

# Under the Dock

October 2021



Newsletter of the Georgia Chapter of the  
American Fisheries Society



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## Student Scholarships and Travel Stipend Awards

Information and the application forms  
<https://gaafs.org/students/>

The Ronnie J. Gilbert Student Scholarship provides \$500 to one outstanding student who is a member of the Georgia Chapter of the American Fisheries Society at the time of their application.

The undergraduate travel stipend will provide lodging and meeting registration for student members of the Georgia Chapter to attend the GA-AFS annual meeting.

## 2022 Georgia Chapter Membership

Membership in the Georgia Chapter of the American Fisheries Society is open to anyone interested in the progress of fisheries science and education in Georgia in addition to the conservation and management of fisheries and aquatic ecosystems in Georgia.

All memberships are for a calendar year. New memberships and renewals received after September 1, 2021 will be processed for a full membership beginning January 1, 2022.

Additional information is on our website.  
<https://gaafs.org/membership/>

**Georgia Chapter 2022 AFS Membership Form**  
<https://forms.gle/Nm8AnHsLfQCo6sLV7>

**The newsletter is interactive - click on anything underlined or highlighted for more information and click on a laptop image for a video**



**Don't forget to nominate someone for the Professional and/or Student Spotlight**

**Professional Spotlight Nomination Form**  
<https://forms.gle/T4cwW4A1zxkmzs7X6>

**Student Spotlight Nomination Form**  
<https://forms.gle/Xger4SyZozZx8fUg7>

We welcome a broad range of submissions that address research and ideas relevant to marine and freshwater finfish and shellfish and their respective fisheries and environments. Submissions are due on the 23rd of each month unless told otherwise.

Contact Rebecca Brown  
([georgiaaafs@gmail.com](mailto:georgiaaafs@gmail.com)) if you have questions about content and suitability.

We also welcome suggestions for a species of fish to highlight, safety tips, and ideas for the section *Did You Know*.



# DOCKSIDE

## RECOGNIZING EXCELLENCE



Each year at our annual meeting we have an Awards Ceremony to recognize fisheries professionals and Georgia Chapter AFS members for their outstanding work and dedication to the profession and our aquatic systems. But our nomination procedures are antiquated, and we would like to see more nominations of professionals for their exceptional work in fisheries science and research. Therefore, we have developed a new nomination process and separated the Fisheries Professional of the Year (FPY) into two separate categories.

Our decision to separate the Chapter FPY Award into different categories was not easy. Our goal was to separate the award into different categories that included the different areas of specialization, but not create so many awards we would have an awards ceremony that lasted longer than the Oscars. The dilemma is that a fisheries professional may be a generalist in fisheries resource management or a specialist in one or more allied disciplines such as aquatic biology, limnology, oceanography, aquaculture, fisheries biometrics, fisheries economics, and fisheries engineering among others. Fisheries professionals promote the conservation and sustainability of fishery resources and aquatic systems through research, education, management, and administration. After numerous discussions and debates, we formed the Georgia AFS Fisheries Professional of the Year in Fisheries Management and the Georgia AFS Fisheries Professional of the Year in Science and Research.

*The GAAFS Fisheries Professional of the Year in Fisheries Management is open to all fisheries professionals working in Georgia whose job entails the management of marine and freshwater finfish and shellfish and their respective fisheries and environments. Aquatic resources management refers to the process of minimizing adverse impacts on*


*aquatic populations within their shared habitat through science-based practices to conserve the aquatic resource. This award is open to hatchery managers, fisheries technicians, PFA managers, biologists, and other fisheries professionals who have participated in outstanding or unique management or fish culture activities that contributed significantly to fisheries management and/or conservation.*

*The GAAFS Fisheries Professional of the Year in Fisheries Science and Research is open to all fisheries professionals working in Georgia whose job entails the conservation and research of marine and freshwater finfish and shellfish and their respective fisheries and environments. Fisheries science includes many areas of research, such as studying aquatic populations, habitats, ecological health, biodiversity, physiology, and toxicology, socioeconomic, and fisheries management. This award is open to biologists, professors, fisheries technicians, and other fisheries professionals whose role is in a research project or program that promotes the conservation and sustainability of fishery resources and aquatic systems.*

Additionally, we have designed a new nomination process for the two Georgia Chapter AFS FPY Awards and the Georgia Chapter AFS Fisheries Conservationist of the Year. Our goal was to create a form that made it easier for people to submit nominations and allowed the Professional Awards Committee to objectively determine award finalists. Information about the nomination procedures, how we determine finalists, and the judging process is available on our website ([gaafs.org/award-nominations/](http://gaafs.org/award-nominations/)).

Do you know someone who has gone above and beyond and is a role model for others to follow? Show your appreciation and nominate them for one of our professional awards.





# Georgia Chapter of the American Fisheries Society 2022 Annual Meeting February 1 - 3

## ***Exchanging Ideas, Removing Barriers, and Forging Partnerships for Healthy Aquatic Ecosystems***

**Join us as we share research and ideas relevant  
to marine and freshwater finfish and shellfish  
and their respective fisheries and environments**

**CALL the Villas by the Sea Resort on Jekyll Island to make reservations  
(912) 635-2521 Room rate # 514539**

**Visit our website for more information  
[gaafs.org/2022-annual-meeting/](https://gaafs.org/2022-annual-meeting/)**



# 2022 ANNUAL MEETING

[gaafs.org/2022-annual-meeting/](http://gaafs.org/2022-annual-meeting/)

Join us February 1 – 3 at the Villas by the Sea Resort on Jekyll Island as we share research and ideas relevant to marine and freshwater finfish and shellfish and their respective fisheries and environments. Our annual fundraising raffle and silent auction will take place at the same time. Proceeds from the annual fundraiser support our aquatic education outreach projects, student scholarships, habitat restoration projects, and continuing education workshops.

## REGISTRATION

Each individual attending the meeting needs to complete the [electronic registration form](#).

A word document registration form is available on our website for those who need a copy.

Payment can be made by check or credit card using our online store.

Details about the 2022 annual meeting can be found on the website.

## ABSTRACT SUBMISSION

We welcome topics including, but not limited to, fisheries management, aquatic invasive species, fish health, aquaculture, endangered species, genetics, economics, fisheries ecology in the urban interface, and all topics relevant to marine and coastal fisheries. This is a wonderful opportunity to share your knowledge and research with various professionals and students.

Interested individuals are encouraged to email their abstracts to Carolyn Belcher (Carolyn.Belcher@dnr.ga.gov) by **January 6, 2022**. Abstracts (300 words max) should be submitted as an attachment in a Word document and include the following information:

- Presentation Title
- Presenting Author (with contact information; work address and email)
- Co-authors (with contact information)
- Abstract (300 words max)
- Presentation type: Oral or Poster (Posters should be 48" x 36")
- Please also indicate if you are a student presenter

***Oral presentations are 15 minutes (10 minutes for presentation and 5 minutes for Q&A)***

***Poster presentations will take place during the Tuesday Night Social***

Member Type	Before January 21, 2022	After January 21, 2022
<b>PROFESSIONAL</b>		
AFS and GAAFS Member	\$75	\$75
GAAFS Member Only	\$80	\$100
Not Member of GAAFS	\$90	\$110
<b>STUDENT</b>		
AFS and GAAFS Member	\$30	\$30
GAAFS Member Only	\$35	\$50
Not Member of GAAFS	\$45	\$60
<b>RETIRED</b>		
AFS and GAAFS Member	\$45	\$45
GAAFS Member Only	\$50	\$50
Not Member of GAAFS	\$60	\$60
<b>ONE-DAY REGISTRATION</b>		
Professional GAAFS Member	\$50	\$50
Professional Non-member GAAFS	\$60	\$60
Student GAAFS Member	\$20	\$20
Student Non-member GAAFS	\$30	\$30
* Non-member rates include Georgia Chapter AFS membership dues		



# 2022 ANNUAL MEETING

[gaafs.org/2022-annual-meeting/](https://gaafs.org/2022-annual-meeting/)

## HOTEL ACCOMMODATIONS

Please visit our website for up-to-date information as you make plans for attending the 2022 annual meeting. **You must call the front desk of Villas by the Sea at (912) 635-2521 to make your hotel reservations.** Let them know you are with GA AFS and provide them with our room block number 514539. Do not try to make reservations online.

We suggest you check our website for more information about the different room types so you can plan accordingly.

[gaafs.org/villas-by-the-sea-information/](https://gaafs.org/villas-by-the-sea-information/)



Room Type	Island-side Room Rate	Oceanside Room Rate
Mini Villa/Studio	\$89	---
One Bedroom Villa	\$109	\$129
Two Bedroom Villa	\$149	\$169
Three Bedroom Villa	\$179	\$199

## Recognizing Excellence

### AWARD NOMINATIONS

The Georgia Chapter of the American Fisheries Society values its members and all those who work to improve the conservation and sustainability of our fishery resources and aquatic ecosystems. Randy Pausch once said, "Showing gratitude is one of the simplest, yet most powerful things humans can do for each other." One way our Chapter shows its gratitude is by presenting outstanding individuals or organizations for their achievements and excellence in support of the Chapter's mission and objectives.

We have made a few changes to the award nomination procedures. Nomination forms have been created for the GAAFS Fisheries Professional of the Year in Fisheries Management, Fisheries Professional of the Year in Fisheries Science and Research, and Fisheries Conservationist of the Year. The nomination forms will ONLY be used to determine the top three finalists for each award category. Each finalist and their nominator will be asked to answer a set of questions that will be evaluated by our team of judges. More information about the judging process can be found on our website.

Access to nomination forms: <https://gaafs.org/award-nominations/>

Visit our website for more information about each Georgia Chapter AFS Award: <https://gaafs.org/awards/>



We simply cannot function without the generous support of our sponsors and fundraising donors. We greatly appreciate everyone who help make our annual meeting a success and assist with our efforts to improve the conservation and sustainability of fishery resources and aquatic ecosystems in Georgia.

# Thank You!

## Individual Contributors

Captain Bert Deener  
Steven Patrick  
Camm Swift  
Carolyn Belcher  
Kady Lyons  
Chris Harper  
Richard Schulte  
Kevin Cavallaro  
Lauren Carroll  
Dan Marotta  
Rebecca Brown

## 2021 Georgia Chapter AFS Sponsors

### Platinum Sponsor



### Silver Sponsor

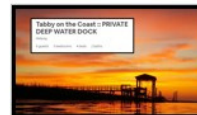


### Bronze Sponsor



Warnell School of Forestry  
& Natural Resources  
UNIVERSITY OF GEORGIA

## 2021 Georgia Chapter AFS Fundraising Donors





# GEORGIA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

## 2022 GEORGIA CHAPTER AFS ANNUAL MEETING SPONSORSHIP LEVELS

**Platinum Sponsorship: \$1000 or more**

**Gold Sponsorship: \$500 - \$999**

**Silver Sponsorship: \$250 - \$499**

**Bronze Sponsorship: \$150 - \$249**

	Bronze Sponsor	Silver Sponsor	Gold Sponsor	Platinum Sponsor
Recognition in the 2022 conference program and throughout the year in our website, social media sites, and monthly newsletter	Yes	Yes	Yes	Yes
Free advertisement for your organization (or other fisheries-related content) throughout the year in our monthly chapter newsletter	1/4 Page	1/4 Page	1/2 Page	Full Page
Complimentary registrations	No	1	2	3
Conference table space	No	One 6 ft table	One 6 ft table	Two 6 ft tables
Conference presentation time (10 minutes) for your organization	No	Yes	Yes	Yes

### **Friends of GA AFS (\$50)**

Recognition in the 2022 conference program and throughout the year in our website and monthly newsletter

241 Apple Ridge 2  
Dawsonville, GA 30534  
georgiaafs@gmail.com

Fundraising Chair: Jackson Sibley (oceansibly@gmail.com)

Executive Secretary-Treasurer: Rebecca Brown (georgiaafs@gmail.com)



# GA AFS 2022 ANNUAL FUNDRAISER



Each year at our annual meeting our Chapter hosts a raffle and silent auction to raise funds to support the Chapter's mission.

Proceeds from the annual fundraiser support our aquatic education outreach projects, student scholarships, habitat restoration projects, and continuing education workshops.

## WE NEED YOUR HELP

Our members can help our fundraising efforts by personally contributing an item or soliciting from a local business, organization, or person. Items may include artificial lures, gift certificates, coolers, tackle bags, event passes, guided fishing trips, handmade flies, custom-made fishing rods, fishing rod/reels, kayak/whitewater rafting trips, original artwork, prints, or other fish and wildlife-related items.

Since we are a 501(c)3 nonprofit organization, all donations are tax-deductible.

You can contact our fundraising chair, Jackson Sibley, for more information: [oceansibley@gmail.com](mailto:oceansibley@gmail.com)

## FUNDRAISING DOLLARS SUPPORT



Restoring the  
Chattahoochee River  
One Tributary  
at a Time



# GEORGIA CHAPTER AFS AMERICAN FISHERIES SOCIETY

## 2022 GEORGIA CHAPTER AFS ANNUAL FUNDRAISING DONATION APPRECIATION

We would like to extend our appreciation to those who donate items for our annual fundraiser. The value of your donated item(s) will determine your donation level.

Organizations or individuals whose donations are valued at less than \$50 are recognized in the 2022 conference program and throughout the year on our website, social media sites, and monthly newsletter.

**Sharks: Item(s) valued more than \$300**

**Minnows: Item(s) valued \$201 - \$300**

**Sunfish: Item(s) valued \$101 - \$200**

**Drums: Item(s) valued \$50 - \$100**

	Drums	Sunfish	Minnows	Sharks
Recognition in the 2022 conference program and throughout the year in our website, social media sites, and monthly newsletter	Yes	Yes	Yes	Yes
Free advertisement for your organization (or other fisheries-related content) throughout the year in our monthly chapter newsletter	No	1/4 Page	1/2 Page	Full Page
Individual shout outs on our social media sites and/or selected as one of our <i>RECOMMENDS</i> for the monthly newsletter	Yes	Yes	Yes	Yes
Conference table space	No	No	No	One 6 ft table
Complimentary registrations	No	No	No	1

**Proceeds from the annual fundraiser support our aquatic education outreach projects, student scholarships, habitat restoration projects, and continuing education workshops.**

Fundraising Chair: Jackson Sibley (oceansibly@gmail.com)

Executive Secretary-Treasurer: Rebecca Brown (georgiaafs@gmail.com)

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Dawsonville, GA 30534  
georgiaafs@gmail.com

# NEWS & UPDATES

## Georgia Chapter AFS Hosts FAMS Workshop at Go Fish Education Center

The Georgia Chapter of the American Fisheries Society hosted a two-day workshop onsite at the Go Fish Education Center. Dr. Steve Sammons, from Auburn, led the workshop on the Fishery Analysis and Modeling Simulator (FAMS) software. Those in attendance were appreciative of the opportunity and enjoyed the “hands-on” training that they received from Dr. Sammons.

FAMS is designed to simulate and evaluate the dynamics of exploited fish populations. FAMS allows for the evaluation of minimum, slot, and inverted length limits and bag limits on exploited fisheries. Input parameters require age-structure data and use the Jones modification of the Beverton-Holt equilibrium yield equation to compute both a yield-per-recruit and a dynamic pool model. For the dynamic pool model, the entire population is simulated over time. In addition, FAMS helps to analyze several predicted population parameters including the number of fish harvested and dying naturally, mean weight and length

of harvested fish, number in the population above and below some lengths of interest, the total number of fish, and biomass in the population, stock density indices, number of age-1 fish, and the Spawning Potential Ratio.



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## Georgia Fish Art Contest



They are now accepting entries for the 2022 Georgia Fish Art Contest. Students in Kindergarten through 12th grade can now draw any fish from around the world and submit their Fish Art entries completely online.

To enter, participants select a fish species of their choice, then create an original, hand-done illustration. Fourth-grade students and above are required to write a brief essay, story, or poem based on what they learned and the conservation needs of their chosen species.

Share this information with friends and teachers.

Georgia Entry Form: [https://bit.ly/GA\\_FISH\\_ART\\_CONTEST](https://bit.ly/GA_FISH_ART_CONTEST)

Visit the Wildlife Forever website for more information about each specialty award

<https://www.wildlifeever.org/home/state-fish-art/award-categories/>



## Fisheries Podcast Interviews Tim Bonvechio

The Fisheries Podcast interviewed Tim Bonvechio about his path in becoming a Senior Fisheries Biologist with the Georgia Department of Natural Resources, as well as some of the projects he has been involved with during his career. Tim specializes in fisheries management and population dynamics and in this episode he goes into detail about some of the research and management projects he has worked on.



Click on the Picture to  
Listen to Tim's Interview



Tim's favorite fish...Suwannee Bass

## Aquaponics Research at Georgia Southern University

Many of you may recall Heather Joesting presenting us an overview of the Sustainable Aquaponics Research Center (SARC) at our 2021 Virtual Annual Meeting. SARC is a joint venture between Georgia Southern University and the FORAM Foundation. The aquaponics system is located in a 4,100 square foot greenhouse that supports student and faculty research in areas of biology, chemistry, economics, and engineering. SARC's mission is to conduct cutting-edge research and to develop technologies and best practices that improve the sustainability and profitability of soilless farming techniques.



Georgia Farm Monitor

The dining hall on the Georgia Southern University Armstrong Campus has been using vegetables and produce from SARC since 2018. During the COVID-19 pandemic, SARC donated excess produce to a local food bank and local businesses that were making packed lunches for homeless people in Savannah.

Aquaponics uses less water and land and therefore is a very efficient use of existing space or for special applications like intensive urban gardening. Compared to hydroponics, aquaponics provides fish as a source of protein in addition to the vegetables produced. Aquaponics could be the answer to growing food sustainably in urban food deserts and rural communities. Some scientists are also looking at aquaponics as a possible way to grow food on long-distance space missions and provide food for scientists living on the Moon or Mars.



TEDx Savannah  
Heather Joesting

## Testing Georgia Trout for Whirling Disease and IHN Virus



Georgia DNR has been busy collecting trout in different North Georgia streams to test for Whirling disease and IHN virus since it was first documented in the state last month. Tissue samples have been collected and transported to the Warms Springs Fish Health Lab for testing. They hope to understand more about the occurrence of these pathogens in our stocked and wild trout streams.



### New South Atlantic Fellowship to Focus on Reef Fish

North Carolina Sea Grant is accepting applications for a new South Atlantic Reef Fish Extension and Communication Fellowship. The position will provide on-the-job outreach training to increase public knowledge and awareness of reef fish issues in the region. The fellow will be based with the South Atlantic Fishery Management Council (SAFMC) in Charleston, South Carolina, and have projects that include specialists and outreach staff from Sea Grant programs in North Carolina, South Carolina, Georgia, and Florida. The selected fellow will work with the media to highlight reef fish projects in the region and will coordinate meetings with regional stakeholders and other SAFMC staff.

Applications are due Oct. 15, 2021. Learn more about partners and funding in the news release link in the headline above. Contact Scott Baker at [msbaker@ncsu.edu](mailto:msbaker@ncsu.edu) or 910-962-2492 with any questions related to the fellowship. The complete description is available online at: [go.ncsu.edu/reef](http://go.ncsu.edu/reef)



### Georgia DNR Burton Trout Hatchery Open for Trout



The renovations of the Burton Trout Hatchery in Clarkesville are nearly complete. The original facility was built more than 70 years ago and had one upgrade in 1978. Renovations were necessary to modernize the hatchery and allow Georgia DNR WRD to utilize new technologies to further enhance trout production.

A few weeks ago, 100,000 fingerling rainbow trout were transferred to Burton Hatchery from the Chattahoochee Forest National Fish Hatchery. These are the first fish to be reared on the station since August 2019 and will contribute to the CY22 trout stocking program.

More stringent disinfection procedures are now in place for their stocking truck fleet as well as all hatchery and trout stream sampling equipment. These new procedures include hot water pressure washing and the application of chemical disinfectants.





# INTERNATIONAL SAWFISH DAY

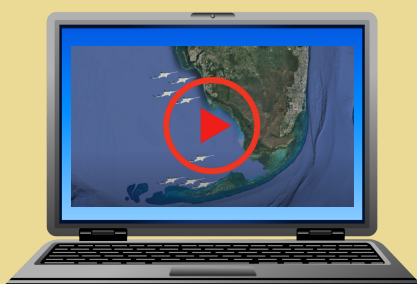


## October 17, 2021

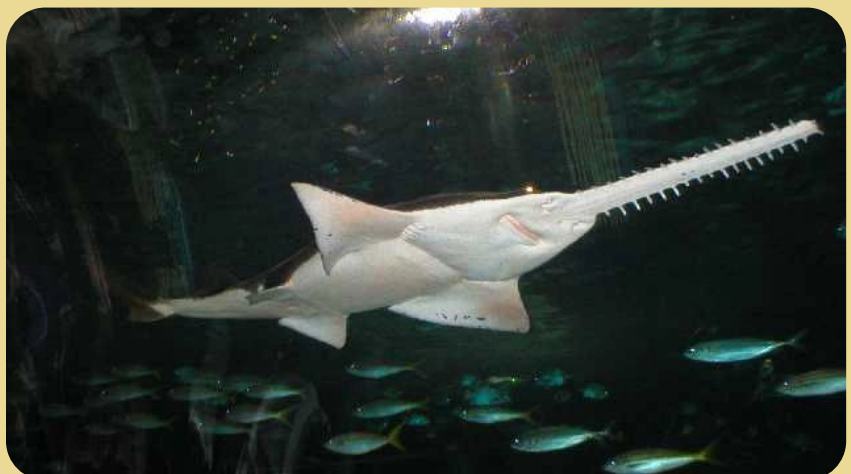
International Sawfish Day was established as a collaboration between the Sawfish Species Survival Plan (SSP) of the Association of Zoos and Aquariums (AZA) and the European Association of Zoos and Aquariums (EAZA) studbook program as well as research and conservation organizations to highlight endangered sawfish and the challenges they face in our world's oceans.

The International Union for the Conservation of Nature (IUCN) lists all 5 species of sawfish as endangered on their Red List [www.iucnredlist.org](http://www.iucnredlist.org). The green sawfish (*Pristis zijsron*), the smalltooth sawfish (*Pristis pectinata*), and the largetooth sawfish (*Pristis pristis*) are listed as Critically Endangered and the narrow sawfish (*Anoxypristis cuspidata*), and the dwarf sawfish (*Pristis clavata*) are listed as Endangered.

More Information  
[internationalsawfishday.org/](http://internationalsawfishday.org/)



The Life of a Sawfish



# Restoring Oyster Reefs Along Georgia's Coastline

By Cameron Brinton



The Eastern Oyster, *Crassostrea virginica*, is an important component of the coastal ecosystem of Georgia. Not only is it an important target species for commercial and recreational harvest, but it is also an ecosystem engineer providing valuable services. Oysters improve water quality as a byproduct of filter-feeding and they stabilize banks preventing erosion. Additionally, a wide number of commercially and recreationally important fish and shellfish use oyster reefs as a habitat for shelter or foraging. However, coastwide we have seen dramatic decreases in the population of oysters in the last century (Beck et al. 2011), and this is where my unit at the Coastal Resources Division of GADNR comes in. Growing up, I spent my time chasing eddies behind boulders to hook rainbow trout or submerged trees to catch largemouth bass. Now I spend my time in the Habitat Enhancement and Restoration Unit creating structures that fish are attracted to in tidal creeks and rivers, such as new oyster reefs.

There are numerous challenges to oyster restoration in Georgia that my unit must overcome. One of the first things we consider is the geomorphology of the creek. With some of the greatest tidal amplitudes found along the east coast of the United States, up to two meters twice per day, there is a lot of sediment moving around. We take care to match our restoration methods with the site conditions to ensure a successful reef. In areas, with firm sediment, we can put loose shells or other materials directly onto the bank, but in areas with softer sediments, we use taller materials or lay down a foundation first. We also plan for areas that tend to have high rates of sediment deposition such as the inner curve of bends in creeks and the mouth of creeks, either avoiding them or selecting materials that have more relief than the rest of the reef.

In most places in Georgia that are hydrologically suitable for oysters, the growth of reefs are limited by the availability of hard structure, which can very quickly get covered in too much sediment for larval oysters, known as spat, to be able to attach. The oyster shell that we collect through our recycling program is an



Continued on next page





*Reef deployment at Back River restoration site*

ideal substrate for a new reef to establish on but is a finite resource. Restaurant shutdowns in 2020 decreased the amount of shell collected from local restaurant partners, particularly since oysters on the half shell aren't well suited to takeout dining. We were fortunate this year to be able to source a large supply of shell from oyster packing plants, however, this is frequently not available due to competing uses of shell.

With the shell from the packing plant and the shell collected from our recycling program combined, we have been working on 3 oyster restoration projects this year. The goal of this year's projects was not only to create new reefs but also to test new deployment methods. At the Back River, we have been using bagged oyster shell which is a method that we have successfully used at a number of similar sites. At Jointer Creek and Blythe Island, we used loose shell, which requires less effort and has been used very successfully in other states but has not been used extensively in Georgia and requires us to be more selective about the locations we choose to build reefs.

The Back River site is located adjacent to the Torres Causeway in Glynn County, Georgia, and is a site we have been working at since 2017. Due to

the softer sediment and high sedimentation rates at this site the shell bags were deployed on an artificial 8" foundation built from pallets donated by local businesses. We made our last deployment for the project this spring and in total, we deployed over 7,200 bags or approximately 68 tons of oyster shell at this site. The areas where we deployed shell in 2020 experienced more loss of area due to sedimentation than we hoped for with over 50% of the reef covered. However, where it remained exposed, it has developed into a thick healthy oyster reef, and we hope to see similar results for our 2021 deployment.



*Bagged oyster shell in transit to the Back River restoration site*

We also revisited the Glynn County public oyster picking area in Jointer Creek. Due to the ongoing harvest at the picking areas, they periodically need enhancements to keep them healthy. We deployed 140 tons of shell at Jointer this year, which is the largest amount of shell we have ever deployed and is more than twice as much shell deployed at one time at any oyster reef over the last five years. The shell was deployed from a barge by heavy equipment and most of it was placed onto sparse shell hash, which serves as a very firm foundation, and a smaller section was

placed onto a moderately firm mud back to test the effectiveness on this substrate. We are currently in discussions with suppliers about getting another barge load of shell for 2022 and are excited to start conducting more of these large-scale projects in the future.



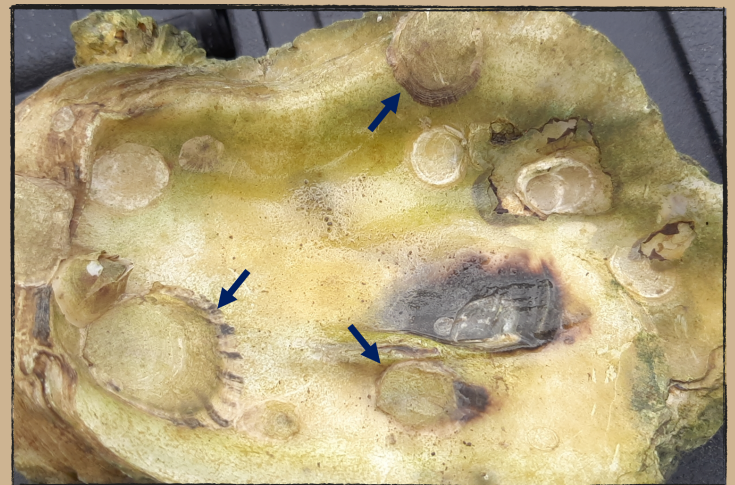
*Reef deployment at Jointer Creek restoration site*

In the South Brunswick River, we broadcast 6 cubic yards of oyster shell creating test plots in preparation for a multiyear project in partnership with Glynn County to restore oyster reefs on intertidal banks adjacent to the Blythe Island Regional Park. Shell was blown off the barge using ambient water. If the test plots are successful, this method will be used to fully restore the site in 2022.



*Shell deployment at the South Brunswick River restoration site*

Our monitoring plan for oyster restoration, adapted from Baggett et al. (2014), includes revisiting these sites for several years after the completion of each project to ensure that the reefs are stable and self-sustaining. Measurements are taken to establish the following metrics for all intertidal oyster restoration projects: 1) reef areal dimensions; 2) reef height; 3) oyster density; 4) oyster size-frequency distribution; 5) water temperature; and 6) salinity. We use aerial photography to measure the reef dimensions and reef height seasonally for at least three years after the completion of the reef. In the first year, the density of spat that has settled on the reef is estimated by sampling random shells. In subsequent years we measure the size and population density of the adult

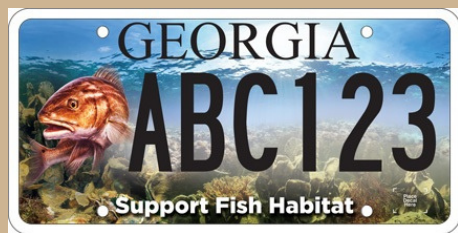


*Spat on shell that was deployed in 2021 at Jointer Creek Public Picking Area*

oysters by quadrat sampling. If the results of the monitoring don't meet the goals for the metrics, we consider maintenance options for the reef. This could be putting out more material of the same type to increase the footprint to the targeted size or putting out a different material with more relief to ensure that larval settlement rates will be faster than the sedimentation rates.



With our project in the Back River completed we are looking forward to starting new projects such as the South Brunswick River site and as always, we will continue to renourish the public picking areas. With over 3,400 miles of tidal creeks and rivers in Georgia, we have a lot of work ahead of us. If you want to help us, support restaurants that partner with DNR for shell recycling, donate the shell from your own oyster roasts, and consider getting a marine habitat conservation license plate! With your support, we will continue restoring oyster reefs for the benefit of present and future generations.

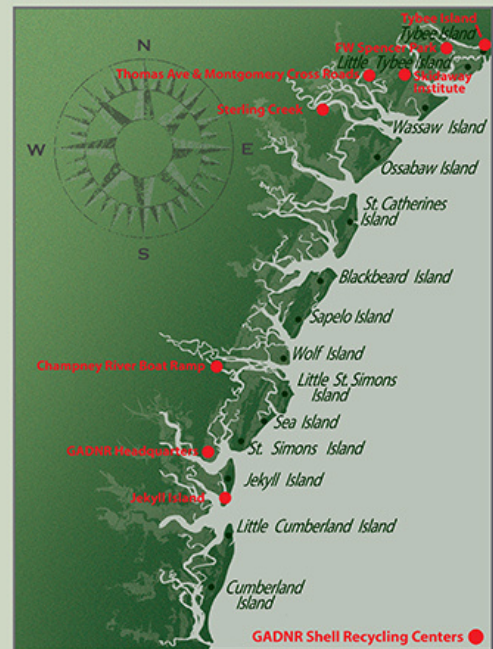


#### Works Cited

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Beck, M.W., Brumbaugh, R.D., Airoidi, L., Carranza, A., Coen, L.D., Crawford, C., Defeo, O., Edgar, G.J., Hancock, B., Kay, M.C. and Lenihan, H.S., 2011. Oyster reefs at risk and recommendations for conservation, restoration, and management. Bioscience, 61(2), pp.107-116.

#### Georgia's Oyster Shell Recycling Center Locations



Georgia has 8 Shell Recycling Centers located along the coast where community members voluntarily deposit oyster shells from roasts and other events. GADNR then bags all shells and uses them to restore and enhance oyster reefs each spring. You too can help restore oyster reefs by recycling oyster shells, volunteering at shell bagging events, or assisting GADNR each spring in reef construction.

EXPLORE  
COASTAL GEORGIA

For more Information:  
CoastalGaDNR.org  
912-264-7218

MARx

The University of Georgia Marine Extension System

GEORGIA

DEPARTMENT OF NATURAL RESOURCES



**For more information about  
Georgia's coastal resources?**



<https://coastalgadnr.org/>





**UPDATE**

# **Upper Coosa Conservation Summit**

**October 20, 2021  
VIRTUAL**

Please note that due to the rise in COVID-19 cases, the Coosa Summit has been moved to a virtual format with a reduced program. Coosa Summit hopes to host an in-person gathering in Spring of 2022.

**Registration** is free for the 2021 Upper Coosa Conservation Summit. **Register by October 18** to receive the link for the meeting

**Abstract submission** for contributed talks, breakout sessions, and the poster session is now open. Abstracts are due Friday, September 3rd.

**More information:** <https://rivercenter.uga.edu/upper-coosa-river-mini-conference/>



# DID YOU KNOW

## Space Aquaculture

Space exploration includes establishing manned bases on the Moon and Mars and in order for space explorers to survive it is essential to provide fresh and nutritious food to be combined with prepackaged foods delivered by cargo ships. But delivering fresh food to the Moon and Mars is neither economically nor technologically feasible. Therefore, scientists are looking at aquaculture as a way to culture a fish species that can survive space travel in addition to providing the necessary nutrients needed by humans living and working in space.

Cyrille Przybyla, an aquaculture researcher at the French Research Institute for Sea Exploitation, is leading the Lunar Hatch program that is studying whether or not space explorers will be able to raise fish on the Moon. Przybyla's proposal is one of hundreds being considered by the European Space Agency. The plan is to send fertilized eggs into space and hatch the fish on the Moon. The selection parameters when determining which fish to consider include the ability for the fish eggs to travel into space (not a smooth flight) and how long between fertilization and hatching. The lunar fish farm will use water that is already on the Moon, but we do not know the salinity of the water. The fish selected for this mission should be those with modest oxygen requirements, low carbon dioxide output, a short hatching time, and resistance to charged particles.

Research into space aquaculture systems can help advance aquaculture technology on land. Space aquaculture systems need to recover and convert waste into food. The ability for aquaculture farms to avoid waste discharge from their systems will benefit both the fish farmer and the environment.







## Professional Spotlight

Leon Brotherton

Leon is a Fisheries Technician III and has been working for the Georgia Department of Natural Resources Wildlife Resources Division for the past 36 years. Leon is an exemplary fisheries professional whose efforts have positively impacted north Georgia fisheries throughout his career. Leon often supervises a crew of volunteers and technicians to complete brook trout habitat work, which continues to date with ongoing chop-and-drop work. Leon's ongoing involvement with north Georgia reservoir work includes standardized sampling, broodstock collection, aquatic habitat/structures, and other field surveys has proved his ability to perform and contribute towards a variety of initiatives. Leon's dedication and strong work ethic earned him the Georgia Chapter AFS Fisheries Professional of the Year in 2020.



### What got you first interested in fisheries science?

*Originally, I desired to work with Game Management, but after getting hired with Fisheries, I learned a challenging new field and I got hooked.*

### Where did you go to school and what did you study?

*I earned a Wildlife Technology degree from Abraham Baldwin Agriculture College and attended Brenau University where I studied Conservation Law.*

### Describe one or two projects you are currently working on as part of your current position.

*I am currently sampling and collecting trout to be tested for Whirling Disease. We are investigating the potential spread of the disease in Georgia Trout Waters.*



*Leon Brotherton represents the epitome of the term, "Institutional Knowledge." Having worked in our trout program for most of his 35+ year career, Leon has accumulated a wealth of first-hand, experiential knowledge about our trout resources and what makes them work, and what factors contribute to their demise. His skillset and experience make Leon an extremely valuable member of our wild trout management team.*

*~ Anthony Rabern, Region 2 Supervisor, Fisheries, Georgia Department of Natural Resources Wildlife Resources Division*



### What do you most enjoy about your current position and what do you find most challenging?

*Knowing the resource that I work in and being able to pass that knowledge along before I retire. Having to jump through all the government hoops to get the job done.*

Continued on next page



## Professional Spotlight Continued

### Describe the most rewarding experience you have had during your career.

*I have two; helping create the Georgia Trout Stream Map, and using the chainsaw training I received to fell, limb and buck trees. In addition to felling trees for stream structures for trout habitat, I have also helped to clear roads after the many hurricanes that have hit the state of Georgia. Helping those that were trapped in their home and not able to get out gave me the opportunity to give back to the state that has given me a career over the last 36 years.*



### What advice would you give to someone pursuing a profession in fisheries science?

*If you are looking for money- go elsewhere, but if you love the outdoors and want to learn how it functions in multiple habitats, this might be the place for you.*



*Leon exhibits extraordinary dedication to the Wildlife Resources Division, Fisheries Section through his multiple efforts to work with others to accomplish goals and tasks. Leon's positivity and jovial personality are relentless and contribute to high team morale and productivity. He serves his region with the utmost loyalty and pride. His willingness to go above and beyond expectations sets Leon apart as the Region's go-to person for assisting when a need arises. Leon has led several trout habitat improvement projects that have helped to improve and maintain native Brook Trout populations in Georgia. Leon's commitment, organization, assistance to cohorts, and enthusiasm for improving Brook Trout habitat, have contributed significantly to north Georgia's fisheries management success. It is an honor to work with him.*

*~ Sarah Baker, Fisheries Biologist, Georgia Department of Natural Resources  
Wildlife Resources Division*

### What is your favorite quote?

*Comes from the Bible, part of a verse in 1st John verse 4  
"Greater is He that is in you, than he who lives in the world".*

### What is something about yourself that others may be surprised to know about you?

*According to my coworkers I make the best venison jerky on the planet, and I enjoy making lamps out of antlers.*







## Student Spotlight

Sarah McNair

Sarah is from Clarkesville, GA. She originally graduated from North Georgia Technical College in Summer 2019 with an Associates of Applied Science in Environmental Technology. She then transferred to the University of Georgia (UGA) where she is currently studying aquatic sciences as an undergraduate. Sarah will graduate in Fall 2021 and plans to pursue a Master of Natural Resources (MNR) afterwards.



### What attracted you to pursue a degree in fisheries science?

*When pursuing my associates degree, electrofishing was a mandatory part of our introductory ecology class. Prior to this I was not at all familiar with fish and had no idea that Georgia was a hotspot of fish biodiversity. I was absolutely hooked after the first trip. My mentors, Kevin Peyton and Steven Patrick, are UGA alumni and were quick to point me towards additional volunteer opportunities with GA DNR's Stream Team. Fisheries science offers a kind community, engaging work, and a chance to learn more about the natural world; the combination of these factors led me to pursue additional education in the field once I graduated from my technical college.*

### Describe your senior project?

*I am currently working on my senior project. My teammates and I are looking at the functionality of three wetlands surrounding Lake Oglethorpe in Oglethorpe, GA, in relationship to recent algal blooms in the lake. We hope to provide the Lake Oglethorpe Homeowner's Association with data that will help them manage the lake, improve wetland functionality, and mitigate future algal blooms.*



### What is one of your favorite memories as a University of Georgia student and/or a student at North Georgia Technical College?

*Conducting an electrofishing survey of the Middle Oconee River in the fall of 2020. It was a great experience that showed how quickly people can bond over fisheries, allowing us to work as a coherent unit with little notice. It was a great trip and we got to see a variety of aquatic life from hellgrammites to beautiful Lepomis hybrids.*

*At my technical college, my best memory is seining our pond in the middle of January. Our fisheries management class was assisting GA DNR with a black bass tag retention study and we were seining to ensure that none of the bass had gotten out of the floating cages. While we were doing this it began to snow - an uncommon sight for our area. We were quick to finish up after that but seining in the snow, surrounded by friends and fish, is something I'll never forget.*



## Student Spotlight Continued



### What advice would you give other students?

*Take a class that forces you outside of your comfort zone. I started off as a shy student who struggled immensely with public speaking. I avoided it for years until one semester when I had the opportunity to take a class titled "Professional Communication and Development for Natural Resource Students". The first few weeks were incredibly uncomfortable; I was not at all confident in my public speaking abilities and it showed. But I stuck it out and came out for the better. It taught me how to advocate for myself, how to speak and network with confidence, and so much more.*

*If you need to decide whether a set of waders leak, Sarah McNair is not your girl, Her waders will be full of water at every lab. While doing so, she also filled her head with every bit of information and hands-on learning she could grasp. Kevin and I were always impressed with her willingness to dive in and contribute to our labs and research at NGTC. We're proud to see her excelling at Warnell and look forward to watching what the future will bring for one of our shining stars.*

~ Steven Patrick, County Extension Coordinator, University of Georgia

### In 10 years, what would you like to have accomplished?

*Professionally, I hope to be a Certified Fisheries Professional (FP-C). I would also like to establish more pathways between community colleges and universities so that students such as myself have an easier time transitioning between the two. In my personal life I would like to have run a full marathon and have rescued many more guinea pigs.*



### What is your favorite quote?

*"Don't Panic"*

~Douglas Adams, *Hitchhiker's Guide to the Galaxy*

### What are some of your favorite extracurricular activities?

*I really enjoy running and am currently training for a half marathon. I also enjoy caring for my two guinea pigs, Bluford and Conway.*



### What is something about yourself that others may be surprised to know about you?

*While my current education is centered around fisheries and human dimensions, I have an extensive background in other aspects of natural resource management. I've completed basic wildland firefighting training through the National Wildfire Coordinating Group (NWCG), and also have extensive experience in wildlife damage management. I'm so thankful for all of these experiences as they've allowed me to be well-rounded in my current work!*



# A Conservationist's Perspective on Alligator Gar and its Concomitant Fisheries

By Zach Moran



"Whatcha got there, Trev?" I asked Texas Parks and Wildlife (TPWD) Technician Trevor Troxel as our 18-foot jet boat motored towards an orange buoy. "Eh, a decent sized one!" Trevor shouted. From underneath the buoy erupted an enormous explosion, throwing water five feet into the air. Reaching into the water Trevor grasped the black twine of the multifilament gillnet suspended underneath the buoy and slowly began to pull it into the boat. "Oh, he is a big one!" Trevor said, as he lifted the net from the water. From the green depths of the river emerged a pale shadow, approximately seven feet in length and as big around as a 30-gallon drum...An Alligator Gar. I stared in shock, almost unable to believe the size of this giant. On one end was a caudal fin twice as wide as a canoe paddle. Diamond shaped armored scales, big as half dollars, encircled the gar from head to tail, each decorated with a black vermiculation giving it a leopard spotted pattern. The two-foot-long skull tapered into a foot long mouth equipped with a double row of razor-sharp teeth. An eye the size of a small orange looked at me, the inky pupils staring straight into my soul... I could feel the hairs on my neck stand on end. "Zach, a little help?" Trevor gasped as he struggled to hold the giant in the net. Snapped from my trance, I quickly leaned down, reaching into the water around the fish as if trying to give it a hug. Alligator Gar aren't always entrapped perfectly in the nets, often only the mouth is caught. My goal was to wrap the gillnet around the fish creating a sling that Trevor and I could use to lift the 200-pound fish into the boat. "You ready?", Trevor asked. "One! Two! Three!" he shouted as we strenuously lifted the fish into the boat. "Man, I'm sure glad I have you young guys working for me!" TPWD Biologist Michael Baird laughed from the driver's seat of the boat. Trevor and I gave each other a "high-five" as we caught our breathe, admiring the goliath gar resting on the bottom of the boat.

Continued on next page





Trevor, Michael, and I have been working on a collaborative research project between TPWD and Baylor University for the last two years, research that is a part of a larger Alligator Gar population assessment in the state of Texas. Over the years, TPWD has collected hundreds of Alligator Gar throughout the state of Texas ranging in length from 2 to over 8 feet in length. Anecdotally the populations appear to be in “good shape” in terms of fish condition and abundance. However, Alligator Gar populations in other states are not doing as well and there is concern that their range and populations are diminishing due to habitat loss and overharvest from anglers.

Alligator Gar *Atractosteus spatula* entered the proverbial spotlight as of recent years thanks to the highly viewed (albeit dramatic) television show “River Monsters”. Since airing, Alligator Gar have become quite the hot topic in the recreational fishing world, becoming the “bucket-list” fish for many anglers. Look up “#Alligatorgar” on Instagram and you will see hundreds of pictures of smiling anglers showing off their trophy catches.

As I sit here writing this article, I did a quick google search and found multiple guides offering the chance to catch the gar of a lifetime. The price of such a trip could range you anywhere from

\$600 - \$1,100 depending on the number of people in your party. Sadly, Alligator Gar are not considered to be “Game Fish” and therefore are allowed to be harvested by a variety of methods including spearing, and bowfishing. This has created a very interesting case study in the world of fisheries management and much debate surrounding Alligator Gar fisheries. Alligator Gar have a complicated life cycle. These fish can live upwards of 80 years, take anywhere from 7-11 years to reproductively mature, and require specific water conditions to successfully spawn. While these strategies have enabled them to survive for over 150 million years on this planet (including the massive Paleogene extinction event) it has not prepared them for the most efficient predator to walk the earth....Humans. It is my concern, and that of many other fisheries professionals, that harvest-oriented fishing may eventually cause Alligator Gar to go extinct.

For the detail-focused reader, I am parceling my definition of harvest-oriented fishing to only include the following harvest methods: spearing and bowfishing. I say this because these two methods result in the mortality of the fish. I am not including recreational tackle in my definition of harvest-oriented fishing because most recreational anglers release their catch...but I acknowledge that some do harvest gar. Yes, I know there are many other ways to define harvest-oriented fishing and there are many other methods for harvesting fish...well...tough. Spearing and bowfishing as harvest methods for Alligator Gar need to be addressed. The reader is more than welcome to contact me should they have issues with this definition, and we can happily discuss Alligator Gar fishing.

There is no way of sugar-coating this. Harvest-

oriented fishing kills fish (shocker I know), but it is important to understand the perspectives and history of this user group if we, as fisheries managers, are to implement policy. Harvest-oriented fishing has existed for as long as humanity has. Native Americans would use bows to harvest fish from rivers and bays, and Eskimo-Aleuts would manufacture spears to harvest salmon. Fast forward to the third millennium and the game has changed. While the concept of launching a projectile from a handheld device into a fish remains the same, the technology for doing so has advanced far beyond what was used a few hundred years ago. Wooden bows, arrows, and spears have been replaced with aluminum, fiberglass, and carbon fiber ones that are stronger, faster, and more efficient. Boats equipped with quiet inverter generators powering massive lights allow anglers to pursue quarry at night when there is less glare from the sun and fish move into the shallows. An impressive industry has risen around this fishing method and with it, a stigma. I would be lying to you if I said I have not participated in harvest-oriented fishing (bowfishing to be exact), and if I'm being honest, it is a lot of fun. One of my best friends and I would travel to the Potomac River in Virginia to target invasive snakehead and non-native carp. Therefore, I have gained a perspective on this fishing method that I believe a lot of people do not understand. Harvest-oriented anglers aren't evil people by any means. Some are feeding their families with what they catch, some are attempting to control the spread of invasive species, and others supplement their income by taking groups out on guided trips. That being said, I have seen videos on social media posted by harvest-oriented anglers harvesting gar that absolutely disgust me. As a conservationist, it is my opinion that the time has come to better regulate this fishing method.

Common sense: If you overharvest anything it will eventually run out. If a farmer picks all his tomatoes (ripe and unripe ones) he will no longer have tomatoes. Alligator Gar management should follow a similar philosophy. If harvest-oriented anglers are allowed to harvest every single Alligator Gar swimming in our waterways, they will simply be gone. Some agencies (like TPWD) recognize this and limit the harvest of Alligator to one per person per day and this harvested fish must be reported within 24 hours. Other states should follow suit and adopt this regulation so that Alligator Gar aren't negligently or inappropriately harvested. In fact, it would be awesome to see Alligator Gar fishing be managed as a "tag" system like the ones Colorado and Wyoming use for their Elk hunting season, with only a limited number of Alligator Gar harvest permits being sold each year.







Harvest-oriented anglers, it is time to stop going after Alligator Gar. These fish are incredible and there are so many advantages of trading your bows for rods and reels to catch these fish. As I mentioned in the previous paragraphs, a gar fishing trip can cost \$600-\$1,100! If you harvest these fish, you lose the opportunity of catching them again in the years to come. I'm not saying to ban bowfishing, no, quite the opposite. Harvest-oriented angling is engrained in certain cultures and remains just a viable fishing method as a hook and line. What I am saying is for us to have perspective when it comes to

Alligator Gar. We do not fully understand the impacts of heavy exploitation on this species. We need to proceed cautiously to ensure that we don't cause their extinction and if that means having to limit our harvest during a bowfishing trip, then I say why not?

### About the Author

Zach Moran is a current doctoral candidate at Baylor University where he studies nutrient enrichment from wastewater treatment and agriculture industrial effluents on fish communities in Texas. He received his bachelor's degree in biology from Virginia Tech and his Master's in Fisheries and Wildlife Conservation from Arkansas Tech. In his spare time, Zach enjoys hunting, fishing, and scuba diving. If you have any questions,

Zach can be reached at: zach\_moran1@baylor.edu

## Have you seen these?



The Fisheries Blog

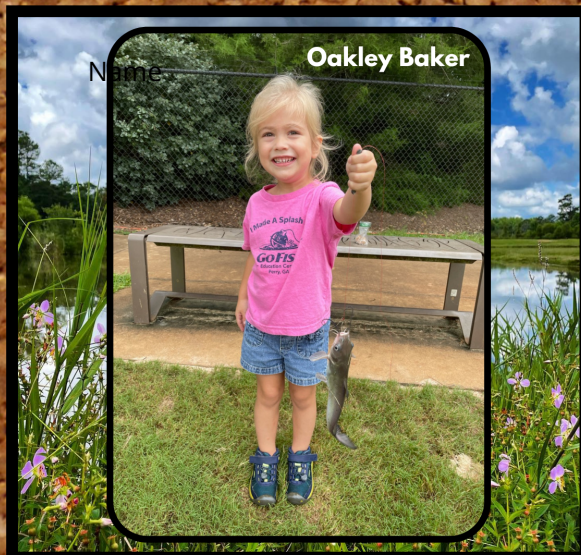


Click on image to visit  
website





# Props!



Do you have a picture of a fish you recently caught and want to share? Send your pics to Rebecca Brown at [georgiaafs@gmail.com](mailto:georgiaafs@gmail.com)



# BUBBA'S PLACE

## COFFEE BREAK

Jellyfish, starfish, and cuttlefish are not fish. So why do they have fish in their name?

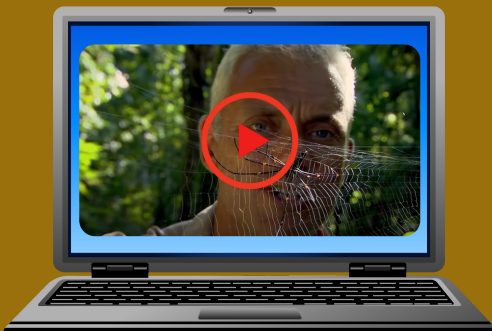


And have you heard about Mountain Chicken in the Caribbean? They are frogs! Is it because their legs taste like chicken?

## BUBBA'S VIDEO PICK

Guess what you can do with Joro spider webs?

Find out with Jeremy Wade



## BUBBA RECOMMENDS

How many Georgia State Parks have you visited?



STATE PARKS & HISTORIC SITES

<https://gastateparks.org/>

Fort Mountain State Park has some great hiking trails with picturesque views.



And don't forget about George T. Bagby State Park and Lodge on Walter F. George Lake.



Visit one of our fundraising donors for your fishing, camping, biking, and hiking needs.

 **West Marine**





## Safety Tip

from Bubba Bass



### Kayak Fishing

Is your kayak rigged to flip?

The last thing a kayak angler wants to happen is to have their kayak flip and of their gear sink out of sight into the abyss. Some kayak anglers use tethers or gear leashes so they do not lose their gear when they are actively fishing. But this can be a safety hazard if you are tethered to your gear and you flip over you can get tangled in your gear. Take the necessary precautions to reduce tangle hazards and strap your fishing gear to your kayak using bungees.



**Don't Forget Your Float Plan**

## Fin and Games



**What is a rebus? It is not a fish. Use the pictures to help you identify the fish. They are species of fish found in Georgia.**

1.  + 
2.  + 
3.  +  + 
4.  +  - 

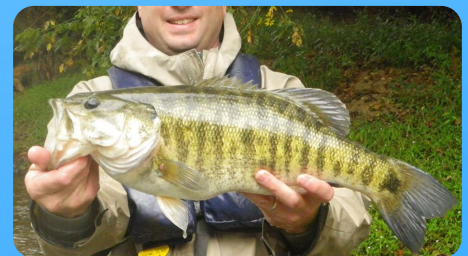
(answers on last page)

## Bubba's Friends

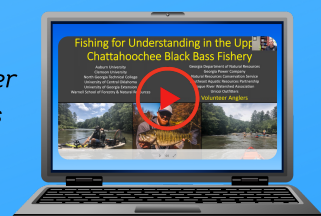
### Shoal Bass (*Micropterus cataractae*)

The shoal bass is one of 10 black bass species found in Georgia. Due to their similarity in appearance, they are often misidentified as other species of black bass. Shoal bass are unique to the southeastern United States and are now recognized as Georgia's State Riverine Sportfish. They inhabit the waters of the Flint River, Chattahoochee River, and the Ocmulgee River.

They are habitat specialists and prefer rocky substrate and moderate to fast-flowing water. Spawning takes place in large shoal complexes and they will migrate long distances to find these ideal locations. Their diets consist mainly of crayfish, fishes, and insects. Major threats to their populations include habitat loss (increased urbanization, land-use changes, dams), invasive species, and the introduction of non-native congeners such as the spotted bass. Because of their large size and aggressive strikes, shoal bass are often sought by anglers.



*Presentation about the upper  
Chattahoochee Shoal Bass  
Project by Steven Patrick*



*Learn about  
fishing for shoal  
bass in Georgia by  
Marion Baker*





# Electrofishing Safety

## Pre-safety Checklist

### A list of things to check before you head out electrofishing

#### Boat Items:

1. Check to confirm that the boat is fueled and has oil.
2. Check to confirm that all safety gear (first aid kit, earplugs, oars, fire extinguisher), including life jackets, are onboard.
3. Check to confirm that the plug is in the boat, and it's advisable to carry a spare plug.
4. Check to confirm the motor turns over (indicating a good battery) before you leave.
5. Check to confirm you have all equipment/gear/supplies/food/drink needed for the day, including any fuels needed to run the equipment.
6. Confirm you have a toolbox in the boat.
7. Leave a float plan with someone.
8. Check all parts of your trailer (lights, etc.) and tires to confirm they are road-ready.

#### Electroshock box:

1. Check your anodes and make sure they are secure and no wires are broken.
2. Confirm there are no frays/open cuts in any of the lines connected to your shock box or the pedal.
3. Check the bottom of the boat to confirm no grime/grit is present....bare metal is needed to complete the electrical circuit.
4. Check your generator and confirm that it is ground to the boat....otherwise you can get shocked.
5. Confirm that all shock box plugs are tightly plugged in and no connections are loose.
6. Pre-set the gauges on your shock box based on the species you are targeting and the conditions of the water – it's better to start with fewer volts and increase as needed until you get the desired amperage as opposed to starting with volts/amperage too high and "shocking too hot"....that can be harmful to fish and even the shock box.
7. Make sure to keep a troubleshooting manual of your shock box unit in the boat with you in case you need to reference it, along with the phone number of the shock box company.
8. Discuss with your sampling partner who will take what responsibilities that day, and make sure both of you know to remain vigilant as to your surroundings, weather conditions, and how the shock box is performing.
9. Confirm your dip nets are in good condition and you have at least 2 of them.
10. **THINK SAFETY** for the entire duration of your electrofishing effort, and **NEVER TOUCH THE WATER WHILE THE SHOCK BOX IS ON!!!**



# FISHY NEWS AROUND THE WORLD

## **The Fish Site**

### US TILAPIA FARMERS CONSIDER SWITCHING TO PERCH

Yellow perch, also known as lake perch, has a mild, sweet flavor with firm, flaky white flesh. They are highly sought after by ice anglers, according to the Minnesota Department of Natural Resources.

## **Hakai Magazine**

### THE AQUACULTURE INDUSTRY NEEDS A HEAT-LOVING SALMON

To escape rising ocean temperatures and marine heatwaves, many fish species are heading for cooler waters near the poles. But salmon farmed in marine enclosures don't have that option. To help salmon reared on farms survive, researchers around the world are working to see if they can make them more heat tolerant.

## **PHYS.ORG**

### LOW OXYGEN LEVELS ARE PUSHING FISH INTO SHALLOWER WATERS

A new study out of UC Santa Barbara and the University of South Carolina is the first to document more than a dozen species moving to shallower water in response to low oxygen conditions. The research, published in *Global Change Biology*, spans 15 years of surveys and measurements. The authors stressed the importance of accounting for the findings in fishery management and conservation or risk implementing strategies wildly out of step with conditions under the waves.

## **Eureka Alert (AAAS)**

### FAU RECEIVES NOAA GRANT TO ASSESS SHARK INTERACTIONS WITH RECREATIONAL FISHING

There have been no attempts to quantify shark depredation in recreational fisheries of the southeastern United States, which heavily support economies across multiple Gulf of Mexico and South Atlantic states. Moreover, data to identify how widespread the issue is and what types of mitigation are needed is sparse. However, understanding this issue without involving stakeholders is impossible.

## **Yale E360**

### ON SOUTH AFRICAN SHORES, WOMEN CARRY ON A HARVEST ONCE DENIED

In apartheid South Africa, the Sokhulu practice of gathering mussels was outlawed. "Ulwandle Lushile: Meeting the Tides," the second-place winner in the 2021 Yale Environment 360 Video Contest, shows how Sokhulu women persevered and are again harvesting mussels sustainably.

## **Harvard University**

### BOWFIN GENOME REVEALS OLD DOGFISH CAN TEACH RESEARCHERS NEW TRICKS

The fish species *Amia calva* goes by many names including bowfin, freshwater dogfish, grinnel, and mud pike. No matter what you call it, this species is an evolutionary enigma because it embodies a unique combination of ancestral and advanced fish features.



# AFS INFORMATION

## American Fisheries Society Annual Meeting



**Registration:** <https://afsannualmeeting.fisheries.org/registration/>

### You can register to attend in-person or virtually

Due to bandwidth limitations at the venue, they are planning to live-stream the plenary sessions and two concurrent symposia sessions per day. Almost all other presentations will be available in an on-demand, pre-recorded format. Virtual attendees will have access to the online attendee hub and special virtual networking events.

### Discover the Charms of Baltimore



### Are you a member of the American Fisheries Society?

- Membership to the Georgia Chapter is separate from being a member of the American Fisheries Society (AFS). Please visit the AFS membership website to learn more about being part of the largest professional society of fisheries scientists in the world.



<https://fisheries.org/membership/types-of-membership/>

Some benefits for becoming a member of AFS:

- Free online and mobile app access to AFS publications
- Discounts on books in the AFS bookstore
- Discounted registration fees
- Opportunities for AFS travel grants
- Attend continuing education courses at reduced registration rates
- Access to online webinars
- Able to vote on Society and Chapter business

Learn more about AFS: <https://fisheries.org/about/>



**Click on the laptop to watch a video**



# SUGGESTIONS? LET MINNOW!

**You can contribute. We need your input. Help keep the GA AFS members connected.**

Are you working on an interesting project you'd like to share with other Georgia AFS members? Do you have news to share with colleagues? Please make note of upcoming events, projects, personnel changes, issues, or anything else of interest to other Georgia AFS members, and pass them on to us for inclusion in the next newsletter.

Do you have any pictures you want to share with us to use on our website or newsletter? We are always looking for fish pictures, pictures of you working, aquatic scenic pictures, etc.

Do you have someone you want to nominate for the professional or student spotlight?

Have you caught a fish recently you want to submit for our "Props!" page? We also welcome immediate family members pictures of fish they recently caught.

You can send your nominations, requests, pictures, suggestions, and comments to Rebecca Brown at [georgiaafs@gmail.com](mailto:georgiaafs@gmail.com).

## Stay Connected

### GAAFS Website

[gaafs.org](http://gaafs.org)

### Facebook

[facebook.com/groups/georgiaafs.org](https://facebook.com/groups/georgiaafs.org)

### Twitter

@GeorgiaAfs

### Instagram

@georgiaafs

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Answer to Fin and Games:  
1- Lamprey  
2- Herring  
3- Green sunfish  
4- Longnose gar