

Florida Department of Environmental Protection
Coastal and Estuarine Bioassessment Methods Development
Fall 1998 Technical Workshop Series Summary Report

Introduction

The Florida Department of Environmental Protection is in the process of selecting and developing methods to help the department assess the condition of Florida's estuarine and coastal waters. The effort is part of an overall program with the goal of assessing, monitoring, and regulating the water quality of the freshwater and saltwater resources of Florida, with the intent of protecting their biological communities.

Past efforts have documented the cost effectiveness of using the biological community as a primary indicator of water quality problems. As part of the methods-development effort, a series of workshops was initiated in the Fall of 1998 to identify sampling methods for five indicator groups: benthic macroinvertebrates, fish, submerged aquatic vegetation (SAV), corals, and phyto/zooplankton. Note that the coral and SAV workshops in this series were intended to examine use as indicator organisms, not as habitats.

A Chair was identified for each of the workshops, who then selected a Core Group to help organize and run the workshop and to develop a list of participants.

Three of these workshops have been completed (benthic macroinvertebrates, SAV, and corals). It was concluded by the FMRI staff responsible for the fish workshop that a telephone survey was a better means to obtain the fish information. The phyto/zooplankton workshop is still planned but has been delayed by red tide and other harmful-algae-related events and the workload resulting from these events.

The workshops were charged with examining methods whereby their indicator group could be sampled to provide information regarding the degree to which the surrounding biological community is impaired by human activities. The products of the workshop were to include:

- Σ a summary of any workshop presentations;
- Σ a list of candidate methods for sampling the indicator group and the factors affecting them;
- Σ judgements as to the readiness of those methods for inclusion in a statewide program;
- Σ identification of where methods do not exist and need to be developed;
- Σ identification a small group of people as an advisory group to bring the workshop information and expertise in the indicator group to subsequent habitat-based workshops; and
- Σ a list of workshop attendees with contact information

This document summarizes the three workshops that have taken place. Some workshops chose to somewhat expand the scope of their effort, to the benefit of their effort. This expansion is reflected in the contents of their full reports, which are attached. A summary table at the end of this document, with information about methods suggested for the indicator groups, includes the readiness of these methods as well as the type of data they yield.

Results

An valuable outcome of the workshops was the utility of considering methods as fitting into one or more of three types:

- Absolute—information about the relative condition of the indicator is produced by a single measurement
- Relative, spatial— information about the condition of the indicator is produced when measurements are compared to others taken at different locations (e.g., at a control site).
- Relative, temporal—information about the condition of the indicator is produced when measurements are compared to others taken at different times.

The existence of a suitable suite of absolute methods for sampling a particular habitat might allow determining the status of a community from a one-time sampling

• *Corals*

Workshop held October 13–14, 1998, at the Florida Marine Research Institute in St. Petersburg, FL.

Chair:

Matt Patterson FDEP, Florida Marine Research Institute; St. Petersburg, FL

Core Group:

Dr. Richard E. Dodge Nova Southeastern University; Dania, FL

Dr Pam Hallock-Muller USF, Dept. Marine Science; St. Petersburg, FL

Dr. Walt Jaap FDEP, Florida Marine Research Institute; St. Petersburg, FL

Dr. John Reed * Harbor Branch Oceanographic Institution; Ft. Pierce, FL

Dr. Gene Shinn * USGS, Cent Coastal Geol and Regional Marine Studies; St. Petersburg, FL

Alex Stone ReefKeeper International; Miami, FL

* unable to attend workshop

Workshop Attendees:

David Camp FDEP, Florida Marine Research Institute; St. Petersburg, FL; retired

Mark Chiappone The Nature Conservancy & University of Miami; Coral Gables, FL

Dr. R Kenneth Clarke Plymouth Marine Laboratory; Plymouth, UK

Melanie Dothrow-McField USF, Dept. Marine Science; St. Petersburg, FL

Bob Halley USGS, Cent Coastal Geol and Regional Marine Studies; St. Petersburg, FL

Dr. Stephen Jameson Coral Seas, Inc.; The Plains, VA

Gil McRae FDEP, Florida Marine Research Institute; St. Petersburg, FL

Dr. Aileen Morse University of California; Santa Barbara, CA

Dr. Ester C. Peters Tetra Tech, Inc.; Fairfax, VA

Dr. Laurie Richardson Florida International University; Miami, FL

Debbie Santavy U.S. EPA; Gulf Breeze, FL

Frank Sargent Florida Marine Research Institute; St. Petersburg, FL

John Stevely Palmetto, FL

Dr. Alina Szmant University of Miami, RSMAS; Miami, FL

Jennifer Wheaton Florida Marine Research Institute; St. Petersburg, FL

Vicki Whiting FDEP, Bureau of Laboratories; Tallahassee, FL

Steve Wolfe FDEP, Bureau of Laboratories; Tallahassee, FL

Kim Yates USGS, Center Coastal Geol and Regional Marine Studies; St. Petersburg, FL

• *Submerged Aquatic Vegetation (SAV)*

Workshop held October 15, 1998, in conjunction with the FAU Seagrass Workshop in Ft. Myers, FL.

Co-Chairs:

Dr. Paul Carlson	FDEP, Florida Marine Research Institute; St. Petersburg, FL
Dr. Penny Hall	FDEP, Florida Marine Research Institute; St. Petersburg, FL

Core Group:

Dr. Steve Bortone	University of West Florida; Pensacola, FL
John Burns	St. Johns River Water Management District; Palatka, FL
Roger Johansson	City of Tampa, Bay Study Group; Tampa, FL
Dr. Kent Smith	FDEP, Bureau of Marine Resources; Tallahassee, FL
Dr. Dave Tomasko	Southwest Florida Water Management District; Venice, FL
Dr. Bob Virnstein	St. Johns River Water Management District; Palatka, FL

Attendees:

Vicki Whiting	FDEP, Bureau of Laboratories; Tallahassee, FL
Steve Wolfe	FDEP, Bureau of Laboratories; Tallahassee, FL

• *Benthic Macroinvertebrates*

Workshop held November 12–13, 1998, at the Florida DEP Central Laboratory in Tallahassee, FL.

Co-Chairs:

Steve Grabe	City of Tampa, Bay Study Group; Tampa, FL
Vicki Whiting	FDEP, Bureau of Laboratories; Tallahassee, FL

Core Group:

David Camp	FDEP, Florida Marine Research Institute; St. Petersburg, FL; retired
Steve Kent	FDEP, Central District; Orlando, FL
Michael Milligan	Center for Systematics and Taxonomy; Sarasota, FL
Harvey Rudolph *	Palm Beach DERM; West Palm Beach, FL
Doug Strom *	FDEP, Southeast District; Fort Pierce, FL
Ford Walton	FDEP, South District; Punta Gorda, FL

* unable to attend workshop

Attendees:

Dr. Dan Dauer #	Old Dominion University; Norfolk, VA
Dr. Virginia Engle #	U.S. EPA, Gulf Breeze ERL; Gulf Breeze, FL
Dr. Sara LeCroy	Univ. S. Miss, Gulf Coast Research Laboratory; Ocean Springs, MS
Dr. Chet Rakocinski #	Univ. S. Miss, Gulf Coast Research Laboratory; Ocean Springs, MS
Kelly Schratwieser	FDEP, Bureau of Laboratories; Tallahassee, FL
Steve Wolfe	FDEP, Bureau of Laboratories; Tallahassee, FL

gave workshop presentation

• *Phytoplankton/Zooplankton*

Workshop pending.

Chair:

Dr. Carm Tomas FDEP, Florida Marine Research Institute; St. Petersburg, FL

Core Group:

Dr. Gary Kleppel Univ. of South Florida, Dept. Environ. Health Sciences; St. Petersburg, FL
 Dr. Nancy Marcus Florida State University, Dept. of Oceanography; Tallahassee, FL
 Dr. Karen Steidinger FDEP, Florida Marine Research Institute; St. Petersburg, FL
 Dr. Gabe Vargo Univ. of South Florida, Dept. of Marine Science; St. Petersburg, FL

• *Fish*

Survey results pending.

Chair:

Bob McMichael FDEP, Florida Marine Research Institute; St. Petersburg, FL

Core Group:

Ed Matheson FDEP, Florida Marine Research Institute; St. Petersburg, FL

Advisory Panel for April 30–31, 1999, Workshop

Name	Main area(s) of expertise
Dr. Steve Bortone	SAV
David Camp	Benthic macroinvertebrates
Dr. Paul Carlson	SAV
Dr. Richard E. Dodge	Corals
Steve Grabe	Benthic macroinvertebrates
Dr. Penny Hall	SAV
Dr Pam Hallock-Muller	Corals
Dr. Walt Jaap	Corals
Dr. Nancy Marcus	Phyto/zooplankton
Ed Matheson	Fish
Bob McMichael	Fish
Michael Milligan	Benthic macroinvertebrates
Matt Patterson	Corals
Dr. Karen Steidinger	Phyto/zooplankton
Alex Stone	Corals
Dr. Carm Tomas	Phyto/zooplankton
Dr. Gabe Vargo	Phyto/zooplankton
Dr. Bob Virnstein	SAV
Vicki Whiting	Benthic macroinvertebrates

Administrative Committee, Coastal & Estuarine Bioassessment Program

Ellen McCarron

FDEP, Division of Water Facilities; Tallahassee, FL

Gil McRae

FDEP, Florida Marine Research Institute; St. Petersburg, FL

Jan Landsberg

FDEP, Florida Marine Research Institute; St. Petersburg, FL

Kent Smith

FDEP, Bureau of Marine Resources; Tallahassee, FL

Steve Wolfe

FDEP, Bureau of Laboratories; Tallahassee, FL