

**Oyster Integrated Mapping and Monitoring Program
Workshop Agenda**

**Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
100 8th Ave SE, St. Petersburg FL 33701
October 9-10 2019**

Goals:

The goals of this workshop include the following:

- Share the results and conclusions from the collaborative statewide OIMMP technical report
- Exchange information regarding oyster mapping and monitoring programs within Florida, including comparison of methodologies and protocols
- Identify duplicate efforts, data gaps, and needs for future oyster mapping, monitoring, and management

Wednesday, October 9th

Please eat lunch before attending the workshop; no lunch is provided.

12:30-1:15 pm Welcome to the OIMMP workshop, report publication, and summary of oyster mapping and monitoring data – Ryan Moyer, Kara Radabaugh, and Steve Geiger
FWC oyster map compilation – Christi Santi

Attendee Presentations (12 min talk, followed by 2-3 min Q&A)

<u>Time</u>	<u>Presenter</u>	<u>Presenter Affiliation</u>	<u>Title</u>
1:15	Bryan Locher , Nia Hurst, Linda Walters, Lisa Chambers	University of Central Florida/South Florida Water Management District	Rapid recovery of sediment nutrients in Mosquito Lagoon's restored reefs
1:30	Giovanna McClenachan , Linda Walters, Megan Witt, Josh Breithaupt	University of Central Florida	Unexpected trends in Mosquito Lagoon: Are oyster reefs being replaced by mangrove islands?
1:45	Casey Craig , Linda Walters, Jessy Wayles, Emily Dark, Kirk Fusco, Vincent Encomio, Glenn Coldren, David Fox, Lei Zhai	University of Central Florida	Quantifying microplastic pollution in <i>Crassostrea virginica</i> from the Indian River Lagoon

2:00-2:15 pm *Break*

Attendee Presentations (12 min talk, followed by 2-3 min Q&A)

<u>Time</u>	<u>Presenter</u>	<u>Presenter Affiliation</u>	<u>Title</u>
2:15	Laura Geselbracht , Andrea Graves, Anne Birch	The Nature Conservancy	Mapping oyster resources in East Bay, Pensacola Florida region
2:30	Peter Frederick, Bill Pine, Leslie Sturmer, Steve Beck	University of Florida	Update on the Lone Cabbage Reef Restoration Project in Suwannee Sound
2:45	Chris Anastasiou , Dave Tomasko, Tom Ries, Natasha Mendez-Ferrer, Bryan Flynn, BJ Quinton, Emily Keenan	Southwest Florida Water Management District	Oyster habitat enhancement feasibility study using a multifaceted approach to site selection along Florida's Springs Coast
3:00	Vincent Lecours , Michael Espriella	University of Florida	Testing new approaches for multiscale oyster mapping and monitoring
3:15	Simeon Yurek , MJ Eaton, R Lavaud, D DeAngelis, RW Laney, WE Pine III, J Martin, P Frederick, M La Peyre, H Wang, MR Lowe, EV Camp, R Mordecai	USGS	Modeling oyster reefs as self-organizing systems using an agent-based model

3:30-3:45 pm *Break*

Attendee Presentations (12 min talk, followed by 2-3 min Q&A)

<u>Time</u>	<u>Presenter</u>	<u>Presenter Affiliation</u>	<u>Title</u>
3:45	Dinorah Chacin , Susan Bell, Chris Stallings	University of South Florida	Red mangroves positively influence the eastern oyster along an intertidal gradient
4:00	Scott Adams , Kara Radabaugh, Serra Herndon, Gary Raulerson, Ryan Moyer	FWRI/FWC	Comparison of oyster growth on artificial reef substrates in Tampa Bay using in-situ methods
4:15	Damon Moore	Manatee County	Manatee River oyster restoration potential
4:30	Eric Milbrandt , Mark Thompson, A.J. Martignette, Ellie Rothermel	Marine Laboratory, Sanibel-Captiva Conservation Foundation	Monitoring and mapping reference sites and oyster reef restoration sites
4:45	Michael Savarese , Brita Jessen, Mark Danaher	Florida Gulf Coast University	Oyster physiology and reef ecology: the design and assessment of the Picayune restoration project, Ten Thousand Islands

5:00-5:15 pm Conclusions from Day 1

6:00-8:00 pm *Social at the Hollander Hotel (421 4th Ave N, St. Petersburg, FL 33701)*

Thursday, October 10th

Complete travel paperwork for attendees needing reimbursement during break (bring hotel receipts)

8:30-8:45 am Day 2 Introduction

Attendee Presentations (12 min talk, followed by 2-3 min Q&A)

<u>Time</u>	<u>Presenter</u>	<u>Presenter Affiliation</u>	<u>Title</u>
8:45	Melanie Parker , Matt Davis, Tomena Scholze	FWC/FWRI	Oyster monitoring and restoration efforts in Apalachicola Bay
9:00	Bill Pine , PC Frederick, JF Moore, S Beck, M Moreno, MJ Dodrill, L Sturmer	University of Florida	An assessment of trends in intertidal oyster populations in the Big Bend region of Florida
9:15	Loren Coen , Shah Chowdhury	Florida Atlantic University	Success criteria and results of oyster restoration and related efforts for coastal resilience

9:30-10:30 am Monitoring discussion topic

10:30-10:45 am *Break*

10:45	Steve Geiger	FWC/FWRI	Shellfish management plans from other states: can we develop best management practices for Florida?
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11:00-12:00 am Shellfish Management Plan discussion topic

12:00-12:30 pm Conclusion and future directions

Registered Workshop Attendees (remote attendees)**

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Selected monitoring protocols for natural oyster reefs or shellfish restoration projects

(Table 1.3 from OIMMP Report)

Name	Affiliation	Focus	Reference
Design and monitoring of shellfish restoration projects	The Nature Conservancy	Instructional guide for bivalve restoration projects and monitoring	Brumbaugh et al. 2006
Oyster habitat restoration monitoring and assessment handbook	NOAA, TNC, University of South Alabama, Florida Atlantic University	Instructional guide for monitoring and characterization of oyster restoration sites	Baggett et al. 2014
Science-based restoration monitoring of coastal habitats	NOAA	Volume 1: A framework for monitoring plans under the estuaries and clean waters act of 2000; Volume 2: Tools for monitoring coastal habitats	Thayer et al. 2003, Thayer et al. 2005
Best management practices for shellfish restoration	Interstate Shellfish Sanitation Conference, TNC, NOAA	Methods for shellfish restoration including community outreach and harvesting concerns	Leonard and Macfarlane 2011
Restoration goals, quantitative metrics and assessment protocols for evaluating success on restored oyster reef sanctuaries	Chesapeake Bay Program	Monitoring protocols and success metrics for restored oyster reefs	Oyster Metrics Workgroup 2011
Effective monitoring to evaluate ecological restoration in the Gulf of Mexico	National Academies of Sciences, Engineering, and Medicine	General and specific guidelines for monitoring numerous restored habitats, including oyster reefs	NASEM 2017
Oyster condition assessment protocol	UCF, SJRWMD, GTMNERR, NE Florida Aquatic Preserves	Instructional guide for standardized oyster reef monitoring	Walters et al. 2016
A South Carolina Sea Grant report of a 2004 workshop to examine and evaluate oyster restoration metrics to assess ecological function, sustainability, and success	South Carolina Sea Grant	Site selection parameters and metrics to assess reef restoration efforts	Coen et al. 2004
Sampling and analytical methods of the national status and trends program national benthic surveillance and Mussel Watch projects	NOAA Mussel Watch, national status and trends program	Chemical contamination monitoring for organic and inorganic contaminants in bivalves and sediment	Lauenstein and Cantillo 1993

Online Resources:

Oyster Integrated Mapping and Monitoring Program (OIMMP)

Report: <https://myfwc.com/research/habitat/coastal-wetlands/projects/oimmp/>

Workshop presentations and resources: <https://ocean.floridamarine.org/OIMMP/>

Coastal Habitat Integrated Mapping and Monitoring Program (CHIMMP)

Report: <https://myfwc.com/research/habitat/coastal-wetlands/projects/chimmp/>

Workshop presentations and resources: <https://ocean.floridamarine.org/CHIMMP/>

Seagrass Independent Mapping and Monitoring Program

<http://myfwc.com/research/habitat/seagrasses/projects/active/simm/>

FWC GIS data downloads

General: <http://geodata.myfwc.com/>

Oyster layer: <http://geodata.myfwc.com/datasets/oyster-beds-in-florida>

Contact information: GISLibrarian@MyFWC.com

FDACS Shellfish Harvesting Areas (SHAs)

FDACS site: <https://www.fdacs.gov/Agriculture-Industry/Aquaculture/Shellfish-Harvesting-Area-Classification/Shellfish-Harvesting-Area-Maps>

Download shapefiles of SHAs: <http://ocean.floridamarine.org/OIMMP/> (see “FDACS Florida Shellfish Harvesting Areas shapefiles” link under “Resources”)

Statewide commercial oyster harvest data

1950-1983 harvest data: Appendix A of OIMMP report <https://myfwc.com/research/habitat/coastal-wetlands/projects/oimmp/> or download spreadsheet from <http://ocean.floridamarine.org/OIMMP/> (see “1950 to 1983 Oyster Fisheries Data” link under “Resources”)

1984 to present: <https://public.myfwc.com/FWRI/PFDM/ReportCreator.aspx>

Oyster Restoration Workgroup

<http://www.oyster-restoration.org/>

<http://www.oyster-restoration.org/oyster-restoration-research-reports/>

Mapping peripheral oyster habitats

Sarasota County oyster mapping and monitoring; see methods manuals

<https://sarasota.wateratlas.usf.edu/oysters/>

Virginia Institute of Marine Science oyster mapping

[http://www.oyster-restoration.org/wp-content/uploads/2012/06/NOAA-Seaside-Oyster-Assessment - Final-Report.pdf](http://www.oyster-restoration.org/wp-content/uploads/2012/06/NOAA-Seaside-Oyster-Assessment-Final-Report.pdf)

UCF Shoreline Characterization in the northern Indian River Lagoon

<https://stars.library.ucf.edu/ceelab-researchdata/2/>

FDEP Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR)

Monitoring program database: <https://dev.seacar.waterinstitute.usf.edu/>

SEACAR homepage: <https://floridadep.gov/SEACAR>

University of Florida historical aerial photography collection: <http://ufdc.ufl.edu/aerials>

NOAA historical topographic surveys (T-sheets) of historical habitat coverage

<https://shoreline.noaa.gov/data/datasheets/t-sheets.html>

Northeast Florida Oyster Condition Assessment Protocol

<http://ocean.floridamarine.org/OIMMP/Resources/Walters%20et%20al%202016.pdf>

FWC oyster monitoring protocol and results

Parker, M.L., Arnold, W.S., Geiger, S.P., Gorman, P. and Leone, E.H., 2013. Impacts of freshwater management activities on eastern oyster (*Crassostrea virginica*) density and recruitment: recovery and long-term stability in seven Florida estuaries. *Journal of Shellfish Research*, 32(3), pp.695-709.

<https://doi.org/10.2983/035.032.0311>

South Carolina oyster survey, classification system, and mapping effort

<http://www.oyster-restoration.org/wp-content/uploads/2012/06/Final-Report-for-Oyster-Survey-and-Recovery-Phase-II-with-appendices.pdf>