Developing statistical tools to strengthen Florida seagrass monitoring programs

Introduction:
Florida has more than 2.2 million acres of seagrass, providing fisheries and ecological services more than $20 billion each year. However, this valuable resource is vulnerable to human impacts such as degraded water quality. Dozens of monitoring programs are working throughout the state to protect and restore seagrass habitat. As a result, we are attempting to build a statewide network called SIMM- Seagrass Integrated Mapping and Monitoring. With this project, we will evaluate seagrass monitoring data collected using different statistical designs and sampling techniques. We also will provide statistical and data management support to seagrass monitoring programs around the state and suggest ways to improve their ability to detect changes in seagrass communities.

Objectives:
1. Evaluate seagrass monitoring data collected using fixed-transect, fixed-site, and probabilistic sampling designs.
2. Determine the statistical power of these programs and suggest ways to improve their ability to detect changes in seagrass abundance and species composition.
3. Enhance the power of existing seagrass monitoring programs by providing statistical and data management tools and software.
4. Determine the most effective ways to collate seagrass monitoring data from disparate programs to provide a statewide assessment of seagrass status and trends.

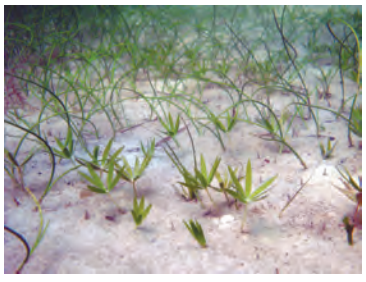
Approach:
We will carry out a comprehensive statistical analysis of seagrass monitoring data collected by the FWC and other agencies monitoring programs in Tampa Bay, Homossassa, Steinhatchee, St. Marks, and the Indian River.

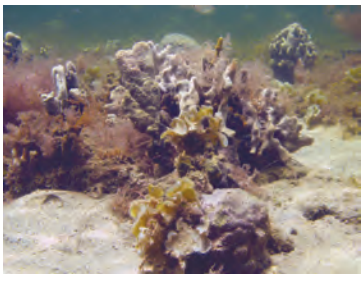
Benefits:
A clearer and more precise understanding of status and trend in seagrass abundance will be obtained for Tampa Bay, Homossassa, Steinhatchee, St. Marks and the Indian River Lagoon, allowing better-informed management decisions to be made. A better general understanding of the strengths and limitations of each sampling design also will be obtained and guidance for improving statistical power will be provided to participating seagrass monitoring programs. Finally, our project will allow us to compare and collate data from different monitoring programs into a statewide assessment.

Location:
Tampa Bay, Homosassa, Steinhatchee, St. Marks, Indian River Lagoon.

Contact:
Paul Carlson,
FWC, Florida Fish and Wildlife Research Institute,
100 Eighth Avenue SE,
St. Petersburg, FL, 33701.
Paul.Carlson@MyFWC.com

This project was funded by the State Wildlife Grants Program under Florida's Wildlife Legacy Initiative.



Florida Fish and Wildlife Conservation Commission
MyFWC.com