

Southern Division News



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The President's Message

Wes Neal, SDAFS President

Greetings SDAFS Members,

There is no shortage of political arguments swirling around the topic of climate change. Many of these arguments are legitimate legislative discussions on which actions or inactions are best economically, socially, and ecologically. Politics works that way. However, when you put politics aside, we can no longer dispute that climate change is real, it is happening now, and the effects are accelerating.

The Earth's average annual temperature has increased about

1.8°F in recent decades. This does not sound like a lot, but the difference between ice ages and dinosaurs was only 10-15°F. Without significant action, scientists predict that the climate will heat up an additional 2.5 to 10°F over the next century.

(Continued on page 2)

Photo above: A male Candy Darter (*Etheostoma osburni*), a federally endangered species endemic to the New River drainage. Photo taken by Katie McBaine, Virginia Tech.

AMERICAN
FISHERIES
SOCIETY



Alabama	Puerto Rico
Arkansas	South Carolina
Florida	Tennessee
Georgia	Texas
Kentucky	Virginia
Louisiana	Washington D.C.
Maryland	West Indian
Mississippi	Islands
North Carolina	West Virginia
Oklahoma	

Questions/Comments:

Caitlin S. Carey
SDAFS Newsletter Editor
cscarey@vt.edu

(President's Message continued)

This rise in average temperature will greatly increase climatic extremes. Storms will be more frequent and stronger, droughts will be more severe, summers will be hotter, and winter weather will be more variable. Sea ice will melt, raising sea level and altering ocean and air currents. Loss of Arctic sea ice will destabilize and shift the polar vortices, extending winter in some areas and occasionally pushing extremely cold air into the deep south; but the Earth will be warmer on average. We are already seeing these changes.

As fisheries scientists and managers, this will affect how we do business. Hurricanes are increasing in frequency and strength (see Matthew, Maria, Dorian). In Puerto Rico, for example, flooding was so extreme that one reservoir completely changed its entire water volume once per hour during Hurricane Maria, flushing most sport fish out into the Atlantic Ocean. Many areas of the U.S., like Texas with Hurricane Harvey, have also experienced unprecedented flooding.

On the flipside, areas like California are getting hotter and drier. Plants and animals are shifting to higher altitude, wildfires are becoming more destructive, and reduced snows lead to water shortages. Stream fishes are caught in the middle. Stream temperatures can become lethal during fires or after the canopy is denuded, erosion following the fires can choke fish and their eggs, and even fire retardants used to fight the blaze can be detrimental to fish.

This past summer, mass mortality of salmon in Alaska were attributed to heat stress. In the Northeast, NOAA estimates that invertebrates like lobster and sea scallop, and many fish species will be adversely affected by warmer seawater. In Appalachia, native brook trout cannot hide from changes in stream flow and temperature.

Climate change will also affect our profession in ways we often do not consider. Changes in precipitation will require changes in dam design. The increase in flood frequency and magnitude may require modification of water control structures. For a private pond, a secondary spillway is designed to handle floodwater

during an extreme event of specified magnitude, such as a 100-year flood. What constituted a 1 in 100-year flood 50 years ago will be more commonplace as climate change progresses, and more extreme events will be possible. In other words, a pond built at 1970 standards with its 100-year flood emergency spillway may need to be modified to handle a 500-year flood.

We are also seeing a rise in water-related illnesses. During the past summer, I have had more calls regarding the health risks of pond water to humans and animals than in all previous years combined. In the Southeast, cyanotoxins killed tons of marine fish and animals along Florida's Gulf Coast, and people's companion animals in freshwaters from North Carolina, to Texas and Wisconsin. Cyanobacteria thrive in warm temperatures, as do other maladies, including the brain-eating amoeba *Naegleria fowleri* and the vector for pythiosis, *Pythium insidiosum*.

Make no mistake—climate change is real, it is caused by human activity, and it is happening now. For these reasons, Society President Scott Bonar has made climate change a top priority for his presidency. I encourage all SDAFS members to make it their priority too, as it will affect you and the resources that you love.

Wes

UPCOMING MEETINGS



LITTLE ROCK • 2020

Southern Division American Fisheries Society Annual Meeting February 20–23, 2020

The Arkansas Chapter is pleased to welcome everyone to Little Rock for the 2020 Southern Division-American Fisheries Society meeting to be held February 20–23, 2020 at the Little Rock Marriott-Downtown. The local planning and program committees have been hard at work putting together what we hope will be a great meeting. Below you will find information about continuing education workshops, symposia, a link to submit your abstract, hotel reservation and local parking information. You can always visit the meeting webpage for more details (<https://sd.fisheries.org/little-rock-2020/>).

The meeting will have fun for all, starting Thursday, February 20th, with a welcoming social at Little Rock's Fassler Hall. Friday evening we will convene in the Marriott's Grand Ballroom for the poster session and tradeshow social, which will showcase many fine vendors from across the industry. Lastly, we will celebrate another great meeting with our Grand Social at Arkansas's Museum of Discovery. We hope you will then explore Little Rock's River Market Entertainment District and take advantage of one of the many discounts we have secured for our attendees. We hope to see you all in February!

Ben Batten

SDAFS 2020, General
Meeting Chair

Ben.Batten@agfc.ar.gov



SDAFS 2020: Meeting Details

Registration: Registration is now open! Early bird registration deadline is December 31st, 2019.

[CLICK HERE TO REGISTER NOW](#)

Workshops: There will be 17 workshops that cover a variety of topics from fish aging and GIS to communication and leadership! Most workshops will be hosted on Friday, February 21st, at the Marriot-Downtown, with the exception of the HAACP training workshop, which is a 2-day training, beginning Thursday, February 20th.

Symposia: There are seven Symposia available and accepting oral presentation abstracts! Topics include black bass ecology, sturgeon population dynamics, stream restoration, habitat management, and more! You can submit abstracts to individual symposia via the submission webpage, or you can contact the symposia organizer directly.

Detailed information regarding workshops and symposia can be found on the meeting webpage!

Submit your oral presentation and poster abstracts [HERE](#)

Deadline for submissions is Friday, December 20th, 2019

Lodging: Lodging will be at the meeting site, the Little Rock Marriott-Downtown. To make hotel reservations, click [HERE](#) or call (501) 906-4000. Please mention this meeting to ensure a conference rate. For the Government Rate, click [HERE](#).

The deadline for the meeting rate is January 27th, 2020.

Parking: The preferred parking location is the City of Little Rock Statehouse Convention Center Parking Garage located at [201 Main Street](#). A reduced rate of \$6/day has been arranged for meeting attendees with a validated parking ticket. Please see the meeting registration desk to get your ticket validated. The Marriott valet service is available at \$18/day.

Free public parking is available six blocks east of the hotel at the 500 block of East 2nd Street.



Please visit the meeting webpage for more details!

Catfish 2020: *The Third International Catfish Symposium*

February 18–20, 2020, Little Rock, AR

Early Registration Deadline is Tuesday, December 31st, 2019

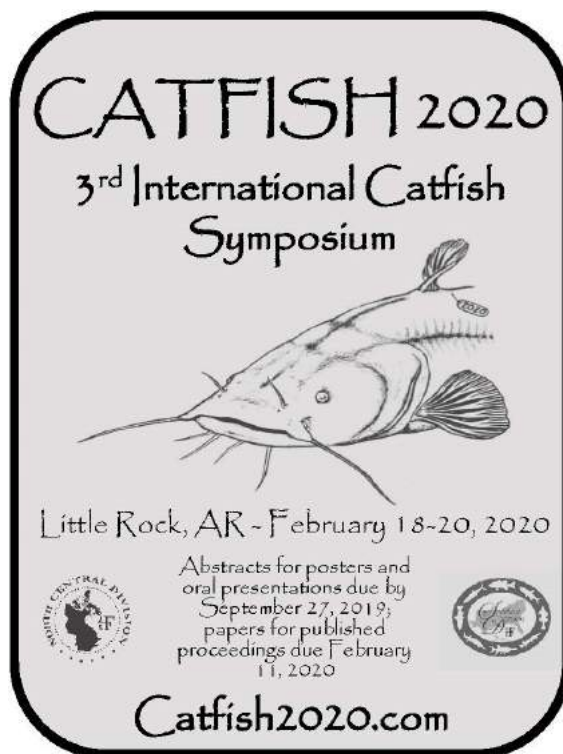
You are invited to the 3rd International Catfish Symposium to be held February 18–20, 2020 in Little Rock, Arkansas, in conjunction with the AFS Southern Division Annual Meeting. This meeting will provide a forum for the exchange of information about the biology, ecology, management and conservation of worldwide populations of both game and nongame catfish species. Previous publications from the First and Second Symposia continue to sell and have served as important references for managers and researchers alike.

The theme for the 3rd International Symposium is “Communicating Catfish Science” and will bring together the last decade’s work on the conservation, ecology, and management of worldwide catfish populations and their habitats. The symposium will include a captivating plenary session, close to 80 contributed talks, a poster session, two great socials, and four catfish-related workshops. This once-in-a-decade symposium is not to be missed!

For the most up-to-date information on the symposium, and to register, please visit the web site at catfish2020.com. A link to the host hotel reservations page (Little Rock Marriott- same as SDAFS Conference) can be found on the site as well.

Please contact Catfish 2020 General Chairs Jason Olive (jason.olive@agfc.ar.gov) or Jeremy Tiemann (jtiemann@illinois.edu) with questions about the symposium.

Visit catfish2020.com for updated information, guidelines for oral and poster presentations, manuscript submission instructions, and symposium details.





AMERICAN FISHERIES SOCIETY

150th Annual Meeting

COLUMBUS, OHIO, AUG 30 - SEPT 3, 2020

Symposium: Biology, Management, and Culture of Walleye, Sauger, and Yellow Perch: Status and Needs

Walleye, one of the most sought-after species of freshwater sport fishes in North America, and its “sister” species, the Sauger, have demonstrated appreciable declines in their numbers from their original populations since the beginning of the 20th century. Similarly, Yellow Perch, once the most commonly caught sport fish and an important commercial species in North America, have also shown declines. Yet, some western states and provinces are trying to extirpate Walleye and Yellow Perch where they have been introduced outside of their native range. The purpose of this one-day symposium is to present up-to-date information on the biology and management of Walleye, Sauger, and Yellow Perch, since the 2011 publication of the AFS book, *Biology, Management, and Culture of Walleye and Sauger*, the companion column in *Fisheries* that year (36[12]), *Future Research Needs of Walleye and Sauger*, and pertinent review papers in *Biology of Perch* (CRC Press, 2015). Presentations will include topics on systematics, genetics, physiology, ecology, population dynamics, culture, recent case histories, and management practices, which will be of interest to managers, researchers, and students who deal with these important species, particularly in light of habitat alterations, population shifts, and other biotic and abiotic factors related to a changing climate.

Organizer: John Clay Bruner *email:* jbruner@ualberta.ca

If you are interested in presenting a talk on Walleye, Sauger, or Yellow Perch at the American Fisheries Society’s 150th annual meeting in Columbus, Ohio, please contact John Bruner to be included in the symposium. Thank you.

Deadlines:

Accepted Symposia proposals will be posted on the conference website on **February 14th, 2020**. If accepted, organizers must submit a complete list of confirmed presentations and titles by **March 13th, 2020**. Abstracts for Symposium oral presentations must be submitted by **March 20th, 2020**.

SDAFS COMMITTEES & NEWS

Resolution Committee Report

Chapters and Chapter Subunits are encouraged to submit resolutions for SDAFS membership consideration. Every fishery encompasses three essential elements: habitat, aquatic species and people. Any issue that impacts those elements may be worthy of a Division resolution. External or General Resolutions are those that place the views of the Division on record on matters of broad concern. Such resolutions follow the review, publication, notification, comment, and approval process before they are eligible for presentation to the membership for a vote. This process is found as a link at: <https://sd.fisheries.org/resolutions/>. Reso-

lutions can be submitted at any time but they must be published in a SDAFS newsletter prior to the SDAFS Annual Business Meeting. Resolutions are voted on at the SDAFS Annual Business meeting.

All the SDAFS resolutions adopted since 2005 are posted on the SDAFS website at: <https://sd.fisheries.org/resolutions/>

Resolutions should be sent to Dennis Riecke, Resolutions Committee Chairman dennis.riecke@wfp.ms.gov (w. 601-432-2207).

Membership on the SDAFS Resolutions Committee is open to anyone who is a dues paying member of the AFS. Contact Dennis Riecke if you are interested in joining the committee.

SDAFS Election Results

Elections were held this summer for Vice-President and Student Representative. Both newly elected officers will begin their terms at the Annual Meeting of the Southern Division

Vice President

Jason Olive

(Arkansas Game & Fish Commission)

Vice-President, Jason Olive, will serve four years on the Executive Committee starting in February. Jason has served in multiple Society roles, including Treasurer of the Arkansas Chapter, President of the Mississippi Chapter, both Secretary/Treasurer and Chair of the SDAFS Catfish Management Technical Committee, SDAFS Representative to the Fisheries Management Section, and currently serving as the Secretary/Treasurer of



(Jason Olive, Vice President continued)

the Fisheries Administration Section and Co-Chair of the upcoming Third International Catfish Symposium. One of Jason's primary goals is to get more young professionals and students connected with the division's technical committees.

Student Representative Henry Hershey (Auburn University)

Henry Hershey will serve for one year as the Student Representative starting in February. He's served as Secretary, Vice President, and President of the Auburn Student Subunit. As Student Representative, he will connect with subunit leaders regularly to keep them apprised of divisional business. Further, he plans to create conversation around the difficulties that hinder student success.



AWARDS & NOMINATIONS

Retired SCDNR Director Alvin A. Taylor named C. W. Watson Award Winner

Hilton Head, SC – Oct. 30, 2019 – The Southeastern Association of Fish and Wildlife Agencies (SEAFWA) named **Alvin A. Taylor** the 2019 C. W. Watson Award winner at their annual meeting in Hilton Head, South Carolina this week. The award is the highest honor bestowed by the Association.

Taylor retired earlier this year after almost 42 years of service with the South Carolina Department of Natural Resources (SCDNR). He served as SCDNR Director from March 2012 until May 2019.

(C. W. Watson Award Winner continued)

"Director Taylor has a long history of serving in leadership positions within SEAFWA including a recent tenure as association president," SEAFWA President Chuck Sykes said. "Through these roles, he has positively impacted policies and programs at the state, regional and national levels. We believe this award is the perfect way to celebrate and honor his career-long achievements and commitment to natural resources."

Chair of the C. W. Watson Award Committee, Emily Jo Williams, Vice President of Migratory Birds and Habitats for the American Bird Conservancy, said that Director Taylor exemplifies the qualities and spirit of this prestigious award.

"We received a number of excellent nominations for the 2019 award from every sector of our Southeastern conservation community including wildlife, fisheries, law enforcement, administration and research," Williams said. "Although our decision was difficult given the qualifications of so many incredible professionals, we were blown away with Director Taylor's contributions to the South Carolina DNR and the Southeastern Association of Fish and Wildlife Agencies."

Throughout Taylor's career, he has been a tireless advocate for South Carolina's natural resources and has been instrumental in rebuilding the agency's relationship with the General Assembly. When Taylor first became director, the agency was suffering from reduced budgets and staffing as a result the economic downturn. With Director Taylor as the agency's most vocal ambassador, state funding for SCDNR has doubled since 2012.

As director, Taylor also helped reform many wildlife laws and regulations, added thousands of acres to the state's Wildlife Management Area program at no cost to the agency, helped to strengthen conservation measures for popular saltwater game species while providing increased angling opportunities, championed an update to the South Carolina State Water Plan, and established interstate boating and wildlife violator compacts.

Director Taylor has a keen understanding that outreach efforts are critical to the future of conservation. Under his leadership, SCDNR experienced the largest expansion of outreach programs in its history. Through programs such as the National Archery in the Schools Program, Take One Make One, Scholastic Clay Shooting Sports, and middle and high school bass fishing clubs, the agency interacts with more than 170,000 youth each year – not including the constituents impacted through shooting range expansions and the establishment of the agency's Hispanic outreach program.

"Alvin is filled with integrity, believes in doing what is right and always wants what is best for our Department and its employees," Interim SCDNR Director Robert Boyles said. "He is respected and admired not because of his title and accomplishments, but because he truly cares about the people and natural resources of our state."

(C. W. Watson Award Winner continued)

Prior to becoming SCDNR Director, Taylor spent the majority of his career with the agency's Law Enforcement Division serving as Deputy Director from July 2004 until May 2012. During his tenure with SCDNR's Law Enforcement Division, Taylor was at the forefront of boating safety and led the charge to establish comprehensive boating safety laws in the state. For those efforts, he was awarded the Lifetime Achievement Award from the National Association of State Boating Law Administrators in 2014.

The C.W. Watson award is presented to the career individual who, in the opinion of the Award Committee, has made the greatest contribution to wildlife or fish conservation during the previous year or years. This award is presented jointly by the Southern Division of the American Fisheries Society, the Southeastern Section of the Wildlife Society, and the Southeastern Association of Fish and Wildlife Agencies.

The Southeastern Association of Fish and Wildlife Agencies (SEAFWA) is an organization whose members are the state agencies with primary responsibility for management and protection of the fish and wildlife resources in 15 states, Puerto Rico and the United States Virgin Islands. Member states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

(From left to right)

Ed Carter, *Award Committee Chair, Master of Ceremonies, TWRA Executive Director*

E.J. Williams, *Watson Award Committee Chair representing Southeastern Section, The Wildlife Society*



Alvin Taylor, *South Carolina*

Chuck Sykes, *SEAFWA President; Director Wildlife and Fisheries Division, AL Dept of Conservation and Natural Resources*

http://seafwa.005.neoreef.com/news/e_2175/News/2019/11/WatsonAward

http://seafwa.005.neoreef.com/committees/c_w__watson_award__/

Call for Nominations

Please begin to think about nominating your fellow fisheries colleagues and friends for Southern Division Awards! Nominations are due **January 10th, 2020**. For more information about award criteria, please visit the Southern Division website. A last call for nominations will be sent out through the listserv in December, so get your nominations in! We look forward to recognizing award winners in Little Rock this February.

There are so many dedicated and hardworking individuals, Chapters, and Subunits in our division, and submitting a nomination for an AFS award is a great way to recognize our peers. Please consider nominating your colleagues for one of the following awards:

- Distinguished Service
- Outstanding Achievement
- Outstanding Chapter
- Best Student Subunit

Award criteria and past recipients can be found at: <https://sd.fisheries.org/southern-division-awards/>

Nomination deadline: **January 10th @ 5:00 PM EST**. While there is still plenty of time to get nominations in, please start thinking of colleagues, Chapters, and Student Subunits that deserve some recognition. January will be here before we know it!

All nomination material can be emailed to: a.cottrell002@gmail.com

Awards will be presented on February 22nd at the 2020 Annual Meeting in Little Rock, AR. Please feel free to email me with any further questions!

Amy Cottrell

Chair, Awards Committee SDAFS

The SDAFS Warmwater Streams Committee Jimmie Pigg Memorial Student Scholarship Announcement

At the 2020 SDAFS meeting, the Warmwater Streams Committee (WWSC) will award two graduate students (one Master's and one Ph.D.) Jimmie Pigg Memorial Scholarships. Each winner receives a plaque, \$250, and a one-year student membership to the American Fisheries Society. Applications for the Jimmie Pigg Award are due by **January 10th, 2020** and should be sent to kevin.mayes@tpwd.texas.gov. Please visit the [SDAFS WWSC web page](#) to download the application.

Kevin Mayes

Chair, SDAFS WWSC

<https://units.fisheries.org/sdafswarmwatercommittee/jimmy-pigg-award/>

CHAPTER UPDATES

Mississippi Chapter

46th Annual Meeting of the Mississippi Chapter of AFS to be held in February 2020!



The 46th Annual Meeting of the Mississippi Chapter of the American Fisheries Society will be held February 12–14, 2020 in Gulfport, Mississippi at the Courtyard by Marriott Gulfport Beachfront. The meeting will include submitted abstract presentations on topics ranging from fresh to salt water on fisheries management, conservation, aquaculture, physiology, control, and much more. A keynote address and banquet

will be held Thursday evening. The MSAFS annual business meeting will be held the morning of Friday February 14th, 2020. Watch our website in December 2019 for updates on registration: <http://mississippiafs.org/> Please feel free to contact MSAFS President Jill Hendon (jill.hendon@usm.edu) with any questions.

February 12-14,
2020
Gulfport, MS



(Chapter Updates continued)

Harriet Perry Receives the AFS President's Fishery Conservation Award

Ms. Harriet Perry, was awarded the 2019 American Fisheries Society President's Fishery Conservation Award. This award "recognizes individuals or entities for singular accomplishments or long-term contributions that advance aquatic resource conservation at a regional or local level." Ms. Perry received the award at the joint meeting of the American Fisheries Society and The Wildlife Society in Reno Nevada. We are proud of Ms. Perry's esteemed work in fisheries science and our Chapter. See the Press Release here: <https://fisheries.org/2019/10/harriet-macgill-perry-receives-fisheries-conservation-award/>



(Harriet Perry receives the 2019 President's Fishery Conservation Award [member category] from AFS President Jesse Trushenski)

MSAFS Student Research Scholarship

This is the second year that the Mississippi Chapter will be offering a MSAFS Student Research Scholarship award to provide financial

assistance to an undergraduate/graduate student in the state of Mississippi who is conducting fisheries research. The goal of the scholarship is to aid students in conducting essential fisheries research in our state and to encourage and facilitate involvement with our Chapter. Winners of the award will be required to present the results of their study during an annual MSAFS meeting. The 2019 winners of the award will be announced by the end of November.

Louisiana Chapter

Louisiana Chapter 41st Annual Meeting to be held May 28–29, 2020 in Baton Rouge, LA

Oklahoma Chapter

The Oklahoma Chapter held its annual meeting in conjunction with several other natural resource professional societies at the Oklahoma Natural Resource Conference in Tulsa, February 20-22. One of the plenary speakers was Dr. Bill Matthews (Professor Emeritus, University of Oklahoma) who spoke on the challenges and opportunities for future fisheries professionals, including the need for long-term studies. The meeting covered 69 technical oral presentations and 15 poster presentations with many from students who presented on their original research. Matt Mauck (OKAFS President) led the business meeting, including the presentation of awards. Kimberley Brown (MS student at Oklahoma State University) was awarded the James K. Schooley Best

(Chapter Updates continued)

Presentation Award for her talk titled “Effects of non-native rainbow trout on behavior and cover use by smallmouth bass”, which included a plaque and \$250 monetary award. Daniel Fenner, US Fish and Wildlife Service Biologist, was awarded the Oklahoma Fishery Worker of the Year Award, which is one of the chapters most coveted awards. Additional award winners included Skylar Wolf and Garrett Kula, who were students selected to receive the Jimmie Pigg Travel Award Scholarships to attend professional meetings. Bob Martin, fisheries biologist for the city of Oklahoma City was awarded a lifetime achievement award for his many years of dedicated service. Ashley Nealis, ODWC North-Central Regional Fisheries Supervisor, was then given the gavel as the new president of the chapter, where she will oversee the business meeting at the upcoming Oklahoma Natural Resource Conference in Norman, February 10-12, 2020 (<http://www.oknrc.com/>).

ty to reconnect or meet new people and talk fish! Funds raised from this event, will help us to fund student travel.

Thank you to everyone that attended, Ward Slacum for procuring the crabs, the American Foresters for the use of their porch, and AFS staff Eva Przygodski and Denise Spencer for helping us to secure the location and opening the building to provide us access to the restrooms!



(Crab Feast 2019)

Potomac Chapter

Crab Feast 2019

The 2019 Annual Crab Feast co-hosted by the AFS Potomac Chapter and AIFRB was another awesome event, with the perfect fall weather. We had nice big, warm crabs and plenty of delicious side dishes and beverages. Everyone contributed something yummy from salads to bacon wrapped jalapeno poppers. There was also a very tasty marine animal themed apple pie!

A good time was had by all with the opportuni-

AFS Potomac Chapter Presents Student Travel Award to Seth Michael Gibbons

The AFS Potomac Chapter was pleased to present Seth Michael Gibbons with a student travel award to attend the 149th AFS Annual Meeting in Reno, NV. Every year the Chapter tries to support a deserving candidate who has applied for an AFS Estuaries Section travel award. The funding for this award is raised during the annual crab feast each fall. The Executive Committee of the Potomac Chapter

(Chapter Updates continued)

was impressed with Seth's interest in the meeting and his research. Lee Benaka, Treasurer Emeritus, and Julie Defilippi Simpson, President, had the pleasure of meeting with Seth during the meeting.

Seth prepared a statement describing his meeting experience and how he benefited from the award, which you can read here (<https://potomac.fisheries.org/afs-potomac-chapter-presents-student-travel-award-to-seth-michael-gibbons/>).

Virginia Chapter

[Virginia Chapter of the AFS: Fall 2019 Newsletter](#)

Student Subunit Updates

Clemson University

Club Contact Information:

President - Logan Bodiford

(lbodif@g.clemson.edu)

Vice President- Austin Amick

Treasurer- Jacob Moreland

Secretary- Rachel Moore

Grad Student Advisor- Colby Denison

News and Events (Recently Past and Upcoming)

Joint TWS/AFS National Meeting: A total of 17 people attended the national conference from Clemson. Seven of which were undergraduates, eight where graduate students, and two where professors. Everyone that attended presented either a poster or an oral presentation.



(Clemson AFS in Reno)



(Colby Denison presenting a chapter of his thesis in Reno)

Southeastern Fishes Council: Much of Dr. Peoples lab attended SFC this year. Again all who attended presented research. The Bartram's bass age and growth study won best undergraduate poster at the conference.

(Chapter Updates continued)

Coastal Estuarine Research Federation Conference: Some of Dr. Farmer's lab attended and presented their work on estuarine flounder at CERF.

Bartram's Bass Sampling: During the weekends Bartram's bass (*Micropterus sp. cf. cataractae*) sampling trips are taking place. The



Bartram's Bass
Micropterus sp. cf. cataractae

last unsampled watershed that is predicted to harbor Bartram's bass is the Little River drainage in Georgia. This sampling provides undergraduates with a valuable opportunity to become familiar and comfortable with electrofishing.

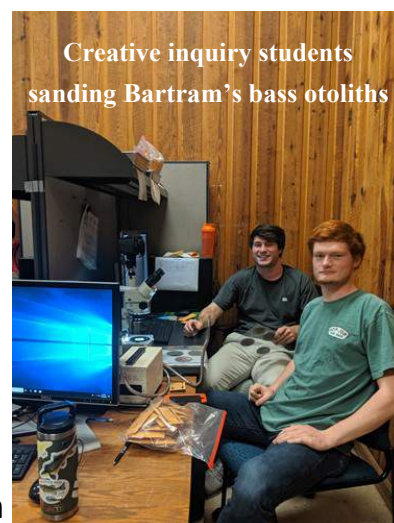
Club Sponsored Workshops: In an effort to provide a free outline for undergraduates to gain valuable fisheries experience; Clemson AFS has held fisheries workshops. These work-

shops cover basic fisheries skills such as: backpack electrofishing, boat electrofishing, otolith removal, otolith ageing, fish identification, seining, boat operation, backing up a trailer, gill netting, and other passive sampling methods.



(Clemson AFS backpack electrofishing workshop)

Creative Inquiries: Several members of the club are helping teach creative inquiry classes. These courses provided wildlife and fisheries students a chance to gain real-life fisheries experience during the school year. Creative inquiries include: estuarine fish



(Chapter Updates continued)

ecology, Bartram's bass age and growth structure, fish biodiversity challenge, effects of climate change on Yellow Perch life history, and mercury concentrations in stream fish.

Oklahoma State University

The Oklahoma State University American Fisheries Society Student Subunit had a very productive fall semester. Our goals were to improve the



conservation of fishery and aquatic ecosystems in Oklahoma and promote the develop-

ment of fisheries professionals at OSU by providing our members with fisheries related opportunities.



We had many activities to improve the conservation of fishery and aquatic ecosystems in Oklahoma. We assisted the Applied Ecology Lab

by demonstrating proper sampling technique for backpack electrofishing and seining. We helped the Oklahoma Conservation Commis-

sion's Blue Thumb program with their annual fish sampling in Stillwater

Creek. Finally, we collaborated with the OSU Forestry Club and Friends of Lake McMurry to cut and sink

Eastern Red Cedars at Lake McMurry to improve terrestrial habitat and create fish attractors.



(Photos: AFS members loading the boats for cedar tree sinking in Lake McMurry to enhance fish habitat.)

We hosted many guest speakers this fall. OSU graduate students Desiree Moore, Skylar Wolf, and Ryan Gary spoke about their ongoing fisheries research in Oklahoma. MaryKate Higginbotham, OSU AFS subunit past President, spoke about fisheries career opportunities. Ashley Nealis, ODWC North-Central Regional Supervisor and President of the Oklahoma AFS State Chapter, spoke to us about her journey to becoming a fisheries supervisor and opportunities to get involved with the Oklahoma Department of Wildlife Conservation.

We volunteered at many educational outreach events to educate the public on fisheries. We

(Chapter Updates continued)

helped young anglers at the Friends of Sanborn Nature Camp at Sanborn Lake catch fish and educated them on native fishes in Oklahoma. We helped the ODWC Stream Team at the ODWC Wildlife Expo with the stream erosion exhibit and educated the public on the impacts of anthropogenic modifications to streams. We also set up an aquarium in the NREM computer lab that can be used to educate NREM students on fish for years to come.

Aquarium in Tulsa where we have a behind-the-scenes tour of the aquarium.

We look forward to the spring semester that will be highlighted with a fisheries techniques demo held at OSU. We hope to continue to improve the conservation of fishery and aquatic ecosystems, promote the development of fisheries professionals at OSU and have a great time while doing so!



(AFS members educating the public on erosion at the "Man vs Streams" exhibit held at the annual Oklahoma Department of Wildlife Conservation Wildlife Expo.)

To promote our club through the College of Agricultural Science and Natural Resources (CASNR), we had a booth at CASNR Round up, helped with the Career Fair set up, and created a homecoming window painting and lawn sign.

To wrap up a productive fall semester, our final fall meeting is being held at the Oklahoma

Member Recognition:

Skylar Wolf successfully defended his thesis on the *"Survival and dispersal of Rainbow Trout in Spavinaw Creek: Resource overlap with native fishes."*

2020 Oklahoma Meeting and Symposium: Natural Resources Conference

When: February 10–12, 2020

Where: Norman Embassy Suites

Please join us at the Oklahoma Natural Resources Conference February 10-12, 2020 at the Norman Embassy Suites. The OKNRC is hosted by the Oklahoma Chapters of The Wildlife Society, American Fisheries Society, Society for Range Management, Oklahoma Invasive Plant Council, Oklahoma Ornithological Society, Prescribed Fire Council, Oklahoma Division Society of American Foresters, and the Soil and Water Conservation Society. The conference will have presentation topics on range, wildlife, fisheries, forestry and environmental sciences.

(Chapter Updates continued)

University of Southern Mississippi

The AFS subunit at The University of Southern Mississippi (USM) has had a productive fall semester. Our members have presented their research at conference and meetings, attended professional development seminars, and participated in outreach and community service. Our meetings have been well attended by students and participation in events has increased this year.

Several members presented their research at local and international meetings. We have had representation at the Coastal Estuarine and Research Foundation (Mobile, AL), Gulf and Caribbean Fisheries Institute (Punta Cana, Dominican Republic), and the Larval Fish Conference (Palma De Mallorca, Spain). Many of our members are preparing presentations for several conferences in the new year such as the Southern Division AFS meeting, the Mississippi Chapter of AFS meeting, Mississippi Academy of Natural Sciences, and the Association for the Sciences of Limnology and Oceanography Ocean Sciences meeting.

To provide students more opportunities for networking, we began the USM AFS seminar series this fall. We fortunately were able to host two excellent postdoctoral researchers from the US and Canada. Both speakers met with students over

lunch and during a meet and greet before the seminar. Dr. Sarah McNulty from The University of Connecticut made a stop by USM on her Squids Across America tour, speaking on the importance of science communication and ways to share research to the public. Dr. Kyle Wilson visited from Simon Fraser University and spoke to us about the consequences of spatial and size-selective harvest on freshwater fish populations. We are currently planning next semester's seminar series and are excited about the new opportunities this will bring.

The USM AFS subunit has created and is in the process of accepting applications for the Jay Dieterich Memorial Scholarship. This scholarship was designed to honor Jay, a former USM graduate student and founding member of our subunit, who faced challenges in funding his research project due to unexpected obstacles in field sampling. This scholarship will provide financial support for USM graduate students to aid in accomplishing their research objectives. We are in the process of creating a special fundraiser that will support this scholarship to be able to continue offering this award every year.

Members have received several awards, fellowships, and publications. Two recipients of the USMAFS travel awards were Christian Hayes for the Coastal Estuarine Research Foundation meeting in Alabama

(Chapter Updates continued)

and Anna Millender for the Gulf and Caribbean Fisheries Institute meeting in the Dominican Republic. Olivia Lestrade was awarded a travel award from the Early Life History section of AFS and USM's Department of Coastal Sciences to attend the Larval Fish Conference in Spain. Leanne Poussard was the recipient of a 2020 Sea Grant John A. Knauss Marine Policy Fellowship. Pavel Dimens published his research titled "A genomic assessment of movement and gene flow around the South Florida covariance zone in the migratory coastal Blacknose Shark, *Carcharhinus acronotus*" in Marine Biology. <https://link.springer.com/article/10.1007/s00227-019-3533-1>

We are currently working towards partnering with The Center for Fisheries Research and Development to sponsor a Boating Skills Workshop for our members. This will create an opportunity for students to gain experience with small watercraft such as loading and trailering, operating and driving, and how to navigate back to land without technology in case of emergencies. In the future, we hope to make this a biannual workshop for incoming and current students.

In the spring, we will be focusing more on fundraising and outreach. The subunit will be hosting our annual fundraising event, the Jim Franks Winter Sprinter, formerly known as the Jim Franks Merry Fishmas Fun Run and 5K and a silent auc-

tion at the Mississippi Chapter AFS meeting. In addition, we will begin our merchandise sales featuring a new 'Billfish of the Gulf of Mexico' shirt designed by our very own April Hugi. Profits from these fundraisers will be used to fund travel for graduate students presenting their research at local, national, and international meetings. The subunit plans to increase engagement with the local community by connecting with local classrooms and partnering with our Coastal Conservation Association chapter.

Virginia Tech

The Virginia Tech Chapter has had a great fall semester. Our membership has been actively engaging in outreach events, hosting guest speakers, and planning workshops and field trips. We are looking forward to a busy and productive spring semester.

The Virginia Tech Chapter participated in multiple outreach and community events in the Blacksburg and surrounding areas. The Chapter joined other student organizations at the College of Natural Resources and Environment welcome back bash and homecoming tailgate. At these events, we recruited new members and greeted alumni and past members, while raising funds for our Chapter. In addition, several members participated in hosting Freshwaters Illustrated film screening of Hidden Rivers at a local theater. Members dressed in colorful aquatic biota-themed costumes to engage passerby's and increase attendance. Katie

(Chapter Updates continued)



Members of the Virginia Tech Chapter dressed to impress community support for freshwater conservation at the film screening of *Hidden Rivers*, by Freshwaters Illustrated.

on conservation of North American freshwater native non-game fishes. She was also the recipient of a John E. Skinner Memorial Fund Award.

McBaine (Chapter President) represented the Chapter during a discussion panel following the film screening. Several of our members also volunteered in the semi-annual Claytor Lake Freshwater Mussel Salvage on the New River. This year the lake had a five-foot drawdown exposing imperiled freshwater mussels, including state threatened Pistolgrip (*Tritogonia verucosa*). The mud flats at the north end of the lake are not for the faint of heart, our members battled the frigid temperatures, windchill from the boat ride, and waist-deep mud to save many freshwater mussels.

Two of our members traveled to Reno, Nevada for the parent society meeting to present their graduate research. In addition, Katie McBaine collaborated with the Western Native Fish Committee to organize a symposium focused

Our Chapter's Vice President, Corbin Hilling, co-wrote ***Field Guide to the Freshwater Fishes of Virginia***. The book provides guidance for fish enthusiasts to learn about the fish fauna of the Commonwealth. In addition, the field guide provides updated information on ranges and taxonomy since Jenkins and Burkhead's classic *Freshwater Fishes of Virginia* was published in the early 1990s. Chapter members are excited to use the guide during fieldwork and leisure time. See www.vafreshwaterfishes.com/ for details.

The Chapter hosted a great line-up of guest speakers during the fall semester. We welcomed Jason Hallacher (Virginia Department of Game and Inland Fisheries) and Dr. Amanda Rosenberger (USGS Tennessee Cooperative Fish & Wildlife Research Unit) and our new

(Chapter Updates continued)

fisheries faculty members at Virginia Tech, Dr. tunities, and a joint meeting with the Virginia Holly Kindsvater and Dr. Francesco Ferretti. We Chapter in Lexington, VA.



Members of the Virginia Tech Chapter save freshwater mussels at Claytor Lake during the biyearly drawdown.

thank our speakers for sacrificing their time to speak to and meet with our membership. Our speakers provided insight to state agency work, freshwater mussel conservation, incorporating life history strategies in fisheries management, and managing big data in marine systems.

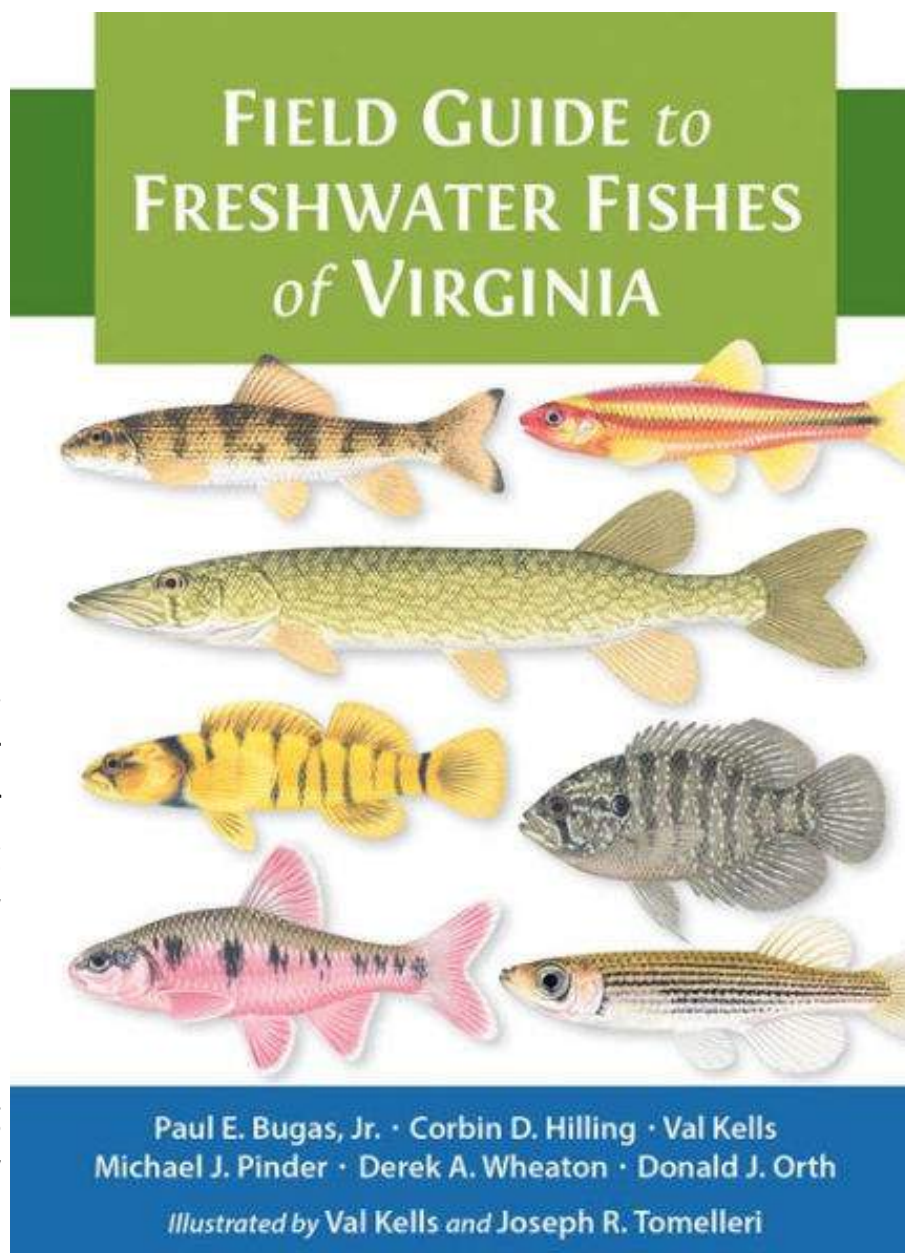
Our education committee, chaired by Zach Martin, has been working hard to provide our membership with professional development opportunities. We will be running a resume building workshop in early December and have planned a trip to Conservation Fisheries Inc. and Tennessee Aquarium Conservation Institute during spring semester. The Chapter is looking forward to a great spring semester full of professional development, outreach oppor-

PUBLICATIONS

VA Chapter Publishes Field Guide to Freshwater Fishes of Virginia

Members of the Virginia Chapter have released the first ever field guide to the freshwater fishes of Virginia! Gathering information that until now could only be found scattered across numerous reference works or online databases, this book provides everything you need to know to identify fishes in Virginia. The book is brilliantly illustrated with 175

vibrant, full-color illustrations by Val Kells and Joseph R. Tomelleri. The book was released in September 2019 and will be available for purchase at upcoming Chapter, Division, and Annual meetings or directly from the Johns Hopkins University Press [website](https://www.vafreshwaterfishes.com/) (20% discount using the code “HTWN”). See the book’s webpage for additional information, upcoming book signing events, and a look inside the guide (<https://www.vafreshwaterfishes.com/>).



*(Publications continued)***Released in 2019:**

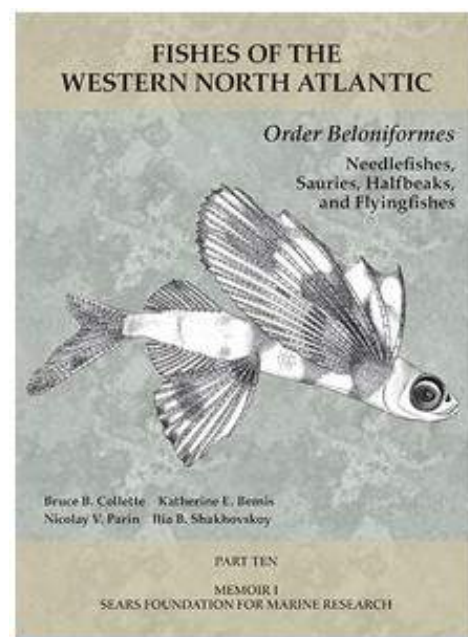
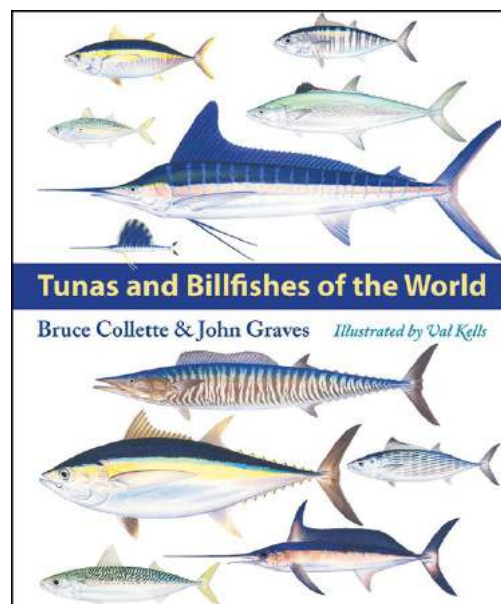
Tunas and Billfishes of the World

by Bruce Collette and John Graves;
illustrated by Val Kells

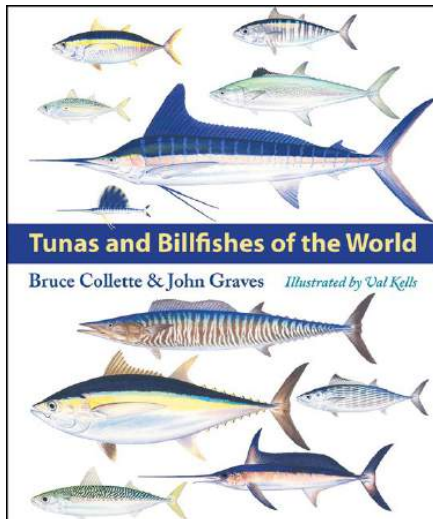
Order Beloniformes: Needlefishes, Sauries, Halfbeaks, and Flying- fishes

by Bruce B. Collette, Katherine E. Bemis,
Nicolay V. Parin, and Ilia B. Shakhovskoy

The first, with John Graves of VIMS and illustrated by Val Kells, is our book summarizing all available information on the 61 species of tunas, mackerels and bill fishes. Six years in the writing, we hope this book will be of interest to fishery biologists, sports fisherfolk, and ichthyologists. The 2,000 references on which it is based were too extensive to include in the book so they are available on line from Johns Hopkins Press. The second is our long-delayed part 10 volume on beloniform fishes (halfbeaks, needlefishes, and flyingfishes) for the monographic series *Fishes of the Western North Atlantic*. It is interesting to note that the research for both of these books started in the summer of 1957 when, as a graduate student at Cornell, I worked for Bob Gibbs at the Woods Hole Institution. That summer, we participated in two cruises of the old Bureau of Commercial Fisheries vessel Delaware, the first cruises to use Japanese longline gear in the western Atlantic to catch tunas. We studied tunas in the daytime and dipnetted under a night light at night to catch juvenile halfbeaks, flyingfishes, and halfbeaks. Some of the flyingfishes we caught on those cruises are illustrated in this volume.—Bruce Collette



(Publications
continued)



JOHNS HOPKINS UNIVERSITY PRESS

Tunas and Billfishes of the World

Bruce Collette and John Graves
illustrated by Val Kells

Tunas and billfishes are peak predators of the oceans. Admired by scientists and naturalists for their speed, grace, unique physiology, and diversity, they are

important both ecologically and socioeconomically. Vital sources of food and income for many maritime nations, whose fleets of vessels target them with huge purse seines or miles-long lines, these exhilarating fishes are also highly desired and avidly sought by big game fishers across the globe.

Bruce Collette is a research associate with the Smithsonian National Museum of Natural History and the chair of the Tuna and Billfish Specialist Group of the International Union for the Conservation of Nature. He is the coauthor of several books, including *Fishes: The Animal Answer Guide*. **John Graves** is the Chancellor Professor of Marine Science at the Virginia Institute of Marine Science. **Val Kells** is a widely recognized marine science illustrator. She is a coauthor and illustrator of *A Field Guide to Coastal Fishes: From Maine to Texas* and *A Field Guide to Coastal Fishes: From Alaska to California* and illustrator of *Field Guide to Freshwater Fishes of Virginia*.

In *Tunas and Billfishes of the World*, Bruce Collette, a leading marine ichthyologist and conservationist, and John Graves, an expert on the biology, fisheries, and management of tunas and billfishes, focus on three families of fishes: Scombridae, the mackerels and tunas; Istiophoridae, sailfish and marlins; and Xiphiidae, the Swordfish. Over the course of 61 in-depth species accounts, Collette and Graves

- describe what each species looks like and where it lives
- include detailed summaries of the fishes' biology—size, food, habitat, reproduction, and early life history
- offer current information about fisheries interests and conservation status
- provide up-to-date evaluations of the threat status for each species

Accompanied by full-color, scientifically accurate illustrations by renowned illustrator Val Kells, along with range maps for each species, this spectacular volume is the essential book on these majestic inhabitants of the sea. Destined to quickly become the standard reference for scientists, students, and naturalists, *Tunas and Billfishes of the World* will also be prized by all fishers who pursue these species.

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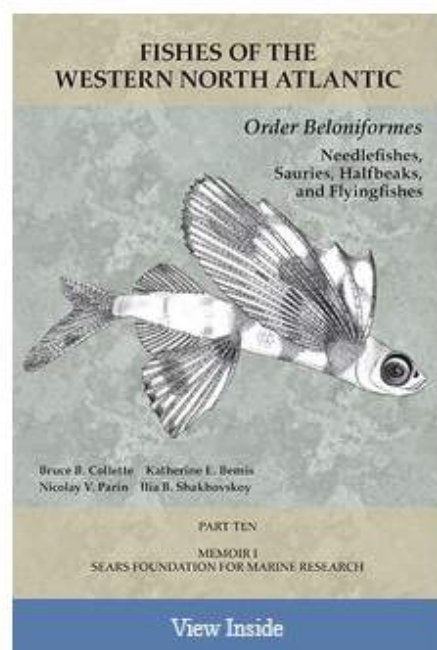
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(Publications continued)

Order Beloniformes: Needlefishes, Sauries, Halfbeaks, and Flyingfishes

Part 10

Bruce B. Collette, Katherine E. Bemis, Nicolay V. Parin, and Ilia B. Shakhovskoy



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Bruce B. Collette is emeritus senior systematic zoologist at NOAA's National Marine Fisheries Service National Systematics Laboratory. **Katherine E. Bemis** is a doctoral student at the Virginia Institute of Marine Science, College of William & Mary. **Nicolay V. Parin** (1932–2012) and **Ilia B. Shakhovskoy** are affiliated with the P. P. Shirshov Institute of Oceanology, Russian Academy of Sciences.

January 2, 2019
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(Publications continued)

[Nepal, V. and M.C. Fabrizio. 2019. High salinity tolerance of invasive Blue Catfish suggests potential for further range expansion in the Chesapeake Bay region. PLoS ONE 14 \(11\):e0224770.](https://doi.org/10.1371/journal.pone.0224770)

Abstract:

In estuaries, salinity is believed to limit the colonization of brackish water habitats by freshwater species. Blue catfish *Ictalurus furcatus*, recognized as a freshwater species, is an invasive species in tidal rivers of the Chesapeake Bay. Salinity tolerance of this species, though likely to determine its potential range expansion and dispersal in estuarine habitats, is not well-known. To address this issue, we subjected blue catfish to a short-term salinity tolerance experiment and found that this species tolerates salinities higher than most freshwater fishes and that larger blue catfish tolerate elevated salinities for longer periods compared with smaller individuals. Our results are supported by spatially extensive, long-term fisheries surveys in the Chesapeake Bay region, which revealed a gradual (1975–2017) down-estuary range expansion of blue catfish from tidal freshwater areas to habitats exceeding 10 psu [practical salinity units] and that large blue catfish (> 200 mm fork length) occur in salinities greater than 10 psu in Chesapeake Bay tributaries. Habitat suitability predictions based on our laboratory results indicate that blue catfish can use brackish habitats to colonize new river systems, particularly during wet months when salinity decreases throughout the tidal rivers of the Chesapeake Bay.

VIMS Press Release:

https://www.vims.edu/newsandevents/topstories/2019/blue_cat_salinity.php

(Publications continued)

[Hilling, C.D., D.J. Orth, A.J. Bunch, J.A. Emmel, and J.D. Schmitt. 2019. Growth and mortality of invasive Flathead Catfish in the Tidal James River, Virginia. Journal of Fish and Wildlife Management 10: 641–652. <https://doi.org/10.3996/052019-JFWM-033>](https://doi.org/10.3996/052019-JFWM-033)

Abstract:

Invasive species are a major threat to biodiversity of native fishes in North America. In Atlantic coastal rivers of the United States, large catfishes introduced from the Gulf of Mexico drainages have become established and contributed to native species declines. Flathead Catfish *Pylodictis olivaris* were introduced to the Chesapeake Bay drainage in the 1960s and 1970s in the James and Potomac river systems in the eastern United States. Diet studies have found James River Flathead Catfish function as apex predators and are known to consume at-risk *Alosa* spp. To limit further range expansion and impacts to native species, resource management agencies need information on population characteristics to support population assessments and management plan development. Thus, we examined temporal trends in growth rates and estimated total instantaneous mortality for tidal James River Flathead Catfish collected by Virginia Department of Game and Inland Fisheries from 1997 to 2015. Parameters of the von Bertalanffy growth model with length-at-age observations pooled across sampling years were estimated as $L_{\infty} = 1,059$ mm, $k = 0.231/\text{y}$, and $t_0 = 0.55$ y. Flathead Catfish growth differed among sampling years, especially for the years 2007 and 2014, which had the largest sample sizes. However, there were no obvious temporal trends in growth trajectories. James River Flathead Catfish tend to grow much faster than most populations used in development of the relative growth index, but the species is known to grow faster in its nonnative range. Consequently, scientists and managers should use caution when applying growth indices if native and nonnative populations are not expressly considered in development of the index. We estimated total instantaneous mortality as $Z = 0.50$ and mean natural mortality from six estimators as $M = 0.30$. A lack of older individuals in the population means that mortality rates may be overestimated as a result of gear selectivity or ongoing maturation of the population. These data provide information to support future work examining the species in the James River and development of population models to evaluate management strategies and management plans.

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