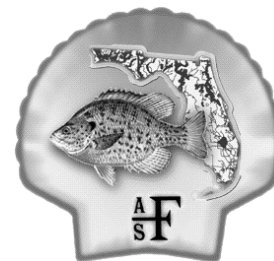


# the Shellcracker



FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

<https://units.fisheries.org/fl/>

**January 2020**

*President's Message:*

Welcome to the future. Everybody can be Captain Kirk.

We are now living in a time that was a far-fetched dream just a generation or a few decades ago. Most all of the information of the world around us and its history is available at your fingertips any time and almost anywhere. Concurrently, information, be it good or bad, real or unreal, can and is posted to the world as well. Decisions are now made on that information, true or not.

You no longer have to befriend that old timer to get the secrets of how things are put together. You just type in or even say your question and instantly the info is there. Your answer can be text, voice, image, or video. I still prefer to get info from a tribal elder rather than a preteen that doesn't even have the terminology yet.

Are you better for it? Are we better off? "Think globally act locally" is suddenly outdated as a tweet or video can instantly go viral.

Alright, let's walk this back to Fisheries in Florida. "Best available data" was a great loophole for permitting many projects large and small that may not be in the best interest of what we now know to be limited and sensitive environments. Can we get our information out there so that it is not buried in academia and avoided by permittees? Our policy makers have good intentions. Can we use this new era to usher in a more responsible approach?

What is our part in this saga? Yes, of course, I would like to make a difference. As with most things, it starts with a vision, then a plan, and if followed through with action(s), it hopefully culminates with a positive outcome. As Seneca said, "Luck is what happens when preparation meets opportunity."

Are you ready for this future? I'm planning on it.

Luckily, we have researchers like Dan Nelson leading us into the new decade. Dan is putting together this year's annual chapter meeting to be held April 1<sup>st</sup> -3<sup>rd</sup> at the Florida FFA Leadership Training Center in Haines City. This year's symposium will be titled "Schooling for Successful Science" which he will tell you more about in this issue's meeting announcement. Please remember the deadline for abstract submission and early registration is **Friday, February 21<sup>st</sup>**. All of those who register during the early registration phase will be entered into a drawing for a raffle prize. I look forward to seeing everyone at the meeting and around the bonfire.

Sincerely,  
Bob Heagey



# Getting in Touch

## American Fisheries Society Florida Chapter Officers

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## Upcoming Events

**February 20–22, 2020:** Southern Division American Fisheries Society meeting. Little Rock, Arkansas.

**February 21, 2020:** Early Registration and Abstract deadline.

**March 1, 2020:** Chapter Award nomination deadline.

**April 1–3, 2020:** Florida Chapter Annual Meeting Haines City, Florida.

### **Interested in contributing something to the Shellcracker?**

Email: Scott Bisping at [Scott.Bisping@myfwc.com](mailto:Scott.Bisping@myfwc.com) with any articles or information that you would like to be included in the next issue. The deadline for the next issue is December 15th, 2019, so start fishing...

## Shoal Bass of the Chipola River and Impacts from Hurricane Michael

By Ryan Henry and Andy Strickland

Hurricane Michael made landfall in the Florida Panhandle in October of 2018. With sustained winds of 160 mph, Hurricane Michael was the strongest hurricane to hit the Florida Panhandle since record-keeping began in 1851. The east side of the eyewall swept up through the Chipola River drainage, resulting in the destruction of many small towns along the way. Heavy winds and rain destroyed much of the riparian zone, compromised sewage systems, and flushed many low-oxygen swamp areas into the river. Subsequently, several fish kills were reported on the Chipola River in the days following Hurricane Michael.

The Chipola River is home to the only known population of naturally reproducing Shoal Bass *Micropterus cataractae* in Florida. They are listed as a species of

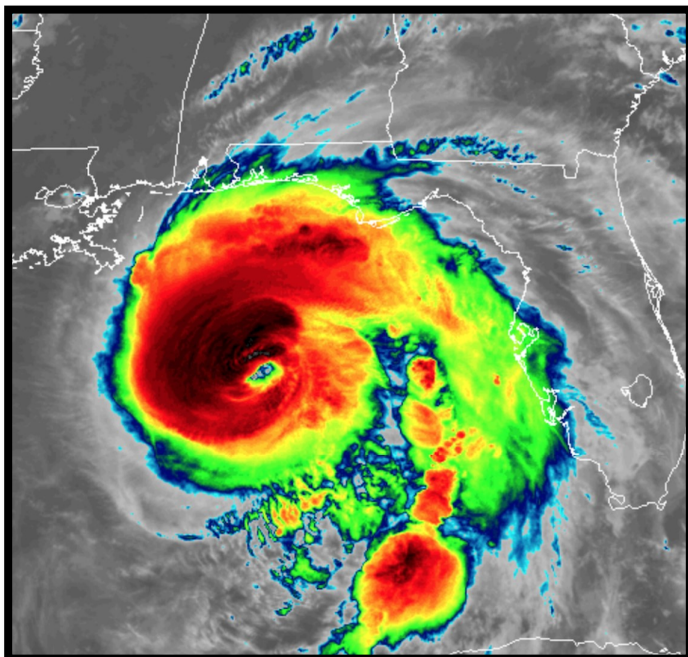


Figure 1. Satellite image of Hurricane Michael approaching Florida October 9th 2018. Photo Credit: NOAA



Figure 2. Age-0 Shoal Bass collected in Fall 2019 in the Chipola River

greatest conservation need by the Florida Fish and Wildlife Conservation Commission and have historically been found in a 30-km stretch of the Chipola River south of Marianna, FL. Following Hurricane Michael, water levels remained high and unable to be sampled for nearly seven months. When water levels receded, a Shoal Bass abundance survey was conducted. This was the first sampling event targeting Shoal Bass on the Chipola River since fall 2017, when 361 individuals were collected. During four sampling events in May of 2019, only 33 adult Shoal Bass were collected, resulting in a 91% decrease in catch compared to Fall 2017 sample. Subsequent sampling in Fall 2019 also showed very low numbers of adults, though some reproduction for the 2019 year class was documented.

Among all sampling events, a total of 36 adult Shoal Bass fin clips and 98 young-of-year (age-0) fin clips were sent to the FWRI genetics lab in Saint Petersburg, FL to test for genetic purity. These tests were conducted in order to determine the current level of hybridization within the Shoal Bass population of the Chipola River. Of the 36 adult Shoal Bass tested, 3 individuals exhibited non-Shoal Bass alleles. Of the 98 young-of-year fin clips tested, 6 individuals exhibited non-Shoal Bass alleles. Historically, the Chipola River has one of the most genetically pure populations of Shoal Bass in the country. This seems to remain true, but with a depleted adult population, any hybridization that occurs will have a more severe impact to the population.

Since our initial survey, several management actions have been implemented. In June 2019, an Executive Order suspending the harvest of Shoal Bass on the Chipola River was issued. At the recent Commission meeting in October 2019, suspension of harvest for Shoal Bass on the Chipola River was proposed as a rule and is pending public comment. On November 5<sup>th</sup>, 2019 FWC held a public meeting in Jackson County, welcoming comment on the proposed rule change. At the meeting, a presentation was given, and members of the public voiced their support for suspending the harvest of Shoal Bass. In addition, FWC began to collect adult Shoal Bass to send to the Blackwater Fisheries Research and Development Center to serve as brood stock for supplemental stocking. Currently, 18 genetically pure Shoal Bass are being held at the hatchery facility. A multi-year stocking assessment study is slated to begin in spring of 2020. Additional research to evaluate changes in river habitat before and after the storm is also anticipated.

## Attention Anglers!

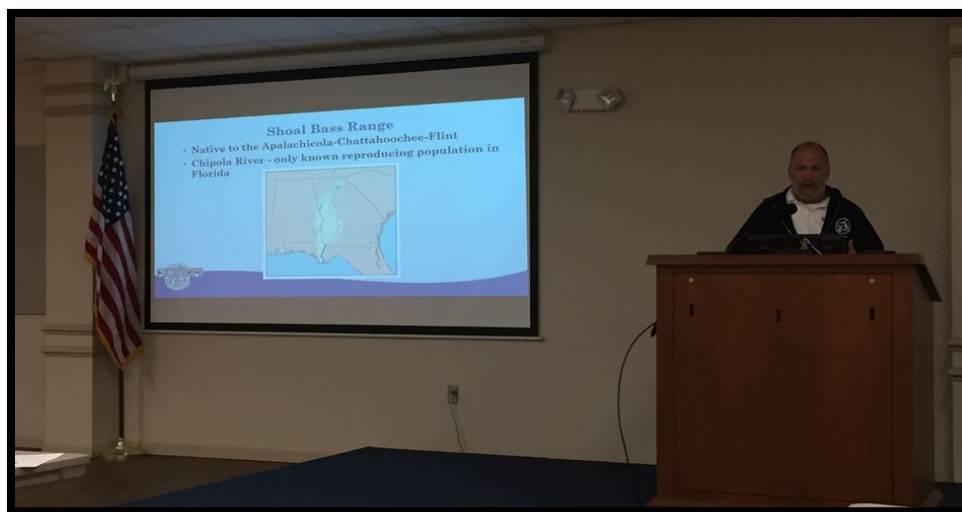
**CATCH AND RELEASE ONLY!**



Under Executive Order 19-21, the Florida Fish & Wildlife Conservation Commission has suspended the harvest and possession of **Shoal Bass** on the Chipola River and all its tributaries effective June 5, 2019. If you catch a Shoal Bass, **please release immediately!**

**THANK YOU!**

For more information contact:  
Florida Fish and Wildlife Conservation Commission  
Northwest Regional Office  
3911 Hwy. 2321  
Panama City, FL 32409  
(850) 265-3676





## 40th Annual Meeting of the Florida Chapter American Fisheries Society



**April 1-3, 2020**  
**Florida FFA Leadership Training Center**

We invite you to submit abstracts for the 2020 (40th!!) annual meeting of the Florida Chapter of the American Fisheries Society meeting. The meeting will take place April 1-3, 2020 at the Florida FFA Leadership Training Center, located in Haines City, on the shore of Lake Pierce. We hope you can join us!

The meeting will consist of both invited and contributed oral presentations and posters. The 2020 symposium is titled ‘**Schooling for Successful Science**’.

We all know that there are many fish species that exhibit schooling behavior for the betterment of their species. Whether it is to increase foraging success or escape those that are foraging on them, schooling is a behavior observed by both freshwater and marine species. As fisheries scientists, “schooling” amongst ourselves can help us meet our goals and objectives as well. Two of the most important aspects we can learn from schooling as scientists are learn from what was historically done and learn from those currently around us. In this year’s symposium, I want to focus on how we got to where we are today. I want to focus on how we have learned from historical, potentially long-term data sets, and better fisheries science through communication and collaboration with those around us. This learning can take place either within our species (internal collaboration) or outside (external collaboration) but should focus on the implementation of an objective towards the advancement of fisheries science. Examples of topics relevant to the symposium would be: the various research projects done on rearing and stocking techniques for Largemouth Bass that can inform our freshwater hatcheries on developing more successful stocking techniques or marine fisheries independent monitoring that provides recruitment data on inshore species for regulation changes. Joint talks between collaborators are welcomed, but not necessary. I truly believe that understanding and sharing the stories to our present day will aid us in becoming better scientists and advancing Florida fisheries further ahead with our help.

We strongly encourage submissions for the symposium but will also accept submissions outside the scope of the symposium topic. Therefore, in your abstract submission please specify if you would like your presentation to be part of the symposium.

Deadline for abstract submission and early registration: **Friday, February 21, 2020.**

## Meeting Details

The 2020 meeting will be held at the Florida FFA Leadership Training Center, 5000 Firetower Road, Haines City. Maps and directions will be available in the next issue of the Shellcracker or can be found on the Florida FFA Leadership Training Website at [www.flaltc.org](http://www.flaltc.org).

The meeting's schedule of events will be similar to past meetings. We will begin in the afternoon on Wednesday, April 1st with the presentation of contributed papers. The poster session will take place following dinner on Wednesday evening. The **'Schooling for Successful Science'** symposium will start on Thursday morning. The business meeting and raffle will follow dinner on Thursday night. We will hear more contributed papers on Friday morning, followed by lunch and the presentation of awards immediately following lunch.

The Continuing Education Committee is excited to announce that we will be holding a workshop entitled **"Introduction to Fisheries Analysis in R" on April 1, 2020 from 9:00am to 12:00pm**. We are planning on holding the workshop in the Technology Room at the Florida FFA Leadership Training Center and it is **FREE with any meeting registration** (one day or full). Registration is first come, first serve (30 seats total), so please be sure to select "Attending" for the Continuing Education Workshop on the 2020 FL AFS Annual Meeting Registration page. A draft agenda can be found on page 9 of this newsletter.

## Registration, Lodging, Meals, and Chapter Dues

Early registration deadline is **Friday, February 21, 2020**. The cost for early full registration is \$60.00. The cost for full registration after Friday, February 21, 2019 is \$80.00. **We strongly encourage folks to register early because the venue needs estimates for meals and rooms several weeks in advance. As an incentive, we will be raffling off a \$100 Bass Pro Shops gift card to one lucky early registrant.** If you are staying at the FFA Leadership Training Center for this year's meeting, the cost for full meals and lodging is \$272.00. Costs of meals and lodging are the same for year's meeting as they were last year. The full cost of meals and lodging is still cheap compared to most meetings. Linens will be provided including pillows, towels, and sheets. **We ask that everyone has a roommate. Everyone must pay for lodging each night regardless of whether they have a roommate. Rooms and roommates will be chosen at the meeting's registration desk.**

For your convenience, **all registrations will be made online at: <https://flafs.regfox.com/florida-chapter-of-the-american-fisheries-society-2020-annual-meeting>**

This link to the registration website will also be made available on our chapter's website at <https://units.fisheries.org/fl/>. **There will be no mail-in registration forms this year, however, you can still mail a check for your meeting costs.**

If you can't attend the meeting, we have a link on the chapter's website (<https://units.fisheries.org/fl/chapter-dues/>) where you can pay your \$10 annual dues electronically, or you can still mail a check for \$10 to the Secretary/Treasurer made payable to Florida Chapter AFS.

## New Committees to FL AFS

Two new committees were formed at the 2018 annual meeting of FL AFS, a "Continuing Education Committee" and "Marketing and Membership Committee."

The Continuing Education Committee was formed to develop additional educational opportunities for chapter members. They will be hosting workshops during upcoming meetings on topics such as: non-traditional skills to be an effective natural resource professional, emerging tools for data analysis, and leadership. If you are interested in volunteering or want to learn more about this committee, please contact Allison Durland Donahou ([adurland@ufl.edu](mailto:adurland@ufl.edu)).

## **New Committees to FL AFS (cont.)**

The Marketing and Membership Committee was formed to attract new members, retain current members and reactivate members non-active members. This will be done through various tactics such as: investing time in social media to raise awareness for FL AFS, promotion of the chapter through various outlets, and coordinating summaries on what interest the various levels of membership have within FL AFS. If you are interested in volunteering or want to learn more about this committee, please contact Kerry Flaherty-Walia (Kerry.flaherty-walia@MyFWC.com).

## **Opportunities for student support**

As in previous years, student travel awards will be available for the annual meeting. Master's and doctoral students are also eligible for the Roger Rottmann Memorial Scholarship, for which the recipient(s) will be announced at the annual meeting. More information and the application materials are available on the chapter's website at <https://units.fisheries.org/fl/awards-and-scholarships/>.

## **2020 Student Raffle**

We need your help to make this meeting's raffle a great one. If you are interested in helping or donating items, please email Amanda Croteau ([amanda.croteau@gmail.com](mailto:amanda.croteau@gmail.com)) or Chelsea Crandall ([kicksea@ufl.edu](mailto:kicksea@ufl.edu)). Remember all proceeds fund our student travel grants for the following year's meeting. Please contact us to get involved!

We look forward to seeing everyone in Haines City for our 2020 annual meeting!

Thanks,  
Daniel Nelson

# DRAFT PROGRAM SCHEDULE

## 40<sup>th</sup> Annual Meeting of the Florida Chapter of the American Fisheries Society

April 1-3, 2020

*FFA Leadership Training Center, Haines City, Florida*

### Wednesday, April 1<sup>st</sup>

9:00am – 12:00pm Continuing Education Workshop: “Intro to Fisheries Analysis in R”  
11:00am – 5:00pm Registration  
1:00pm – 5:00pm Contributed Papers  
5:00pm – 7:00pm Poster Setup  
6:00pm – 7:00pm Dinner  
7:00pm – 8:00pm Formal Poster Session...Followed by Bonfire Social

### Thursday, April 2<sup>nd</sup>

7:30am – 8:30am Breakfast  
7:30am – 6:00pm Registration  
8:30am – 11:30am Symposium: Schooling for Successful Science  
11:30am – 1:30pm Lunch  
1:30pm – 5:00pm Symposium: Schooling for Successful Science  
5:00pm – 6:00pm Student Subunit Meeting  
6:00pm – 7:00pm Dinner  
7:00pm – 8:00pm Chapter Business Meeting and Award Presentations Student Awards:  
Travel and Roger Rottman Scholarship Professional Awards: Rich Cail-  
teux Award Followed by the Raffle, Auction, and Bonfire Social

### Friday, April 3<sup>rd</sup>

7:30am – 8:30am Breakfast  
7:30am – 9:00am Registration  
8:30am – 8:40am Announcements  
8:40am – 12:00pm Contributed Papers  
12:00pm – 1:00pm Lunch and Awards Presentation Best Papers/Best Posters Power Tie  
Lampshade Award



# Draft Agenda - Introduction to R Workshop

**When:** April 1, 2020 - 9:00am to 12:00pm

**Where:** Technology Room - FFA Leadership Center

*Host: Paul Schueller - FWC*

## **Contents:**

### **The Basics**

R Studio, operators and objects

### **Data Types**

“Main” data types, factors, dates and special values

### **Data Structures**

Vectors, matrices, arrays, lists, and data frames

### **Functions**

Custom functions, packages, and reading help files

### **Loops**

For loops and While loops

### **Reading In and Manipulating Data**

Read, save, load, join, filter, and logical indexing

### **Graphing**

Base plots and ggplot2 package

### **Statistics**

Distributions, simple tests, and linear models

### **FSA Package**

Age estimation, growth, and catch curves

# 2nd Call for Oral & Poster Presentations!

## **Abstract Submission**

Please submit your abstract as a MS Word document to Daniel Nelson. Please follow these instructions for submission:

In the email subject line, please enter FLAFS 2020: followed by the author names in your abstract (e.g., FLAFS2020 SmithTaylorRosen)

Use the same name for the abstract file, e.g., FLAFS2020 SmithTaylorRosen.doc

Please include the associated information requested above with the abstract

**NEW: Please submit 1-3 “action shots”/pictures (jpg format <500 KB in size) associated with your research for the FL Chapter website with your abstract. Non-presenters may also submit photos to Chris Anderson or Daniel Nelson if they would like to contribute.**

## **Abstract format**

Abstract *word limit is 300 words* and should include the following information:

Presenter: Williams, Brian

Email: BrianWilliams@FloridaFish.net

Author(s): Williams, B.<sup>1</sup>, K. Rowley<sup>1</sup>, and P. George<sup>2</sup>

<sup>1</sup>Affiliation with address.

<sup>2</sup>Affiliation with address.

Title: Recommendations for New Limits on Some of Florida’s Most Targeted Fish Species

Abstract: 300 word maximum

Student Presentation: No or Yes (work presented was completed while a student)

Presentation type: Oral or Poster

Would you like to be considered for the symposium? Yes or No

Are you willing to be a moderator? Yes or No

Are you willing to be a judge? Yes or No If so, oral presentation or poster?

## **Presentation details**

*Speakers will be given 20 minutes* for talks (15 minutes for presentations and 5 minutes for questions and/or discussion). We will have PowerPoint on a laptop capable of accepting your presentation on a flash drive or other device.

*Important note:* Please use **widescreen PowerPoint slide format** for all presentations.

**All posters will be presented on Wednesday evening, April 1**, and can be left up for the entire meeting. Posters should be no larger than 150 X 100 cm (60” X 40”), but they can be set up either as portrait or landscape format on an easel.

If you require other options for projection or poster formats, please contact the annual meeting’s Program Chair, Daniel Nelson, Daniel.Nelson@myfwc.com.



## Florida Chapter of the American Fisheries Society

### 2020 Annual Meeting Registration Information

Florida FFA Leadership Training Center  
April 1–3, 2020

All registrations will be made online:

<https://flafs.regfox.com/florida-chapter-of-the-american-fisheries-society-2020-annual-meeting>

Payments for registration, meals, lodging, and chapter dues prior to the meeting will be made online via credit card or by mailing a check to the address listed on the registration website.

**EARLY-REGISTRATION:** registration paid online or check postmarked by **Friday, February 21, 2020**

\$50.00 One-day Registration      \$60.00 Full Registration

**LATE-REGISTRATION:** registration paid online or check postmarked after **Friday, February 21, 2020**

\$60.00 One-day Registration      \$80.00 Full Registration

**Meals and Lodging (lodging price based on double occupancy rooms)**

Wednesday, April 1, 2020

*\*No Lunch This Year*

\$19.00 Dinner

\$100.00 Lodging

Thursday, April 2, 2020

\$6.00 Breakfast

\$11.00 Lunch

\$19.00 Dinner

\$100.00 Lodging

Friday, April 3, 2020

\$6.00 Breakfast

\$11.00 Lunch

**Full Meals and Lodging**

\$272.00

Linens (provided)

**Florida Chapter dues (calendar year 2019)**    \$10.00

Registrations will still be accepted at the meeting, but with a late registration fee.  
We can accept VISA, MASTERCARD, AMEX, DISCOVER, cash, or check at the meeting\*\*.

**Make sure to register early! As an incentive to register early, FL AFS will be raffling off a \$100 Bass Pro Shops gift card to one lucky early registrant!!**

**Note:** This is a buffet-style service and food must be ordered one week in advance.  
Since meals are pre-paid, **please** submit your registration online as soon as possible.

\*\*We ask that everyone has a roommate. Everyone must pay for lodging each night regardless of whether they have a roommate. Rooms and roommates will be chosen at the meeting's registration desk.

\*\*\*FWC employee's may only use a state-issued P-Card to pay for the cost of registration and lodging. However, it is recommended to pay for all meeting costs with personal funds and seek reimbursement.

# **Driving Directions to the FFA Leadership Training Center 5000 Firetower Road, Haines City, FL 33844**



## **From the North:**

Take I-4 to Highway 27 South. Travel south approximately 12 miles to Highway 544, turn left (east). Continue east to Route 17 (1st stop light), turn right (south), go 3 miles. Turn left (east) on Highway 542 - Lake Hatchineha Rd. (look for a green "FFA Training Center" sign) go 8 miles. Watch for the next green sign on the right on Highway 542 - Lake Hatchineha Rd., turn right on Firetower Rd. Travel 4.5 miles to FFA Leadership Training Center.

## **From the Northwest:**

Travel south on I-75 to the Florida Turnpike. Exit turnpike at US Highway 27, go south. Travel south approximately 35 miles to Highway 544, turn left (east). Continue east to Route 17 (1st stop light), turn right (south), go 3 miles. Turn left (east) on Highway 542 - Lake Hatchineha Rd. then go 8 miles. After green "FFA Training Center" sign on right on Highway 542 - Lake Hatchineha Rd., go 8 miles and turn right on Firetower Rd. Travel 4.5 miles to FFA Leadership Training Center.

## **From the Southeast:**

Take the Turnpike or I-95 to State Road 60. Travel west on Highway 60 to U.S. Highway 27, turn right (north). Travel north on U.S. Highway 27 to Dundee (Approx. 9 miles). Turn right at the stop light in Dundee onto Highway 542. Travel east to the first stop light, turn left on Route 17. Travel north for 1.25 miles to Lake Hatchineha Rd. (Highway 542), turn right. After green "FFA Training Center" sign on right on Highway 542 - Lake Hatchineha Rd., go 8 miles and turn right on Firetower Rd. Travel 4.5 miles to FFA Leadership Training Center.

## **From the Southwest:**

Take I-75 to State Road 60 East to U.S. Highway 27. Travel east on Highway 60 to U.S. Highway 27, turn left (north). Travel north on U.S. Highway 27 to Dundee (Approx. 9 miles). Turn right at the stop light in Dundee onto Highway 542. Travel east to the first stop light, turn left on Route 17. Travel north for 1.25 miles to Lake Hatchineha Rd. (Highway 542), turn right. After green "FFA Training Center" sign on right on Highway 542 - Lake Hatchineha Rd., go 8 miles and turn right on Firetower Rd. Travel 4.5 miles to FFA Leadership Training Center.



## **Award Nominations**

The Florida Chapter American Fisheries Society is seeking nominations for the Outstanding Achievement and Rich Cailteux Awards. Our membership is full of dedicated professionals, and it's time to recognize their efforts. Please review the award criteria below and send nominations to Eric Nagid (eric.nagid@myfwc.com) by **March 1st, 2020**. Applications should be limited to one page, but descriptive enough to convey why the individual is deserving of the award.

### **Outstanding Achievement Award**

The purpose of the Outstanding Achievement Award is to recognize individuals for singular accomplishments and contributions to fisheries, aquatic sciences, and the Florida Chapter. The award aims to honor individuals for distinct contributions to the fisheries profession and enhancing the visibility of the Chapter. The Outstanding Achievement Award is the highest honor Florida AFS may bestow upon an individual member or collaborating group.

Candidates will be evaluated according to the following criteria:

- Original techniques or research methodology
- Original ideas, viewpoints, or data which contributed to fisheries management or our understanding of aquatic resources
- Important ecological discoveries
- An original fishery research or management program of statewide importance
- Activities in public education and outreach that have statewide impacts

### **Rich Cailteux Award**

The purpose of the Rich Cailteux Award is to recognize individuals who have maintained a long-term commitment to research, management, and/or conservation of Florida fisheries and aquatic resources. This award aims to honor individuals for their career contributions to the fisheries profession and enhancing the visibility of the Florida Chapter.

Candidates will be evaluated according to the following criteria:

- A minimum of 20 years spent in a fisheries related field in Florida
- Substantial career contributions to Florida aquatic resources and the fisheries profession
- An imaginative and successful program in fisheries and aquatic sciences education
- A history of mentoring young fisheries professionals, and involvement and leadership with the Florida Chapter of the American Fisheries Society



# Poor Jack: The Plight of a Forgotten Fish

\*2019 AFS Student Writing Contest Winning Essay\*

By: Carissa Gervasi

Florida International University

In the state of Florida, fishing is a big deal. Recreational saltwater fishing alone creates hundreds of thousands of jobs and brings in billions of dollars of revenue each year (NMFS 2017). That's a really big deal. If this industry were to disappear, it would enact a major toll on the state economy and put a lot of people out of a job. To prevent this from happening, we need to ensure that fish populations can keep up with high levels of fishing pressure, so we don't end up with too many anglers and not enough fish. Fisheries scientists have been working on balancing fish population growth with human demand for decades, and currently many of Florida's important fish species are protected via a myriad of management tools.

However, there is one fish species that has been consistently ignored, despite it being extremely important! This species is a large marine fish that can grow up to 4 feet and is a powerful swimmer with a torpedo shaped body. A voracious carnivore, it consumes everything in sight. Have you guessed it? This species is the Jack Crevalle, commonly referred to as Jack. People love fishing for Jacks because they put up a great fight, but for some reason they are completely unregulated in Florida and in any other state along the Atlantic coast for that matter. This means there are little to no restrictions on fishing for Jacks. How did such a big, powerful fish manage to slip through the cracks? I have no idea. But what I do know is that anglers are starting to express concerns about Jack abundance (Lower Keys Guides Association, pers. comm.). My goal is to reveal the when, where, why, and how of Jack population decline and figure out how we can restore and conserve this important species into the future.



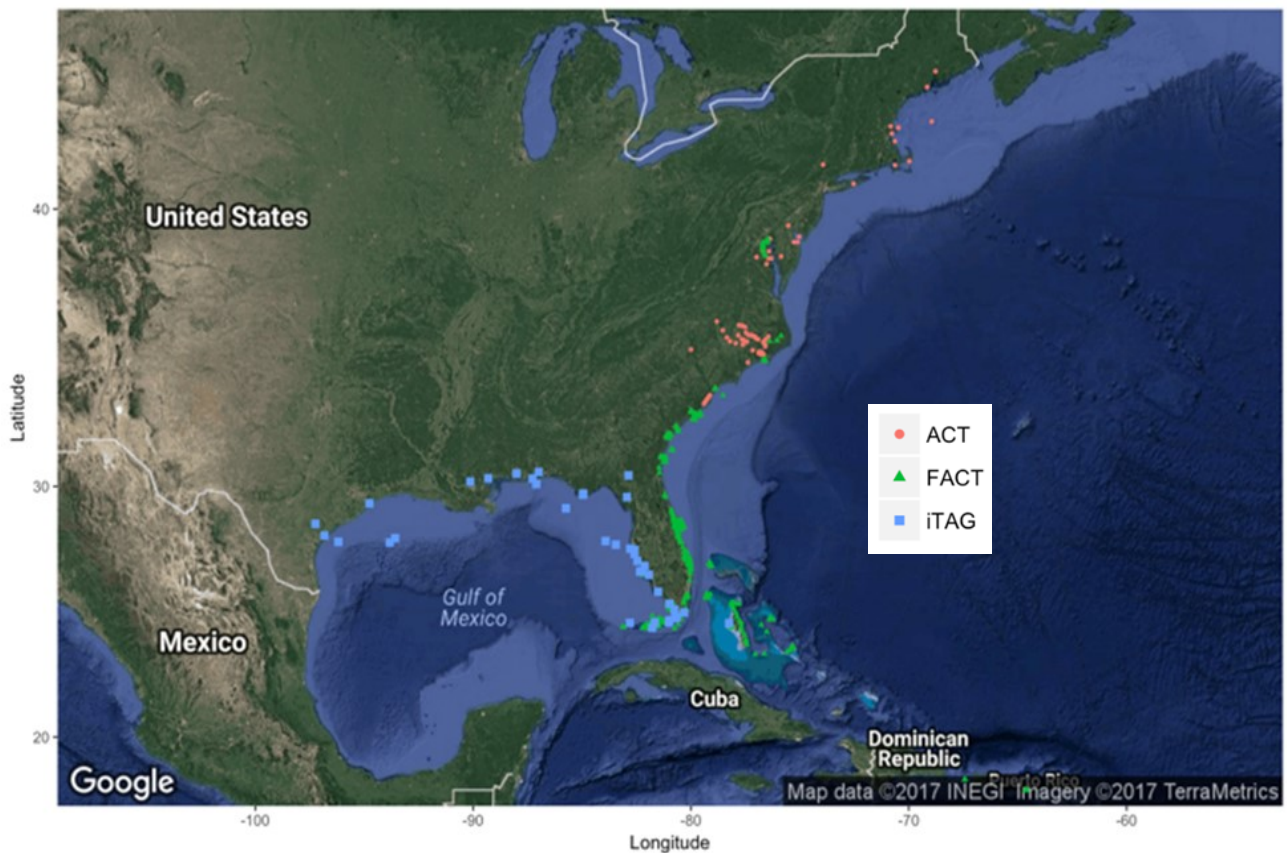
**Figure 1.** Carissa Gervasi (author) holding a Jack Crevalle captured via hook and line.

One tool I am using is key informant interviews, which are now commonly being used in science to learn about the environment (Hind 2015). Where rigorous scientific data don't exist, as in the case of the largely ignored Jack Crevalle, local knowledge from people who have worked and lived closely linked to the environment for many years can provide critical information that we wouldn't otherwise know. I have interviewed several fishing guides from the Lower Florida Keys who have been on the water almost every day for 10 to 39 years and all of them told me that Jack populations have declined substantially. Several suggested that it may be a combination of fishing pressure, overfishing of an important prey source, and changes in water quality that are impacting this important species. This means that management efforts to restore Jacks may need to happen at the ecosystem scale.



**Figure 2.** A Jack Crevalle being surgically tagged with an acoustic transmitter.

However, most guides from the Upper Florida Keys have not noticed any change in Jack populations. Does this mean the Jack decline is only a Lower Florida Keys problem? This depends largely on how much Jacks move. If Jacks exhibit long range migrations into different counties or even across state lines, local management only in the Lower Florida Keys may not be enough to conserve



**Figure 3.** Map of acoustic receiver locations within three collaborative networks.

the species. To tackle this problem, I am using acoustic tags to track Jack movement patterns (Figure 2, Cooke et al. 2004). These tags emit unique ultrasonic signals that are detected by specialized receivers. Currently, thousands of receivers are sitting at the bottom of the ocean in areas throughout the Florida Keys and along the Atlantic Coast (Figure 3). These receivers “listen” for tagged animals and help us track their movement patterns. The results of this research will help us figure out if Jack management needs to occur at a local, statewide, or multi-state scale. Humans and the environment are inextricably linked, and if we want to continue ensuring that our planet’s vital natural resources are used sustainably, scientists, stakeholders, and managers need to work together and make sure no one else important slips through the cracks.

Cooke SJ, Hinch SG, Wikelski M, Andrews RD, Kuchel LJ, Wolcott TG, Butler PJ. 2004. Biotelemetry: a mechanistic approach to ecology. *Trends in Ecology and Evolution* 19: 334–343.

Hind EJ. 2015. A review of the past, the present, and the future of fishers’ knowledge research: a challenge to established fisheries science. *ICES. Journal of Marine Science* 72: 341–358.

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## Student Subunit Update

By: Allison Durland Donahou

### Updates

Happy New Year! We had a productive year with the Sheepshead Shuffle (see below) and spreading the word about the cool work our students do. A record number of student blogs were posted on our website and shared across Facebook. We welcome participation from all students and hope there will be many new recruits this year! Make sure to check out our blog (<https://flafsstudentsubunit.wordpress.com>) to see what our students were up to this past year.

As three of us are graduating this year, there will be several open officer positions and we are looking for students who want to be more active in the Chapter. This is an excellent opportunity for students at any point in their academic career. We hold elections during the student subunit meeting at the Florida Chapter Annual Meeting. If you think you may be interested but want to know more about the open positions and time commitment of being an officer, feel free to contact me ([adurland@ufl.edu](mailto:adurland@ufl.edu)). Looking forward to seeing you all at the Chapter meeting!

### Sheepshead Shuffle



The 3<sup>rd</sup> Annual Sheepshead Shuffle Virtual 5k was a success! We raised over \$450! This is enough money to fund student travel to the Annual Meeting of the American Fisheries Society. Thank you to those that donated and participated! Stay tuned for information on the 4<sup>th</sup> Annual Sheepshead Shuffle!

Shufflers sent in Sheepshead selfies and times from which we selected the following winners.

- 🐟 The fastest shuffler: Allison Durland Donahou
- 🐟 The slowest shuffler: Shirley Baker
- 🐟 Most interesting location: Kerry Flaherty Walia
- 🐟 Team that raised the most money: Geoffrey Smith and Amanda Croteau



### Get Involved



Are you a student interested in promoting your research or developing your science communication skills? Become a contributor to our blog Reefs to Rivers (<https://flafsstudentsubunit.wordpress.com>) or have your research featured on our Instagram ([Instagram.com/flafsstudent](https://www.instagram.com/flafsstudent)).



Contact us at [flafsstudent@gmail.com](mailto:flafsstudent@gmail.com) for information on how you can get involved. Don't forget to follow our blog, Instagram, and Facebook ([Facebook.com/AmericanFisheriesSocietyFISStudentChapter](https://www.facebook.com/AmericanFisheriesSocietyFISStudentChapter))



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