the Shellcracker

FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

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

January 2018

Greetings from Ruskin!

Hope everyone is staying warm. We don't often have much of a winter in Florida, especially central and south Florida. But, this year winter has arrived. Although we don't have the harsh winter storms experienced by much of the country, cold winters in Florida can strongly affect fish and fisheries. Cold-sensitive species such as Common Snook can be knocked back, especially in areas where the usual warm spots where they pass the winter just aren't warm enough. Such kills can have important fisheries implications for several years. On particularly cold years (remember January 2010?), widespread kills of Common Snook, Spotted Seatrout, saltwater catfish, and others can occur. Major cold events can kill American Crocodiles, sea turtles, and manatees. The intensity and long-term effect of this winter remains to be seen.

Many of Florida's established non-native fishes are cold-sensitive and prone to winter kills. I have received reports of Blue Tilapia kills on the campus of the University of Florida. The cold we are experiencing may cause kills of tilapia, armored catfishes, and other species farther south. Major cold events often reveal "new" species, individuals or populations of non-natives that had not been detected previously. There are a lot of "eyes on the water" in the Florida Chapter, AFS. If anyone finds kills of non-native fishes, I would be interesting in hearing about it (jeffhill@ufl.edu). If anyone finds unusual non-natives, a lot of folks would like to hear about it. Biologists in the field and anglers are some of the best early detectors. Early detection of non-natives greatly helps effective management, including eradication or control programs.

To report an unusual non-native species occurrence, the Florida Fish and Wildlife Conservation Commission has a program called I've Got 1 (http://myfwc.com/wildlifehabitats/nonnatives/reporting-hotline/). There are three ways to participate: (1) call the toll-free number (888-Ive-Got1 [888-483-4681]), (2) go online at IveGot1.org, and (3) use the free IveGot1 reporting app. The U.S. Geological Survey's Nonindigenous Aquatic Species database also has a report form online at https://nas.er.usgs.gov/SightingReport.aspx. Folks can also contact me (jeffhill@ufl.edu) as the Non-native Fish Extension Specialist for the University of Florida/IFAS. I'll make sure that the information gets to the correct agencies.

Summer hurricanes seem a long time ago, but folks are still recovering, especially our colleagues and others in Puerto Rico. The American Fisheries Society has a Disaster Relief Fund for donations. The Florida Chapter AFS donated $1,000 to the fund for Puerto Rico and an additional $1,000 to support the upcoming Southern Division AFS annual meeting in San Juan.

Speaking of meetings, the Florida Chapter AFS annual meeting is April 11-13. Make plans to attend and invite your colleagues.

And, take a kid fishing!

Sincerely,
Jeff Hill
Florida Chapter President

Getting in Touch

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Upcoming Events

March 1, 2018: FL Chapter Award nomination deadline

March 7-11, 2018: Annual Southern Division Meeting; San Juan, Puerto Rico

April 11-13, 2018: Florida Chapter Meeting ; FFA Leadership Center, Haines City, FL

August 19-23, 2018: 148th Annual meeting of the American Fisheries Society; Atlantic City, NJ

Interested in contributing something to the Shellcracker? Email Jessica Feltz at *Jessica.Feltz@myfwc.com* with any articles or information that you would like to be included in the next issue.

Student Section

Student Subunit Update

By: Amanda Croteau

Save the Date for our 2nd Annual Sheepshead Shuffle Virtual 5k! June 4-10 we will be celebrating World Oceans Day by lacing up our running shoes, sharing our best #Sheepsheadselfie, and shuffling to raise money for student travel grants to the 2018 AFS annual meeting in Atlantic City. Stay tuned for updates about registration and previews of this year's Sheepshead Swag!

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).

Contact us at flafsstudent@gmail.com for information on how you can get involved. Don't forget to follow our blog, Instagram, and Facebook (Facebook.com/AmericanFisheriesSocietyFlStudentChapter)

Do you use Amazon? By shopping with our Amazon Smile account, https://smile.amazon.com/ch/52-1208319, Amazon donates to FLAFS. Funds go to support student travel awards. Sign up today!

Student Research Highlight

Awe Shucks: Cryopreservation of the Hard Clam

Natalie Simon
University of Florida

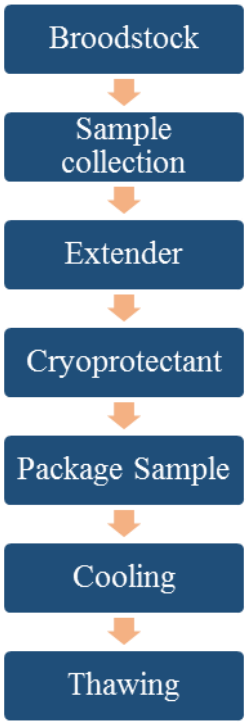
The Hard Clam *Mercenaria Mercenaria* is an important economic species for fishery landings and aquaculture here in the US. In 2014 the Hard Clam aquaculture industry brought in a sales value of $65 million which accounted for about 20% of total shellfish aquaculture (Yang, 2016, EDIS). In Florida, the primary shellfish aquaculture species is the Hard Clam which supports over 300 shellfish farms. To sustain the Hard Clam aquaculture industry, seed production is essential and is a major concern. Seed production can be hindered by short spawning seasons, reduced survival during metamorphosis, seed shortages, and environmental impacts including flooding, storms, and hurricanes. Events such as these can be problematic to the industry especially when broodstock and seed is lost. A solution may be found using cryopreservation technology.

Cryopreservation is a powerful technique that preserves genetic material, like eggs, sperms, embryos, and larvae, for perpetuity in very low temperatures, typically -196 °C using liquid nitrogen. This technology has been widely applied as a tool for livestock breeding programs worldwide and as a clinical infertility treatment for human artificial reproduction. For fish and shellfish, cryopreservation can advance and improve the sustainability of aquaculture and fisheries. Studies have already been performed in over 200 species with applications including preservation of natural resources, conservation of endangered species, and enhancement of selective breeding programs. So far, shellfish germplasm for cryopreservation includes sperm, oocytes, embryo, and larvae Cryopreservation can benefit the Hard Clam industry by providing a reliable seed supply out of season, ideally year-round and preserving specific strains or individuals for breeding programs.

So how does cryopreservation work?

The cryopreservation process starts by sourcing broodstock clams. The broodstock is then conditioned in a recirculating tank system with enhanced feeding of algal diet, controlled temperature, and monitored water quality to accelerate gonad maturity.

Natural spawning and strip spawning are used to collect gametes for the experiments. Once the samples are gathered they are prepared for the freezing process. This involves: 1) diluting in an extender, which is a salt solution that maintains the viability of samples; 2) mixing with cryoprotectants, which are substances (e.g., dimethyl sulfoxide, methanol, protein, sugar) that protect the cell from damage during the freezing and thawing process; 3) being packaged in French straws (or other sample containers) followed by labelling and sealing; 4) cooling to a prescribed temperature (typically -80°C) in a programmable controlled freezer that is connected to a liquid nitrogen tank and allows the researcher to control the sample cooling rates, and 5) plunging in liquid nitrogen (-196 °C) for long-term storage until ready for use after thawing, which is achieved by immersing in a water bath at certain temperatures.

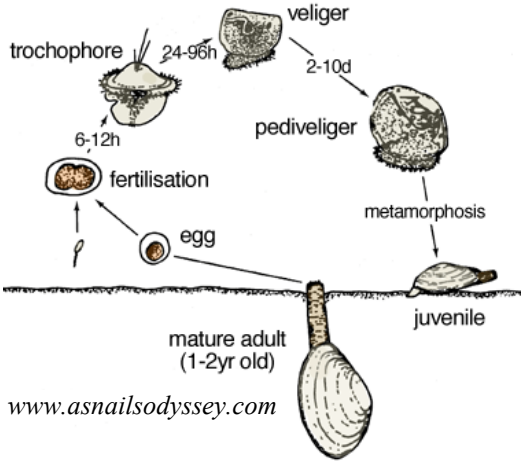


Potential Applications of Cryopreservation for Shellfish Aquaculture and Restoration

Establishing reliable protocols for shellfish germplasm preservation offers many potential applications, such as:

1) Preservation of natural genetic populations
2) Preservation of specific lines for breeding program use over their lifespan
3) Creation of self-fertilized inbred lines by fertilizing the oocytes after sex-reversal with cryopreserved sperm from the same individual oyster or clam
4) Preservation of sperm from tetraploid oysters for commercial triploid production
5) Assistance of seed production
6) Preservation of endangered, vulnerable, and threatened species

Current Research Work



My thesis research involved the development of a preliminary cryopreservation protocol for trochophore larvae (see Hard Clam Development photo) of the Hard Clam *Mercenaria mercenaria*, which no previous studies have reported on.

To achieve my research goal of developing cryopreservation protocol the following objectives were evaluated: 1) toxicity of cryoprotectants on trochophore larvae at exposure time of 1, 15, 30, 45, 60, and 75 min; 2) effects of cooling rates (1,3, 5, 10, 20, 30 °C/min from 4 °C to -80 °C) on post-thaw trochophore viability and D-stage survival. Cryoprotectants including dimethyl sulfoxide (DMSO), propylene glycol, ethylene glycol, and glycerol at final concentrations of 5, 10, 15, 20% (v/v, final) were examined. Results indicated that DMSO and propylene glycol showed less toxicity at concentrations of 5 and 10% within exposure time of 15 minutes. Cryopreservation of trochophores from multiple or single pair parents indicated that different cooling rates did not have significant effects on post-thaw larval viability when using the cryoprotectants DMSO or propylene at 5% and 10%, and thawing temperature had varied effects on post-thaw larval viability, without apparent trends. The basic protocol from this study produced a post-thaw trochophore survival of 23 ± 14% and D-stage survival of 27 ± 14%.

Thawed cryopreserved trochophore larvae that have successfully survived to D- stage development.

References Cited:

Yang et al. 2016. Molluscan Shellfish Aquaculture and Production. UF IFAS Extension FA119. http://edis.ifas.ufl.edu/fa191.

38th Annual Meeting of the Florida Chapter American Fisheries Society

We invite you to submit abstracts for the 2018 annual meeting of the Florida Chapter of the American Fisheries Society meeting. The meeting will take place **April 11-13, 2018 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 2018 symposium is titled '**Improving communication and collaboration in fisheries science'**. In today's world, the need for us as fisheries researchers and managers to effectively communicate and collaborate with stakeholders and other fisheries professionals has never been more important.

The **2018 symposium** will focus on how effective communication and collaboration can help us more efficiently work on complex fishery related issues both in marine and freshwater environments. This symposium will focus on the processes fisheries scientists use or have experimented with to communicate and collaborate with stakeholders and each other. This symposium invites speakers to discuss what has worked or has not worked for them in these areas, through reviews of established case studies or emerging research approaches. Talks should emphasize on the processes used to work in these areas. The goals for this symposium are to highlight methods for us to improve communication and collaboration skills which in turn allows stakeholders and collaborators to better understand the importance of what we do as fisheries professionals.

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.

Included in this year's symposium will be a free workshop by Chelsey and Michael Crandall from the University of Florida entitled 'Science Outreach-Engagement Through Film'. This workshop will cover introductory materials (film as an outreach medium, messaging, and science communications) and technical parts (filmmaking, sound editing, distribution, etc.). We are excited about this workshop, as it fits perfectly into this year's symposium topic!

Deadline for abstract submission and early registration: **Wednesday, February 28, 2018.**

Meeting details

The 2018 meeting will be held at the Florida FFA Leadership Training Center, 5000 Firetower Road, Haines City. Maps and directions are available at the end of the Shellcracker or they can be found on the Florida FFA Leadership Training Website at www.flaltc.org.

The meeting's schedule of events will be similar to past meetings with exception of serving lunch on the first day to help cut costs. We will begin in the afternoon on Wednesday, April 11th with the presentation of contributed papers. The poster session will take place following dinner on Wednesday evening. The 'Improving communication and collaboration in fisheries science' symposium will start on Thursday morning. The Science Outreach-Engagement Through Film' workshop will take place before and during lunch on Thursday. 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.

Registration, Lodging, Meals, and Chapter Dues

Early registration deadline is **Wednesday, February 28, 2018.** The cost for early full registration is $45.00. The cost for full registration after Wednesday, February 28, 2018 is $65.00. **We strongly encourage folks to register early because the venue needs estimates for meals and rooms several weeks in advance.** If you are staying at the FFA Leadership Training Center for this year's meeting, the cost for full meals and lodging is $212.00. Costs of meals and lodging are higher for this year's meeting than they were in past years because the amenities offered at the FFA Leadership Training Center will be much better and gratuity is built into the cost. The full cost of meals and lodging is still cheap compared to most meetings. Linens will be provided including pillows, towels, and sheets.

For your convenience, **all registrations will be made online at https://flafs.regfox.com/38th-annual-meeting-of-the-florida-chapter-american-fisheries-society.** 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.

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/.

2018 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 Andy Strickland (Andy.Strickland@MyFWC.com) or Alan Collins (lac96@bellsouth.net). Remember all proceeds fund our student travel grants for the following year's meeting. Please contact us to get involved!

This meeting will also be a good time for the chapter to discuss taking on some sort of project outside of just getting together for the annual meeting. Several members have discussed ideas for projects as way for the chapter to give back or make a positive impact in the state of Florida. Possible ideas include: annual stream/river cleanup, hosting a youth fishing clinic or tournament, or assisting with a habitat enhancement project. We can set aside time during the business meeting to discuss any ideas the chapter feels worth pursing. We look forward to seeing everyone in Haines City for our 2018 annual meeting!

Thanks,
Nick Trippel

DRAFT PROGRAM SCHEDULE

38th Annual Meeting of the Florida Chapter of the American Fisheries Society

April 11-13, 2018
FFA Leadership Training Center, Haines City, Florida

Wednesday, April 11th

11:00am – 6:00pm	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 12th

7:30am – 8:30am	Breakfast
7:30am – 6:00pm	Registration
8:30am – 11:30am	**Symposium: Improving communication and collaboration in fisheries science**
11:30am – 1:30pm	**Workshop: Science Outreach – Engagement Through Film** & Lunch
1:30pm – 5:00pm	**Symposium: Improving communication and collaboration in fisheries science** & Contributed Papers
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 Cailteux Award Followed by the Raffle, Auction, and Bonfire Social

Friday, April 13th

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

2nd Call for Oral & Poster Presentations!

Abstract Submission

Please submit your abstract as a MS Word document to nick.trippel@myfwc.com. Please follow these instructions for submission:

In the email subject line, please enter FLAFS 2018: followed by the author names in your abstract (e.g., FLAFS2018 SmithTaylorRosen)

Use the same name for the abstract file, e.g., FLAFS2018 SmithTaylorRosen.doc

Please include the associated information requested above with the abstract

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.1, K. Rowley1, and P. George2
[1]Affiliation with address.
[2]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 flashdrive or other device.

All posters will be presented on *Wednesday evening, April 11*, 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, Nick Trippel, nick.trippel@myfwc.com.

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, 2018**. 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

Florida Chapter of the American Fisheries Society

2018 Annual Meeting Registration Information

Florida FFA Leadership Training Center
April 11-13, 2018

*All registrations will be made online @ https://flafs.regfox.com/38th-annual-meeting-of-the-florida-chapter-american-fisheries-society

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.

PRE-REGISTRATION: registration paid online or check postmarked by Wednesday, February 28, 2018
$ 35.00 One-day Registration $ 45.00 Full Registration

LATE-REGISTRATION: registration paid online or check postmarked after Wednesday, February 28, 2018
$ 45.00 One-day Registration $ 65.00 Full Registration

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

Wednesday, April 11, 2018	Thursday, April 12, 2018	Friday, April 13, 2018
No Lunch This Year	$6.00 Breakfast	$6.00 Breakfast
$19.00 Dinner	$11.00 Lunch	$11.00 Lunch
$70.00 Lodging	$19.00 Dinner	
	$70.00 Lodging	

Full Meals and Lodging $212.00
Linens (provided)

Florida Chapter dues (calendar year 2018) $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.**

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.

**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.