TMDL STUDIES

EcoSummary

Pithlachascotee River at Starkey Blvd, upstream of bridge

April 13, 2005

FAIR

Stream Condition Index (SCI): The standardized biological assessment tool used by FDEP biologist to indicate ecosystem health and identify impairment as compared to reference (natural) conditions of streams within the various ecoregions of Florida

For samples collected before June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures and met FDEP quality assurance/quality control standards.
For samples collected on or after June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures (SOPs) and met DEP quality assurance/quality control standards.

Purpose



Macroinvertebrate samples were collected for a Stream Condition Index (SCI) bioassessment of Pithlachascotee River in order to gain further information on the biological health of the watershed for use in the administration of Florida's Ecosystem Management Water Quality Assessment and Total Maximum Daily Loads programs. Because this watershed is on the State of Florida's Impaired Water Rule's List for Total Maximum Daily Loading (TMDL) development, the results may also be used in determination of TMDL needs and priorities. The verified parameters of impairment are dissolved oxygen and aquatic macroinvertebrates. Biological methods are particularly useful in order to ascertain if low DO levels are indicative of natural conditions. If the aquatic community is not impaired, it may be concluded that low DO levels do not adversely effect the health of the system.

The SCI is based on ten measurements that assess the ecological integrity of the aquatic macrioinvertebrate community. If the Index score falls between 73 and 100, it is considered good; if it falls between 46 and 72, fair; between 19 and 45, poor; and between 0 and 18, severely degraded.

Watershed Characteristics

The Pithlachascotee River headwaters are in the Starkey Wilderness area in southwestern Pasco County. The Starkey Wilderness area is owned by SWFWMD, who issues ground water withdrawal permits to Tampa Bay Water. The area is open for public recreation use and managed as such by Pasco County. The

Pithlachascotee flows from the Starkey wetlands through New Port Richey and empties into the Gulf at Port Richey. The watershed is heavily urbanized, particularly in the tidal reaches of the Port Richies, and recently all the way up to the Starky boundary. The location map in this report does not show the new development upstream of Little Road.

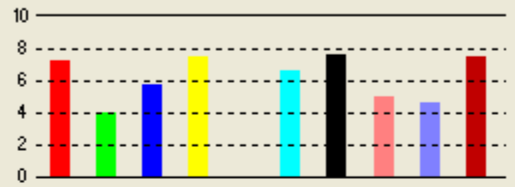
The sampling site is located upstream of the Starkey Road bridge crossing. The stream is quite naturally sinuous and the water is very tannic. The riparian zone is extensively wooded. Long-term water quality trends have shown the dissolved oxygen levels in the Pithlachascotee to drop below the State Standard of 5.0 mg/l, particularly in the summer months. The aquatic macroinvertebrate community was sampled nine times since fall of 1993 (further upstream in the headwaters). It has always been relatively healthy with one exception: in August of 1994, the SCI resulted in a poor score, and this placed the stream on the impaired list for biology.

Results

At the time of sampling, the stream was about 0.4 m deep and water velocity was 0.2 m/sec. The habitat assessment score was 133 out of 160, which places it in the optimal category for habitat characterization. Dissolved oxygen was 4.94 mg/l, conductivity was 188 umho/cm, pH was 7.48 SU and temperature was 21.44 deg. C.

The SCI score was 62 out of 100, falling in the "fair" category. This means that the aquatic macroinvertebrate community was healthy and the stream was meeting designated uses of a Class III waterbody.

PITHLACHASCOTEE RIVER AT STARKEY BLVD, UPSTREAM OF BRIDGE



BioRegion : Peninsula

Sample Date : Apr 13, 2005

Good	73 - 100
Fair	46 - 72
Poor	19 - 45
Very Poor	0 - 18

Core Metrics	Value	0 - 10 Points	Metric Score
# TOTAL TAXA	34	16 - 41	7.2
# EPHEMEROPTERA TAXA	2	0 - 5	4
# TRICHOPTERA TAXA	4	0 - 7	5.71
# CLINGER TAXA	6	0 - 8	7.5
# LONG-LIVED TAXA	0	0 - 4	0
# SENSITIVE TAXA	6	0 - 9	6.67
% DOMINANT TAXON	20.37	54 - 10	7.64
% SUSPENSION FEEDERS / FILTERERS	20.37	1 - 40	4.97
% TANYTARSINI	3.7	0 - 26	4.69
% VERY TOLERANT	1.85	59 - 0	7.45
	TOTAL METRIC SCORE :		55.83
	/ Correction Factor :		0.9
	= SCI FINAL SCORE :		62

Macroinvertebrate Dip Net (20 sweeps, emphasizing most productive substrates)

Significance

The FDEP's Impaired Waters Rule has identified dissolved oxygen and aquatic macroinvertebrates as a parameter of concern for the Pithlachascotee River. The DO measurement taken on 4/13/05 was below the State Standard of 5.0 mg/l. However, biological sampling at this site indicated that the aquatic invertebrate community was relatively healthy. It may be concluded that the biological community at this location was not adversely impaired by DO fluctuations, and that these fluctuations are largely natural.

Suggestions

The headwaters of the Pithlachascotee River are largely preserved in the Starkey Wilderness Area. However, increasing residential development from Starkey Blvd downstream to Port Richey will result in increased polluted stormwater runoff. The pollutants include: oil, and other automobile fluids, paint and construction debris, yard and pet wastes, pesticides and litter. Urban runoff contaminates streams, rivers and bays, harms aquatic life and increases the risk of flooding by clogging storm drains and catch basins. Stormwater runoff Best Management Practices (BMPs) need to be expanded by the private sector as well as public agencies. These improvements include engineering retrofits, riparian zone stabilization vegetative swales, and created wetlands. Home owners can also reduce stormwater runoff pollution by limiting lawn fertilization and removing yard waste so that it does not enter the stream with stormwater runoff.

For more information, please contact
Peggy Morgan
Southwest District Office
13051 N. Telecom Pkwy, Tampa, FL 33637
(813) 632-7600 x 490 (Suncom 514-9155 x 490)
E-mail: Peggy.Morgan@dep.state.fl.us

Published by the Florida Department of Environmental Protection
Tallahassee, Florida
For more information on the DEP Bioassessment programs, please visit our web site at http://www.dep.state.fl.us/water/bioassess

Pithlachascotee River at Starkey Blvd, upstream of bridge

