

Indian River Lagoon Symposium 2022
IRL Connectivity

Program Schedule – Technical Sessions

Thursday, April 21, 2022

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

- 0715 - 0815 Registration, Set Up Posters, and Coffee & Tea**
- 0815 - 0830 Welcome**
M. Dennis Hanisak, FAU Harbor Branch
- 0830 - 0900 Keynote Address**
A Decade of Florida Manatee (*Trichechus manatus latirostris*) Mortality Events in the Indian River Lagoon: How Manatee- and Estuary Health Connect
Martine deWit, Florida Fish & Wildlife Conservation Commission, St. Petersburg, FL
- 0900 - 1000 Oral Session 1 – IRL Connectivity**
Session Chair: Linda Walters, University of Central Florida
- 0900 – 0910 **Manatee Habitat Restoration Funding Update**
Julie Mitchell, Annie Roddenberry, Erin McDevitt, Maria Merrill, Ed Hayes, and Taylor Kroll
Florida Fish & Wildlife Conservation Commission, Stuart, FL
- 0910 – 0920 **Status and Future of the FACT Network in the Northern Indian River Lagoon**
Bonnie Ahr¹, Eric Reyier¹, Joy Young², Doug Scheidt¹, Jane Provanca¹, Russ Lowers¹, and Brenton Back¹
¹Herndon Solutions Group, LLC, Kennedy Space Center, FL; ²Florida Fish & Wildlife Conservation Commission, Tequesta, FL
- 0920 - 0930 **Tracking Young Bull Shark Activity in a Coastal Lagoon with Frequent Harmful Algal Blooms**
Lauran R. Brewster, Matthew J. Ajemian, Michelle L. Edwards, and Michael P. McCallister
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 0930 - 0940 **Connecting the Dots: Using DNA Barcoding to Explore the Biodiversity and Distribution of Infauna in the Indian River Lagoon System**
L. Holly Sweat¹ and Iris Segura-García^{1,2}
¹Smithsonian Marine Station, Fort Pierce, FL; ²Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 0940 - 0950 **Influence of Coastal Ocean Water Levels on Currents in the Banana River Estuary (STUDENT PRESENTATION)**
Marc Di Ciccio, Gary Zarillo, and Robert Weaver
Florida Institute of Technology, Melbourne, FL
- 0950 - 1000 ***Caulerpa prolifera* Specific Food Webs Reveal a Lack of Connectivity in the Northern Indian River Lagoon and Banana River**
Rachel A. Brewton, Kevin N. Tyre, and Brian E. Lapointe
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

- 1000 - 1030 Break**
- 1030 - 1130 Oral Session 2 – IRL Restoration**
Session Chair: Irene Arpayoglou, FDEP/Indian River Lagoon Aquatic Preserves
- 1030 - 1040 The RECOVER Northern Estuaries Salinity Performance Measure Update: Connecting CERP Science, Restoration, and Management**
Phyllis A. Klarmann, Amanda Kahn, and Detong Sun
South Florida Water Management District, West Palm Beach, FL
- 1040 - 1050 Implications for Co-restoration: Assessing Health of *Halodule wrightii* Grown in Conjunction with *Mercenaria mercenaria* Clams**
Vivienne Main¹, Ashley Smyth², Todd Z. Osborne³, and Loraé T. Simpson¹
¹Florida Oceanographic Society, FL; ²University of Florida, Homestead, FL; ³University of Florida-Whitney Laboratory, St. Augustine, FL
- 1050 - 1100 Oyster Reef Restoration Facilitates the Recovery of Macroinvertebrate Abundance, Diversity, and Composition in Estuarine Communities (STUDENT PRESENTATION)**
Adam R. Searles^{1,2}, Emily E. Gipson^{2,3}, Linda J. Walters², and Geoffrey S. Cook²
¹University of Florida, Gainesville, FL; ²University of Central Florida, Orlando, FL; ³Skidaway Institute of Oceanography, University of Georgia, Savannah, GA
- 1100 - 1110 Assessing the Trophic Dynamics of Juvenile Sportfish to Oyster Reef Restoration (STUDENT PRESENTATION)**
Jennifer M. Loch and Geoffrey S. Cook
University of Central Florida, Orlando, FL
- 1110 – 1120 Assessing the Biological Performance of Living Docks – A Citizen Science Initiative to Improve Coastal Water Quality through Benthic Recruitment within the Indian River Lagoon, Florida**
Morgan Gilligan, Kelli Hunsucker, Sandra Rech, Alyssa Sharma, Rebecca Beltran, Ryan White, and Robert Weaver
Florida Institute of Technology, Melbourne, FL
- 1120 – 1130 Leveraging Natural Processes and Community Engagement for Removal of Nitrogen and Phosphorus (STUDENT PRESENTATION)**
Abigail Gering and Austin Fox
Florida Institute of Technology, Melbourne, FL
- 1130 - 1200 Three Minutes, Three Slides**
Session Chair: M. Dennis Hanisak, FAU Harbor Branch
- Winds and Topographic Controls on the Connectivity in the Northern Indian River Lagoon**
Mingshun Jiang
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Connecting the Dots: Young Whitespotted Eagle Ray Movement and Habitat Connectivity in the Indian River Lagoon (STUDENT PRESENTATION)**
Ariadna Rojas Corzo, Breanna DeGroot, Michael McCallister, and Matthew J. Ajemian
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

**Survival and Growth of Sponge Recruits in a Land-Based Nursery
(STUDENT PRESENTATION)**

Barbara Crouch¹, Shirley A. Pomponi¹, Paul Wills¹, and Andia Chaves-Fonnegra^{1,2}

¹Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; ²Florida Atlantic University, Jupiter, FL

**Baseline Monitoring of Benthic Communities to Verify the Efficacy of Restoration Efforts
(STUDENT PRESENTATION)**

Sean Crowley and Kevin B. Johnson

Florida Institute of Technology, Melbourne, FL

Using Continuous Monitoring of Bottom Water Oxygen to Help Guide Restoration Efforts in the Indian River Lagoon

Tyler Provoncha¹, Olivia Escandell¹, and Austin Fox²

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

**Monitoring Phytoplankton Communities to Document the Impacts of Estuarine Restoration Efforts
(STUDENT PRESENTATION)**

Connor J. Wong and Kevin B. Johnson

Florida Institute of Technology, Melbourne, FL

Samsons Island Submerged Lands Restoration (SISLR): Creating a “Habitat Mosaic Pilot Project” to Determine the Feasibility of Habitat Restoration Techniques in the Indian River Lagoon

Nicholas Sanzone

City of Satellite Beach, Satellite Beach, FL

Changes in Light Availability and Benthic Macrophyte Cover in the Indian River Lagoon

Kevin N. Tyre, Rachel A. Brewton, and Brian E. Lapointe

Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

IRL Connectivity *ad infinitum* versus Key Connections

Robert Virnstein

Seagrass Ecosystems Analysts, Gainesville, FL

1200 - 1330 **Lunch (provided)**

1330 - 1440 **Oral Session 3 – IRL Water Quality & Human Impacts**

Session Chair: Chuck Jacoby, St. Johns River Water Management District

1330 - 1340 **Prevalence of the Indicator Bacteria, *Enterococcus* species, and Their Antibiotic Resistance in Indian River Lagoon Fish**

Maki Tabuchi^{1,2}, Valerie J. Harwood², Richard Paperno³, Kyle Luba¹, and Theresa T. Cody¹

¹Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL; ²University of South Florida, Tampa, FL; ³Florida Fish and Wildlife Conservation Commission, Melbourne, FL

1340 - 1350 **Dissolved Oxygen and the Influence of Hypoxia on Nutrient Cycling in the Indian River Lagoon**

Austin Fox¹, Abbey Gering¹, and Tyler Provoncha²

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

- 1350 - 1400 **Remote Sensing of Harmful Algal Blooms in the Indian River Lagoon and Connected Waterways in Brevard County**
 Andrew Kamerosky¹, Claudia Listopad¹, and Virginia Barker²
¹Applied Ecology, Inc., Melbourne, FL; ²Brevard County Natural Resources Management Department, Viera, FL
- 1400 - 1410 ***Pseudo-nitzschia* in the Indian River Lagoon: An Emerging Threat for Florida**
 Stephanie Schreiber, Malcolm McFarland, James Sullivan, M. Dennis Hanisak, Andia Chaves Fonnegra, and Carlie Perricone
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 1410 - 1420 **Potential Exposure of Young Bull Sharks to Multiple Algal Toxins in an Important Florida Nursery**
(STUDENT PRESENTATION)
 Michelle L. Edwards¹, Michael McCallister¹, Charles W. Bangley^{2,3}, Matthew B. Ogburn², Adam M. Schaefer^{1,4}, and Matthew J. Ajemian¹
¹Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; ²Smithsonian Environmental Research Center, Edgewater, MD; ³Dalhousie University, Halifax, Nova Scotia, Canada; ⁴Abt Associates, Rockville, MD
- 1420 - 1430 **Assessing Mesopredator Residency around Clam Leases in Eastern Florida**
(STUDENT PRESENTATION)
 Brianna V. Cahill¹, Charles W. Bangley^{2,3}, Matthew B. Ogburn²; Michael McCallister¹, and Matthew J. Ajemian¹
¹Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; ²Smithsonian Environmental Research Center, Edgewater, MD; ³Dalhousie University, Halifax, NS, Canada
- 1430 - 1440 **Impact of Mangrove-Driven Acidification on Intertidal Oyster Reefs**
(STUDENT PRESENTATION)
 Katherine Harris, Meghan Bradburn, and Linda Walters
 University of Central Florida, Orlando, FL
- 1440 - 1510 **Three Minutes, Three Slides**
 Session Chair: Zack Jud, Florida Oceanographic Society, Stuart, FL
- Detecting Coastal Acidification in the Indian River Lagoon**
 M. Dennis Hanisak and Kristen S. Davis
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Real-time Estimation of Aragonite Saturation in the Indian River Lagoon**
 Kristen S. Davis and M. Dennis Hanisak
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Coastal Acidification and Carbonate Chemistry: Pilot Data from St. Lucie Reef**
(STUDENT PRESENTATION)
 Haley McQueen and M. Dennis Hanisak
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Water Quality Modeling, a Simple Box Model Theory, and Its Applications in a Shallow Subtropical Estuary in Florida**
 Detong Sun, Jessica Frost, and Melanie Parker
 South Florida Water Management District, West Palm Beach, FL

**Effect of Associated Bacteria on the Physiology of IRL *Pyrodinium bahamense*
(STUDENT PRESENTATION)**

Jackie Metz, Tracy Mincer, and Malcom McFarland
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

**Exposure to Algal Biotoxins: Exploring Health Effects in Green Sea Turtles (*Chelonia mydas*)
(STUDENT PRESENTATION)**

Hunter Brown and Annie Page-Karjian
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

**Monitoring the Impact of Seasonal Freshwater Inflows to St. Lucie River Estuary for CERP:
Habitat and Resource Connectivity to Health Physiology of Fish**

Christopher Malinowski, Phyllis A. Klarmann, and Mark Barton
South Florida Water Management District, West Palm Beach, FL

Skin Tumors of Striped Mullet (*Mugil cephalus*) in the Indian River Lagoon

Yasunari Kiryu¹, Micah D. Bakenhaster¹, Patrick W. Wilson¹, Douglas H. Adams², and Richard Paperno²
¹Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL; ²Florida Fish and Wildlife
Conservation Commission, Melbourne, FL

Plastic Pellet Pollution on Florida's Space Coast

Robert D. Sluka
A Rocha, Titusville, FL

1510 - 1540 Break

1540 - 1650 Oral Session 4 – IRL Biodiversity & Ecology

Session Chair: Holly Sweat, Smithsonian Marine Station, Fort Pierce, FL

**1540 - 1550 The Microbial Diversity of the IRL from a Metagenomic Perspective
(STUDENT PRESENTATION)**

René K.M. Xavier and Tracy J. Mincer
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

**1550 - 1600 Connecting Environmental DNA Profiles to Community Diversity Assessments: An IRL Case
Study**

Sarah Tweedt¹, Holly Sweat¹, Christopher Meyer¹, Matthew Ogburn², Carmen Ritter², Laura Givens³,
and Steven Canty¹

¹National Museum of Natural History, Washington DC; ²Smithsonian Environmental Research Center,
Edgewater, MD; ³Duke University, Durham, NC

**1600 - 1610 Porifera Biodiversity in the Indian River Lagoon: Evaluating the Latitudinal Ecotone and
Similarities with St. Lucie Reef
(STUDENT PRESENTATION)**

Greer Babbe¹, Maria Cristina Diaz¹, Iris Segura-García^{1,2}, John Reed¹, and Andia Chaves-Fonnegra^{1,3}
¹Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; ²Smithsonian
Marine Station, Fort Pierce, FL; ³Florida Atlantic University, Jupiter, FL

**1610 - 1620 Occupancy and Habitat Use of the Florida East Coast Diamondback Terrapin in the Mid Indian
River Lagoon
(STUDENT PRESENTATION)**

Jeffrey S. Herr and Jon A. Moore
Florida Atlantic University, Jupiter FL

- 1620 - 1630 **Preliminary Smalltooth Sawfish Data from the Southern Indian River Lagoon: Is a Nursery Re-establishing?**
 Andrew Wooley¹, Michael McCallister², Matthew Ajemian², Sarah Webb^{2,3}, James Whittington³, Rachel Scharer¹, Lukas Heath¹, Dylan Yakich¹, and Gregg Poulakis¹
¹Florida Fish and Wildlife Conservation Commission, Port Charlotte, FL; ²Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; ³Florida Fish and Wildlife Conservation Commission, Tequesta, FL
- 1630 - 1640 **Variable Species Response to Environmental Fluctuations within an Urbanized Estuary (STUDENT PRESENTATION)**
 Sarah Webb^{1,2}, Erick Ault¹, Robert Ellis³, Matt Ajemian², and Phil Stevens³
¹Florida Fish and Wildlife Conservation Commission, Tequesta, FL; ²Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; ³Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL
- 1640 - 1650 **Observations in Model Ecosystem Aquariums as Mesocosms**
 Katie Skura and William Hoffman
 Smithsonian Marine Station, Fort Pierce, FL
- 1650 - 1720** **Three Minutes, Three Slides**
 Session Chair: Kelli Hunsucker, Florida Institute of Technology
- Iron is a Dominant Control of CDOM in the North Fork of the St. Lucie Estuary (STUDENT PRESENTATION)**
 Hanna Bridgham, Andrew Stancil, and Jordon Beckler
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Novel Generation of Benthic Flux Data: Implications for Large-scale Sediment Monitoring in the Indian River Lagoon (STUDENT PRESENTATION)**
 Mason Thackston¹, Jordon Beckler¹, Csaba Vaczo¹, Lynn Wilking¹, and Don Nuzzio²
¹Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL ²Analytical Instrument Systems Inc.
- Does *Sargassum* Macroalgae Affect Mangrove Growth?**
 Loraé T. Simpson, Zachary Phillips, and C. Root
 Florida Oceanographic Society, Stuart, FL
- Substrate Preferences and the Influence of Distance from Parent Populations on Marine Fouling Organisms (STUDENT PRESENTATION)**
 Samantha Pringle and Emily Ralston
 Florida Institute of Technology, Melbourne, FL
- Please Call Us: Using the U.S. Sawfish Recovery Hotline as a Tool to Promote Recovery of the Smalltooth Sawfish in the Indian River Lagoon**
 Gregg Poulakis, Andrew Wooley, Rachel Scharer, Lukas Heath, and Dylan Yakich
 Florida Fish and Wildlife Conservation Commission, Port Charlotte, FL
- Modeling Settlement of the Indian River Lagoon Benthic Community, with an Emphasis on Living Dock Restoration Mats (STUDENT PRESENTATION)**
 Sandra Rech, Kelli Hunsucker, and Robert Weaver
 Florida Institute of Technology, Melbourne, FL

**Oyster Restoration with Community Oyster Reef Enhancement (CORE) Modules
(STUDENT PRESENTATION)**

Angel Mosher¹ and Matthew R. Anderson²

¹Indian River State College, Fort Pierce, FL; ²FDEP-Indian River Lagoon Aquatic Preserves, Fort Pierce, FL

Engaging the Community to Restore Populations of *Mercenaria* in the Indian River Lagoon

Hope Leonard¹, Todd Osborne², Olivia Escandell¹, Adam Klingenburg¹, and Tyler Provoncha¹

¹Brevard Zoo, Melbourne, FL; ²University of Florida-Whitney Lab, St. Augustine, FL

Planting Seeds: Shifting Hands-on Service Learning to Highlight Lagoon and Upland Connectivity

Emily Surmont, Irene Arpayoglou, Kirk Fusco, and Matthew Anderson

FDEP-Indian River Lagoon Aquatic Preserves, Fort Pierce, FL

- 1720 Announcements and Transition to Poster Session & Reception**
- 1730 - 2000 Reception**
- 1930 Announcement of Student Awards (Auditorium)**

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

All posters will be displayed in the Education Annex. 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 lunch break. **Please join us in the Auditorium for the presentation of student awards at 1930.**

1. Biodiversity of Vegetation in Coastal Wetlands Following Removal of Brazilian Pepper (STUDENT PRESENTATION)

Lucas Acosta^{1,4}, Ava Kopchak^{1,4}, Pjark Sander^{1,4}, Zachary Mansell^{2,4}, and Michael Price^{3,4}

¹Indian River Charter High School, Vero Beach, FL; ²Vero Beach High School, Vero Beach, FL; ³Sebastian River High School, Sebastian, FL; ⁴Junior Scientists Program

2. Exploring the Geospatial Distribution of Water Quality Data for the 2016 Harmful Algal Bloom and Fish Kill in the Indian River Lagoon, Mosquito Lagoon, and Banana River Lagoon

Kirsten Jo (KJ) Ayres¹, Duane De Freese¹, Daniel Kolodny¹, Charles Jacoby², and M. Dennis Hanisak³

¹Indian River Lagoon National Estuary Program, Sebastian FL; ²St. John's River Water Management District, Palatka, FL; ³Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

3. Effectiveness of Culverts on Sustaining Life within the Indian River Lagoon (IRL) (STUDENT PRESENTATION)

Madison Barsalou, Sally Jane Lloyd, Anthony Marzouk, Owen Stanton, and Jillian Van Dyke
Vero Beach High School, Vero Beach, FL and the Junior Scientists Program

4. Initiating Seagrass Restoration in Mosquito Lagoon: Suitability Modeling and *Halodule wrightii* Fragment Retention Adjacent to Living Shorelines and Restored Intertidal Oyster Reefs (STUDENT PRESENTATION)

Gabriel Benson¹, Melinda Donnelly¹, Paul Sacks¹, Jessy Wayles², and Linda Walters¹

¹University of Central Florida, Orlando, FL; ²Marine Discovery Center, New Smyrna Beach, FL

5. The Effects of Coastal Wetland Restoration on Land Crabs within the Indian River Lagoon (STUDENT PRESENTATION)

Charlie Brust^{1,3}, Heather O'Corry-Crowe^{2,3}, Jeanne Phillips^{1,3}, Morgan Ransom^{1,3}, and Abigail Thomas^{2,3}

¹Sebastian River High School, Sebastian, FL; ²Vero Beach High School, Vero Beach, FL; ³Junior Scientists Program

6. Analysis of Stormwater Outfalls on Microplastic Abundance in the Indian River Lagoon (STUDENT PRESENTATION)

Sidney Busch¹, Casey Craig¹, Paul Sacks¹, Jessy Wayles², Tess Sailor-Tynes², Emily Dark³, L. Holly Sweat⁴, Lei Zhai¹, David Fox¹, and Linda Walters¹

¹University of Central Florida, Orlando, FL; ²Marine Discovery Center, New Smyrna Beach, FL; ³FDEP-Indian River Lagoon Aquatic Preserves, Fort Pierce, FL; ⁴Smithsonian Marine Station, Fort Pierce, FL

7. Microplastics in the Indian River Lagoon Sediments (STUDENT PRESENTATION)

Brianna Corellis¹, David J. Bradshaw II², Luisa Galgani², and Tracy J. Mincer^{1,2}

¹Florida Atlantic University, Jupiter, FL; ²Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

8. Getting to Know the IRL Dolphins: Establishing a Photo-identification Program in the Southern Indian River Lagoon

Shanen Cox, Brooke Davis, Nicole Pegg, Lydia Moreland, Wendy Marks, Steve Burton, and Cynthia Page-Karjian
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

- 9. Porifera in the Indian River Lagoon: Cryptic Biodiversity and Potential Ecological Implications**
 Maria Cristina Díaz¹, Iris Segura-García^{1,2}, Greer Babbe¹, Holly Sweat², Megan Conkling¹, John Reed¹, Juliet Ruggiero¹, Andia Chaves-Fonnegra^{1,3}, and Shirley Pomponi¹
¹Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; ²Smithsonian Marine Station, Fort Pierce, FL; ³Florida Atlantic University, Jupiter, FL
- 10. Restore Lagoon Inflow Research: Phase 2 Project Findings and Next Steps**
 Jeff Eble¹, Jesse Blanchard², Austin Fox¹, Kevin Johnson¹, Robert Weaver¹, Gary Zarillo¹, Marcy Frick³, and Mathew Shelton³
¹Florida Institute of Technology, Melbourne, FL; ²Fish Consulting LLC, Melbourne, FL; ³Tetra Tech, Merritt Island, FL
- 11. Environmental DNA in Practice: eDNA Biodiversity Assessments across Diverse Florida Coastal Ecosystems (STUDENT PRESENTATION)**
 Emily Farrell, Girish Kumar, Ashley Reaume, and Michelle R. Gaither
 University of Central Florida, Orlando, FL
- 12. Phytoplankton Assemblages in the C44 Canal and St. Lucie Estuary**
 Thomas A. Frankovich¹, J. William Louda², Barbara Welch³, and Ania Wachnicka³
¹Florida International University, Miami, FL; ²Florida Atlantic University, Boca Raton, FL; ³South Florida Water Management District, West Palm Beach, FL
- 13. What's CERP Got to Do with It? The Role of the Comprehensive Everglades Restoration Plan in Tracking IRL Benthic Biodiversity**
 Jess Glanz and Holly Sweat
 Smithsonian Marine Station, Fort Pierce, FL
- 14. Quantifying *Caulerpa prolifera* Nutrient Uptake in a Flow Through System (STUDENT PRESENTATION)**
 Anna Held and Austin Fox
 Florida Institute of Technology, Melbourne, FL
- 15. Expanding Public Outreach for the Indian River Lagoon Observatory Network of Environmental Sensors (STUDENT PRESENTATION)**
 Natalie Howard, Jennifer Cutter, Gabby Barbarite and Dennis Hanisak
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 16. Preliminary Insights on the Occurrence and Movements of the Brazilian Cownose Ray (*Rhinoptera brasiliensis*) along the East Coast of Florida**
 Michael McCallister¹, Charles Bangley^{2,3}, Christian Jones⁴, Matthew Ogburn², Nicole Phillips⁵, Helen Weber⁵, and Matthew Ajemian¹
¹Harbor Branch Oceanographic Institute at Florida Atlantic University; ²Smithsonian Environmental Research Center, Edgewater, MD; ³Dalhousie University, Halifax, NS, Canada, ⁴National Marine Fisheries Service, Pascagoula, MS; ⁵The University of Southern Mississippi, Hattiesburg, MS
- 17. Leveraging Natural Selection for Restoration of Clam Populations and Water Quality in the Indian River Lagoon**
 Todd Z. Osborne^{1,2}, Jose Nunez¹, Lorae T. Simpson³, Jeff Beal⁵, and Leonardo Ibarra-Castro¹
¹University of Florida-Whitney Laboratory, St. Augustine, FL; ²University of Florida, Gainesville, FL; ³Florida Oceanographic Society, Stuart, FL; ⁵Ducks Unlimited, Fort Pierce, FL

18. Identification of Fish Habitat Hotspots and Suitability for Use in Prioritizing Conservation and Restoration Projects in Coastal Rivers

Richard Paperno¹, Philip W. Stevens², Jeff L. Beal^{3,4}, Timothy C. MacDonald¹, H. Nathan Miller⁵, Phyllis A. Klarmann⁶, and Christopher R. Malinowski⁶

¹Florida Fish and Wildlife Conservation Commission, Melbourne, FL, ²Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL, ³Florida Fish and Wildlife Conservation Commission, Okeechobee, FL, ⁴Ducks Unlimited, Fort Pierce, FL; ⁵Florida Fish and Wildlife Conservation Commission, Port Charlotte, FL, ⁶South Florida Water Management District, West Palm Beach, FL

19. Youth Fishing Clinic to Educate the Next Generation of Indian River Lagoon Users (STUDENT PRESENTATION)

Carol Roberts¹, Beth Falls², Vincent Encomio¹, Armando J. Ubeda³, Mandy Bailly⁴, and Linda Seals¹

¹University of Florida IFAS Extension, Fort Pierce, FL; ²Ocean Research Conservation Association, Vero Beach, FL; ³University of Florida/IFAS Extension, Sarasota, FL; ⁴University of Florida, Gainesville, FL; ¹UF/IFAS Extension, Fort Pierce, FL

20. Oyster Recruitment on Brevard County's Save Our Indian River Lagoon (SOIRL) Oyster Breakwaters

Paul Sacks¹, Melinda Donnelly¹, Linda Walters¹, Jenny Hansen², and Virginia Barker²

¹University of Central Florida, Orlando, FL; ²Brevard County Natural Resources Management, Viera, FL

21. Seagrass Impacts on Predator and Forage Fish Dynamics in the Indian River Lagoon, FL (STUDENT PRESENTATION)

Michelle Shaffer¹, Timothy C. MacDonald², Kevin Thompson², and Kristy A. Lewis¹

¹University of Central Florida, Orlando, FL; ²Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL

22. Bird Interactions with Oyster Reef Restoration Materials Using Wildlife Trail Cameras (STUDENT PRESENTATION)

Emily Suchonic, Mekail Negash, Gabriel Benson, Paul Sacks, Melinda Donnelly, and Linda Walters

University of Central Florida, Orlando, FL

23. Predicting Responses of Fishes to Changes in Water Quality in the Indian River Lagoon

Ralph G. Turingan¹, Jesse Blanchard², and Austin Anderson¹

¹Florida Institute of Technology, Melbourne, FL; ²Ichthyological Services and Habitat Consulting L.L.C., Melbourne, FL

24. Microplastics in the Waters and Sediments of the Indian River Lagoon (STUDENT PRESENTATION)

UCF Advanced Marine Biology Students, Katherine Harris, Paul Sacks, and Linda Walters

University of Central Florida, Orlando, FL

25. Development of a Numerical Model for Hg transport and transformation in the Indian River Lagoon for Understanding the Impacts on Wild Dolphin

Renjith VishnuRadhan, Jordon Beckler, Joel McAuliffe, Peter McCarthy, Annie Page-Karjian, Lynn Wilking, and Mingshun Jiang

Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

26. Assessing the Habitat Usage and Movement Patterns of Juvenile Atlantic Tarpon (*Megalops atlanticus*) Associated with Mosquito Impoundments in the Southern Indian River Lagoon

Sarah Webb, Erick Ault, Shannon Moorhead, Dayna Hunn, and Phil Stevens

Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL

27. Environmental Hypoxia in the Indian River Lagoon (IRL) and Its Effects on Native Fish Species during Early Development (STUDENT PRESENTATION)

Alessandra Jimenez Yap, Bing Ouyang, Paul S. Wills, and Sahar Mejri

Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL