

WELCOME!!!

THANK YOU TO ALL WHO HELPED PREPARE!!

- Website

<http://www.dep.state.fl.us/water/bioassess/index.htm>

- Contact info

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Coefficient of Conservatism (C of C) Update

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FDEP Standards and Assessment Section

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Background

Florida Lake Vegetation Index

The LVI is a multi-metric index that assesses the biological integrity of Florida lakes based on the macrophyte community structure and function.

- % Native taxa
- % FLEPPC invasive exotic taxa
- % Sensitive (C of $C > 7$) taxa
- C of C of dominant or co-dominant taxa

Background

Role of C of C in LVI Scores

- If $CC > 7$, the taxon contributes to the % **Sensitive** metric
- If taxon is **dominant** or **co-dominant**, CC is used in the calculation

Coefficient of Conservatism

CC Scores

- CC scores are assigned on a scale of 0-10, based on a species' fidelity to a habitat relatively unaltered from a pre-European settlement condition, as best understood.
- 1. CC of 0 = species indicates most disturbed conditions
- 2. CC of 10 = species show a high degree of fidelity to a specific set of ecological conditions; in other words, these species would provide the highest level of confidence that the places they are found in are the most intact remnant natural systems



Background

LVI Data Collection (as of January 2011)

- 2003 – present
- Index development in 2005, refinement in 2007
- 1,100 LVI samples collected by DEP
- 843 taxa (includes some genus level)
- 575 taxa with CC scores (3 genus level)
- 6 scoring events with 13 total botanists, from 1999-2006 ; first 5 for wetland work

Background

Florida CC Scoring History

- 1999-2003: 5 scoring events by the UF Center for Wetlands for biocriteria development
 - Isolated herbaceous wetlands
 - Isolated forested wetlands
 - Strands and floodplains
- Existing CC scores adopted for LVI
- 2006: Additional scores sought for LVI
 - 5 genus-level designations
- 2008: Comments received on CC scores
- 2011: 105 taxa need CC

February 2011 C of C Workshop

- Assembled eight botanists for 1-day workshop

Participant	Affiliation
David Hall	Consulting botanist
Ed Harris	FWCC
John Tobe	Ecological Resource Consultants
Ken Langland	UF IFAS
Loran Anderson	FSU emeritus
Mike Netherland	UF IFAS
Nathalie Vischer	FWCC
Shirley Denton	Cardno-Entrix

February 2011 C of C Workshop

- Re-evaluate C of C scores for use in the LVI
- Tasks Prioritized by:
 - Most common taxa
 - “Sensitive” list
 - Exotics
 - Genus level designations
- Pre-workshop exercise helped prioritize plants for discussion

Exercise

Most Common Taxa

- 266 taxa had 30 or more observations
 - Removed FLEPPC and genus level
- 211 taxa in pre-workshop exercise (6 received)
 - 33: Change by >1 person, priority 1 by 1 or more
 - 18: Priority 1 by 1 person
 - 42: Change by >1 person, none were priority 1
- Input from samplers (thank you!)
 - 2008: 7 taxa for change by 2 of 4 reviewers
 - 2010: 19 taxa for change by 2 or 3 of 5 reviewers

Current genus level C of Cs

- *Commelina*
- *Hydrocotyle*
- *Nuphar*
- *Taxodium*
- *Typha*

Common Genus Level IDs

- **Utricularia** (574)
- *Xyris* (535)
- **Eleocharis** (262)
- *Eriocaulon* (219)
- *Pluchea* (78)
- Hypericum (201)
- Bidens (197)
- Rhynchospora (124)
- Andropogon (111)
- Baccharis (99)
- Rhexia (94)
- Lemna (75)

Priority genera - Bold are frequently dominant, Italicized are sometimes sensitive

Workshop Outcome

- 134 C of C scores proposed for change
 - 27 increased, 107 decreased
- 27 Species were removed from the Sensitive List (by reduction in C of C score)
- 11 Species were added to the Sensitive List (by increase in C of C score)

Proposed to Remove from Sensitive List

Bidens laevis

Blechnum serrulatum

Decodon verticillatus

Dichanthelium commutatum

Dichanthelium erectifolium

Dichanthelium scabriusculum

Drosera capillaris

Fuirena breviseta

Ilex cassine

Kosteletzkya pentacarpos (*K. virginica*)

Lachnocaulon anceps

Lyonia lucida

Nitella

Nymphaea mexicana

Polygonum hirsutum

Potamogeton diversifolius

Rhynchospora inundata

Sabatia grandiflora

Saururus cernuus

Spilanthes americana

Thalia geniculata

Triadenum virginicum

Ulmus americana

Utricularia cornuta

Woodwardia areolata

Xyris fimbriata

Xyris flabelliformis

Proposed to Add to Sensitive List

Andropogon liebmanii (A. mohrii)

Annona glabra

Carya aquatica

Drosera filiformis

Ilex myrtifolia

Myriophyllum laxum

Sagittaria isoetiformis

Sagittaria subulata

Toxicodendron vernix

Vallisneria americana

Websteria confervoides

Zizania aquatica

Proposed Genus Level C of C

- Recommended ID at genus level
 - *Lemna* (1)
- Recommended C of C at genus level if species level ID not possible and taxon is dominant or codominant
 - Viviparous *Eleocharis* species as group (3)
 - *Utricularia* (6)

Next Steps

- Evaluate effects of changed C of C scores on LVI metrics and their correlation with the LDI
- If LVI is strengthened by changes, revised scores will be incorporated in SOP when QA Rule opened
- **No C of C changes will take effect until SOP is officially changed**
 - CC scores revised
 - New genus and species CC scores added



Questions?