The Shellcracker

FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

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

Winter 2023—President's Message

Happy new year and welcome to 2023 everyone!

January is here, and we all know what that means: our annual meeting is on the horizon! I'm looking forward to seeing you all again and to exploring our new venue in Saint Augustine. A reminder that along with the new location comes a new meeting time: this year we will be meeting from May 9-11. Abstract submission and early registration deadline is February 24, which is at this point surprisingly right around the corner already, so make sure to mark your calendars and get those in! As I write this, we have just wrapped up a quick meeting to iron out details and brainstorm for May. We have some fun new things planned in addition to our old favorites and can't wait to share them with you all.

Our President-Elect Ed Camp is putting together a great symposium on Integrating Participants in Fisheries Research and Management. As we navigate complex fisheries management challenges and topics, exploring how we connect with and integrate the public will be increasingly important. This includes engagement in research, such as through community science, as well as through different levels of cooperative or participatory management. I am excited to see your submissions and to hear about the cool work going on across our state!

And I know many of you will be heading up to the cold, wintry "north" of Virginia for the Southern Division meeting next week. Safe travels to all! Our esteemed and much appreciated Secretary-Treasurer Steve Beck will be there representing our Chapter at the Southern Division EXCOM Meeting (thank you Steve!). If you aren't connected to AFS beyond our Chapter, we encourage you to consider engaging at the Southern Division and National levels as well. It's a great way to connect with and learn about people and work going on across the region and beyond. And if you haven't renewed your AFS membership, now's the time!

I hope that this new year is treating you well so far. Have a great 2023!

Chelsey Crandall
Florida Chapter President

Getting in Touch

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Upcoming Events

February 2-5 2023: AFS Southern Division annual meeting Norfolk, VA

March 1 2023: Nominations for Rich Cailteux, Rottman Memorial Scholarship, and Outstanding Achievement Awards Due

May 9-11 2023: AFS Florida Chapter annual meeting Saint Augustine Beach, FL
Deadline for symposia and papers: Feb24th

August 20-24 2023: AFS National annual meeting Grand Rapids, MI

Interested in sharing content with the AFS Community?

For Florida Chapter AFS Website updates, articles, or content Email Jason O'Connor at Jason.OConnor@myfwc.com

Or Contact Kyle Miller with any articles or information that you would like included in the next AFS Shellcracker.

43rd Annual Meeting of the Florida Chapter American Fisheries Society

May 9-11, 2023

Guy Harvey Outpost Resort

St. Augustine, FL

We invite you to submit abstracts for the 43rd annual meeting of the Florida Chapter of the American Fisheries Society. The meeting will take place May 9-11 at the Guy Harvey Resort in St. Augustine Beach. We hope you can join us! **Registration is Open!** The meeting format will be similar to previous years, notable changes include: single occupancy lodging available, tiki-bar socials (sorry no bonfire, but there are multiple gas firepits), and a beach!

The symposium topic will be:

"Integrating Participants in Fisheries Research and Management."

Increasingly fish scientists are understanding the potential benefits, as well as sometimes the costs, of involving interested participants in research on fish, fisheries, and aquaculture, as well and management decisions about these resources. Involving participants in these ways has multiple names, such as citizen science, participant science, co-creation, cooperative management, participatory management, among others—and sometimes participants are involved without even using any formal titles. In the 2023 FAFS symposium, we are inviting papers that describe these processes.

We encourage submissions relating to the symposium topic but also welcome and accept submissions relating to any other aspect of Florida fisheries.

Deadline for abstract submission and early registration:

Friday, February 24, 2023

American Fisheries Society

Florida Chapter

Annual Meeting Information

May 9-11, 2023

St. Augustine Beach, Florida

Meeting Information

Meeting Details

The 2023 meeting will be held at the Guy Harvey Resort St. Augustine Beach. The address for the Resort is 860 A1A Beach Boulevard, St. Augustine Beach, Fl, 32080. Maps and directions can be found on the Guy Harvey Resort Website at :

https://guyharveyresortstaugustinebeach.com/

The meeting's schedule of events will be similar to past meetings. We will begin in the afternoon on Tuesday, May 9th at 13:00 with the presentation of contributed papers. The poster session will take place following dinner on Wednesday evening. The **'Integrating Participants in Fisheries Research and Management'** symposium will start on Wednesday morning. The business meeting and raffle will follow dinner on Wednesday night. We will hear more contributed papers on Thursday morning, followed by lunch and the presentation of awards immediately following lunch. The 2023 Florida Chapter meeting will conclude with our Continuing Education Workshop titled "Introduction to Open Science for Fisheries Professionals." The workshop will be lead by Dr. Marcus Beck at 12:30 in the Resort's Meeting Room.

Registration

Registration for the annual meeting is now OPEN!

Register Now or **Submit Abstract**

(Early Registration ends February 24th, 2023)

Registration includes all meals. State employees can use P-Cards to pay for registration, but cannot request per diem during travel reimbursement.
Registrations will still be accepted at the meeting (late fees applied). We can accept VISA, MASTERCARD, AMEX, DISCOVER, cash, or check at the meeting.
Registration Options:

Full Meeting Registration (May 9-11): $185
Single Day Options:
May 9: $75
May 10: $105
May 11: $65

Lodging

Lodging is NOT included in the cost of registration, and you must make your own arrangements with Guy Harvey Resort. We have reserved a block of rooms for the meeting for a special rate of $140/ night for May 9-10. If rooms are available, attendees can extend their stay before/ after the meeting for $249/night (usually $349). Room costs can be split at checkout, but only one person can book each room.

The Resort has set up a lodging reservation page which you can access by clicking HERE, or you can reserve by calling (855) 509-9724 and telling the resort you are with AFS.

American Fisheries Society

Florida Chapter

Annual Meeting Information

May 9-11, 2023

St. Augustine Beach, Florida

Meeting Information

Second Call for Presentations

Abstract Submission Process

Abstracts will be submitted online via the Abstract Submission Form on the Florida Chapter website.

Abstract Submission **Deadline** (Oral and Poster Sessions) : **February 24th, 2023**

Oral Session:

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.

Poster Session:

All posters will be presented on *Tuesday evening, May 9th* 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.

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. Students: please submit abstract ASAP, without waiting for award results. You can Apply for Scholarships Here.

2023 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 (acroteau@uwf.edu) or Chelsea Crandall (Chelsey.Crandall@myfwc.com). 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 St. Augustine Beach for our 2023 annual meeting!

American Fisheries Society

Florida Chapter

Continuing Education Workshop

May 11, 2023
12:30-3:30

Introduction to Open Science for Fisheries Professionals

Open science is an effective approach to create reproducible, transparent, and actionable research products. However, widespread adoption among the research and management community has not occurred despite its perceived benefits. In the face of major challenges like global warming and habitat loss, the collaborative framework provided by open science is needed now more than ever. By the end of this workshop, you will have an understanding of fundamental concepts in open science and how they can be applied to help bridge the research-management divide. You will also have the skills to understand how collaborative open science tools can be used to increase efficiency and transparency (e.g., using the Quarto publishing system), understand fundamental best practices for working with data to facilitate openness, and be able to apply these lessons within your own research and management teams. Anyone interested in applying open science in their own workflows or as part of a larger team is encouraged to attend.

Cost: Included with meeting registration

Location: Meeting Room, Guy Harvey Outpost Resort, 12:30-3:30

Lead by:

MARCUS BECK

PhD, Program Scientist, Tampa Bay Estuary Program

Marcus is the Program Scientist for TBEP and is developing data analysis and visualization methods for Bay health indicators. He received his BS in Zoology from the University of Florida in 2007 and his MSc and PhD in Conservation Biology from the University of Minnesota in 2009 and 2013. Marcus has experience researching environmental indicators and developing open science products to support environmental decision-making. Marcus is also an avid software developer and creator of online dashboards that facilitate science communication. Outside of work, Marcus enjoys exploring the Tampa Bay area with his wife, son, and their dog.

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** by **March 1st, 2023**. 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

Fish Use of Adjacent Habitat During High Water in a First Magnitude Spring

Noah Peterson

Florida Fish & Wildlife Conservation Commission, Freshwater Fisheries Research, Eustis FL, 32726

Featured Research

Blue Spring is a high discharge, low oxygen concentration spring, and varies in water levels and discharge rates throughout the year. When these changes occur, and water level seemingly rises, there is eventually an addition of habitat, a side spring run. With past research, fish numbers decrease in the main spring run when water stages rise, at the same time the side spring is formed. The hypothesis of the study was that there would be an increase in fish total count, species richness, and diversity in the side spring run with the higher levels of water in the main springs.

Seasonal habitats are places where organisms may reside when there is certain conditions that can cause a habitable area where they generally reside. For example, in the amazon river during the rainy season in Brazil, there are areas that are flooded, and when that happens the river dolphins will go into those flooded areas (Matin and Silva, 2004). These can happen throughout the world, and they can serve a variety of purposes. But there are three primary reasons that animals use seasonal habitats. First, animals might use seasonal habitat as refuge. When water levels are high and a seasonal habitat forms, there is possibility for small fish to go into these areas that are generally shallow making it hard for predatory fish to go in. Secondly, it can be used as a mating ground. With the addition of the seasonal habitat, there is an area where a lot of fish can congregate together and find other suitable mates. Lastly, it can be used for feeding: in some areas of the world where there are a lot of nutrients and it floods, there is a possibility that fish would go into these organic areas to feed on the nutrients available.

Blue Spring is a very popular spring in central Florida, it is well known not only for the crystal-clear waters, but also with the influx of manatees that come during the wintertime to seek freshwater refuge. The spring is used primarily for swimming, where one can go to the beginning of the spring run, right where the spring head is, and see the cavern inside of the spring head. There is a lot to see inside of the springs, from various types of animals such as alligators to manatees, longnose and Florida gar and the invasive armored catfish.

Over a six-week period, I went to Volusia Blue Spring in Orange City Florida, once a week, to conduct my study. I went to the study site, and took many video samples. The idea was to conduct the study once a week within the 6 week period, with six samples each week thus providing 36 videos to analyze. On each visit I placed the GoPro cameras in 3 locations along the length of the side spring; 2 cameras at the beginning of the side spring (1) , 2 in the middle area (2) , and 2 at the end of the spring (3)

I placed the two cameras on opposite sides of the spring, to ensure that we got a better view of the whole spring run and make sure that we wouldn't have missed any fish that would be on one side of the spring compared to the other. I deployed one camera on each bank for 12 minutes before moving on to the next site.

I observed each video, skipping the initial 2 minutes of the recording so that the fish were back to their normal behaviors and to make sure the particulates have settled, and began to count the fish (MaxN). I counted the fish by tallying the maximum number of each species within a single frame over the course of the video. I used MaxN instead of counting each individual fish seen in the whole video is because there is no way of telling if the fish that we saw at the beginning was the same fish seen at the end. After the videos were analyzed, I calculated the count of the number of fish, the species count, as well as the diversity (using Shannon Weiner Diversity Index) in the video. We also collected the spring discharge rates and water levels by using the spring shed database for each day that I was there running the study called the USGS NWIS.

After analyzing the videos, we then gathered all of the fish counts using MaxN and species richness, and compiled them into an excel spreadsheet. For the count, we calculated the sum of all of the species seen, and then using the total amount of species present to calculate species richness, and finally used the Shannon Weiner Diversity Index to calculate the diversity in the samples and then averaged them between the different weeks. We then used a regression analysis to determine if there was any correlation for the counts, species richness, and diversity, with either the spring water levels or discharge rates. We then also used JMP to then run ANOVAS to see if there was any significant statistical significance between the count, species richness, and diversity between the three sites alone and then the three sites with the time the study was ran. The models used a comparison alpha (0.05) for if there was any indication of significance.

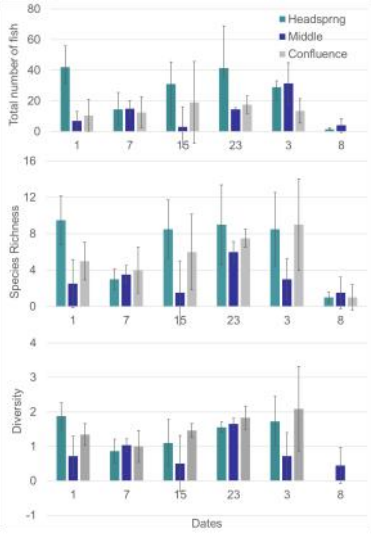


Figure 3. Differences in fish density, species richness, and diversity among sites and dates in the side spring. Error bars represent standard deviation

The results were that there was a lot of significant relationships between the three variables tested and the differences in the sites, and between the dates. But, there was no significant difference between the water levels and water discharge in comparison to the 3 variables tested. Measures of fish abundance and diversity were not related to water level in the main spring (count $p = 0.1$; species richness $p = 0.55$; diversity $p = 0.67$) or with discharge of the main spring (count $p = 0.1$; species richness $p = 0.67$; diversity $p = 0.49$).

The hypothesis was not supported as fish count, species richness, and diversity were not related water levels and discharge. It is likely that the small sample size of 6 days over the course of 6 weeks, did not account for a sufficiently wide range of water levels in the main spring to produce enough change in the side spring. Furthermore, the water level in the main spring did not approach the high levels observed after hurricanes and tropical storms in other years.

Introducing the FLAFS DEI Committee

In the previous edition of the Shellcracker, readers may have been surprised to see an article from the Diversity, Equity, and Inclusion (DEI) committee. Some of you may be wondering, "What is DEI? Why do we need a committee for it? Why should I care?" In hindsight, we may have gotten a little ahead of ourselves by publishing an article without first introducing the committee itself, but that's only because we are so excited to share this information with you, and more importantly, to have open, candid conversations about DEI topics.

What is DEI?

DEI stands for Diversity, Equity, and Inclusion. Together, these terms create a framework we can use to make our chapter and our profession more welcoming and equitable for everyone who is interested in fisheries science.

Diversity refers to the whole spectrum of human differences, including (but not limited to) ethnicity, sexual orientation, gender identity, age, (dis)abilities, religion, marital status, socioeconomic status, national origin, veteran status, and political perspective.

Equity means equal access to resources and opportunities that allow everyone to succeed and grow. To be truly equitable, we must acknowledge and address the systemic inequalities that disadvantage underrepresented groups.

Inclusion ensures that diverse groups and perspectives are welcome and that diverse individuals are meaningfully involved in decision-making and leadership.

Check out the resources below for a few examples of how different organizations define DEI:

https://dei.extension.org/
https://diversity.uiowa.edu/resources/dei-definitions
https://www.uschamber.com/co/start/strategy/what-is-dei
https://www.nationalgeographic.org/society/our-commitment-to-diversity-equity-inclusion/

Why have a DEI committee?

Diverse perspectives are essential to advancing fisheries science and management. By offering unique information and perspectives, increased diversity in the workplace can lead to better creativity, decision-making, and problem-solving (Phillips 2014). The purpose of the DEI committee is to identify areas where inclusivity and equity can be improved and make recommendations, to increase representation in FLAFS membership in a way that better reflects the diversity of the state of Florida, and to ensure that FLAFS promotes and prioritizes an inclusive professional environment.

What does the DEI committee do?

Our committee members are working to identify DEI needs within FLAFS and to ensure that FLAFS offers a safe and welcoming professional community for every individual working in Florida fisheries. In addition to our quarterly Shellcracker articles covering DEI topics, future efforts may include outreach programs, professional workshops, and much more. Stay tuned…we're just getting started!

In the meantime, check out our website for additional information and resources. Also, if you want to get involved or if you have a DEI-related question or comment, please feel free to reach out to any of the committee members or submit an anonymous comment.

Meet your DEI Committee members!

Kimberly Bonvechio (she/her)
Assistant Research Scientist
Florida Fish and Wildlife Conservation Commission
Kimberly.Bonvechio@myFWC.com

Kimberly is an assistant research scientist with the Florida Fish and Wildlife Conservation Commission and PhD student at the University of Florida. She believes there is strength in diversity and that diverse perspectives are necessary to build the best future for our profession (and world at large). She aims to help build a community where people of all backgrounds and experiences feel included and welcomed. After taking several diversity trainings in the past decade, she realized that although this is a core desire of hers, she has often been blind to the impact of her own actions and to the needs of others. She still has much to learn, but she is committed to doing her part to listen and work with our members to grow and strengthen the Florida chapter through DEI initiatives.

Chelsey Crandall (she/her)
Research Administrator
Florida Fish and Wildlife Conservation Commission
Chelsey.Crandall@MyFWC.com

Chelsey Crandall is a social scientist with the Florida Fish and Wildlife Conservation Commission. Her research focuses on the human dimensions of our fish and wildlife systems. Chelsey is passionate about inclusive science, and has also served as the co-chair for the AFS Diversity, Equity, and Inclusion Committee and is a co-founder and board member of Women of Fisheries, Inc.

Amanda Croteau (she/her)
Postdoctoral Associate
University of West Florida | Center for Environmental Diagnostics and Bioremediation
acroteau@uwf.edu

Amanda Croteau is a postdoc with the Center for Environmental Diagnostics and Bioremediation at the University of West Florida. She is an estuarine ecologist, who works on topics related to water quality, plankton and fish ecology, and the conservation and restoration of coastal habitats. Amanda joined the FLAFS DEI Committee to have honest discussions about DEI concerns within our profession and ensure that FLAFS is a welcoming, supportive, and accessible community for all fisheries professionals.

Michelle Shaffer (she/her)
PhD Candidate
University of Central Florida | Department of Biology | Lewis Lab of Applied Coastal Ecology
MichelleShaffer8@knights.ucf.edu

Michelle is from Orlando, Florida, and received a B.S. in Biology from the University of Central Florida (UCF) in 2016. In the spring of 2019, Michelle joined LLACE as a Ph.D. student. Her research investigates the influence of natural and anthropogenic drivers on estuarine food webs at various spatial and temporal scales, and levels of complexity (e.g., species level, community level, ecosystem level). Outside of her research, Michelle enjoys rock climbing and traveling with her partner. Michelle joined the AFS Florida Chapter DEI Committee because she can help support underrepresented groups through the committee's work and help bring new perspectives to the field of fisheries.

Quenton Tuckett, PhD (he/him)
Research Assistant Scientist
University of Florida | UF/IFAS Tropical Aquaculture Laboratory
qtuckett@ufl.edu

Quenton Tuckett is a research scientist at the University of Florida-Tropical Aquaculture Laboratory studying thermal ecology and the establishment of tropical ornamental species. Because many tropical ornamental fish species originate from warm climate regions, the relatively cold, sub-tropical regions of Florida can be a challenging environment. Thus, he routinely conducts experiments that examine cold tolerance of potentially invasive species and how cold tolerance intersects with native species biotic resistance and other biotic or abiotic factors. Quenton is participating on the Florida AFS Diversity, Equity, and Inclusion Committee because he is passionate about the importance of integrating additional perspectives to fisheries science.

Susanna Harrison (she/her)
Fisheries Biologist
Florida Fish and Wildlife Conservation Commission
Susanna.Harrison@MyFWC.com

Susanna is a fisheries biologist working in freshwater fisheries research at the Florida Fish and Wildlife Conservation Commission. She works out of the DeLeon Springs Field Lab, primarily in the middle St. Johns River Basin. Prior to becoming a biologist, Susanna worked as a video game developer in Charleston, SC and Los Angeles, CA. She then enlisted in the U.S. Coast Guard, where she served for eight years in Monterey, CA, Baltimore, MD and Corpus Christi, TX. Her experience working in a variety of career fields and locations has shown her the value of listening to the concerns of underrepresented groups and including multiple viewpoints and perspectives in the workplace. In order to best serve an increasingly diverse user group of fisheries and aquatic resources, she believes it is absolutely critical to increase diversity and awareness of DEI concerns within the fisheries science community.

Kristy Lewis, PhD (she/her)
Assistant Professor
University of Central Florida | Department of Biology | Lewis Lab of Applied Coastal Ecology
Kristy.Lewis@ucf.edu

Dr. Kristy Lewis is a marine ecologist in the National Center for Integrated Coastal Research at the University of Central Florida. In her research, she uses transdisciplinary approaches to investigate how global change impacts marine food webs and the coastal communities who live there. Her lab approaches these climate-driven challenges through three main lines of research: seascape and food web ecology, harmful algal bloom research, and coupled human-natural systems science. Her overarching career goal in marine science is to develop innovative solutions for wicked coastal problems by fostering an active, diverse, and inclusive research program. She contends that scientific research should not be set apart from the goal of creating a culture of inclusivity, but that it be woven into every aspect of the work done by scientists. Therefore, she aims to increase the representation of historically underrepresented groups in STEM while ensuring that we consider the impact of our work on the most vulnerable populations and include their lived experiences as expertise to inform our science.

Kristie Surdacki Perez (she/her)
PhD Graduate Assistant
University of Florida | Fisheries and Aquatic Sciences Department
KristiePerez@ufl.edu

Kristie's background in stakeholder engagement and passion for coastal science led to a career transition from Project Manager to Interdisciplinary Ecologist. Her interests in invertebrate health and conservation behavior change have brought her to the intersection of ecology and social science where she plans to continue conducting research to better understand the incremental changes to be made and how best to communicate those to our coastal communities to improve resilience and protect our ocean resources. She advocates for participatory decision-making, which calls for diversity of opinions and equal inclusion among participants. She believes that inclusivity and diversity are critical components of meaningful collaboration and will be important as we face complex natural resource challenges. Her current research focuses on examining filtration rates of bivalves in the laboratory under environmentally relevant conditions. Her goal is to provide regionally relevant data in a useful way to stakeholders statewide to inform decisions related to restoration and other ongoing efforts. She also serves as the Collaborative Lead on a joint UF/GTMNERR NOAA project developing an R Shiny App engaging the local community in the ecology of the Guana Estuary.

Name: Olivia Markham

University: University of Florida, Tropical Aquaculture Lab, Ruskin, FL

Bio: I am Olivia Markham and I am currently in my first year as a graduate student under the advisement of Dr. Matt DiMaggio at the University of Florida. I completed my BS in Marine Biology and BA in Aquaculture and Aquarium Science in 2020 from Roger Williams University located in Rhode Island. Currently I am located at the Tropical Aquaculture Lab in Ruskin, FL and study marine larval fish development to optimize environmental conditions for captive spawning and larval rearing.

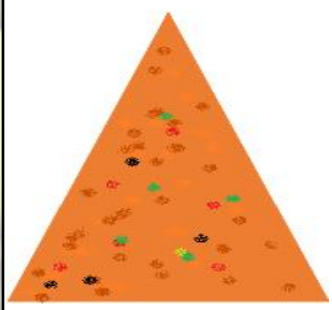
Loan-Free Living

The life of a graduate student is a balancing act; we juggle education and social life, or research and a sleep schedule, but at the end of the month the most important balance is that of the checkbook. We make sacrifices for our education and want to earn the struggle so we can say with pride to our future students, "Hey, when I went to school I was paid $2 a week and lived off rubber erasers." The reality is the cost of living is rising exponentially and graduate students need to adapt and embrace creativity to make it through higher education without buckets of loans. Luckily, I am here to give you tips and tricks for squeezing by on a graduate assistant salary and how to still live your best life.

1. Make a list of priorities

Before you start your budget, make a list, whether physical or mental, of what is most important for you to afford. Whether that is rent, undergraduate student loans, gas, or groceries, determine what is most important to you and make sure those are paid first in your monthly budget. Review this list often, as it can change especially with TV and music subscriptions becoming more prevalent. With your busy research schedule, you might realize that you barely use Hulu anymore and pause your subscription to save some money every month.

2. Don't be cheap, be frugal



(Off Brand Cool Ranch Dorito)

Just because you do not have excess income does not mean you have an excuse to skimp out on healthy meals or undertip your hairdresser. Instead, think about where you are purchasing items and how to cut costs. Spending $100 at Publix gets you a lot less food than $100 at Aldi. While stores like Aldi and Trader Joe's do not offer name brand products, they still offer healthy options for less so you can get ingredients for a salad without going broke. And honestly, off-brand Doritos are still pretty good.

3**. Only buy necessities, especially at the beginning of the month**

Since I tend to have more money as my rent is not due until the end of the month, I feel like I have more to spend than I actually do. It is important to develop a tiny voice in your head that yells at you when purchases are not necessary. Mine is a miniature version of my mother, but feel free to adapt for what works for you! As you practice, this step becomes easier to distinguish what is a necessity and what is not. This is different for everyone as well. With such a strict budget, it is also important to splurge on smaller items that will make you happy, such as a new candle to burn every month or a shark t-shirt for your cat.

4. Get creative and use your resources

I will reiterate that not having excess income does not mean you cannot live the life of your dreams while still being a student, you just have a few extra hurdles to overcome! I love cold brew tea every morning on my drive into work but stopping at Starbucks everyday is not feasible. So instead, I brew tea the night before and stick it in my freezer for the morning – win win! If you love shopping for clothes, find a new hobby in thrifting and transform yesterday's fashions into tomorrow's styles. Use your roommate's air fryer to make chicken sandwiches that could rival Chick-Fil-A. Save money on pest control by using your pet cat to do the dirty work for you. The possibilities are endless when you have $3 and a will to make it happen.

5. **Save your money, and know when to spend it**

The tips I have dispelled today are for how to spend your money wisely and save for necessities, like graduate student fees and surprise visits to the veterinarian. But life is less about saving money and more about all about the experiences you make for yourself. By going to graduate school, you are already making that happen for yourself. The perks of being frugal and eliminating excess spending is being able to splurge on the things you did not think were possible and planning for the next steps in your future. So, save money to splurge for the dream house, on the new puppy, on the Groupon trip to Iceland, on the 20-hour trip to LA for a K-pop concert. Those experiences, in the long run, are the necessities to living your best life.

Student Subunit Update

By: FL AFS Student Subunit Executive Committee

Students! We are hoping each and every one of you had an amazing holiday break and that the beginning of the Spring 2023 semester is off to a great start. The 2023 FAFS meeting in St. Augustine Beach is coming up quickly and will be here before you know it! Make sure to submit those abstracts and apply for those travel scholarships through FAFS to attend the meeting. As a friendly reminder, **February 24** is the deadline for early registration and abstract submission, while the deadline for student travel grants is **March 1**! Follow this link to submit your abstract, register, and find more information on student travel awards: https://units.fisheries.org/fl/chaptermeeting/2023-annual-meeting/

Make sure to check out our student blog by University of Florida MS student Olivia Markham seen here in the Winter Issue of the FAFS Shellcracker. Olivia gives some great advice on how to really stretch that grad student stipend while also ensuring you make the most of your time as a graduate student. Additionally, Florida International University PhD student Mack White provides some pointers for how students on the hunt for a graduate program may make the most of conversations with prospective advisors and lab mates in his article "What questions should prospective graduate students be asking?" recently published on our Reefs to Rivers blog which can be found at the link here: https://flafsstudentsubunit.wordpress.com/

Lastly, please let us know if you have any updates that you would be willing to share with the student subunit. Whether you have published a paper, received a fellowship/scholarship, won an award at a conference, have a cool story to tell, or just want to show off some cool pictures! We are looking to use our social media more often, so don't be shy - let us show off all of your amazing work! If you have any updates/materials you'd be willing to share, please email flafsstudent@gmail.com at your convenience. Feel free to use flafsstudent@gmail.com as a repository for any accomplishments or other cool materials you would be willing to share moving forward!