

the Shellcracker



FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

<http://www.sdafs.org/flafs>

January, 2015

President's Message:

Greetings from Norway. As the exciting time that is our annual meeting is nearing I have shirked my duties and went off to Norway. I am writing this from a boat above the arctic circle (Yay for technology). Several of the excom had a call with Doug Austen and other members of the national society about the upcoming national meeting in Tampa and all of us are very excited about it. If you have any ideas or want to volunteer your time or services let me or one of the excom know. I am looking forward to seeing you all at the annual meeting, if you did not register early just come anyway.

Chris Bradshaw
Florida Chapter President





Getting in Touch



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Interested in contributing something to the Shellcracker? Email Chris Wiley at chris.wiley@myfwc.com with any articles or information that you would like to have included in the next issue. The Shellcracker is a great resource for informing folks about ongoing and proposed research. The deadline for the next issue is March 31st, 2015, so start fishing...

Movement and Habitat Use of Alligator Gar in the Escambia River: A Fish's Perspective

Amanda Mattair and Matthew G. Wegener

*Florida Fish & Wildlife Conservation Commission, Fish & Wildlife Research Institute,
Holt FL, 32514, USA*

As an Alligator Gar, I like to think of myself as one of the largest freshwater fish in North America. Due to our large size and prehistoric appearance, we have become popular with sport fisherman. I currently reside in Florida, in the Escambia River to be exact. The Escambia River has 148 km of swimming area that begins in Alabama and ends in Florida's Pensacola Bay. I spend most of my time traveling the 86 km from the Alabama/Florida state line to Pensacola Bay. Throughout the river, I swim around large woody debris, log jams, and lay downs. Spatterdock can be seen along my river journey but it is not until I get to the lower end of the river that I see eelgrass and Eurasian Watermilfoil. The floodplain is adorned with swamps and woodlands. When the river level rises, the floodplain becomes accessible providing new area for exploring.



Figure 1. Darrel Andrews (left) and Matt Wegener (right) releasing an Alligator Gar

Here in Florida, the status of my species is unknown but we are thought to occur west of the Apalachicola River (Gilbert 1992; Hoehn 1998). Within this range, we have been reported to live in the Choctawhatchee River, Escambia River, and Econfina Creek (Hoehn 1998). Since the population of Alligator Gar is unknown, the Florida Fish and Wildlife Conservation Commission (FWCC) closed the harvest of my species in 2006. I have seen habitat loss caused by dam construction, channelization, and erection of levee systems. These activities in the watershed, combined with overfishing, have led to our population's decline throughout our historical range (Ferrara 2001).

There is very little known about our behavior here in Florida. In order to learn more about my species, the FWCC conducted a telemetry study on the Escambia River to determine our movement and macro-habitat use. The biologists started their study by setting gill nets along the Escambia River. Myself and two others were entangled in the large-mesh of the nets. Then the biologists made two holes straight through our scales near our dorsal fin. They threaded steel cable through the holes, attaching a radio tag on one side of our dorsal fin and an acoustic transmitter on the other side. The whole tagging process seemed like a lifetime but in reality it was probably about 30 minutes. A total of seven others were caught and tagged using the same method. Our tags stayed on for about 5 months before they fell off. In 2013, 12 more of us were caught in the nets, but this time, their tags were different. This version had metal-tipped dart heads (PSAT-SSMD, Hallprint Pty. Ltd., Victor Harbor, South Australia) attached to the end of acoustic and radio transmitters. The biologists slid these tags under the scales near the dorsal fin. This tagging process was much shorter, lasting only about 10 minutes. One of my downstream neighbors had one of these tags on for 19 months! All together, there were 22 of us tagged from 2011 to 2013.



Figure 2. Christopher Anderson (left) and Amanda Mattair (right) hold up an Alligator Gar before releasing it.

Not too long after I received my tag I started noticing the same biologists around the river more often. The biologists had lots of strange looking equipment they would bring with them. When I was nearby during their river trips, I noticed they would start to follow me with their long antennas and underwater microphones. At first I would see them from a distance, and then they would slowly get closer, almost as if they were “tracking” me. Once they got close, they would start putting small black objects the biologists called “stationary receivers” (VR-2W, Vemco, Halifax, Nova Scotia) into the water. They would place the receivers upstream and then downstream of me in the river, deploying what they called an “array”. The biologists would return within two days and take the array out of the water. There were other stationary receivers scattered all along the river, and I would see them as far north as the Alabama/Florida state line and as far south as Escambia bay (Figure 3). The biologists would come and check these receivers every few months, but put them back in the water before leaving.

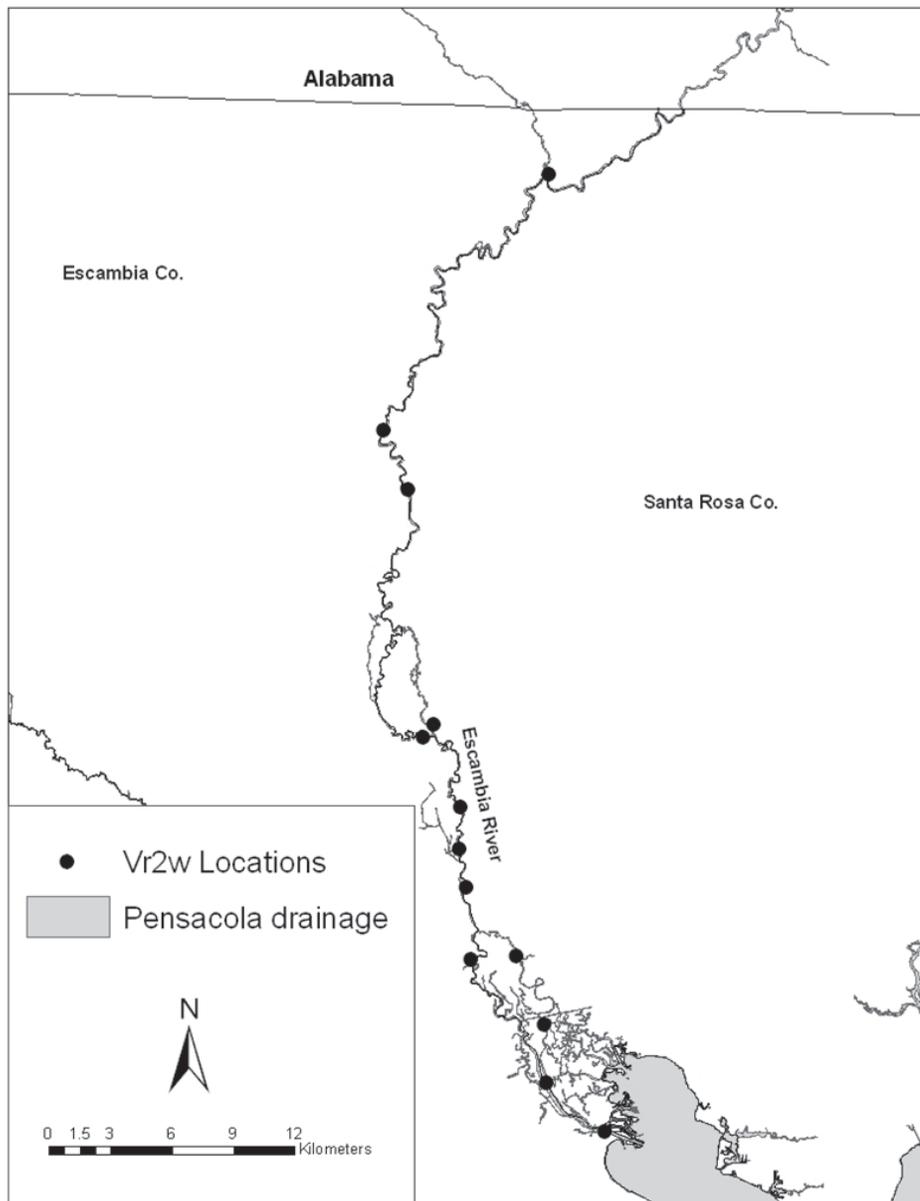


Figure 3. Locations of Vemco VR2W fixed station receivers (SRs) to detect movement of Alligator Gar in the Escambia River 2011-2014.

The information the biologists collected from the stationary receivers, arrays, and tracking trips gave them a glimpse into my world. The stationary receivers were used to track our linear home range and determine how far we moved over a period of time. They collected over 1,000 detections of me and my tagged buddies from 2011 to 2014. Our total movement ranged from 1.40 to 1087.70 km between the first and last relocation. Our mean distance traveled ranged from 0.21 to 11.81 km, while our maximum distance traveled was from 0.72 to 45.23 km. Our linear home range size on the Escambia River averaged 48 km. This home range size is similar to my relatives in the Trinity River, Texas (35 km; Buckmeier et al. 2013), yet much larger than my buddies in the Mobile-Tensaw Delta, Alabama (7 km; Sakaris et al. 2005) and the Red River System, Oklahoma (12 km; Brinkman 2008). Sometimes on a warm spring day, my friends and I would swim long distances in a very short period of time. The largest movement observed was 70 km in 5 days, followed by 54 km in 10 days, and 22 km in just 1 day. The information collected also showed the biologists our seasonal movement patterns. We are a highly mobile species in the late spring into early fall but we move very little when the water temperature drops below 15⁰ C in winter and early spring.

During their tracking trips, the biologists appeared to be interested in which parts of the river system we were located. There were three macrohabitat categories they designated for each time they found us: (1) main channel, (2) oxbow (area of reduced current such as sloughs and floodplain tributaries) or (3) inundated floodplain. The amount of each macrohabitat available to us varied, depending on the river level. The biologists were also interested in what was so special about the place we called home. Each time we were relocated, they would record the amount of woody debris and vegetation nearby, as well as river level, canopy cover, water temperature, dissolved oxygen, and salinity.

The biologists used information collected from tracking trips and arrays to determine that not only do our movements vary by season, but also our macrohabitat use. When the water temperature is below 15^o C, we spend most of our time in oxbows. As the seasons change and the water warms up, we can be found in main-channel habitat more often. But when the sun dips behind the trees and darkness falls on the Escambia River, you will find us slowly sauntering back towards our favorite oxbow. Inundated floodplains are important to most river species, but river levels on the Escambia River were too low for us to access this type of habitat during the study period. As for other habitat variables, the amount of vegetation and woody debris does not really influence the places we call home. And the amount of dissolved oxygen in the water is not a big deal to us. We have the ability to breathe air; unlike some of our more popular cousins, but we won't hold that against them. Salinity doesn't really bother us either. We can often be found cruising the bay and sometimes even the Gulf of Mexico during our seasonal migrations.



Figure 4. Matt Wegener and John Knight attach a tracking device to an Alligator Gar.

As the years go by, biologists are gaining a greater knowledge of my species. Oxbows are obviously important to us, as we use them throughout the year. Protection of this type of habitat is extremely important to the conservation of my species and should be considered by fisheries managers throughout my range. Still, there is much about us yet to be discovered. River level and flooding events have strong impacts on other fish species, but the researchers were not able to tie these factors to our movement and macrohabitat use. For now, these secrets shall remain a mystery; known only by those of us who prowl in the murky waters of the Escambia River. We are Alligator Gar.

Literature Cited

- Buckmeier, D. L., N. G. Smith, and D. J. Daugherty. 2013. Alligator gar movement and macrohabitat use in the lower Trinity River, Texas. *Transactions of the American Fisheries Society* 142:1025-1035.
- Brinkman, E. L. 2008. Contributions to the life history of Alligator Gar, *Atractosteus spatula* (Lac'ep'ede), in Oklahoma. Master's thesis. Oklahoma State University, Stillwater.
- Ferrara, A. M. 2001. Life-history strategy of Lepisosteidae: implications for the conservation and management of Alligator Gar. Doctoral dissertation. Auburn University, Auburn, Alabama.
- Gilbert, C. R., editor. 1992. Rare and Endangered Biota of Florida volume II. Fishes. University Press of Florida, Gainesville, Florida.
- Gutzwiller, K. J., and S. K. Riffell. 2007. Using statistical models to study temporal dynamics of animal-landscape relations. Pages 93-117 in J. A. Bissonette and I. Storch, editors. *Temporal dimensions in of landscape ecology: wildlife responses to variable resources*. Springer Science & Business Media, New York, New York.
- Hoehn, T. 1998. Rare and imperiled fish species of Florida: a watershed perspective. Florida Game and Fresh Water Fish Commission, Tallahassee, Florida.
- Sakaris, P. C., A. M. Ferrara, K. J. Kleiner, and E. R. Irwin. 2005. Movements and home ranges of Alligator Gar in the Mobile-Tensaw delta, Alabama. *Proceedings of the Annual Conference Southeastern Association of Fish and Wildlife Agencies* 57(2003):102-111.



**Florida Chapter of the American Fisheries Society
4H Camp Ocala, Florida
Annual Meeting Registration: February 17-19, 2015**

Official Use Only: Postmarked: _____ Entered: _____ Deposited: _____

First: _____ **Last:** _____ **Student (please check)**

Affiliation: _____
This address will be used in our mailing list and should be the one where you want to receive materials.

Street Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Work Phone: _____ **Ext:** _____ **Email:** _____



T-Shirt Size: (Select One) Small Medium Large X-Large XX-Large XXX-Large

Arrival Time: (Select One) Tue Noon Tue PM Wed AM Wed Noon Wed PM Thur AM



Please check the appropriate boxes below.

PRE-REGISTRATION: registration form postmarked by Friday, January 9, 2015

\$ 30.00 One-day Registration \$ 40.00 Full Registration

LATE-REGISTRATION: registration form postmarked after Friday, January 9, 2015

\$ 35.00 One-day Registration \$ 47.00 Full Registration

Meals and Lodging

Tuesday, February 17, 2015

- \$8 Lunch
- \$14.50 Dinner
- \$27.00 Lodging

Wednesday, February 18, 2015

- \$6.50 Breakfast
- \$8 Lunch
- \$14.50 Dinner
- \$27.00 Lodging

Thursday, February 19, 2015

- \$6.50 Breakfast
- \$8 Lunch

Full Meals and Lodging **\$120.00**

Linens (please bring own, limited supply) \$ 6.00

Florida Chapter dues (calendar year 2015) **\$10.00** FL Chapter dues paid via AFS annual membership.

Total Amount: _____

Total Enclosed: _____ Cash Check
(Minimum \$10)

Balance Due: _____ Cash Check Credit

Please Make Checks Payable to Florida Chapter, AFS and mail to:	
Cheree Steward	Phone: (352) 800-5003
FWC	Fax: (352) 357-2941
601 W. Woodward Ave.	Email: cheree.steward@myfwc.com
Eustis, FL 32726	
*Checks not payable to 'Florida Chapter AFS' will be returned to sender.	
Registration Forms may be sent via fax (attention: Cheree) or via email: (subject: 2015 AFS FL).	
A minimum amount of \$10 must be mailed to validate your registration.	

Note: This is a cafeteria-style service and food must be ordered a week in advance.

Since meals are pre-paid, **please** submit your registration form as soon as possible.

Registrations will still be accepted at the meeting, but with a late registration fee.

We can accept VISA, MASTERCARD, cash or check at the meeting.

If you would like to pay your meeting fees with a credit card, then please send a \$10 check for your deposit.

Annual Meeting of the Florida Chapter American Fisheries Society

February 17-19, 2015

4-H Camp Ocala, Altoona, Florida

Tuesday, February 17th

11:00am – 6:00pm Registration
12:00pm – 1:00pm Lunch
1:30pm – 5:00pm Contributed Papers 1 & 2
5:00pm – 7:00pm Poster Setup
6:00pm – 7:00pm Dinner
7:00pm – 8:00pm **Formal Poster Session**
Followed by BONFIRE SOCIAL

Wednesday, February 18th

7:30am – 8:30am Breakfast
7:30am – 6:00pm Registration
8:30am – 11:50pm **Symposium: Fisheries-dependent vs. fisheries-independent approaches**
11:50pm – 12:00pm Group picture
12:00pm – 1:00pm Lunch
1:00pm – 2:25pm **Symposium: Fisheries-dependent vs. fisheries-independent approaches**
2:40pm – 5:00pm Contributed Papers 3
5:00pm – 6:00pm Student Subunit Meeting (all students please attend)
6:00pm – 7:00pm Dinner
7:00pm – 8:00pm **Chapter Business Meeting & Award Presentations** (all please attend)
Student Awards: *Travel and Roger Rottmann Scholarship*
Professional Awards: *Rich Cailteux Award*
Followed by the RAFFLE, AUCTION & BONFIRE SOCIAL

Thursday, February 19th

7:30am – 8:30am Breakfast
7:30am – 9:00am Registration
8:30am – 8:40am Announcements
8:40am – 12:00pm Contributed Papers 4 & 5
12:00pm – 1:00pm **Lunch & Awards presentation:**
Best Papers/Best Posters
Power Tie
Lampshade Awards

Registration details

Registration deadline is **Friday, January 9, 2015**. Please note the lower registration costs if you register by this deadline. Registration covers housing and meals at the camp. Please remember to bring your own linens or sleeping bag if you are planning to sleep at the camp. Linens will only be available in limited supplies and for a small fee.

For your convenience, we will have registration available online: [2015 FLAFS Meeting Online Registration](#). Once you fill out the online form, you can either pay online through PayPal or print the completed form and mail it in with your check, cash, or money order. A hard copy of the registration form can be found in this issue of the Shellcracker or on the Chapter's website: [Florida Chapter AFS](#)

Opportunities for students support

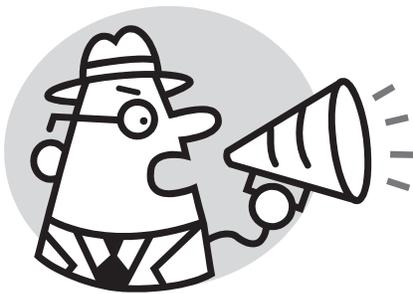
As in previous years, student travel awards will be available for the annual meeting. Master's and doctoral students are also eligible for the Roger Rottmann Memorial Scholarship, for which the recipient(s) will be announced at the annual meeting. More information and the application materials are available at [FLAFS Awards and Scholarships](#).

We look forward to seeing everyone at the beautiful 4-H camp for our 2015 annual meeting!

2015 Student Raffle

Our next raffle is less than 2 months away! If you are interested in helping out please email Andy Strickland (Andy.Strickland@MyFWC.com) or Alan Collins (lac96@bellsouth.net). Remember all proceeds fund our student travel grants for next year's meeting. Please contact us to get involved and make this year's raffle great!

Thanks,
Andy Strickland and Alan Collins



Chum! Chum!

Award Nominations!?!

The Awards Committee is seeking nominations for the Florida Chapter's, Outstanding Achievement and Rich Cailteux Awards. Send nominations to Eric Nagid (eric.nagid@myfwc.com) by January 9, 2015. Applications should be limited to one page, but descriptive enough to convey why the individual is deserving of the award. Nomination letters should outline the accomplishments of the individual that meet the criteria of each award below.

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.

Directions to Ocala 4-H Camp:

The Ocala 4-H Center is located in the Ocala National Forest on Sellers Lake. Directions are provided below for those traveling from different parts of the state. Mileage estimates are to be used for general reference only.

From SW:

Take I-75 N to 44 E, □head towards Leesburg, □turn right onto 441 S, □in Eustis, take exit for 19N (on right), □turn left at light and head north on 19 N for ~19 mi., □turn left onto NFS 535 at the Fire Control Center/Camp Ocala 4-H Center sign. Center will be on the right about 1/2 mi.

From SE:

Take Turnpike N to 429 N towards Apopka, turn left onto 441 N, □once in Eustis, take a right onto 19 N., □go for ~19 mi. and turn left onto NFS 535 at the Fire Control Center/Camp Ocala 4-H Center sign. Center will be on the right about 1/2 mi.

From NW:

Take I-75 S to Ocala, take the exit for 326 E, when 326 ends, turn left onto 40 E, turn right onto 19 S, go for ~4.5 mi. and turn right onto NFS 535 at the Fire Control Center/Camp Ocala 4-H Center sign. Center will be on the right about 1/2 mi.

From NE:

Take 17 S to Palatka, turn right onto 19 S, go for ~42 mi. and turn right onto NFS 535 at the Fire Control Center/Camp Ocala 4-H Center sign. Center will be on the right about 1/2 mi.

Candidate Biographies for Upcoming Election for Florida Chapter Officers

(further nominations for President-Elect and Secretary/Treasurer will be provided at the 2015 annual meeting)

President-Elect: John Galvez, Ph. D.



I am the Project Leader for the U.S. Fish and Wildlife Service - Peninsular Florida Fisheries Office, and have been working as a fishery biologist for over 25 years. I have been an AFS member since 1992 and a Florida Chapter member since 2003.

I have been involved with the American Fisheries Society at both the local and regional levels. For the Southern Division of AFS (SDAFS), I served as the Associate Editor (Fisheries) for the Proceedings of the Southeastern Association of Fish and Wildlife Agencies (SEAFWA). For helping organize the Fisheries sessions of six of SEAFWA's annual meeting, the Southern Division AFS presented to me their Distinguished Service Award. With the Florida chapter, I have been involved by attending annual meetings and by serving in the Site Selection sub-Committee for the 2011 SDAFS annual conference in Tampa. During this meeting I also organized a Student Career Workshop. I have also served as associate editor and reviewer for a number of scientific publications including the Journal of Fish and Wildlife Management, Progressive Fish-Culturists, Transactions of AFS, and the North American Journal of Fisheries Management.

What I like about the Florida Chapter is that it allows the exchange of information between fisheries professional from government, academic, industry, and non-profit groups, and thereby facilitates interactions and a sharing of perspectives on state-wide and regional issues for both freshwater and marine environments. I learn a lot and I have made valuable contacts at our annual meetings. The Chapter does a great job in developing the career of its members, and specially students. My goal as president will be to maintain this type of environment for all chapter members, and encouraging mentoring of students.

If selected as your President-elect, I will represent the Chapter as appropriate, and will meet the needs and concerns of the membership. A duty of all Chapter president-elect is to plan a symposium for the next annual meeting. As without healthy aquatic habitats it is almost impossible to have a good fishery, I would like to plan a symposium that will focus on habitat restoration in freshwater and marine ecosystems. I look forward to the opportunity to serve the chapter as president, and look forward to seeing all of you in February.

Candidate Biographies for Upcoming Election for Florida Chapter Officers

President-Elect: Andy Strickland



I am honored to be nominated as a candidate for President-Elect of the Florida Chapter of the American Fisheries Society. After earning my Master's degree in Fisheries and Wildlife Science, I moved to Florida and began employment with the Florida Fish and Wildlife Conservation Commission in 2003. I am currently a Biological Administrator with FWC at the Joe Budd Field Office near Tallahassee. My career as a research biologist has focused on studying the biology and population dynamics of Florida's freshwater fish species in collaboration with other state and university scientists.

My first experience with AFS was in 1999 when I joined the local chapter as a graduate student at Virginia Tech. I have been an active member of both the Florida Chapter and Southern Division AFS since 2004, and have served as Florida's representative on the Catfish Committee since 2009. I have participated in various state, regional, and national AFS meetings throughout the country. I have served as the Florida Chapter raffle committee chair for many years. My duties as raffle committee chair are to coordinate prize collection, ticket distribution, and lead the event on the night of the raffle. This is a responsibility that I accept with much pride and enthusiasm.

If elected, I will work energetically to uphold our Chapter's high standard of professionalism, information exchange, and student support. I appreciate the relationships and opportunities that the Florida Chapter has given me. Over the years, I have built strong relationships with students, professors, and biologists in both fresh and saltwater fisheries leading to collaborative research and publications. I have a passion for fishing, the outdoors, and Florida's natural resources. If elected, I propose a symposium titled "Improving Florida's Fisheries: Actions Today That Benefit Tomorrow". Habitat improvements, fish stocking and fishing regulations are the three primary avenues to improve our fisheries. What do we do as researchers, scientists, or managers to improve fishing or fishing opportunities throughout the Sunshine State? I am excited about this opportunity and appreciate your consideration to serve as President of our Chapter.

Candidate Biographies for Upcoming Election for Florida Chapter Officers

Secretary-Treasurer: Kevin Johnson



The Florida Chapter of the American Fisheries Society has been an important professional society in my career as a freshwater fisheries biologist for Florida Fish and Wildlife Conservation Commission. Every year I look forward to hearing about all the great research and management that takes place in our state, re-connecting with fellow colleagues, and meeting new biologists. I have been employed with FWC since 2007, prior to that I was employed by Florida LAKEWATCH and the University of Florida Department of Fisheries and Aquatic Sciences. Before my professional career began, I received a Master of Science degree from the University of Florida Department of Fisheries and Aquatic Sciences, and a Bachelor of Science degree from the University of Central Florida. My involvement and membership with the Florida Chapter AFS began when I attended my first meeting in 2004 as a Masters student at UF, and from 2009 to 2012 I served as the chapter's Shellcracker Newsletter Editor. I have also been a member of national AFS since 2010. With my prior experience as Newsletter Editor and my working relationships with current and former outstanding Secretary-Treasurers, I know what it takes for that officer's position to help the chapter run properly. Therefore, I would like the opportunity to be the chapter's next outstanding Secretary-Treasurer.