

Abstracts of Presentations



February 21, 2025
IRLS Forum: Collaboration and Communication

Hosted By:



FLORIDA ATLANTIC UNIVERSITY

**Harbor Branch
Oceanographic Institute**

Sponsored by:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
— FOUNDATION —



Contributed Oral and Poster Presentations

(The presenting author is the first author, unless indicated by underlining.)

ENVIRONMENTAL MONITORING & CITIZEN SCIENCE

Monitoring nekton communities associated with IRL restoration projects

Derek Tremain

Florida Fish and Wildlife Conservation Commission, Melbourne, FL

Contact Email: Derek.Tremain@MyFWC.com

The statewide FWC-FWRI Fisheries-Independent Monitoring program has been surveying IRL nekton communities in estuarine and tidal creek habitats since 1990. The capabilities and scientific expertise within this program offer collaborative opportunities to conduct targeted pre-and post-monitoring of new restoration projects and quantify the cumulative benefits of restoration activities to the IRL ecosystem.

Mangrove Restoration in the Indian River Lagoon while Battling Fungal Disease: Moving Forward

Mara Skadden¹ and Melissa Deinys²

¹Marine Resources Council, Palm Bay, FL; ²University of Central Florida, Orlando, FL

Contact Email: mara@mrcirl.org

Recent research reveals that fungal pathogens (*Curvularia lunata*, *Pestalotiopsis microspora*, and *Neopestalotiopsis* species) threaten Florida mangroves and restoration, particularly in the Indian River Lagoon. In response, researchers are testing nutrient-based nanoparticle treatments, which show promise in combating these infections and enhancing mangrove resilience, highlighting the importance of mangrove nurseries in disease management and ecosystem conservation.

An Integrated Detection & Delivery System to Abate Contaminants in Water Bodies

Sharanya Natarajan

Edgewood Jr/Sr High School, Merritt Island, FL

Contact Email:

The rising frequency and duration of algal bloom surges are degrading biodiverse ecosystems like the Indian River Lagoon, causing them to warp into algae-dominated habitats. To bridge the gap in the siloed techniques largely employed today, an end-to-end engineered solution combining measurements, modeling, and sustainable remediation is essential for the local water management teams to target and arrest blooms before proliferation.

The Relation Between Water Quality and Seagrass Health in the Southern Indian River Lagoon

Michael Yustin¹ and Patrick Zuloaga²

¹Martin County Board of County Commissioners, Stuart, FL; ²TetraTech Inc., West Palm Beach, FL

Contact Email: myustin@martin.fl.us

Martin County has spent the last two years monitoring water quality, sediment chemistry, the presence of Harmful Algal Blooms (HAB's) and seagrass populations in the Southern Indian River Lagoon (IRL). This presentation will review that data and highlight how those factors have contributed to the decline of seagrass population in the IRL, and it will discuss strategies that could lead to more resilient and healthy meadows.

Conservation at the Crossroads: HSWRI's Marine Conservation Efforts in the Indian River Lagoon and the Path Forward

Jeff Eble, Wendy Noke-Durden, and Teresa Jablonski

Hubbs-SeaWorld Research Institute, Melbourne Beach, FL

Contact Email: jeble@hswri.org

HSWRI has been committed to conserving marine life since 1963 with a focus on protecting marine mammal and ocean health through science, education, and outreach. Our work in the Indian River Lagoon is an example of this mission, where we are working to protect dolphins and other vulnerable species.

ORCA's Citizen Science Projects

Missy Weiss

Ocean Research & Conservation Association, Vero Beach, FL

Contact Email: mweiss@teamorca.org

ORCA's Citizen Science Program empowers community members to actively protect and restore the Indian River Lagoon and its connecting waterways. Through four innovative research projects, volunteers of all ages, backgrounds, and ethnicities gather critical data on water and sediment quality, habitat restoration, and one health initiatives, playing a vital role in shaping a healthier ecosystem for future generations.

Eyes on Seagrass Blitz in the Indian River Lagoon

Lisa Krimsky¹, Holly Abeels¹, Vincent Encomio², Carolyn Kovacs¹, and Andrea Lazzari¹

¹University of Florida, Gainesville, FL, UF/IFAS Extension, ²Martin and St. Lucie Counties, Stuart, FL

Contact Email: lkrimsky@ufl.edu

The Eyes on Seagrass Blitz was a four-week participatory science effort to collect data on the presence (or absence) of seagrass in the Indian River Lagoon. Lagoon-users reported seagrass using the Seagrass Spotter App to create a community reported census of seagrass in the IRL.

New Swell Educational Mangrove Planter Boxes

Cory Redwine^{1,2} and Alex Gorichky¹

¹Whitney Laboratory for Marine Biosciences, University of Florida, St. Augustine, FL; ²Sea Redwine Preservation, Merritt Island, FL

Contact Email: coryredwine@gmail.com

New swell employs innovative techniques to grow mangroves, including educational planter box displays in prominent locations around Brevard County. These displays help raise awareness by showing mangroves as they grow before being replanted in the Indian River, while future plans to purchase undeveloped land dedicated solely to education and unique mangrove cultivation will further enhance restoration efforts and protect critical ecosystems.

Beyond the Lagoon: Student Scientists Discover a Gamefish Nursery at Jones' Pier

Ashley Lingwood

Indian River County Conservation Lands Division, Vero Beach, FL

Contact Email: Alingwood@indianriver.gov

Indian River County Conservation Lands Division transformed Jones' Pier Conservation Area from a ruderal grove to a thriving offline flow-through system. This historic site along Jungle Trail was designed to improve water quality, create habitat for wildlife, and provide recreation and education opportunities for the public. Since coming online, students from local schools and organizations have monitored the biodiversity of this habitat and discovered it is providing additional nursery grounds for several gamefish species.

COALITIONS & COUNTIES

Space Coast Association of Environmental Professionals

Josh Mills

Florida Association of Environmental Professionals; Native Shorelines, Jensen Beach, FL

Contact Email: Joshua.Mills12@gmail.com

Add an additional chapter to the Florida Association of Environmental Professionals (FAEP) network by bridging the gap of Brevard and Indian River Counties, as they reside on the outskirts of each boundary (the Central and Treasure Coast Chapters respectively). Bringing environmental professionals together in this area to expand the FAEP network of communicating and learning.

Preservation Starts with a Community: A Case Study in the Jupiter Narrows

Sue Panella

Jupiter Narrows Conservation Alliance, Inc., Tequesta, FL

Contact Email: sue@jupiternarrowsconservation.org

Jupiter Narrows Conservation Alliance began with passionate residents who want to save and restore the mangrove islands and seagrasses in the southern Indian River Lagoon. Success has become more achievable as the alliance has grown to include engineers and scientists, government agencies and officials, conservationists, local municipalities, NGO's, local businesses, students, residents and visitors, and any and all who use and love this valuable marine ecosystem.

Explore Natural Martin- Leave No Trace Coalition

Emily Dark

Martin County Board of County Commissioners, Stuart, FL

Contact Email: edark@martin.fl.us

Explore Natural Martin, Martin County's new ecotourism program, is advancing efforts to initiate and lead a regional coalition in partnership with Leave No Trace. This coalition, made up of a variety of stakeholders, will aim to address issues surrounding recreational impacts to natural areas and wildlife such as outreach and education, recreation management, sustainable and regenerative tourism, citizen science and natural lands stewardship.

Stronger Together

Melissa Meisenburg

Indian River County, Natural Resources, Lagoon Division, Vero Beach, FL

Contact Email: mmeisenburg@indianriver.gov

Numerous Federal, State, and local agencies and Universities are tackling issues impacting the health of the Indian River Lagoon (IRL) through research, restoration, and management. Although working independently has been making strides towards a healthy Lagoon, imagine the potential impacts on the IRL if organizations improved communication and collaboration through networking and the formation of partnerships.

Statewide Habitat Restoration Initiatives

Frank Gidus

Coastal Conservation Association Florida, Orlando, FL

Contact Email: fgidus@ccaflorida.org

Since 2010 and in collaboration with the Building Conservation Trust, CCA Florida has contributed over \$1.5 million and leveraged those funds with our partners to over \$11 million in habitat projects statewide.

Introduction to the Treasure Coast Scenic Highway

Stephanie M. Torres

St. Lucie Transportation Planning Organization, Fort Pierce, FL

Contact Email: torress@stlucieco.org

The Treasure Coast Scenic Highway, part of the Florida Scenic Highways Program, is a 42-mile corridor along the Indian River Lagoon, known for its picturesque views, connecting Fort Pierce, Port Saint Lucie and Jensen Beach showcasing the region's rich history and vibrant ecosystems. With a committee restructure in early 2024, the Scenic Highway Committee aims to reintroduce the Treasure Coast Scenic Highway and its mission to protect and preserve this valuable resource, ensuring its legacy for future generations.

Indian River Lagoon National Scenic Byway

Nicholas Sanzone

Indian River Lagoon National Scenic Byway, Sebastian, FL

Contact Email: mangroveman@lagoonlife.org

The Indian River Lagoon National Scenic Byway, part of the Florida Scenic Highways Program, offers a unique blend of natural beauty, cultural heritage, and recreational opportunities along the Indian River Lagoon. This Byway was Designated in 2000 (Florida), 2001 (National), and is located in Volusia, Brevard & Indian River Counties, it is 200+ miles and located in two FDOT Districts (D4 & D5).

Land Conservation to Benefit Indian River Lagoon Water Quality

Casey Darling Kniffin

Florida Wildlife Federation, Tallahassee, FL

Contact Email: casey@fwfonline.org

Florida Forever is the leading conservation land acquisition program in FL with projects identified in the IRL watershed. Supporting the IRL Blueways acquisition can help to ensure water quality benefits for generations to come.

Brevard County Save Our Indian River Lagoon Update

Anthony Gubler

Brevard County Natural Resources Management, Viera, FL

Contact Email: terri.breeden@brevardfl.gov

The 10-year Save Our Indian River Lagoon half-cent sales tax provides over \$500 million of dedicated revenue for implementing water quality improvement projects. Now, eight years into the ten-year Project Plan, approximately 2,000 homeowner and 100 construction projects have been completed, 30 are under construction, and 61 are in the design or planning phase.

Collaborating for Conservation: Partnering with Local Government to Promote Manatee-Safe Boating

Tiare Fridrich¹ and Gina McClain²

¹Save the Manatee Club, Longwood, FL; ²Volusia County Environmental Management

Contact Email: tfridrich@savethemanatee.org

While much of the Indian River Lagoon (IRL) lacks seagrass following the major seagrass die-off events that occurred between 2010 and 2019, seagrass returned to the Mosquito Lagoon in the summer of 2022, prompting manatees in the northern IRL to shift their habitat use to the Mosquito Lagoon. Following this shift, we partnered with Volusia County to reduce the risk of manatee watercraft mortality in the Mosquito Lagoon by distributing manatee-safe boating educational materials to high-use marinas throughout the lagoon, and explaining how the Atlantic coast manatee population has been impacted by seagrass loss.

LIVING SHORELINES & YOUTH FOCUSED ENVIRONMENTAL GROUPS

Moving the Needle on Living Shorelines – Florida Sea Grant and UF IFAS Extension Programs

Vincent Encomio^{1,2}, Mandy Baily², and Ken Gioeli³

¹UF/IFAS Extension, Martin and St. Lucie Counties, Stuart, FL; ²Florida Sea Grant; ³UF IFAS Extension St. Lucie County

Contact Email: vencomio@ufl.edu

Florida Sea Grant and UF IFAS are training contractors, residents, and visitors in the IRL on living shorelines. These extension programs are leading to a healthier and more resilient Lagoon.

Resilient Shoreline and Coral Update

Nick Bourdon

Reef Arches, Lauderdale-by-the-Sea, FL

Contact Email: nick@reefarches.com

Reef Arches updating with their wave tank data, coral research, and new material compositions. We also have expanded into new environments outside of Florida as well!

A Brief History of the Harbor Branch Seagrass Nursery

Richard Mulroy and Rachel Brewton

FAU Harbor Branch, Fort Pierce, FL

Contact Email: rmulroy1@fau.edu

The Harbor Branch Seagrass Nursery has a dual-purpose to perform experiments to help determine best restoration practices and provide donor material for restoration efforts. To facilitate collaborative opportunities, this presentation will review our past, present status, and where we are headed in the future.

Large-Scale Habitat Restoration in Satellite Beach – An Update

Olivia Escandell¹, Annie Roddenberry², Kent Smith³, Caity Savoia¹, and Catalina Weaver³

¹Florida Fish and Wildlife Conservation Commission, Melbourne, FL; ²Florida Fish and Wildlife

Conservation Commission, New Smyrna Beach, FL; ³Florida Fish and Wildlife

Conservation Commission, Tallahassee, FL

Contact email: Olivia.Escandell@myfwc.com

The Satellite Beach Habitat Mosaic Project is a joint effort between FWC, the IRL National Estuary Program, NOAA, the Fish and Wildlife Foundation of Florida and the City of Satellite Beach to enhance nearly 10 acres of submerged habitat in Brevard County. Construction is expected to begin in 2025 to create an array of limestone breakwaters, followed by seagrass and mangrove plantings in later years.

Preparing A Mosquito Control Impoundment For A Changing Climate

Jonathan Linder, Keith Minner, Bridget Picco, Gil Tompkins, Bob Spreitzer, Roy Montalvan, Jimmy Sullivan, and Joseph Faella

Brevard County Mosquito Control, Titusville, FL

Contact email: jonathan.linder@brevardfl.gov

Brevard Mosquito Control District (BMCD) partnered with Florida Department of Environmental Protection and Florida Fish and Wildlife Conservation Commission to protect Crystal Lakes Mosquito Control Impoundment from erosion caused by rising lagoon water elevations and storm events. This presentation will chronicle the modified oyster prisms design, construction, and deployment followed by installation of living shorelines at Hog Point, Melbourne Beach.

Buffer Zones: Engaging the Community in Native Gardening to Improve Indian River Lagoon Conditions

Victoria Wilcock¹, Olivia Escandell¹, Tyler Provoncha¹, and Austin Fox²

¹Brevard Zoo, Melbourne, FL; ²Florida Institute of Technology, Melbourne, FL

Contact email: vwilcock@brevardzoo.org

Planting Buffer Zones with Florida Native species along the Indian River Lagoon shorelines can reduce nutrient run off and provide habitat for local wildlife. Funded by the Indian River Lagoon National Estuary Program, Brevard Zoo will establish four demonstration Buffer Zones in Brevard County, engaging over 7,000 community members, including underserved elementary students to inspire the installation of native gardens and shoreline buffers while collaborating with Florida Tech to quantify their effectiveness in reducing nutrient runoff.

Creating a Climate Friendly Landscape

Emily Ralston¹, Steven Lazarus¹, and Camille Hadley²

¹Florida Institute of Technology, Melbourne, FL; ²Little Growers, Inc., Melbourne, FL

Contact email: eralston@fit.edu

Florida Tech and supporting community organizations recently received funding from DOE for a Climate Resilience Center – the components of which include climate science, building energy, citizen science, STEM Education and community outreach. Here, we report on our collaboration with a local non-profit, Little Growers Inc., to plant a sustainable drought-tolerant landscape at Stone Middle School.

RiverKidz for the Future of the IRL

Casey Darling Kniffin, Kelli Dore, Finley Dore, Eleanor Kniffin

RiverKids/Rivers Coalition, Stuart, FL

Contact Email: caseydkniffin@gmail.com

The RiverKidz will share how they are using their voices and learning that some of the most important decisions happen at very boring meetings. This will be a kid-led presentation with grownups to guide the way.

Engaging Youth, Anglers, and Boaters in Protecting the Indian River Lagoon

Carla Perscky

Anglers for Conservation, Satellite Beach, FL

Contact Email: carla.perscky@ucf.edu

Anglers for Conservation's mission is to inspire the next generation of environmental stewards through education, science and conservation in the Indian River Lagoon. Since 2004, we have engaged over 45,000 youth and families in hands-on, sustainable fishing workshops, and are now incorporating seagrass research to involve youth, anglers, and boaters in protecting essential fish habitats.

Understanding and Conserving Manatees and their Habitat: The Manatee Center's Role in Connecting Communities for Conservation

Elyse Geraghty

The Manatee Center, Fort Pierce, FL

Contact Email: geraghty@fpua.com

The Manatee Center is dedicated to manatee education and proudly serves as an eco-resource hub, connecting the public with organizations from the southern to northern stretches of the Indian River Lagoon. Through collaborative partnerships with these exceptional organizations, we offer hands-on education and outreach programs featuring the latest research and conservation strategies, inspiring a shared commitment to protecting manatees and their vital habitat.