biotic Index |                          | Phytoplankton Composition units/cm <sup>3</sup>                 | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |  | Comments |
|----------------|----------------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------|--|----------|
|                |                      | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                          |                                                                 |                                              |                                  |  |          |
|                |                      | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp.                    |                                                                 |                                              |                                  |  |          |
|                |                      |                    |             |       |                      |            |       |              |                          |                                                                 |                                              |                                  |  |          |
| 26.01.0523     | 11 Feb 75<br>(cont.) |                    |             |       |                      |            |       |              | Pen Dia 64<br>Total 1613 |                                                                 | 9                                            | LT4                              |  |          |
|                | 11 Mar 75            |                    |             |       |                      |            |       |              |                          |                                                                 | 116                                          | LT2                              |  |          |
|                | 16 Apr 75            |                    |             |       |                      |            |       |              |                          |                                                                 | 58                                           | 5                                |  |          |
|                | 14 May 75            |                    |             |       |                      |            |       |              |                          |                                                                 | 4                                            | LT2                              |  |          |
|                | 16 Jun 75            |                    |             |       |                      |            |       |              |                          |                                                                 | LT2                                          | LT2                              |  |          |
|                | 4 Aug 75             |                    |             |       |                      |            |       |              |                          |                                                                 | 23                                           | 4                                |  |          |
|                | 3 Sep 75             |                    |             |       |                      |            |       |              |                          |                                                                 | 10                                           | LT1                              |  |          |
|                | 7 Oct 75             | 0.996±0.172        | 0.633±0.820 | 5     |                      |            |       |              |                          | Coc BG 1768<br>Fil BG 0<br>Coc Gr 148<br>Fil Gr 57<br>Gr Flag 0 | 6                                            | LT2                              |  |          |
|                | 5 Nov 75             |                    |             |       |                      |            |       |              |                          |                                                                 |                                              |                                  |  |          |

See Methods for explanation of table.

**DATA SUMMARY:** Lake Okeechobee

[illegible]

See Methods for explanation of table.

DATA SUMMARY: Lake Okeechobee

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup>                                                                                      | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                                      |                                              |                                  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                                                      |                                              |                                  |          |
|                |           |                    |             |       |                      |            |       |              |                                                                                                                                      |                                              |                                  |          |
| 26-01-0523     | 5 Jan 76  | 1.520+0.250        | 0.494+0.100 | 8     |                      |            |       |              | Coc BG 171<br>Fil BG 1518<br>Coc Gr 16677<br>Fil Gr 37371<br>Gr Flag 0<br>Other Flag 24<br>Cen Dia 171<br>Pen Dia 710<br>Total 56642 |                                              |                                  |          |
|                | 20 Aug 76 | 1.577+0.261        | 0.536+0.092 | 10    |                      |            |       |              | Coc BG 447<br>Fil BG 1185<br>Coc Gr 808<br>Fil Gr 0<br>Gr Flag 3<br>Other Flag 9<br>Cen Dia 120<br>Pen Dia 127<br>Total 2699         |                                              |                                  |          |
|                | 1 Nov 76  |                    |             |       |                      |            |       |              |                                                                                                                                      |                                              | 1                                | 171      |

See Methods for explanation of table.



DATA SUMMARY: Lake Okeechobee

| Station Number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition<br>unils/cm <sup>3</sup>                                                                  | Periphyton Composition<br>unils/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                                                                                     |                                                 | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                                                                                     |                                                 |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |                                                                                                                     |                                                 |                                  |       |          |
| 26.01.0523<br>562 | 13 Dec 76 |                    |             |       |                      |            |       |              |                                                                                                                     |                                                 | 4                                | LT1   |          |
|                   | 12 Jan 77 |                    |             |       |                      |            |       |              |                                                                                                                     |                                                 |                                  | LT1   |          |
|                   | 8 Feb 77  | 1.837±0.314        | 0.266±0.087 | 6     |                      |            |       |              | Coc BG 7<br>F11 BG 8<br>Coc Gr 13<br>F11 Gr 146<br>Gr Flag 0<br>Other Flag 2<br>Cen Dia 4<br>Pen Dia 8<br>Total 188 |                                                 | 15                               | LT1   |          |
|                   | 22 Mar 77 |                    |             |       |                      |            |       |              |                                                                                                                     |                                                 | 5                                | 5     |          |
|                   | 13 Apr 77 |                    |             |       |                      |            |       |              |                                                                                                                     |                                                 |                                  | LT3   |          |
|                   | 8 Jun 77  |                    |             |       |                      |            |       |              |                                                                                                                     |                                                 |                                  | 6     |          |
|                   | 10 Oct 77 | 2.573±0.131        | 0.132±0.025 | 11    |                      |            |       |              | Coc BG 5800<br>F11 BG 17120                                                                                         |                                                 |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Okeechobee

| Station Number | Date       | Macroinvertebrates |             |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup>                                                | Periphyton Composition units/cm <sup>2</sup>                                                          | Coliform Bacteria Colonies/100ml |     | Comments |
|----------------|------------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------|-----|----------|
|                |            | Natural Substrate  |             |       | Artificial Substrate |            |       |              |       |                                                                                                |                                                                                                       |                                  |     |          |
|                |            | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                                                                |                                                                                                       |                                  |     |          |
|                |            |                    |             |       |                      |            |       |              |       |                                                                                                |                                                                                                       |                                  |     |          |
| 563            | 26.01.0523 |                    |             |       |                      |            |       |              |       | Coc Gr 960<br>Fll Gr 0<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 0<br>Pen Dai 160<br>Total 24040 |                                                                                                       |                                  |     |          |
|                | 18 Jan 78  |                    |             |       |                      |            |       |              |       |                                                                                                |                                                                                                       | 63                               | 55  |          |
|                | 14 Feb 78  |                    |             |       |                      |            |       |              |       |                                                                                                |                                                                                                       | LT3                              | LT3 |          |
|                | 7 Mar 78   |                    |             |       |                      |            |       |              |       |                                                                                                |                                                                                                       | 1630                             | 65  |          |
|                | 4 Apr 78   | 1.779±0.195        | 0.320±0.075 | 7     |                      |            |       |              |       |                                                                                                | Coc BG 252300<br>Fll BG 8700<br>Coc Gr 7700<br>Fll Gr 300<br>Gr Flag 0<br>Other Flag 0<br>Cen Dia 300 | LT3                              | LT3 |          |

See Methods for explanation of table.

## DATA SUMMARY: Lake Okeechobee

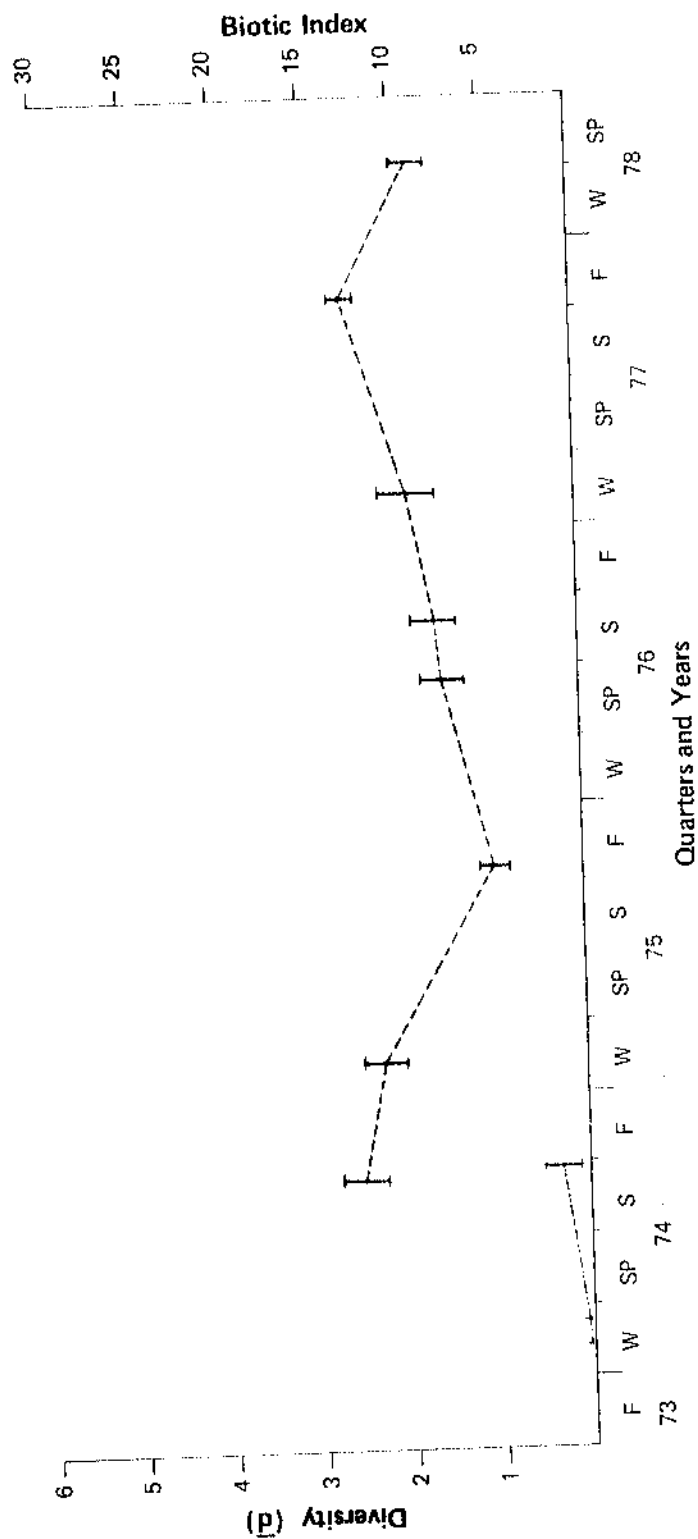
| Station Number | Date       | Macroinvertebrates  |            |       |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |      | Comments |
|----------------|------------|---------------------|------------|-------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|------|----------|
|                |            | Natural Substrate   |            |       | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            | Diversity           | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
| 564            | 26.01.0523 | 4 Apr 78<br>(cont.) |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            | 17 May 78           |            |       |                      |            |       |              |       |                                                 |                                              | LT 3                             | LT 3 |          |
|                |            | 13 Jun 78           |            |       |                      |            |       |              |       |                                                 |                                              | LT 2                             | LT 2 |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |
|                |            |                     |            |       |                      |            |       |              |       |                                                 |                                              |                                  |      |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0523  
 BODY OF WATER: LAKE OKEECHOBEE

--- NATURAL SUBSTRATE DIVERSITY  
 - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0524 Body of Water Lake Okeechobee

Location at entrance to St. Lucie Canal at Port Mayaca

County Martin

Type Body of Water lake Classification \_\_\_\_\_

Sources of Pollution residential and agricultural runoff

Nearby Land Use agricultural

Sampling Frequency annually Depth 1.7 - 3.5 m

Bottom Type rock, shell, mud % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged

Emergent

#### Macroinvertebrates:

##### Annelida

##### Oligochaeta

Branchiura sowerbyi

Limnodrilus hoffmeisteri

Pristina sp. 1 - Hart

Tubifex tubifex

##### Arthropoda

##### Crustacea

##### Isopoda

Cyathura polita

##### Amphipoda

Corophium lacustre

Gammarus fasciatus

Hyalella azteca

##### Insecta

##### Diptera

Chironomus crassicaudatus

Coelotanypus concinnus

C. tricolor

Polypedilum halterale

Procladius sp. 1 - Hart

26.01.0524

Mollusca

Gastropoda

Melanoides tuberculata  
Pleurocera sp. 1 - Hart

Pelecypoda

Corbicula manilensis

DATA SUMMARY: Lake Okeechobee

| Station Number | Date       | Macroinvertebrates |            |       |                      |            |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|------------|-------|----------------------|------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |            |       | Artificial Substrate |            |       |                                                 |                                              | Total                            | Fecal |          |
|                |            | Diversity          | Redundancy | #Spp. | Diversity            | Redundancy | #Spp. |                                                 |                                              |                                  |       |          |
|                |            |                    |            |       |                      |            |       |                                                 |                                              |                                  |       |          |
| 568            | 26.01.0524 | 15 Nov 73          |            |       |                      |            |       |                                                 |                                              | 14                               |       |          |
|                |            | 9 Jan 74           |            |       |                      |            |       |                                                 |                                              | 413                              | 224   |          |
|                |            | 7 Feb 74           |            |       |                      |            |       |                                                 |                                              | 38                               | 22    |          |
|                |            | 2 Apr 74           |            |       |                      |            |       |                                                 |                                              | 150                              | 6     |          |
|                |            | 7 May 74           |            |       |                      |            |       |                                                 |                                              | 9                                | LT1   |          |
|                |            | 4 Jun 74           |            |       |                      |            |       |                                                 |                                              | 140                              | 70    |          |
|                |            | 8 Jul 74           |            |       |                      |            |       |                                                 |                                              | 170                              | 17    |          |
|                |            | 12 Aug 74          |            |       |                      |            |       |                                                 |                                              | 54                               | 5     |          |
|                |            | 9 Sep 74           |            |       |                      |            |       |                                                 |                                              | 110                              | 16    |          |
|                |            | 7 Oct 74           |            |       |                      |            |       |                                                 |                                              | 39                               | 16    |          |
|                |            | 4 Nov 74           |            |       |                      |            |       |                                                 |                                              | 52                               | 21    |          |

See Methods for explanation of table.

DATA SUMMARY: Lake Okechobee

| Station Number    | Date      | Macroinvertebrates |             |                      |            |       |            | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |       |
|-------------------|-----------|--------------------|-------------|----------------------|------------|-------|------------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|-------|
|                   |           | Natural Substrate  |             | Artificial Substrate |            | #Spp. | Redundancy |              |                                                 |                                              | #Spp.                            | Total |          | Fecal |
|                   |           | Diversity          | Redundancy  | Diversity            | Redundancy |       |            |              |                                                 |                                              |                                  |       |          |       |
| 509<br>70-01-0524 | 3 Dec 74  |                    |             |                      |            |       |            |              |                                                 |                                              | 64                               | 15    |          |       |
|                   | 6 Jan 75  |                    |             |                      |            |       |            |              |                                                 |                                              | 21                               | LT2   |          |       |
|                   | 3 Feb 75  |                    |             |                      |            |       |            |              |                                                 |                                              | LT4                              | LT4   |          |       |
|                   | 11 Mar 75 |                    |             |                      |            |       |            |              |                                                 |                                              | 38                               | 8     |          |       |
|                   | 16 Apr 75 |                    |             |                      |            |       |            |              |                                                 |                                              | 93                               | 25    |          |       |
|                   | 14 May 75 |                    |             |                      |            |       |            |              |                                                 |                                              | 22                               | LT2   |          |       |
|                   | 16 Jun 75 |                    |             |                      |            |       |            |              |                                                 |                                              | 25                               | 2     |          |       |
|                   | 7 Jul 75  |                    |             |                      |            |       |            |              |                                                 |                                              | 16                               | 8     |          |       |
|                   | 11 Aug 75 |                    |             |                      |            |       |            |              |                                                 |                                              | 12                               | 6     |          |       |
|                   | 3 Sep 75  |                    |             |                      |            |       |            |              |                                                 |                                              | 32                               | 7     |          |       |
|                   | 7 Oct 75  | 0.645±0.423        | 0.807±0.275 |                      |            | 3     |            |              |                                                 |                                              | 46                               | 28    |          |       |

See Methods for explanation of table.



DATA SUMMARY: Lake Okerehobee

| Station number    | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm3 | Periphyton Composition units/cm2 | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------|----------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                     |                                  | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                     |                                  |                                  |       |          |
|                   |           |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       |          |
| 26.01.0524<br>570 | 5 Nov 75  | 2.474+0.304        | 0.163+0.082 | 8     |                      |            |       |              |                                     |                                  | 19                               | 3     |          |
|                   | 9 Dec 75  |                    |             |       |                      |            |       |              |                                     |                                  | 75                               | 24    |          |
|                   | 12 Jan 76 | 1.529+0.236        | 0.239+0.119 | 4     |                      |            |       |              |                                     |                                  | 26                               | 9     |          |
|                   | 9 Feb 76  |                    |             |       |                      |            |       |              |                                     |                                  |                                  | 16    |          |
|                   | 8 Mar 76  |                    |             |       |                      |            |       |              |                                     |                                  | 420                              | 18    |          |
|                   | 23 Aug 76 | 1.429+0.190        | 0.473+0.083 | 6     |                      |            |       |              |                                     |                                  | 6                                | LT1   |          |
|                   | 17 Nov 76 |                    |             |       |                      |            |       |              |                                     |                                  | 2000                             | 600   |          |
|                   | 16 Dec 76 |                    |             |       |                      |            |       |              |                                     |                                  | 20                               | 20    |          |
|                   | 7 Feb 77  |                    |             |       |                      |            |       |              |                                     |                                  |                                  | 7     |          |
|                   | 23 Mar 77 |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       | LT3      |
|                   | 12 Apr 77 |                    |             |       |                      |            |       |              |                                     |                                  |                                  |       |          |

See Methods for explanation of table.

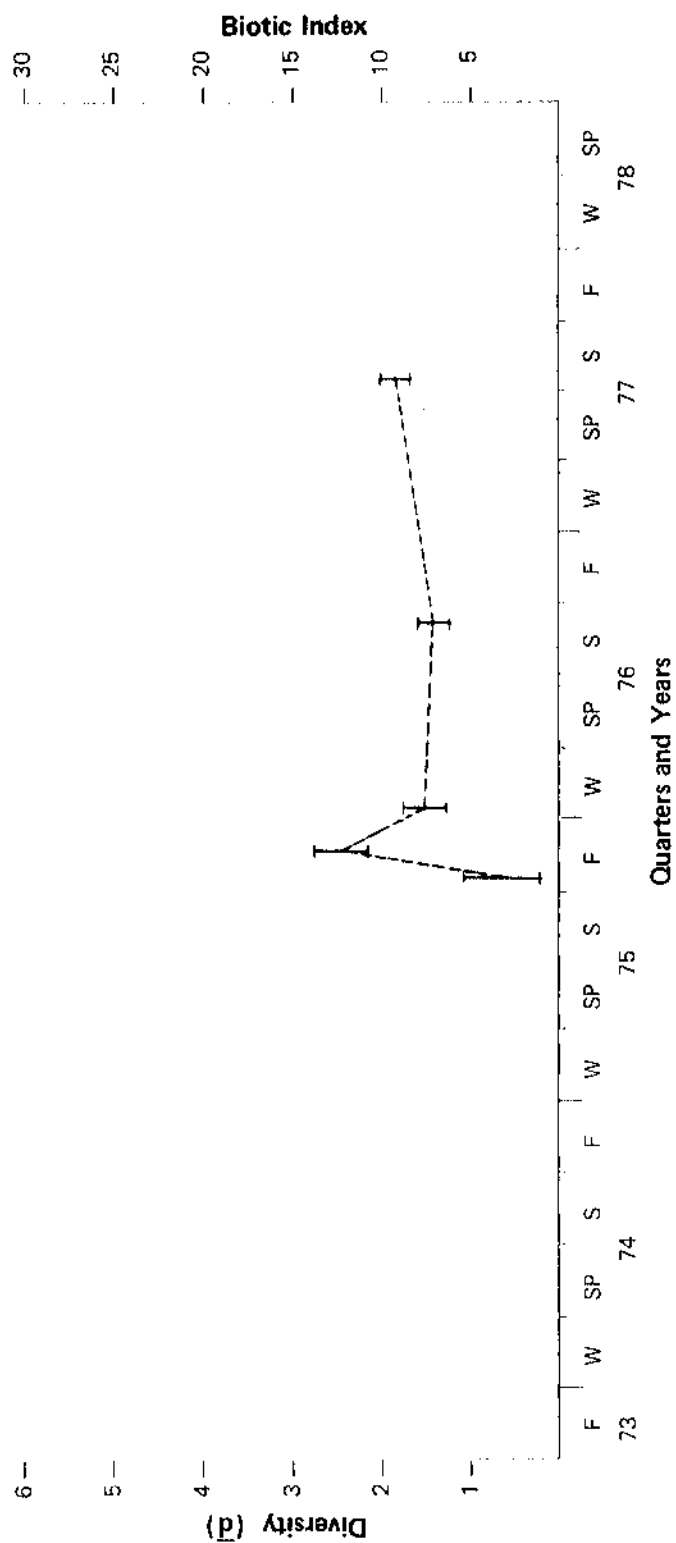
DATA SUMMARY: Lake Okeechobee

| Station Number    | Date      | Macroinvertebrates |             |      |                      |            |      | Biotic Index |      | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |      | Comments |
|-------------------|-----------|--------------------|-------------|------|----------------------|------------|------|--------------|------|-------------------------------------------------|----------------------------------------------|----------------------------------|------|----------|
|                   |           | Natural Substrate  |             |      | Artificial Substrate |            |      |              |      |                                                 |                                              |                                  |      |          |
|                   |           | Diversity          | Redundancy  | #Sp. | Diversity            | Redundancy | #Sp. | BI           | #Sp. |                                                 |                                              |                                  |      |          |
|                   |           | Total              | Fecal       |      |                      |            |      |              |      |                                                 |                                              |                                  |      |          |
| 26-01-0524<br>571 | 7 Jun 77  |                    |             |      |                      |            |      |              |      |                                                 |                                              |                                  | 1    |          |
|                   | 13 Jul 77 | 1.840±0.153        | 0.312±0.055 | 8    |                      |            |      |              |      |                                                 | 1140                                         | 1140                             | 1140 |          |
|                   | 19 Jan 78 |                    |             |      |                      |            |      |              |      |                                                 |                                              |                                  |      |          |
|                   | 2 Feb 78  |                    |             |      |                      |            |      |              |      |                                                 |                                              |                                  |      |          |
|                   | 6 Mar 78  |                    |             |      |                      |            |      |              |      |                                                 |                                              |                                  |      |          |
|                   | 16 May 78 |                    |             |      |                      |            |      |              |      |                                                 |                                              |                                  |      |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0524  
 BODY OF WATER: LAKE OKEECHOBEE  
 --- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0551 Body of Water Lake-June-In-Winter  
Location \_\_\_\_\_  
County Highlands  
Type Body of Water lake Classification \_\_\_\_\_  
Sources of Pollution urban and agricultural runoff  
Nearby Land Use residential  
Sampling Frequency annually Depth 4.85 - 8 m  
Bottom Type sand % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Platyhelminthes  
Turbellaria  
    unident. sp.  
  
Annelida  
Oligochaeta  
    Dero digitata  
    Haemonais waldvogeli  
    Limnodrilus sp.  
  
Hirudinea  
    Helobdella stagnalis  
    Mooreobdella microstoma  
  
Arthropoda  
Crustacea  
    Amphipoda  
        Hyalella azteca  
  
Insecta  
Ephemeroptera  
    Hexagenia munda orlando  
  
Trichoptera  
    Oecetis inconspicua  
    O. sp. 2 - Cantrell  
    O. sp. 6 - Cantrell

Diptera

Ablabesmyia cinctipes  
Chaoborus sp.  
Cladotanytarsus sp. 1 - Cantrell  
C. sp. 2 - Cantrell  
Coelotanypus scapularis  
C. tricolor  
Cryptochironomus blarina  
Glyptotendipes paripes  
Lauterborniella sp.  
Leptochironomus sp.  
Nilothauma bicornis  
Paralauterborniella nigrohalteralis  
Polypedilum halterale  
unident. sp. 2 - Cantrell  
unident. sp. 3 - Cantrell

Coleoptera

Dubiraphia sp.

Mollusca

Gastropoda

Amnicola dalli johnsoni  
Helisoma sp. 1 - Cantrell  
Physa sp.  
Viviparus sp.

Pelecypoda

unident. sphaeriid

DATA SUMMARY: Lake June - In - Winter

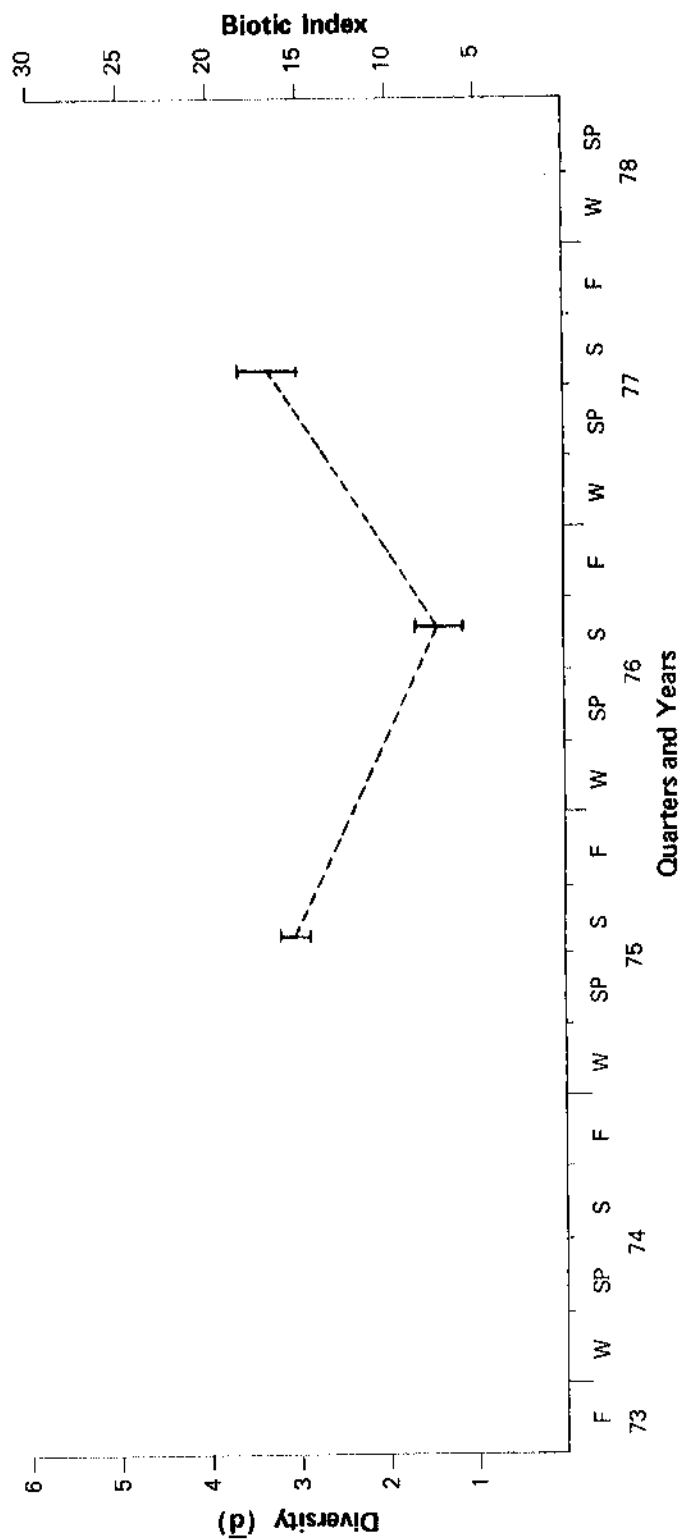
| Station Number | Date       | Macroinvertebrates |             |             |                      |            |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|------------|--------------------|-------------|-------------|----------------------|------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |            | Natural Substrate  |             |             | Artificial Substrate |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            | Diversity          | Redundancy  | #Spp.       | Diversity            | Redundancy | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |       |          |
|                |            |                    |             |             |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
| 575            | 26.01.0551 | 27 Feb 74          |             |             |                      |            |       |              |       |                                                 |                                              | 2                                | 2     |          |
|                |            | 16 Jul 75          | 3.223±0.173 | 0.150±0.026 | 22                   |            |       |              |       |                                                 |                                              | 72                               | LT0.2 |          |
|                |            | 1 Jun 76           |             |             |                      |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            | 13 Aug 76          | 1.451±0.278 | 0.693±0.082 | 17                   |            |       |              |       |                                                 |                                              |                                  |       |          |
|                |            | 13 Jul 77          | 3.385±0.328 | 0.147±0.058 | 16                   |            |       |              |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0551  
 BODY OF WATER: LAKE JUNE-IN-WINTER

- - - NATURAL SUBSTRATE DIVERSITY  
 - . . . ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0563 Body of Water Lake Placid

Location \_\_\_\_\_

County Highlands

Type Body of Water lake Classification \_\_\_\_\_

Sources of Pollution residential and agricultural runoff

Nearby Land Use residential

Sampling Frequency annually Depth 6.5 - 7 m

Bottom Type sand % Volatile Solids \_\_\_\_\_

Aquatic Plants: Submerged

Emergent

#### Macroinvertebrates:

##### Annelida

##### Oligochaeta

Limnodrilus sp.

unident. sp.

##### Arthropoda

##### Insecta

##### Odonata

Gomphus plagiatus

##### Ephemeroptera

Hexagenia munda orlando

##### Trichoptera

Cyrmellus fraternus

Oecetis inconspicua

##### Diptera

Ablabesmyia cinctipes

Chaoborus sp.

Cladotanytarsus sp. 2 - Cantrell

Coelotanypus scapularis

C. tricolor

Cryptotendipes sp.

Cryptochironomus blarina

Glyptotendipes paripes



Diptera (cont.)

Leptochironomus sp.

Nilothauma bicornis

Polypedilum halterale

Procladius sp.

Stictochironomus devinctus

Tanytarsus sp. 1 - Cantrell

T. sp. 3 - Cantrell

unident. ceratopogonid sp. 2 - Cantrell

Mollusca

Pelecypoda

Corbicula manilensis

unident. sphaeriid

unident. unionid

DATA SUMMARY: Lake Placid

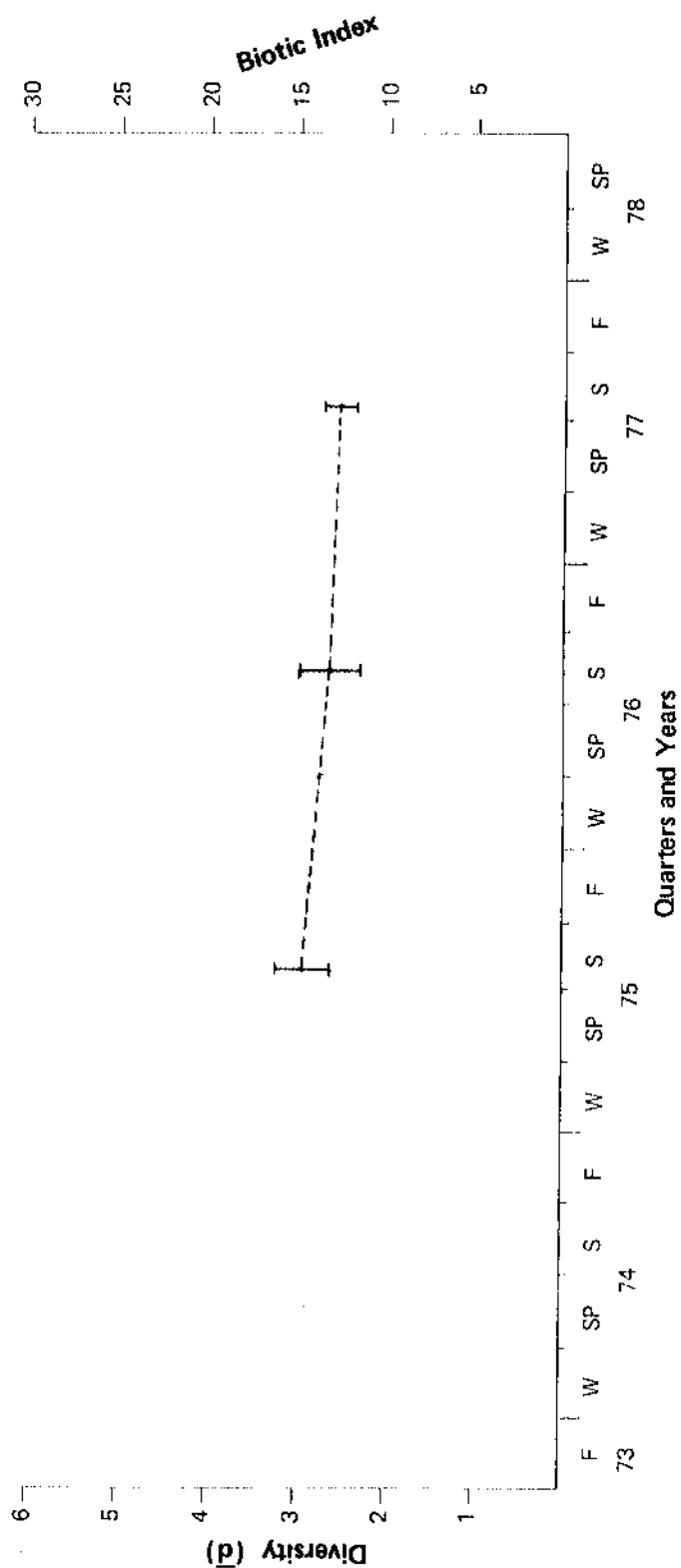
| Station Number    | Date      | Macroinvertebrates |             |       |           |                      |       |    |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|-------------------|-----------|--------------------|-------------|-------|-----------|----------------------|-------|----|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                   |           | Natural Substrate  |             |       |           | Artificial Substrate |       |    |       |                                                 |                                              | Total                            | Fecal |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity | Redundancy           | #Spp. |    |       |                                                 |                                              |                                  |       |          |
|                   |           |                    |             |       |           |                      |       | BI | #Spp. |                                                 |                                              |                                  |       |          |
| 26.01.0563<br>579 | 17 Jul 75 | 2.974±0.303        | 0.179±0.052 | 15    |           |                      |       |    |       |                                                 |                                              |                                  |       |          |
|                   | 28 Jul 76 | 2.664±0.350        | 0.286±0.090 | 14    |           |                      |       |    |       |                                                 |                                              |                                  |       |          |
|                   | 13 Jul 77 | 2.582±0.186        | 0.255±0.046 | 17    |           |                      |       |    |       |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0563  
 BODY OF WATER: LAKE PLACID

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 ——— BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0592 Body of Water Fisheating Creek  
 Location approximately 3 miles downstream from US 27  
 County Glades  
 Type Body of Water stream Classification III  
 Sources of Pollution upstream channelization. land drainage upstream.  
pasture  
 Nearby Land Use wildlife management; cypress swamp (flood plain)  
 Sampling Frequency quarterly Depth 0.8-2.1 m.  
 Bottom Type sand, silt, detritus % Volatile Solids 19.6%  
 Aquatic Plants: Submerged \_\_\_\_\_  
 Emergent Taxodium sp.

**Macroinvertebrates:**

|                 |                                                                                                                                                                                                                                                                                                                                            |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cnidaria        | <u>Hydra sp.</u>                                                                                                                                                                                                                                                                                                                           |
| Platyhelminthes |                                                                                                                                                                                                                                                                                                                                            |
| Turbellaria     | <u>unident. sp.</u>                                                                                                                                                                                                                                                                                                                        |
| Rhyncocoela     |                                                                                                                                                                                                                                                                                                                                            |
|                 | <u>Prostoma rubrum</u>                                                                                                                                                                                                                                                                                                                     |
| Annelida        |                                                                                                                                                                                                                                                                                                                                            |
| Oligochaeta     | <u>Allonais paraguayensis</u><br><u>Aulodrilus piqueti</u><br><u>Aulophorus sp.</u><br><u>Dero cf. digitata</u><br><u>Limnodrilus sp.</u><br><u>Nais variabilis</u><br><u>Nais sp.</u><br><u>Pristina longiseta leidyi</u><br><u>Pristina osborni</u><br><u>Slavina appendiculata</u><br><u>Stylaria fossularis</u><br><u>S. lacustris</u> |

Hirudinea

Mooreobdella microstoma  
Placobdella multilineata  
P. papillifera

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Decapoda

Palaemonetes paludosus  
Procambarus sp.

Insecta

Odonata

Aphylla williamsoni  
Argia sedula  
Enallagma cardenium  
E. pollutum  
E. sp.  
Epicordulia regina  
Erythemis simplicicollis  
Gomphus plagiatus  
Ischnura ramburii  
I. sp.  
Macromia taeniolata  
Nasiaeschna pentacantha  
Neurocordulia alabamensis  
Orthemis ferruginea  
Perithemis tenera seminole  
Pachydiplax longipennis  
Telebasis byersi  
Tetragoneuria cf. cynosura  
T. cf. sepia  
T. sp.  
 unident. zygopteran  
 unident. sp.

Ephemeroptera

Baetis cf. spinosus  
B. spiethi  
Brachycercus maculatus  
Caenis diminuta  
Callibaetis floridanus  
Centroptilum viridocularis  
Choroterpes hubbelli  
Stenacron interpunctatum  
Stenoma integrum

26.01.0592

Hemiptera

Abedus sp.  
Ranatra sp.

Trichoptera

Cheumatopsyche sp.  
Cyrnellus fraternus  
Nectopsyche cf. exquisita  
N. pavida  
Neotrichia sp.  
Oecetis inconspicua  
O. sp. 3 - Cantrell  
Ochrotrichia sp.  
Oxyethira sp.  
Polycentropus cinereus  
Triaenodes sp.

Diptera

Ablabesmyia mallochi  
A. ornata  
A. parajanta  
A. tarella  
A. sp.  
Apsectrotanypus sp.  
Chaoborus sp.  
Chironomus sp.  
cf. Chironomus sp.  
Cladotanytarsus sp. 1 - Cantrell  
C. sp. 2 - Cantrell  
Clinotanypus sp.  
Coelotanypus sp.  
C. scapularis  
C. tricolor  
Corynoneura sp.  
Cryptochironomus blarina  
C. fulvus  
Cryptotendipes sp.  
Dicrotendipes modestus  
D. neomodestus  
D. cf. nervosus  
D. sp.  
Einfeldia sp.  
Glyptotendipes sp.  
Goeldichironomus holoprasinus  
Harnischia sp. (Beck)  
Kiefferulus dux  
Labrundinia johannseni  
L. pilosella  
cf. Larsia sp.

Diptera (cont.)

Lauterborniella sp.  
Micropsectra sp. 1 - Cantrell  
M. sp. 2 - Cantrell  
Nilothauma bicornis  
Nimbocera patagonica  
Pagastiella sp.  
Parachironomus sp.  
Paralauterborniella nigrohalteralis  
P. elachista  
Paratanytarsus sp.  
Pedionomus beckae  
Polypedilum halterale  
P. illinoense  
Procladius sp.  
Pseudochironomus sp.  
Psectrocladius sp. (Beck)  
Rheotanytarsus exiguus  
Stempellina sp.  
Stenochironomus aestivalis  
S. hilaris  
Tabanus sp.  
Tanypus carinatus  
T. stellatus  
Tanytarsus sp. 1 - Cantrell  
T. sp. 3 - Cantrell  
Thienemanniella sp. 1 - Cantrell  
T. sp. 2 - Cantrell  
Tribelos cf. fuscicornis  
Xenochironomus xenolabis  
 unident. ceratopogonid sp. 1 - Cantrell  
 unident. ceratopogonid sp. 2 - Cantrell  
 unident. ceratopogonid sp. 3 - Cantrell  
 unident. tanytarsin

Coleoptera

Berosus sp.  
Bodessus sp.  
Coptotomus interrogatus obscurus  
Dineutus sp.  
Dubiraphia sp.  
Hydrochus sp.  
Hydrovatus sp.  
Microcylloepus pusillus  
Laccophilus sp.  
Pelonomus sp.  
Stenelmis sp.

Mollusca

Gastropoda

Gyraulus sp.  
Helisoma sp. 1 - Cantrell  
H. sp. 2 - Cantrell

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Helisoma sp.

Melanoides tuberculata

Pomacea sp.

Viviparus sp.

unident. ancyliid sp. 2 - Cantrell

unident. ancyliid sp.

unident. hydrobiid

Pelecypoda

Corbicula manilensis

Byssanodonta cubensis

unident. unionid



DATA SUMMARY: Fisheating Creek

| Station Number | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup>                                                                                         | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |                                                 |                                                                                                                                      | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |              |                                                 |                                                                                                                                      |                                  |       |          |
|                |           |                    |             |       |                      |             |       |              |                                                 |                                                                                                                                      |                                  |       |          |
| 26.01.0592     | 18 Sep 73 |                    |             |       | 3.118±0.117          | 0.108±0.024 | 16    |              |                                                 |                                                                                                                                      | 72                               | 10    |          |
|                | 30 Oct 73 |                    |             |       | 2.272±0.174          | 0.383±0.040 | 31    |              |                                                 |                                                                                                                                      |                                  |       |          |
|                | 10 Dec 73 |                    |             |       | 3.629±0.159          | 0.125±0.019 | 34    |              |                                                 |                                                                                                                                      |                                  |       |          |
|                | 1 Aug 74  | 3.772±0.297        | 0.176±0.043 | 31    |                      |             |       | 10           | 41                                              | Coc BG 0<br>Fil BG 1520<br>Coc Gr 10640<br>Fil Gr 0<br>Gr Flag 4560<br>Other Flag 0<br>Cen Dia 4560<br>Pen Dia 95760<br>Total 117040 |                                  |       |          |
|                | 12 Aug 74 |                    |             |       |                      |             |       |              |                                                 |                                                                                                                                      | 44                               | 8     |          |
|                | 16 Sep 74 |                    |             |       |                      |             |       |              |                                                 |                                                                                                                                      | 70                               | 12    |          |
|                | 14 Oct 74 |                    |             |       |                      |             |       |              |                                                 |                                                                                                                                      | 140                              |       |          |
|                | 31 Oct 74 | 2.956±0.186        | 0.198±0.034 | 23    | 3.888±0.161          | 0.102±0.074 | 40    |              |                                                 |                                                                                                                                      |                                  |       |          |

See Methods for explanation of table.

DATA SUMMARY: Fisheating Creek

| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |      | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |              |       |                                                 |                                              |                                  |      |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. | BI           | #Spp. |                                                 |                                              |                                  |      |          |
| 587<br>26.01.0592 | 18 Nov 74 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 100                              | LT10 |          |
|                   | 9 Dec 74  |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  | LT10 |          |
|                   | 10 Feb 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 40                               | 10   |          |
|                   | 11 Feb 75 | 2.932±0.219        | 0.183±0.033 | 20    |                      |             |       | 22           | 39    |                                                 |                                              |                                  |      |          |
|                   | 3 Mar 75  |                    |             |       |                      |             |       |              |       |                                                 |                                              | 10                               | LT10 |          |
|                   | 19 May 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 8                                |      |          |
|                   | 20 May 75 | 4.380±0.229        | 0.077±0.216 | 37    | 3.719±0.132          | 0.101±0.011 | 39    |              |       |                                                 |                                              | 420                              | 0    |          |
|                   | 7 Jul 75  |                    |             |       |                      |             |       |              |       |                                                 |                                              | 330                              |      |          |
|                   | 15 Jul 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |      |          |
|                   | 30 Jul 75 | 3.804±0.264        | 0.109±0.042 | 32    |                      |             |       | 13           | 32    |                                                 |                                              | 400                              | 36   |          |
|                   | 11 Aug 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              | 660                              | 22   |          |
|                   | 15 Sep 75 |                    |             |       |                      |             |       |              |       |                                                 |                                              |                                  |      |          |

See Methods for explanation of table.

DATA SUMMARY: Fishbeating Creek

| Station Number               | Date      | Macroinvertebrates |             |                      |             |             |       | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|------------------------------|-----------|--------------------|-------------|----------------------|-------------|-------------|-------|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                              |           | Natural Substrate  |             | Artificial Substrate |             | Total       | Fecal |              |       |                                                 |                                              |                                  |       |          |
|                              |           | Diversity          | Redundancy  | #Spp.                | Diversity   |             |       | Redundancy   | #Spp. |                                                 |                                              | BI                               | #Spp. |          |
| 26.01-0592<br>57<br>88<br>88 | 13 Oct 75 | 3.930±0.197        | 0.111±0.022 | 35                   |             |             |       |              |       |                                                 |                                              |                                  |       |          |
|                              | 17 Nov 75 |                    |             |                      |             |             |       |              |       |                                                 | 270                                          | LT10                             |       |          |
|                              | 15 Dec 75 |                    |             |                      |             |             |       |              |       |                                                 | 150                                          | 2                                |       |          |
|                              | 12 Jan 76 |                    |             |                      |             |             |       |              |       |                                                 | 40                                           | 1                                |       |          |
|                              | 16 Feb 76 |                    |             |                      |             |             |       |              |       |                                                 |                                              | 4                                |       |          |
|                              | 23 Feb 76 | 4.720±0.140        | 0.040±0.007 | 43                   | 3.370±0.112 | 0.080±0.012 | 19    | 26           | 60    |                                                 |                                              |                                  | 13    |          |
|                              | 15 Mar 76 |                    |             |                      |             |             |       |              |       |                                                 |                                              |                                  |       |          |
|                              | 9 Apr 76  | 4.450±0.210        | 0.091±0.020 | 47                   |             |             |       |              |       |                                                 |                                              |                                  |       |          |
|                              | 12 Apr 76 |                    |             |                      |             |             |       |              |       |                                                 |                                              |                                  | LT1   |          |
|                              | 10 May 76 |                    |             |                      |             |             |       |              |       |                                                 |                                              | 48                               | 24    |          |
|                              | 24 May 76 |                    |             |                      |             |             |       |              |       |                                                 |                                              | 480                              | 80    |          |
|                              | 14 Jun 76 |                    |             |                      |             |             |       |              |       |                                                 |                                              | 428                              | 28    |          |

See Methods for explanation of table.

DATA SUMMARY: Fisheating Creek

| Station Number    | Date      | Macroinvertebrates |             |                      |             |             |    | Biotic Index |       | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |            | Comments |
|-------------------|-----------|--------------------|-------------|----------------------|-------------|-------------|----|--------------|-------|-------------------------------------------------|----------------------------------------------|----------------------------------|------------|----------|
|                   |           | Natural Substrate  |             | Artificial Substrate |             | # Spp.      | BI | # Spp.       | Total |                                                 |                                              | Fecal                            |            |          |
|                   |           | Diversity          | Redundancy  | # Spp.               | Diversity   |             |    |              |       |                                                 |                                              |                                  | Redundancy |          |
| 589<br>26-01-0592 | 12 Jul 76 |                    |             |                      |             |             |    |              |       |                                                 |                                              | 890                              | 30         |          |
|                   | 16 Aug 76 |                    |             |                      |             |             |    |              |       |                                                 |                                              | 900                              | 100        |          |
|                   | 7 Sep 76  | 3.886±0.248        | 0.123±0.034 | 29                   |             |             | 20 | 45           |       |                                                 |                                              | 430                              | 20         |          |
|                   | 20 Sep 76 |                    |             |                      |             |             |    |              |       |                                                 |                                              | 190                              | 38         |          |
|                   | 11 Oct 76 |                    |             |                      |             |             |    |              |       |                                                 |                                              | 300                              | 18         |          |
|                   | 15 Nov 76 | 3.749±0.227        | 0.166±0.032 | 38                   | 3.169±0.174 | 0.141±0.248 | 22 |              |       |                                                 |                                              | 440                              | 2          |          |
|                   | 31 Jan 77 | 3.435±0.145        | 0.160±0.016 | 43                   |             |             |    |              |       |                                                 |                                              | 48                               | 2          |          |
|                   | 1 Mar 77  |                    |             |                      |             |             |    |              |       |                                                 |                                              |                                  |            |          |
|                   | 18 Apr 77 |                    |             |                      |             |             |    |              |       |                                                 |                                              |                                  |            |          |
|                   | 25 Apr 77 | 3.646±0.215        | 0.179±0.033 | 37                   |             |             |    |              |       |                                                 |                                              | 40                               | 2          |          |
|                   | 9 May 77  |                    |             |                      |             |             |    |              |       |                                                 |                                              |                                  |            |          |
|                   | 27 Jun 77 |                    |             |                      |             |             |    |              |       |                                                 |                                              | 620                              | 52         |          |

See Methods for explanation of table.

DATA SUMMARY: Fishheating Creek

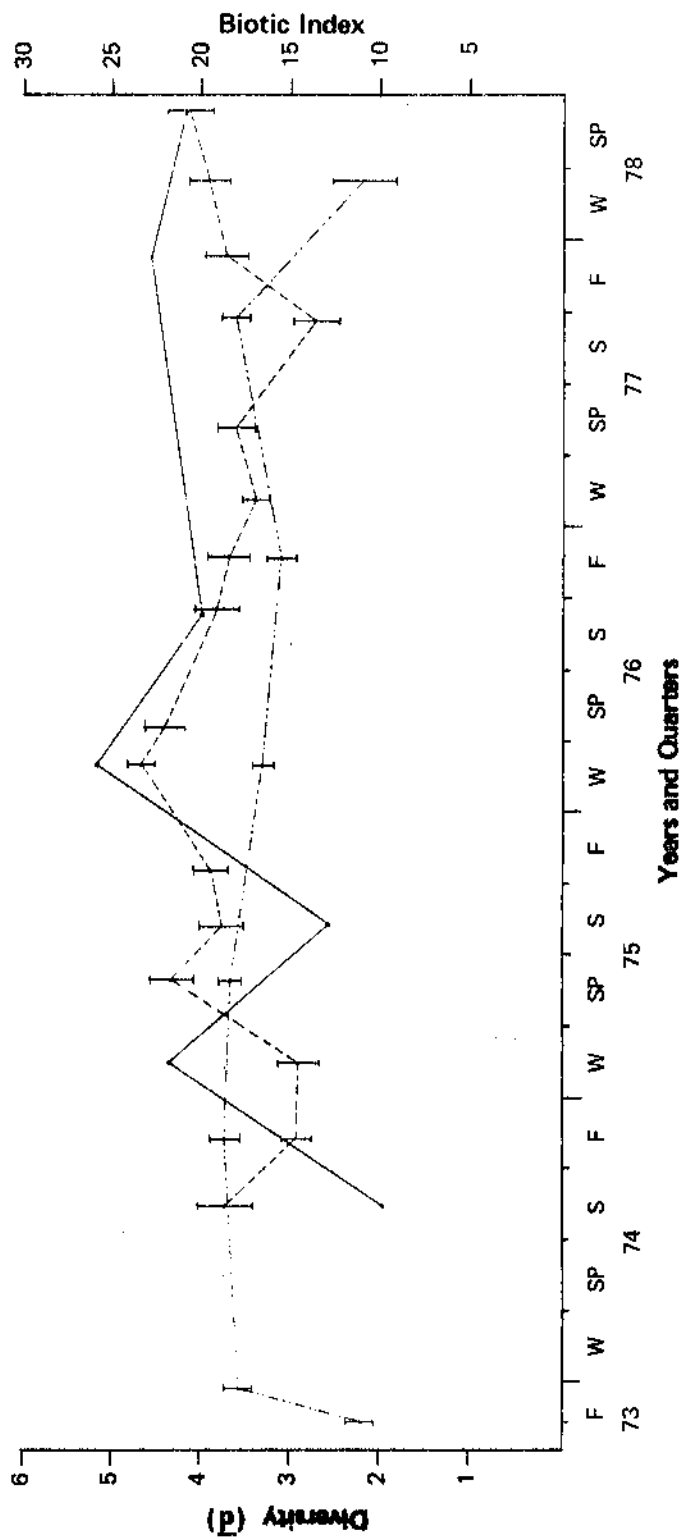
| Station Number    | Date      | Macroinvertebrates |             |       |                      |             |       |    | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |               | Comments |
|-------------------|-----------|--------------------|-------------|-------|----------------------|-------------|-------|----|-------------------------------------------------|----------------------------------------------|----------------------------------|---------------|----------|
|                   |           | Natural Substrate  |             |       | Artificial Substrate |             |       |    |                                                 |                                              | Total                            | Fecal         |          |
|                   |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy  | #Spp. |    |                                                 |                                              |                                  |               |          |
|                   |           |                    |             |       |                      |             |       | BI |                                                 |                                              |                                  |               |          |
| 26.01.0592<br>590 | 11 Jul 77 |                    |             |       |                      |             |       |    |                                                 |                                              | 160                              | Florida Index |          |
|                   | 13 Sep 77 | 2.777±0.267        | 0.392±0.060 | 31    | 3.672±0.185          | 0.137±0.022 | 36    |    |                                                 |                                              |                                  |               |          |
|                   | 30 Nov 77 | 3.933±0.206        | 0.109±0.018 | 38    |                      |             |       |    |                                                 | 415                                          | 98                               |               |          |
|                   | 12 Dec 77 |                    |             |       |                      |             |       |    |                                                 | 76                                           | 9                                |               |          |
|                   | 9 Jan 78  |                    |             |       |                      |             |       |    |                                                 |                                              |                                  |               |          |
|                   | 14 Feb 78 |                    |             |       |                      |             |       |    |                                                 |                                              |                                  |               |          |
|                   | 9 Mar 78  | 3.992±0.218        | 0.110±0.023 | 36    | 2.211±0.353          | 0.368±0.064 | 14    |    |                                                 | 205                                          | 66                               |               |          |
|                   | 13 Mar 78 |                    |             |       |                      |             |       |    |                                                 | 44                                           | 2                                |               |          |
|                   | 17 Apr 78 |                    |             |       |                      |             |       |    |                                                 | 345                                          | 102                              |               |          |
|                   | 8 May 78  |                    |             |       |                      |             |       |    |                                                 |                                              |                                  |               |          |
|                   | 5 Jun 78  | 4.173±0.230        | 0.083±0.017 | 33    |                      |             |       |    |                                                 | 104                                          | 276                              |               |          |
|                   | 26 Jun 78 |                    |             |       |                      |             |       |    |                                                 |                                              |                                  |               |          |

See Methods for explanation of table.

# MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 26.01.0592  
 BODY OF WATER: FISHEATING CREEK

--- NATURAL SUBSTRATE DIVERSITY  
 - - - - - ARTIFICIAL SUBSTRATE DIVERSITY  
 — BIOTIC INDEX (= FLORIDA INDEX)



Station No. 26.01.0946 Body of Water East Lake Tohopekaliga  
Location midlake  
County Osceola  
Type Body of Water lake Classification \_\_\_\_\_  
Sources of Pollution agricultural and residential runoff  
Nearby Land Use residential, runoff  
Sampling Frequency annual Depth 3.75 - 4.0 m  
Bottom Type mud, peat, silt, clay % Volatile Solids 3.75 - 4.0 m  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent \_\_\_\_\_

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Hirudinea

Helobdella elongata

Placobdella pediculata

Arthropoda

Insecta

Ephemeroptera

Hexagenia munda orlando

Diptera

Ablabesmyia annulata

Chaoborus punctipennis

Coelotanypus scapularis

C. tricolor

Glyptotendipes paripes

Pentaneura sp. 1 - Hart

Polypedilum sp. 1 - Hart

P. halterale

unident. ceratopogonid sp. 1 - Hart

Mollusca

Gastropoda

Viviparus sp. 1 - Hart

26.01.0946

Pelecypoda

Corbicula sp.

Eupera sp. 1 - Hart



DATA SUMMARY: East Lake Tohopekaliga

| Station Number | Date      | Macroinvertebrates |             |       |           |            |                      |    |       |  |  | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colonies/100ml |       | Comments |
|----------------|-----------|--------------------|-------------|-------|-----------|------------|----------------------|----|-------|--|--|-------------------------------------------------|----------------------------------------------|----------------------------------|-------|----------|
|                |           | Natural Substrate  |             |       |           |            | Artificial Substrate |    |       |  |  |                                                 |                                              | Total                            | Fecal |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity | Redundancy | #Spp.                | Bi | #Spp. |  |  |                                                 |                                              |                                  |       |          |
|                |           |                    |             |       |           |            |                      |    |       |  |  |                                                 |                                              |                                  |       |          |
| 26.01.0946     | 17 Sep 74 |                    |             |       |           |            |                      |    |       |  |  |                                                 | 620                                          | 40                               |       |          |
|                | 15 Jul 75 |                    |             |       |           |            |                      |    |       |  |  |                                                 | 10                                           | 0                                |       |          |
|                | 25 Mar 76 | 3.216±0.201        | 0.080±0.032 | 13    |           |            |                      |    |       |  |  |                                                 |                                              |                                  |       |          |
|                | 8 Aug 77  | 2.265±0.312        | 0.316±0.091 | 11    |           |            |                      |    |       |  |  |                                                 |                                              |                                  |       |          |

See Methods for explanation of table.

Station No. 26.01.0952 Body of Water Lake Marian  
Location midlake  
County Osceola  
Type Body of Water lake Classification \_\_\_\_\_  
Sources of Pollution recreational, agricultural runoff  
Nearby Land Use pasture  
Sampling Frequency annually Depth 3.75 - 4.2 m  
Bottom Type muck % Volatile Solids \_\_\_\_\_  
Aquatic Plants: Submerged \_\_\_\_\_  
Emergent Panicum hemitomom, Nuphar luteum

**Macroinvertebrates:**

Annelida

Oligochaeta

Limnodrilus hoffmeisteri

Hirudinea

Helobdella stagnalis

Arthropoda

Crustacea

Amphipoda

Hyalella azteca

Insecta

Ephemeroptera

Hexagenia munda orlando

Diptera

Coelotanypus concinnus

C. tricolor

Palpomyia tibialis

Pentaneura sp. 1 - Hart

Procladius sp. 1 - Hart

unident. ceratopogonid sp. 1 - Hart

Arachnida

Megapus sp.

26.01.0952

Mollusca

Gastropoda

Amnicola sp. 1 - Hart

Hyalopyrgus sp. 1 - Hart

Viviparus sp. 1 - Hart

DATA SUMMARY: Lake Marian

| Station Number | Date      | Macroinvertebrates |             |       |                      |            |       | Biotic Index | Phytoplankton Composition units/cm <sup>3</sup> | Periphyton Composition units/cm <sup>2</sup> | Coliform Bacteria Colouies/100ml | Comments |
|----------------|-----------|--------------------|-------------|-------|----------------------|------------|-------|--------------|-------------------------------------------------|----------------------------------------------|----------------------------------|----------|
|                |           | Natural Substrate  |             |       | Artificial Substrate |            |       |              |                                                 |                                              |                                  |          |
|                |           | Diversity          | Redundancy  | #Spp. | Diversity            | Redundancy | #Spp. |              |                                                 |                                              |                                  |          |
| 26.01.0952     | 10 Mar 76 | 3.006±0.382        | 0.182±0.070 | 12    |                      |            |       |              |                                                 |                                              |                                  |          |
|                | 7 Sep 77  | 1.689±0.451        | 0.270±0.217 | 4     |                      |            |       |              |                                                 |                                              |                                  |          |

See Methods for explanation of table.