



**February 22-23, 2024**

The Indian River Lagoon Symposium is a multi-institutional, multi-agency effort to provide a forum for discussing Indian River Lagoon science and its application to management of the lagoon. The intent is to facilitate better communication among these groups so that the gaps between research and its application can be narrowed. The theme for the 2023 symposium is IRL Seagrass. Seagrasses are a critical component of the Indian River Lagoon ecosystem, playing important roles in biological productivity and species diversity. In the last decade, there has been a catastrophic loss of seagrass, which is affecting the entire IRL system. This loss has triggered an interest in seagrass restoration, including the development of IRL seagrass nurseries.

### **IRLS 2024 Steering Committee**

A Steering Committee with representatives from academic, governmental, and non-profit organizations defines the goals, basic outline, and structure for the symposium; identifies potential participants; and provides guidance, logistical support, and planning for the symposium. The Steering Committee is instrumental in making the symposium a truly collaborative effort within the diverse IRL research community. The 2024 Steering Committee members are:

- Irene Arpayoglou – FDEP/Indian River Lagoon Aquatic Preserves
- Dennis Hanisak – Florida Atlantic University
- Chuck Jacoby – University of South Florida
- Elizabeth Salewski – South Florida Water Management District
- Loraé Simpson – Florida Oceanographic Society
- Holly Sweat – Smithsonian Marine Station at Fort Pierce
- Linda Walters – University of Central Florida
- Jessy Wayles – Indian River Lagoon National Estuary Program

### **IRLS 2024 Sponsors**

Since 2012, Harbor Branch Oceanographic Institute Foundation has been the Lead Sponsor for the Indian River Lagoon Symposium. We thank Michael O'Reilly, Chair; Staci Barney Rosalia, Executive Director; and Cyndi Permenter, Director of Operations of the Harbor Branch Oceanographic Institute Foundation, for their support. We also thank the Indian River Lagoon National Estuary Program for its continued support.

**HARBOR BRANCH OCEANOGRAPHIC INSTITUTE**  
FOUNDATION



# Indian River Lagoon Symposium 2024

## *IRL Fish*

### Program Schedule

(Note: The presenting author of talks is the first author, unless indicated by underlining.)

Thursday, February 22, 2024

**0715 - 0815 Registration, Set Up Posters, and Coffee & Tea**

**0815 - 0830 Welcome**

M. Dennis Hanisak, FAU Harbor Branch

**0830 - 0900 Keynote Address**

**Fish in the Indian River Lagoon – More Than Just an Entrée**

Richard Paperno

Florida Fish and Wildlife Conservation Commission (Retired), Melbourne, FL

**0900 - 1000 Oral Session 1 – IRL Fish**

Session Chair: Chuck Jacoby, University of South Florida

**0900 - 0910 Range Expansion and Population Shifts of Estuarine Fishes in a Changing Subtropical Estuary**

Dwayne D. Edwards<sup>1</sup>, Douglas H. Adams<sup>1</sup>, Jacob E. Schneider<sup>1</sup>, and Adam R. Searles<sup>1,2</sup>

<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL; <sup>2</sup>University of Florida, Gainesville, FL

**0910 - 0920 Fishes in the Northern Estuaries Monitoring (FNEMO)**

Sarah Webb<sup>1,2</sup>, Juliane Caughron<sup>1</sup>, Dayna Hunn<sup>3</sup>, Christopher Malinowski<sup>4</sup>, Mark Barton<sup>1</sup>, and Philip Stevens<sup>5</sup>

<sup>1</sup>South Florida Water Management District, West Palm Beach, FL; <sup>2</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>3</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>4</sup>Ocean First Institute, Key Largo, FL; <sup>5</sup>Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL

**0920 - 0930 Baitfishes Priceless Contribution to the IRL Economy, Culture, And Environment**

Nicole T. Kirchhoff, Alex Goldin, Michael Jacobs, and Andrew Pruhs

Live Advantage Bait LLC, Fort Pierce, FL

**0930 - 0940 Hardhead and Gafftopsail Catfish in the Indian River Lagoon: Abundance, Distribution and Diet, Including Egg Predation in Horseshoe Crab Spawning Aggregations**

Jon Shenker<sup>1</sup>, Richard Paperno<sup>2</sup>, Derek Tremain<sup>2</sup>, and Ashley Yarbrough<sup>2</sup>

<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL

**0940 - 0950 Listening to the Lagoon: An Overview of the Lake Worth Lagoon Acoustic Receiver Array**

Erick Ault<sup>1</sup>, Jennifer Báez<sup>2</sup>, Tom Twyford<sup>3</sup>, Dayna Hunn<sup>1</sup>, and Bailey Reins<sup>1</sup>

<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>2</sup>Palm Beach County Department of Environmental Resource Management, West Palm Beach, FL; <sup>3</sup>West Palm Beach Fishing Club, West Palm Beach, FL

- 0950 - 1000 **Fishers Know More Than You: Using Recreational Fishers' Knowledge to Assess IRL Health and Guide Restoration**  
 Aaron J. Adams<sup>1</sup>, Randall W. Parkinson<sup>2</sup>, Daniel Dourte<sup>3</sup>, and Amy Bainbridge<sup>3</sup>  
<sup>1</sup>Bonefish & Tarpon Trust, Harbor Branch Oceanographic Institute at Florida Atlantic University; <sup>2</sup>RWParkinson Consulting, Inc.; <sup>3</sup>The Balmoral Group
- 1000 - 1030 Break**
- 1030 - 1130 Oral Session 2 – IRL Restoration**  
 Session Chair: Irene Arpayoglou, FDEP/Indian River Lagoon Aquatic Preserves
- 1030 - 1040 **Assessing Ecological Impacts of the Indian River Lagoon-South Restoration Project**  
 Derek Cox and Amanda Kahn  
 South Florida Water Management District, West Palm Beach, FL
- 1040 - 1050 **Four Years of Clam Restoration: Lessons Learned and New Directions**  
 Todd Z. Osborne<sup>1,2</sup>, Lorae T. Simpson<sup>3</sup>, Conor MacDonnell<sup>1,3</sup>, Tracey B. Schafer<sup>1</sup>, and Jose Nunez<sup>1</sup>  
<sup>1</sup>Whitney Laboratory for Marine Biosciences, University of Florida, St. Augustine, FL;  
<sup>2</sup>University of Florida, Gainesville, FL; <sup>3</sup>Florida Oceanographic Society, Stuart, FL
- 1050 - 1100 **Investigating the Impacts of Transplantation Techniques and Hard Clam (*Mercenaria mercenaria*) Presence on Subtropical Seagrass Restoration**  
 Conor P. MacDonnell<sup>1,2</sup>, Morgan Gilligan<sup>2</sup>, Sarah Cole<sup>2</sup>, Todd Osborne<sup>1</sup>, and Lorae T. Simpson<sup>2</sup>  
<sup>1</sup>University of Florida, St. Augustine, FL; <sup>2</sup>Florida Oceanographic Society, Stuart, FL
- 1100 - 1110 **Decade of Subtidal Oyster Restoration in Brevard County**  
 Tyler Provoncha<sup>1</sup>, Olivia Escandell<sup>1</sup>, Jenny Hansen<sup>2</sup>, Paul Sacks<sup>3</sup>, Melinda Donnelly<sup>3</sup>, and Virginia Barker<sup>2</sup>  
<sup>1</sup>Brevard Zoo, Melbourne, FL; <sup>2</sup>Brevard County Natural Resources, Viera, FL; <sup>3</sup>University of Central Florida, Orlando, FL
- 1110 - 1120 **Evaluating the Unintended Consequences of Non-Plastic Restoration Materials**  
 Lisa G. Chambers, Sara Gay, Megan Jensik, Linda J. Walters, Paul Sacks, and Melinda Donnelly  
 University of Central Florida, Orlando, FL
- 1120 - 1130 **Living Docks: Assessing Temporal Shifts in Benthic Settlement Across a Salinity Gradient within the St. Lucie River and Indian River Lagoon**  
 Morgan K. Gilligan<sup>1</sup>, Sarah M. Cole<sup>1</sup>, Kelli Hunsucker<sup>2</sup>, Robert Weaver<sup>2</sup>, and Lorae T. Simpson<sup>1</sup>  
<sup>1</sup>Florida Oceanographic Society, Stuart FL; <sup>2</sup>Florida Institute of Technology, Melbourne FL
- 1130 - 1200 Three Minutes, Three Slides 1 – Something Fishy!**  
 Session Chair: M. Dennis Hanisak, FAU Harbor Branch
- Spatial Responses of Two Elasmobranch Species to a 2018 Cold Event in the IRL**  
 Matthew J. Ajemian, Breanna C. DeGroot, and Michael P. McCallister  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Autecology of Dasyatid Stingrays within the Indian River Lagoon, Florida**  
 Jessica J. Schieber<sup>1</sup> and David W. Kerstetter<sup>2</sup>  
<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL; <sup>2</sup>Nova Southeastern University Dania Beach, FL

**The Opossum Pipefish (*Microphis lineatus*) – an Anadromous Fish?**

Matthew J. Scripter

Ecological Associates, Inc., Jensen Beach, FL

**Response of Fish through Ontogeny in MPA and Adjacent Waters of the IRL (STUDENT PRESENTATION)**

Jesse R. Blanchard<sup>1</sup>, Andrew Pyrt<sup>1</sup>, and Ralph G. Turingan<sup>2</sup>

<sup>1</sup>Florida International University, Miami FL; <sup>2</sup>Florida Institute of Technology, Melbourne FL

**Mosquito Impoundments as Fish Nurseries: Variability in Habitat Structure, Fish Species Composition and Emigration into the Indian River Lagoon (STUDENT PRESENTATION)**

Rachel Reinhard<sup>1,2</sup>, Margaret Rodrigue<sup>1,2</sup>, David Fuss<sup>2</sup>, M. Dennis Hanisak<sup>1</sup> and Jonathan Shenker<sup>2,3</sup>

<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL;

<sup>2</sup>Indian River Land Trust, Vero Beach, FL; <sup>3</sup>Florida Institute of Technology, Melbourne, FL

**Diurnal and Episodic Hypoxic Events Contribute to Fish Kills Plus Diminished Removal of Nitrogen and Phosphorus from IRL**

Austin Fox<sup>1</sup>, Tyler Provoncha<sup>2</sup>, Rebecca English<sup>1</sup>, Stacey Fox<sup>1</sup>, and Mary Macdonald<sup>1</sup>

<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Brevard Zoo, Melbourne, FL

**The Joy of Permitting: Fish Attractors & Artificial Reefs**

Jacob A. Zehnder, Brandon J. Conroy, and John C. Palmer

U.S. Army Corps of Engineers Jacksonville District, Cocoa, FL

**Keep Calling Us: The U.S. Sawfish Recovery Hotline is a Key Tool that Promotes Recovery of the Endangered Smalltooth Sawfish in the Indian River Lagoon**

Gregg Poulakis<sup>1</sup>, Andrew Wooley<sup>1</sup>, Lukas Heath<sup>1</sup>, Dylan Yakich<sup>1</sup>, and Adam Brame<sup>2</sup>

<sup>1</sup>Charlotte Harbor Field Laboratory, Florida Fish and Wildlife Conservation Commission, Port Charlotte, FL; <sup>2</sup>National Marine Fisheries Service, St. Petersburg, FL

**Can a Fish Be Worth Thousands of Dollars?**

Bob Virnstein, Seagrass Ecosystems Analysts, Gainesville, FL

**1200 - 1330 Lunch (provided)**

**1330 - 1430 Oral Session 3 – IRL Fish 2**

Session Chair: Matt Ajemian, FAU Harbor Branch

**1330 - 1340 Goliaths Growing in the IRL: Local Significance and Management Implications**

Clark R. Morgan<sup>1</sup>, Lauran R. Brewster<sup>2</sup>, Michael P. McCallister<sup>1</sup>, Angela B. Collins<sup>3</sup>, Laurent M. Cherubin<sup>1</sup>, and Matthew J. Ajemian<sup>1</sup> (STUDENT PRESENTATION)

<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL;

<sup>2</sup>University of Massachusetts Dartmouth, Dartmouth, MA; <sup>3</sup>Florida Sea Grant at University of Florida Tropical Aquaculture Laboratory, Ruskin, FL

- 1340 - 1350 **Evaluating Movement and Distribution Patterns of the Endangered Smalltooth Sawfish in a Recovering Nursery (STUDENT PRESENTATION)**  
 Sarah Webb<sup>1</sup>, Andrew Wooley<sup>2</sup>, Lukas Heath<sup>2</sup>, Dylan Yakich<sup>2</sup>, Michael McCallister<sup>1</sup>, Matthew Ajemian<sup>1</sup>, and Gregg Poulakis<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL;  
<sup>2</sup>Charlotte Harbor Field Laboratory, Fish and Wildlife Research Institute, Florida Fish and Wildlife Conservation Commission, Port Charlotte, FL
- 1350 - 1400 **Freshwater Discharge Disrupts Linkages between the Environment and Estuarine Fish Community (STUDENT PRESENTATION)**  
 Dakota M. Lewis<sup>1,2</sup> and Geoffrey S. Cook<sup>2</sup>  
<sup>1</sup>University of Florida, Gainesville, FL; University of Central Florida, Orlando, FL
- 1400 - 1410 **Environmental Hypoxia in Ecologically Important Estuaries and Its Effects on Native Fish Species during Early Development (STUDENT PRESENTATION)**  
 Magaleate Kostelnik, Bing Ouyang, Paul S. Wills, and Sahar Mejri  
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 1410 - 1420 **Genomic Assessment of Spotted Seatrout Management Stocks along Florida's Atlantic Coast**  
 Iris Segura-García<sup>1</sup>, Douglas H. Adams<sup>2</sup>, Michael McCoy<sup>1</sup>, and Krista McCoy<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL  
<sup>2</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL
- 1420 - 1430 **Do Temporal Trends in Common Snook Mercury Levels in the Indian River Lagoon Evidence the Ecological Costs of Mercury Exposure?**  
 Derek Tremain  
 Florida Fish and Wildlife Conservation Commission, Melbourne, FL
- 1430 - 1500 Three Minutes, Three Slides 2 – Water Quality and Other IRL Challenges**  
 Session Chair: Zack Jud, Florida Oceanographic Society
- Coastal Acidification: An Emerging Issue in the Indian River Lagoon**  
 M. Dennis Hanisak and Kristen S. Davis  
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Water Quality Drivers of Bottlenose Dolphin (*Tursiops truncatus*) Occurrence in the Indian River Lagoon**  
 Greer Babbe, Rachel Brewton, Tim Moore, Steve Burton, and Brian Lapointe  
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Changes in the Phosphorus Sorption Capacities of Sediments in Response to Hypoxia in the Indian River Lagoon (STUDENT PRESENTATION)**  
 Rebecca English and Austin Fox  
 Florida Institute of Technology, Melbourne, FL
- A Preliminary Characterization of Microcystin Exposure in Estuarine Sentinels in the Indian River Lagoon, Florida (STUDENT PRESENTATION)**  
 Ami Krasner<sup>1</sup>, Wendy Noke Durden<sup>2</sup>, Teresa Jablonski<sup>2</sup>, Agatha Fabry<sup>2</sup>, Megan Stolen<sup>3</sup>, Annie Page<sup>4</sup>, Wendy Marks<sup>4</sup>, and Spencer Fire<sup>1</sup>  
<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Hubbs-SeaWorld Research Institute, Melbourne Beach, FL; <sup>3</sup>Blue World Research Institute, Cocoa, FL; <sup>4</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

**Assessment of Coastal Stormwater Systems for Improved Urban Habitat and Estuarine Ecosystem Management (STUDENT PRESENTATION)**

Imani Ford and Hyun Jung Cho  
Bethune-Cookman University, Daytona Beach, FL

**Determining Hydrodynamic Habitat Thresholds for Seagrass in a Microtidal, Estuarine Environment (STUDENT PRESENTATION)**

Madison Giuntoli, Thirusankaranand Mathavan, Manisha Thenuwara, and Kelly M. Kibler  
University of Central Florida, Orlando, FL

**First Flash Kinetics of *Mnemiopsis leidyi* Cydippid Larvae**

Abigail Blackburn<sup>1</sup>, Ed Malkiel<sup>1</sup>, Malcolm McFarland<sup>1</sup>, Francis Letendre<sup>1</sup>, Michael Latz<sup>2</sup>, and Michael Twardowski<sup>1</sup> (STUDENT PRESENTATION)

<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Scripps Institute of Oceanography, San Diego, CA

**Parasite Surveys of *Hypanus sabina* and *H. say* Hosts in the Indian River Lagoon Estuary (STUDENT PRESENTATION)**

Sarah Sargent<sup>1</sup>, Jessica J. Schieber<sup>2</sup>, David W. Kerstetter<sup>1</sup>, and Christopher A. Blonar<sup>1</sup>  
<sup>1</sup>Nova Southeastern University, Dania Beach, FL; <sup>2</sup>Florida Fish and Wildlife Conservation, Melbourne, FL

**Examining How Environmental, Physical, and Pathological Factors Impact the Reproduction and Distribution of *Crassostrea virginica* in the Northern Indian River Lagoon**

Hope Leonard<sup>1</sup>, Olivia Escandell<sup>1</sup>, Kyle Donnelly<sup>1</sup>, Tyler Provoncha<sup>1</sup>, and Jenny Hansen<sup>2</sup>  
<sup>1</sup>Brevard Zoo, Melbourne, FL; <sup>2</sup>Brevard County Natural Resources, Viera, FL

**Shoreline Defense Force! Novel Design of an Educational Wave Flume Illustrates the Impact of Shoreline Habitat on Coastal Erosion Processes**

Kelly Kibler<sup>1</sup>, Madison Giuntoli<sup>1</sup>, Manisha Thenuwara<sup>1</sup>, Thirusankaranand Mathavan<sup>1</sup>, and Vincent Encomio<sup>2</sup>

<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>UF/IFAS Extension, Martin and St. Lucie Counties, Stuart, FL

**1500 - 1530 Break**

**1530 - 1630 Oral Session 4 – IRL Ecology & Biology**

Session Chair: Linda Walters, University of Central Florida

**1530 - 1540 Investigating the Molecular Mechanisms Driving Super Clam Resilience**

Krista A. McCoy<sup>1,2</sup>, Iris Segura-García<sup>1</sup>, Michael W. McCoy<sup>1,2</sup>, and Todd Z. Osborne<sup>3</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Florida Atlantic University, Boca Raton, FL; <sup>3</sup>Whitney Laboratory for Marine Bioscience, University of Florida, Marineland, FL

**1540 - 1550 What's So Different about Mosquito Lagoon?**

Lori Morris<sup>1</sup> and Lauren Hall<sup>2</sup>

<sup>1</sup>St. Johns River Water Management District, Palatka, FL; <sup>2</sup>St. Johns River Water Management District Palm Bay, FL

- 1550 - 1600 **Examining the Interaction Between Nearshore Seagrass Beds, Shoreline Morphology, and Living Shorelines (STUDENT PRESENTATION)**  
Gabriel Benson<sup>1</sup>, Melinda Donnelly<sup>1</sup>, Lori Morris<sup>2</sup>, and Linda Walters<sup>1</sup>  
<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>St. Johns River Water Management District, Palatka, FL
- 1600 - 1610 **Assessing a Decade of Unprecedented Change in the IRL Using Macroalgal Bio-Observatories to Understand Nutrient Sources (STUDENT PRESENTATION)**  
Brian E. Lapointe, Greer M. Babbe, Rachel A. Brewton, Laura W. Heren, and Deanna Webber  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 1610 - 1620 **Evaluating Ecological Community Structure over Long Time Scales in the Northern Indian River Lagoon, FL (STUDENT PRESENTATION)**  
Michelle Shaffer<sup>1</sup>, Sarah Stacy Barber<sup>1</sup>, and Kristy Lewis<sup>2</sup>  
<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>University of Rhode Island, Narragansett, RI
- 1620 - 1630 **Micro-Scale Hydrodynamics within Eastern Oyster Reefs in the Indian River Lagoon, Florida (STUDENT PRESENTATION)**  
Manisha Thenuwara, Thirusankaranand Mathavan, Peter B. Vien, Jyotismita Taye, and Kelly M. Kibler  
University of Central Florida, Orlando, FL
- 1630 - 1700 Three Minutes, Three Slides 3 – IRL Restoration**  
Session Chair: Lori Morris, St. Johns River Water Management District
- Advancing Coral Restoration on St. Lucie Reef (STUDENT PRESENTATION)**  
Gabrielle S. Pantoni<sup>1</sup>, David Gilliam<sup>2</sup>, Shane Wever<sup>2</sup>, and Joshua D. Voss<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Nova Southeastern University, Dania Beach, FL
- Potential for Recovery of Seagrass from Seeds in the Indian River Lagoon (STUDENT PRESENTATION)**  
Isabel Bennett<sup>1,2</sup> and Lauren M. Hall<sup>1</sup>  
<sup>1</sup>St. Johns River Water Management District, Palm Bay, FL; <sup>2</sup>Florida Institute of Technology, Melbourne, FL
- Save the Seed: Sexual reproduction of *Halodule wrightii* in Mosquito Lagoon, FL (STUDENT PRESENTATION)**  
Carla Perscky<sup>1,2</sup>, Nicole Jerrell<sup>2</sup>, Madison Serrate<sup>2</sup>, Melinda Donnelly<sup>2</sup>, Paul Sacks<sup>2</sup>, and Linda Walters<sup>2</sup>  
<sup>1</sup>Oregon State University, Corvallis, OR; <sup>2</sup>University of Central Florida, Orlando, FL
- Seagrass Census: Assessing Viable Seagrass Fragments Abundance in the Wrack Line (STUDENT PRESENTATION)**  
Nicole Jerrell, Madison Serrate, Melinda Donnelly, and Linda Walters  
University of Central Florida, Orlando, FL
- Effects of *Halodule wrightii* Shoot-Density on Restorative Transplantation and Sediment Organic Matter**  
Nathaniel H. Winn, Dana Becker, Paige Simpson, and Loraé T. Simpson  
Florida Oceanographic Society, Stuart, FL

**Hydro-morphologic Mechanisms Leading to Dislodgement of Red Mangrove (*Rhizophora mangle*) Seedlings (STUDENT PRESENTATION)**

Jyotismita Taye, Katherine R. Barrera C., and Kelly Kibler  
University of Central Florida, Orlando, FL

**Assessing Wrack Biodiversity in the Indian River Lagoon Amid Changing Shoreline Conditions (STUDENT PRESENTATION)**

Madison Serrate, Nicole Jerrell, Melinda Donnelly, and Linda Walters  
University of Central Florida, Orlando, FL

**How Oyster Reefs Influence Hydrodynamic Conditions in the Indian River Lagoon**

Peter B. Vien, Thirusankaranand Mathavan, Manisha Thenuwara, Jyotismita Taye, and Kelly M. Kibler (STUDENT PRESENTATION)  
University of Central Florida, Orlando, Florida

**Using Wildlife Trail Cameras to Monitor Faunal Responses to Biodegradable Oyster Reef Restoration Materials (STUDENT PRESENTATION)**

Tara Blanchard, Paul Sacks, Melinda Donnelly, and Linda Walters  
University of Central Florida, Orlando, FL

**Exploring Oyster Reefs through Virtual Reality: Comparing Methods of Science Outreach (STUDENT PRESENTATION)**

Katherine Harris<sup>1</sup>, Carley Metcalf<sup>2</sup>, Ryan P. McMahan<sup>1</sup>, and Linda Walters<sup>1</sup>  
<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>Marine Discovery Center, New Smyrna Beach, FL

**1700 Announcements and Transition to Poster Session & Reception**

**1730 - 2000 Poster Session & Reception (Open to the public, too!)**

**1930 Announcement of Student Awards (Auditorium)**

**How to Vote on People's Choice Student Awards**

This year we will again have three People's Choice Student Awards. Each registrant will be able to vote once in each of the three categories: Best 10-Minute Oral Presentation, Best 3-Minute Oral Presentation, and Best Poster.

In the following poll, please select the presentations that you thought were most deserving of this recognition: <https://www.crowd.live/IRLS2024>. Polls will close at 19:00.



**Friday, February 23, 2024**

**0830 - 0930 Oral Session 5 – Fish 3**

Session Chair: Loraé Simpson, Florida Oceanographic Society

**0830 - 0840 Fisheries Studies from a Mosquito Control Perspective**

Sherry Burroughs<sup>1</sup> and Jon Shenker<sup>2</sup>

<sup>1</sup>Indian River Mosquito Control District, Vero Beach FL; <sup>2</sup>Florida Institute Technology, Melbourne, FL

**0840 - 0850 Mosquito Impoundments as Fish Nurseries: Variability in Habitat Structure, Fish Species Composition and Emigration into the Indian River Lagoon**

Rachel Reinhard<sup>1,2</sup>, Margaret Rodrigue<sup>1,2</sup>, David Fuss<sup>2</sup>, M. Dennis Hanisak<sup>1</sup> and Jonathan Shenker<sup>2,3</sup>

<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Indian River Land Trust, Vero Beach, FL; <sup>3</sup>Florida Institute of Technology, Melbourne, FL

**0850 - 0900 Ichthyoplankton Recruitment within Mangrove-dominated Mosquito Control Impoundments**

Margaret Rodrigue<sup>1</sup>, Jonathan Shenker<sup>2</sup>, and M. Dennis Hanisak<sup>1</sup>

<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Florida Institute of Technology, Melbourne, FL

**0900 - 0910 Assessment of Fish Spawning Aggregations in Southeast Florida: Residency and Movement Patterns of Gray Snapper off Southeast Florida**

Chris Taylor<sup>1</sup>, Xaymara Serrano<sup>2</sup>, Erick Ault<sup>3</sup>, Peter Wilson<sup>3</sup>, and Dayna Hunn<sup>3</sup>

<sup>1</sup>NOAA Center for Coastal Fisheries and Habitat Research, Beaufort, NC; <sup>2</sup>NOAA Coral Reef Conservation Program, West Palm Beach, FL; <sup>3</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL

**0910 - 0920 A Brief Overview of Fisheries-Independent Monitoring in the Southern IRL and Surrounding Areas (STUDENT PRESENTATION)**

Peter Wilson<sup>1</sup>, Erick Ault<sup>1</sup>, Dayna Hunn<sup>1</sup>, Jim Whittington<sup>1</sup>, Bailey Reins<sup>1</sup>, Ashton Lyon<sup>1</sup>, Eli Bradley<sup>1</sup>, and Philip Stevens<sup>2</sup>

<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL

**0920 - 0930 Insights into Indian River Lagoon Fish Population Genetics and Implications for Lagoon Biodiversity and Management**

Jeff A. Eble

Hubbs-SeaWorld Research Institute, Melbourne Beach, FL

**0930 - 1000 Three Minutes, Three Slides – Potpourri**

Session Chair: Elizabeth Salewski, South Florida Water Management District

**Big Sawfish in the Southern Indian River Lagoon: What Are They Doing?!**

Andrew Wooley<sup>1</sup>, Lukas Heath<sup>1</sup>, Dylan Yakich<sup>1</sup>, Sarah Webb<sup>2,3</sup>, Michael McCallister<sup>2</sup>, and Gregg Poulakis<sup>1</sup>

<sup>1</sup>Fish and Wildlife Conservation Commission, Port Charlotte, FL; <sup>2</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>3</sup>South Florida Water Management District, West Palm Beach, FL

**Fish Ecological Modeling Informs Restoration Efforts in the IRL**

Jesse R. Blanchard<sup>1</sup> and Ralph G. Turingan<sup>2</sup>

<sup>1</sup>Florida International University, Miami FL; <sup>2</sup>Florida Institute of Technology, Melbourne, FL

**Listening to the Lagoon: An Overview of the Lake Worth Lagoon Acoustic Receiver Array**

Erick Ault<sup>1</sup>, Jennifer Báez<sup>2</sup>, Tom Twyford<sup>3</sup>, Dayna Hunn<sup>1</sup>, and Bailey Reins<sup>1</sup>

<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>2</sup>Palm Beach County Department of Environmental Resource Management, West Palm Beach, FL; <sup>3</sup>West Palm Beach Fishing Club, West Palm Beach, FL

**Managing Mosquitoes with Blood, Fish and Weirs in Brevard County: Striking a Balance in and around the Indian River Lagoon**

Joseph Faella, Jonathan Linder, Bridget Coffey-Picco, and Maxwell Reynolds

Brevard County Mosquito Control, Titusville, FL

**Atlantic Mole Crab (*Emerita talpoida*) Abundance and Distribution on the Space Coast**

Michaela Stenerson, Robert Sluka, Madeline Padgett, and Noah Guthrie

A Rocha USA, Titusville, FL

**Martin County Seagrass Restoration Project: Taking a Comprehensive Approach to Restoring Seagrass Habitat in the Indian River Lagoon (IRL)**

Michael A. Yustin<sup>1</sup> and Patrick Zuloaga<sup>2</sup>

<sup>1</sup>Martin County Board of County Commissioners, Stuart, FL; <sup>2</sup>Tetra Tech Inc., West Palm Beach, FL

**Accessing Blue Carbon Finance from Habitat Restoration in the Indian River Lagoon: Results from a Feasibility Study on Seagrass Restoration**

Ryan P. Moyer<sup>1</sup>, Kathleen Onorevole<sup>1</sup>, Scott Settelmyer<sup>1</sup>, Madeline Regenye<sup>1</sup>, Rebecca Dickson<sup>1</sup>, Danielle Richter<sup>2</sup>, and Andrew Walker<sup>2</sup>

<sup>1</sup>TerraCarbon LLC, Peoria, IL; <sup>2</sup>Fish and Wildlife Foundation of Florida, Saint Petersburg, FL

**Stormwater Monitoring as a Crucial Contribution of Citizen Science on Behalf of IRL Restoration**

Jeffrey Greenberg<sup>1</sup>, James Yount<sup>2</sup>, Andri Evagarou<sup>2</sup>, Peter Gay<sup>3</sup>, Michael Myjak<sup>4</sup>, and Charles Lindahl<sup>5</sup>

<sup>1</sup>A Rocha USA, Titusville, FL; <sup>2</sup>Eastern Florida State College, Cocoa, FL; <sup>3</sup>Astronaut High School, Titusville, FL; <sup>4</sup>Speak Up Titusville, Titusville, FL; <sup>5</sup>Texas A&M University, Bryan, TX

**1000 - 1030 Break**

**1030 - 1130 Oral Session 6 – Potpourri**

Session Chair: Jessy Wayles, Indian River Lagoon National Estuary Program

**1030 - 1040 Big Sawfish in the Southern Indian River Lagoon: What Are They Doing?!**

Andrew Wooley<sup>1</sup>, Lukas Heath<sup>1</sup>, Dylan Yakich<sup>1</sup>, Sarah Webb<sup>2,3</sup>, Michael McCallister<sup>2</sup>, and Gregg Poulakis<sup>1</sup>

<sup>1</sup>Fish and Wildlife Conservation Commission, Port Charlotte, FL; <sup>2</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>3</sup>South Florida Water Management District, West Palm Beach, FL

- 1040 - 1050 **Parasite Diversity of Cryptobenthic Fishes in the IRL**  
Christopher Moore<sup>1</sup>, Iris Segura-Garcia<sup>1,2</sup>, Michael McCoy<sup>1</sup>, and Krista McCoy<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL;  
<sup>2</sup>Smithsonian Marine Station, Fort Pierce, FL
- 1050 - 1100 **Something's Fishy: Bottlenose Dolphin (*Tursiops truncatus*) Feeding in the Indian River Lagoon, Florida**  
Lauren Clance, Brooke Davis, Kristen Eisele, Tracy Kowalczyk, Wendy Marks, Lydia Moreland, Nicole Pegg, Steve Burton, and Annie Page  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 1100 - 1110 **Dead Dolphins Dated by Stranding Domain along Florida's Coastline**  
Laura Lesyna<sup>1</sup>, Greg O'Corry-Crowe<sup>1</sup>, Annie Page-Karjian<sup>1</sup>, Elizabeth Stratton<sup>2</sup>, and Tim Moore<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL;  
<sup>2</sup>National Oceanic and Atmospheric Administration Fisheries, Miami, FL
- 1110 - 1120 **To Cage or Not to Cage Seagrass; Is There Even a Question?**  
Loraé T. Simpson<sup>1</sup>, Morgan K. Gilligan<sup>1</sup>, and Doug M. Scheidt<sup>2</sup>  
<sup>1</sup>Florida Oceanographic Society, Stuart, FL; <sup>2</sup>Herndon Solutions Group/NEMCON, Kennedy Space Center, FL
- 1120 - 1130 **Seeding for Success: Enhancing Oyster Reef Restoration in the St. Lucie Estuary Along a Salinity Gradient**  
Sarah Cole, Morgan K. Gilligan, and Loraé T. Simpson  
Florida Oceanographic Society, Stuart, FL

1130 - 1200

## Posters

Posters will be displayed all day in the Education Annex (Posters #1-30) and the Lab/Gallery (Posters #31-48). During the poster session, presenters of odd-numbered posters will minimally be at their posters between 1730 and 1815; presenters of even-numbered posters will minimally be at their posters between 1815 and 1900. We also encourage students to be at their posters during the second half of the lunch break. **Please join us in the Auditorium for the presentation of student awards at 1930.**

- 1. Long-Term Oyster Reef Monitoring in the St. Lucie Estuary and Southern Indian River Lagoon, Florida**  
Arianna Agostini, Sarah Cole, and Loraé T. Simpson  
Florida Oceanographic Society, Stuart, FL
- 2. Microplastic and Cellulose Fiber Ingestion by Juvenile Estuarine Invertebrates from Restored Oyster Reefs in the Indian River Lagoon (STUDENT PRESENTATION)**  
Luciana Banquero, Stefannia Tasayco, Paul Sacks, Joshua Fnu, Lei Zhai, and Linda Walters  
University of Central Florida, Orlando, FL
- 3. Mercury Concentrations in Key IRL Fishery Species: Individual, Temporal, and Spatial Patterns**  
Autumn Biddle and Derek Tremain  
Florida Fish and Wildlife Conservation Commission, Melbourne, FL
- 4. Does Mangrove Encroachment on Oyster Reefs in The Indian River Lagoon Enhance Blue Carbon Storage? (STUDENT PRESENTATION)**  
Nicole Boisson, Linda J. Walters, Paul Sacks, and Lisa Chambers  
University of Central Florida, Orlando, FL
- 5. Exchange of Juvenile Tarpon (*Megalops atlanticus*) between a Mosquito Impoundment and the Indian River Lagoon Estuary**  
Philip Stevens<sup>1</sup>, Eli Bradley<sup>2</sup>, Erick Ault<sup>2</sup>, Dayna Hunn<sup>2</sup>, Peter Wilson<sup>2</sup>, and Sarah Webb<sup>3</sup>  
<sup>1</sup>Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>3</sup>South Florida Water Management District, West Palm Beach, FL
- 6. Iron's Influence on Water Clarity and Sediment Carbon Storage in the Indian River Lagoon (STUDENT PRESENTATION)**  
Hanna Bridgham, Mason Thackston, Owen Silvera, and Jordon Beckler  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 7. The Seagrass Isn't Always Greener at the Other Site: Variability in Seagrass Benthic Communities Across the Indian River Lagoon**  
Sabrina Castellanos<sup>1</sup>, Loraé T. Simpson<sup>2</sup>, Conor MacDonnell<sup>2</sup>, and L. Holly Sweat<sup>1</sup>  
<sup>1</sup>Smithsonian Marine Station, Fort Pierce, FL; <sup>2</sup>Florida Oceanographic Society, Stuart, FL
- 8. Leveraging Historical Mosquito Impoundments to Treat Eutrophic Waters in the Indian River Lagoon, FL (STUDENT PRESENTATION)**  
Taryn Chaya and Todd Z. Osborne  
Whitney Laboratory for Marine Bioscience, University of Florida, St. Augustine, FL
- 9. Quantification of Secondary Microplastics Produced by Plastic Restoration Materials**  
Naija Cheek, Linda J. Walters, Paul Sacks, Melinda Donnelly, and Lisa G. Chambers  
University of Central Florida, Orlando, FL
- 10. Benthic Infaunal Responses to Mangrove Restoration (STUDENT PRESENTATION)**  
Jessica Cline  
Florida Institute of Technology, Melbourne, FL & Marine Resources Council, Palm Bay, FL

11. **The Response of Benthic Infauna to Environmental Muck Dredging at Sykes Creek (Indian River Lagoon, Merritt Island, Florida) (STUDENT PRESENTATION)**  
Jessica Cline, Sean Crowley, Mara Skadden, and Conor Wong  
Florida Institute of Technology, Melbourne, FL
12. **“Plastic Rain” in the Indian River Lagoon (STUDENT PRESENTATION)**  
Jordyn Collis, Paul Sacks, Katherine Harris, Advanced Marine Biology Undergraduate Students, and Linda Walters  
University of Central Florida, Orlando, FL
13. **Removal in a Sub-tropical Lagoon (STUDENT PRESENTATION)**  
Sean Crowley<sup>1</sup> and Kevin B. Johnson<sup>2</sup>  
<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Tarleton State University, Stephenville, TX
14. **Oyster Spat Monitoring in the Southern Indian Lagoon and St. Lucie Estuary: 2020-2024**  
Nicholas Curto, Sarah Cole, and Loraé T. Simpson  
Florida Oceanographic Society, Stuart, FL
15. **Investigating the Relationship Between Sediment Characteristics and Populations of Seagrass at the Coastal Oaks Preserve (STUDENT PRESENTATION)**  
Lydia Dalglish<sup>1,3</sup>, Calista Huff<sup>2,3</sup>, Cecelia Lander<sup>1,3</sup>, Jay Seals Lappas<sup>1,3</sup>, Kayla Osowski<sup>1,3</sup>, Journey Setzer<sup>1,3</sup>, Marcos Vilorio<sup>1,3</sup>, and Web Webster<sup>1,3</sup>  
<sup>1</sup>Vero Beach High School, Vero Beach, FL; <sup>2</sup>Indian River Charter High School, Vero Beach, FL; <sup>3</sup>Junior Scientists Program 2023-2024
16. **Evaluating the Antifouling Efficacy of Ultraviolet Light on the Barnacle *Amphibalanus amphitrite***  
Sarah Davis and L. Holly Sweat  
Smithsonian Marine Station, Fort Pierce, FL
17. **Native Plant Species Dominate a Restored Tidal Marsh in the Coastal Oaks Preserve (STUDENT PRESENTATION)**  
Sophie Denninger<sup>1,4</sup>, Eliza Dinenberg<sup>1,4</sup>, Jacob Komarnicki<sup>2,4</sup>, Owen Long<sup>2,4</sup>, Billy Wade<sup>3,4</sup>, Gianna Walker<sup>2,4</sup>, and Kennedy Wile<sup>2,4</sup>  
<sup>1</sup>Indian River Charter High School, Vero Beach, FL; <sup>2</sup>Vero Beach High School, Vero Beach, FL; <sup>3</sup>Sebastian River High School, Sebastian, FL; <sup>4</sup>Junior Scientists Program
18. **Evaluating the Impacts of Marine Science Programming on Students in Underserved Communities (STUDENT PRESENTATION)**  
Katelyn DiGirolomo-Alvarez<sup>1</sup>, Josephine Story<sup>1</sup>, Jennifer Cutter<sup>1</sup>, Laura Issac-Norton<sup>1</sup>, Bryan Nichols<sup>2</sup>, and Gabrielle Barbarite<sup>1</sup>  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL  
Florida Atlantic University, Boca Raton, FL
19. **Assessing Nutritional Condition in Common Bottlenose Dolphins (*Tursiops truncatus truncatus*) Inhabiting the Northern Indian River Lagoon**  
Wendy Noke Durden, Agatha Fabry, and Teresa Jablonski  
Hubbs-SeaWorld Research Institute, Melbourne Beach, FL
20. **Halifax River Oyster Project (STUDENT PRESENTATION)**  
Christina Gabriel, Raniyah Howard, Shawna Brooks, and Antoinette Destefano  
Bethune Cookman University, Daytona Beach, FL
21. **An Elementary School Teacher’s View: Best Practices for Engaging Students in Mangrove Conservation**  
Mary Lynn Hess  
Goldsboro Elementary Magnet School, Sanford, FL

- 22. IRLON: It's Not Plug and Play!**  
Chris Hoey, Scott Hurley, Samantha Moloney, Victoria Guitarte, Bryon Botson, Kristen S. Davis, and M. Dennis Hanisak  
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 23. Development of a Coupled Physical-Biogeochemical Model for C44 Canal and Linking Lake Okeechobee with St. Lucie Estuary**  
 Mingshun Jiang, Jordon Beckler, and Owen Silvera  
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 24. A Preliminary Characterization of Microcystin Exposure in Estuarine Sentinels in the Indian River Lagoon, Florida**  
 Ami Krasner<sup>1</sup>, Wendy Noke Durden<sup>2</sup>, Teresa Jablonski<sup>2</sup>, Agatha Fabry<sup>2</sup>, Megan Stolen<sup>3</sup>, Annie Page<sup>4</sup>, Wendy Marks<sup>4</sup>, and Spencer Fire<sup>1</sup>  
<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Hubbs-SeaWorld Research Institute, Melbourne Beach, FL; <sup>3</sup>Blue World Research Institute, Cocoa, FL; <sup>4</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 25. Education and Advocacy toward Marine Debris Prevention and Reduction (STUDENT PRESENTATION)**  
 Kyleigh Leaf, Parisa Ebraimbabaie, Elnaz Khodaei, and Hyun Jung Cho  
 Bethune-Cookman University, Daytona Beach, FL
- 26. Habitat Utilization and Distribution of two Sympatric Dasyatid Stingrays in the Indian River Lagoon (STUDENT PRESENTATION)**  
 Hannah Lesko<sup>1</sup>, Logan Exton<sup>1</sup>, Jessica Schieber<sup>2</sup>, and David Kerstetter<sup>1</sup>  
<sup>1</sup>Nova Southeastern University, Dania Beach, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL
- 27. Mesocosm Experiment to Assess Restoration Potential (STUDENT PRESENTATION)**  
 Alicia Lopez, Sailor Scheinkman, Natalie Sperry, Sean Crowley, Tyler Provoncha, Ken Lindeman, and Austin Fox  
 Florida Institute of Technology, Melbourne, FL
- 28. Maximizing Nitrogen Removal in a Bioreactor by Adjusting C:N Ratios and Residence Times (STUDENT PRESENTATION)**  
 Mary MacDonald, Austin Fox, and Stacey Fox  
 Florida Institute of Technology, Melbourne FL
- 29. Hydrodynamic Habitat Threshold Model for Oyster Restoration in Microtidal Estuarine Environments (STUDENT PRESENTATION)**  
 Thirusankaranand Mathavan, Madison Giuntoli, Manisha Thenuwara, and Kelly Kibler  
 University of Central Florida, Orlando, FL
- 30. Examining the Plasticity of the Syngnathids spp. in the Northern IRL (STUDENT PRESENTATION)**  
 Lakean McGregor and Sarah Krejci  
 Bethune-Cookman University, Daytona Beach, FL
- 31. NASA DEAP Institute: A Three-University Consortium toward Improving Satellite Data-based Flash Flood Segmentation using Machine Learning (STUDENT PRESENTATION)**  
 Kisha Mulenga, Hyun Jung Cho, and Juan Calderon  
 Bethune-Cookman University, Daytona Beach, FL

- 32. Impacts of Glyphosate on Algae Blooms in the Indian River Lagoon (STUDENT PRESENTATION)**  
 Caroline Muscat<sup>1</sup>, Tyler Provoncha<sup>1</sup>, Austin Fox<sup>2</sup>, Hope Leonard<sup>1,2</sup>, and Connor Wong<sup>2</sup>  
<sup>1</sup>Brevard Zoo, Melbourne, FL; <sup>2</sup>Florida Institute of Technology, Melbourne, FL
- 33. *Rhizophora mangle* (Red Mangrove) Growth and Survival in Different Habitats in Mosquito Lagoon, Florida (STUDENT PRESENTATION)**  
 Mekail Negash, Melinda Donnelly, Mason, Lisa Chambers, and Linda Walters  
 University of Central Florida, Orlando, FL
- 34. Biodiversity Associated with the Salt Marsh Shoreline at Jones' Pier Conservation Area (STUDENT PRESENTATION)**  
 Chase Nelson<sup>1,2,3</sup>, Emmy Dichter<sup>1,2,3</sup>, Kiley Donovan<sup>1,2,3</sup>, Millicent Critchfield<sup>1,2,3</sup>, and Selma Memet<sup>1,2,3</sup>  
<sup>1</sup>Saint Edwards School, Vero Beach, FL; <sup>2</sup>Indian River County Conservation Lands Division Program, Vero Beach, FL; <sup>3</sup>Inwater Research Group, Jensen Beach, FL
- 35. The Relations between Water Quality and Fish in the Impoundments of the Coastal Oaks Preserve (STUDENT PRESENTATION)**  
Daniela Nunez<sup>1,3</sup>, Jasmyne Williams<sup>1,3</sup>, Alexa Luna<sup>2,3</sup>, and Lindsay Scheele<sup>2,3</sup>  
<sup>1</sup>Vero Beach High School, Vero Beach, FL; <sup>2</sup>Sebastian River High School, Sebastian, FL; <sup>3</sup>Junior Scientists Program 2023-2024
- 36. Using Environmental and Prey Characteristics to Describe Sport Fish Abundance in an Estuarine Environment (STUDENT PRESENTATION)**  
 Jemimah Olajide, Christopher Crowder, and Geoffrey Cook  
 University of Central Florida, Orlando, FL
- 37. IRL Biodiversity: Review and Gap Analysis of Northern Indian River Lagoon Biodiversity**  
 Madeline Padgett, Michaela Sternerson, Noah Guthrie, and Robert D. Sluka  
 A Rocha USA, Titusville, FL
- 38. Dynamic Nature of Hydrology and Benthic Vegetation of Mosquito Control Impoundments (STUDENT PRESENTATION)**  
 Providence Pangira<sup>1</sup>, Jonathan Linder<sup>2</sup>, Bridget Coffey<sup>2</sup>, Jiyahna Price<sup>1</sup>, Sarah Gaudreault<sup>3</sup>, and Hyun Jung Cho<sup>1</sup>  
<sup>1</sup>Bethune-Cookman University, Daytona Beach, FL; <sup>2</sup>Brevard County Mosquito Control, Titusville, FL; <sup>3</sup>Riverside Conservancy, Edgewater, FL
- 39. Seed Bank, Viability, and Germination of *Ruppia maritima* within Seagrass Beds and Mosquito Control Impoundments of Indian River Lagoon (STUDENT PRESENTATION)**  
 Jiyahna Price<sup>1</sup>, Jonathan Linder<sup>2</sup>, Bridget Coffey<sup>2</sup>, Providence Pangira<sup>1</sup>, Sarah Gaudreault<sup>3</sup>, and Hyun Jung Cho<sup>1</sup>  
<sup>1</sup>Bethune-Cookman University, Daytona Beach, FL; <sup>2</sup>Brevard County Mosquito Control, FL; <sup>3</sup>Riverside Conservancy, Edgewater, FL
- 40. Using Unmanned Aircraft System (UAS) to Assess Body Condition of Common Bottlenose Dolphins (*Tursiops truncatus truncatus*) in the Indian River Lagoon, Florida (STUDENT PRESENTATION)**  
 Jessica Provenzano<sup>1</sup>, Wendy Noke Durden<sup>2</sup>, Teresa Jablonski<sup>2</sup>, Agatha Fabry<sup>2</sup>, and Spencer Fire<sup>1</sup>  
<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Hubbs-SeaWorld Research Institute, Melbourne Beach, FL

- 41. Detection of Multiple Algal Toxins in Whitespotted Eagle Rays from Florida Coastal Waters (STUDENT PRESENTATION)**  
Ariadna Rojas Corzo<sup>1</sup>, Breanna DeGroot<sup>1</sup>, Brianna Cahill<sup>1</sup>, Kim Bassos-Hull<sup>2</sup>, and Matthew J. Ajemian<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Mote Marine Laboratory, Sarasota, FL
- 42. Comparison of Results of Different Oyster Reef Construction Strategies in the Indian River Lagoon**  
Paul Sacks<sup>1</sup>, Tyler Provoncha<sup>2</sup>, Olivia Escandell<sup>2</sup>, Jenny Hansen<sup>3</sup>, Melinda Donnelly<sup>1</sup>, and Virginia Barker<sup>3</sup>  
<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>Brevard Zoo, Melbourne, FL; <sup>3</sup>Brevard County Natural Resources Management, Viera, FL
- 43. Results of Pilot Seagrass Transplanting Efforts in the Indian River Lagoon Using Nursery-Reared *Halodule wrightii***  
Amber Santoso<sup>1</sup>, Olivia Escandell<sup>1</sup>, Don Deis<sup>1</sup>, Bob Virnstein<sup>2</sup>, Hope Leonard<sup>1</sup>, and Tyler Provoncha<sup>1</sup>  
<sup>1</sup>Brevard Zoo, Melbourne, FL; <sup>2</sup>Seagrass Ecosystems Analysts, Gainesville, FL
- 44. Fish Use of Habitat Restoration Sites in Lake Worth Lagoon – A Model for IRL Restoration Efforts**  
Jacob Schneider<sup>1</sup>, Scott Markwith<sup>2</sup>, and James Whittington<sup>3</sup>  
<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL; <sup>2</sup>Florida Atlantic University, Boca Raton, FL; <sup>3</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL
- 45. Niche Partitioning in Benthic Fish Predators in the Indian River Lagoon**  
Klara Scriptor<sup>1</sup> and Matthew Scriptor<sup>2</sup>  
<sup>1</sup>Florida Virtual Schools; <sup>2</sup>Ecological Associates, Inc., Jensen Beach, FL
- 46. Assessing the Net Advantage of Living Shoreline Stabilization on the Ecological Success of a Restoration Method for *Halodule wrightii* (STUDENT PRESENTATION)**  
Angie Tasayco, Carla Perscky, Gabriel Benson, Federico Borghesi, Linda Walters, and Melinda Donnelly  
University of Central Florida, Orlando, FL
- 47. Aquatic Plants in Coastal Urban Stormwater Structures as Potential Habitats for *Mansonia* Mosquitoes**  
Khanyisile Tshabalala, Anna B. Ponce, and Hyun Jung Cho  
Bethune-Cookman University, Daytona Beach, FL
- 48. Hardhead and Gafftopsail Catfish in the Indian River Lagoon: Abundance, Distribution and Diet, Including Egg Predation in Horseshoe Crab Spawning Aggregations**  
Jon Shenker<sup>1</sup>, Richard Paperno<sup>2</sup>, Derek Tremain<sup>2</sup>, and Ashley Yarbrough<sup>2</sup>  
<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL