PACHAPTERAFS@GMAIL.COM @AFS_PA PA.FISHERIES.ORG

# PENNSYLVANIA CHAPTER AMERICAN FISHERIES SOCIETY

## SPRING 2021 NEWSLETTER

## 2020 - 2021 Chapter Officers

Chapter President - George Merovich

President Elect - Adam Slowik

Past President - Greg Moyer

AMERICAN FISHERIES SOCIETY

PENNSYLVANIA CHAPTER

Student Representative - Emily Bierer

Executive Committee - Matt Shank

Secretary / Treasurer - Sara Mueller

Executive Committee - Tyler Grabowski

# CONTENTS





Background Photo Credit: A. Leakey

# MESSAGE FROM THE PRESIDENT

George Merovich,
Juniata College

Welcome to the Summer 2021 edition of the PA Chapter of the American Fisheries Society newsletter. Last year at this time we were making tentative plans for our summer social that was ultimately canceled. This year we are on! So make plans to come out to the Raystown Field Station for some fun.

I want to thank all PA AFS board members for putting together our virtual technical meeting this past February. The success of the meeting is recapped below, but I wanted to point out that registration was free and the virtual format allowed 149 folks from across the country attend the first day of talks. Thanks to everyone especially students who took time out of their busy schedule to attend and present. I think these efforts highlight the dedication and interest we all have in the science and conservation of our fisheries and aquatic resources. Our showing is impactful on the world stage and is more important than ever as we advocate for science and stewardship of our natural resources. Be sure to continue your support by renewing or maintaining your national AFS membership. The national AFS meeting this year is right next door, in Baltimore, MD so consider participating. An added benefit is that we will be presenting our state chapter's contribution to the 150th anniversary celebration at that meeting. If you would like a preview, come to the summer social in July!

I am excited to announce that we are in the planning stages of our spring 2022 technical meeting. I am sure many of you are probably familiar with the PA Council of Trout Unlimited and the biennial Keystone Coldwater Conference. Well, we are teaming up with them for a joint meeting on February 25 and 26, 2022. So mark your calendars. The conference will be at the same location as past KCCs, at the Ramada Inn, State College, PA.
I hope you enjoy reading through the rest of this edition of the newsletter that takes you on a spin around the state looking at some great work being done, some of which seeks the help of anglers to gather data via photos of trout. I hope many of you participate. Check it out.

As my final message as current PA AFS president, I again thank all the chapter officers for their assistance, ideas, contributions, and collaborations. I think we work well together to pull off some successful events and keep the show running. I look forward to continuing efforts as past president for the next chapter-year and as a lifelong member in the future of this great organization. It's an honor to be here among a list of so many well-known and great folks who made PA AFS successful over the past 5 decades!

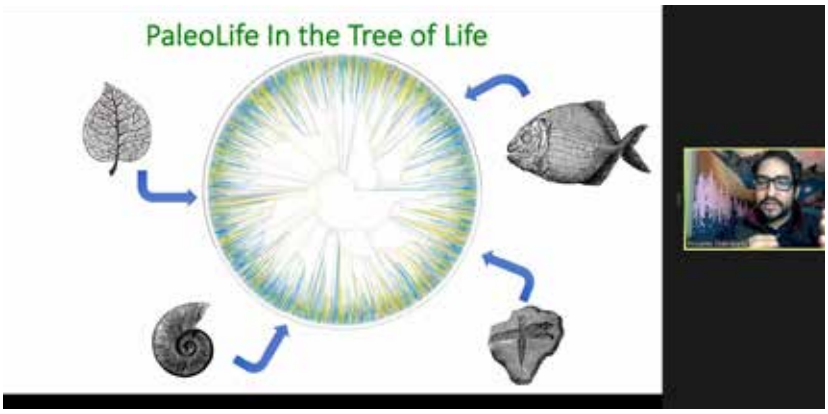
Best Regards!
George Merovich

# RECAP OF 2021 SPRING TECHNICAL MEETING

Due to COVID-19 precautions, the 2021 meeting was held virtually. Despite the new format it was a success!

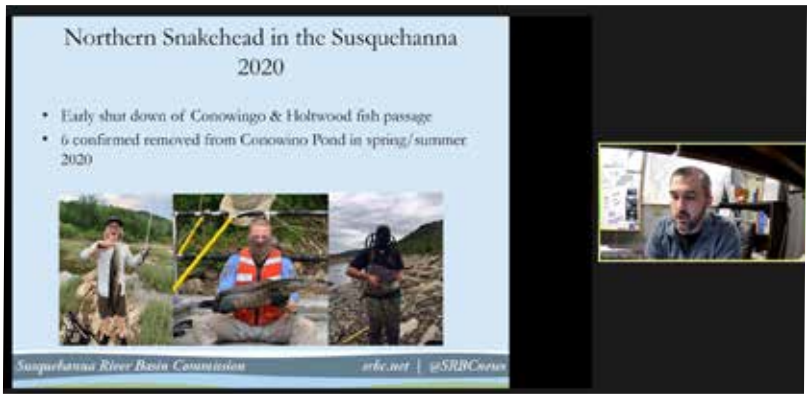
On the first day (Feb. 11) Dr. Prosanta Chakrabarty (@PREAUX_FISH), distinguished research chair and curator of fishes at Lousiana State University, delivered a plenary talk entitled "Ichthyology in the age of COVID".

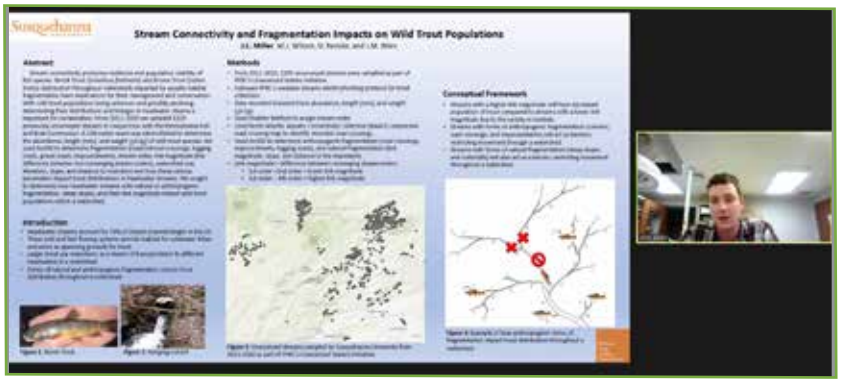
We then had 8 podium presentations within sessions on the topics of 1) climate change, 2) conservation, monitoring, and assessment of fishes, and 3) invasive species. There was also a poster session where 6 presenters delivered 'lightning' talks about their projects. AFS Executive Director Doug Austen provided an update on National AFS initiatives, followed by a PA Chapter business meeting.




Dr. Prosanta Chakrabarty (@PREAUX_FISH), distinguished research chair and curator of fishes at Lousiana State University, delivered a plenary talk entitled "Ichthyology in the age of COVID".

Aaron Henning (@ichthyoAaron), Susquehanna River Basin Comm., discussed adaptive management efforts to respond to the blue catfish and northern snakehead invasion in the lower Susquehanna



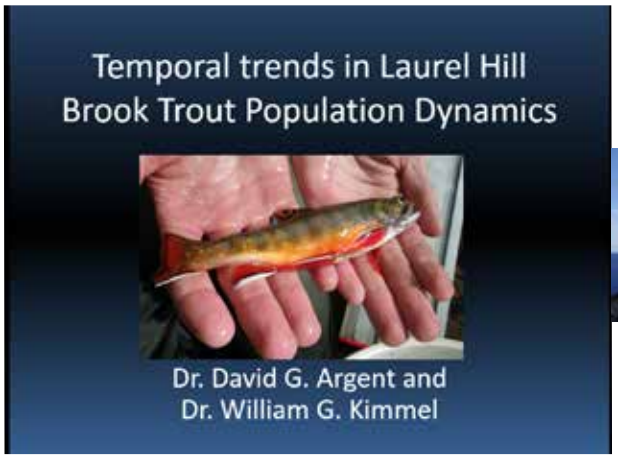




John Miller, Susquehanna University, gives a lightning talk about stream connectivity and fragmentation impacts on wild trout

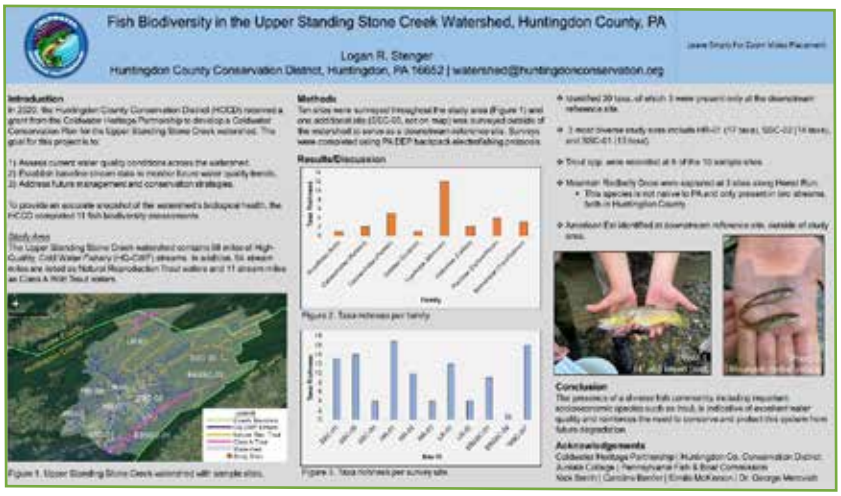
# RECAP OF 2021 SPRING TECHNICAL MEETING

On day 2 (Feb. 12), Dustin Shull provided a comprehensive overview of the data tools available from the PA Dept. of Env. Protection. Dustin covered water quality data mapping applications and instructional video, a macroinvertebrate StoryMap, mapping application, and how-to video. The last topic covered was DEP's Integrated Report narrative, mapping application, and video. Many thanks to Dustin for his time and expertise!

ExComm member Matt Shank (@fwEco) followed with "Interactive Mapping in R: Don't get caught up in the static". Matt provided code and datasets via github and led the participants through the process of making a leaflet map in R, while extolling the virtues of interactive maps. The map produced during the training and the code remain available. Thanks Matt!




Dr. Dave Argent with the title slide of his presentation.




Logan Stenger gave a lightning talk on the fish biodiversity in the Standing Stone Creek watershed

# 2021 COOPER AWARD | STUDENT AWARDS

Sydney Stark was chosen as the 2021 Cooper Award Winner and the Best Student Poster Award. Sydney provided a short update for the newsletter:

"I am a second year Master's Student at Pennsylvania State University studying the diet of Flathead Catfish in the Susquehanna River Basin. Currently, I am starting year 2 of sampling and processing year 1 diets. We are trying to determine the Flathead Catfish's impact on the local fish community as they are a recently introduced invasive species."

Garrett Herigan was selected for the Best Student Presentation Award. Here is a short summary Garrett's research:

"I graduated from Coastal Carolina University in May 2021 with a Masters of Science in Coastal Marine Wetland Studies. My thesis research was focused on creating a habitat association model for a fish species endemic to headwater streams in the Carolina Sandhills, the Sandhills Chub (*Semotilus lumbee*). Now, I am working as a technician on a project in Lynchburg, VA that aims to quantify catch and release mortality for muskellunge (*Esox masquinongy*) when angling in warm water."

Top: Sydney Stark with a large adult flathead catfish from the Susquehanna River

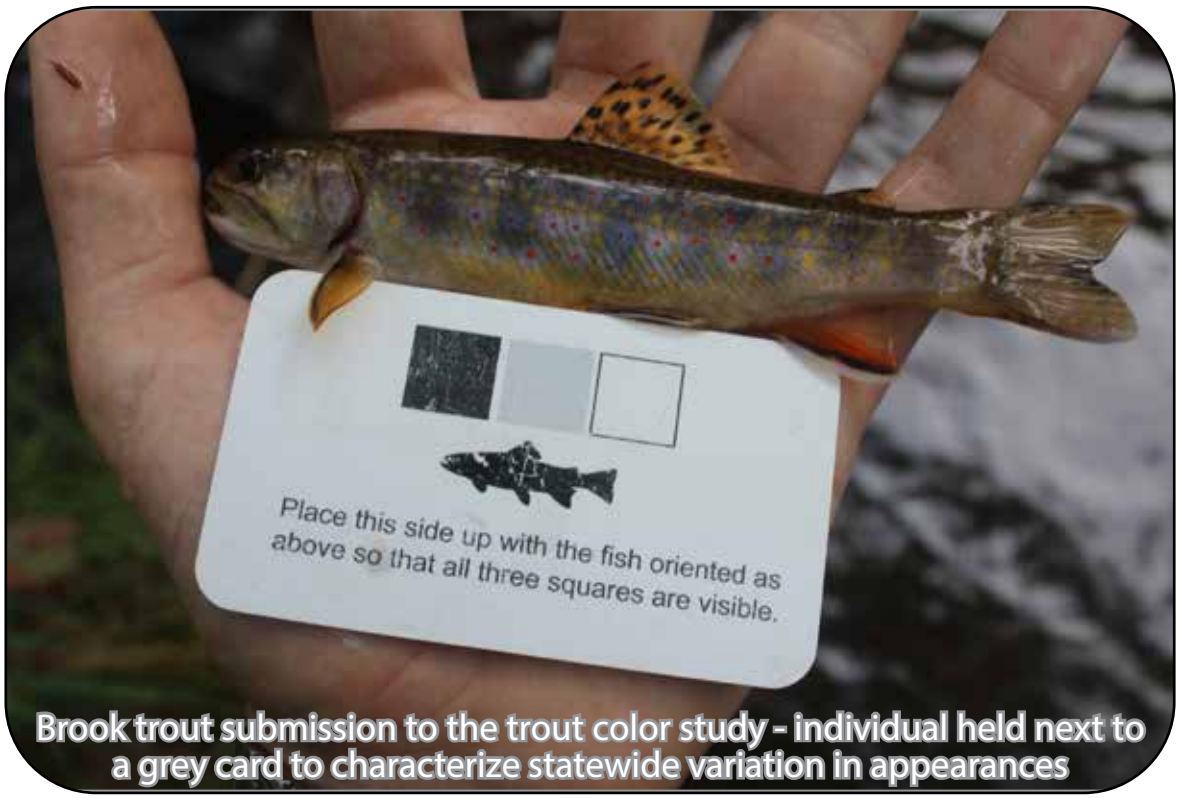
Bottom: Garrett Herigan conducting an electrofishing survey

# RESEARCH AND PROJECT UP-DATES

## Trout Color Study: How you can help!

by Sara Mueller and Eamonn Powers

Penn State University




Brook trout submission to the trout color study - individual held next to a grey card to characterize statewide variation in appearances

As anglers and researchers, we have heard countless stories about the beautiful variation in color and pattern of the trout in streams across Pennsylvania. Unless you hold those trout side-by-side, it would be difficult to determine exactly what those differences in color and pattern are. As much as we wish we could travel the state ourselves, we cannot realistically cover the range of Brook and Brown Trout in Pennsylvania and fish the nooks and crannies concealing these beauties. Therefore, we are recruiting anglers to submit photos to our database to help us explore these questions.

We are using computer software to quantify the color and pattern variation in Brook (and Brown) Trout. While we cannot compare the pattern of whole fish, we can extract particular elements of interest such as the red and yellow spots along the sides of Brook Trout or the red and brown spots along the sides of Brown Trout. We can also estimate the size, and therefore age, of the fish in the pictures with the grey cards included. The presence, absence, and timing or characteristics such as parr marks, halos around spots, breeding colors, and kype can also be noted. We are sure that more questions will arise as we build our database.

To participate, just request a grey card. Grey cards will be mailed to you for inclusion in all of your photos. Simply take a picture of your trout with the grey card in view and submit via our Survey123 app, which will ask you other questions about your catch. Instructions on how to download the app will be included when you receive your grey card. We promise that your fishing locations are confidential and will never be published as exact points. This research is open to all anglers who chose to submit complete survey forms and are at least 18 years of age.

Since launching the project in early February, we have sent nearly 4,000 grey cards to over 1,600 anglers. To date, we have received 471 submissions contributing over 500 pictures to our database. You can find a heat map of submissions (shout out to Matt Shank's awesome map workshop from the Spring 2021 technical meeting) on our website.

To learn more about the project or to contribute to our crowdfunding platform, visit our website: https://sites.psu.edu/troutstudy/


Top: Brook trout held next to a grey card


Bottom: Number of submissions by HUC watershed through June 2021

# RECENT PUBLICATIONS

Moyer, G.R., R. Shaw, and T. Wertz. 2021. Mitochondrial DNA Barcoding Reveals First Documented Evidence of Golden Redhorse (*Moxostoma erythrurum*) in the Susquehanna River, Pennsylvania. Northeastern Naturalist 28(2):149–155.

https://doi.org/10.1656/045.028.0204

**Abstract**

*Moxostoma macrolepidotum* (Shorthead Redhorse) is a common fish species found throughout Pennsylvania's Susquehanna River basin. It is the only member of *Moxostoma* known to inhabit this river basin. Yet, when we compared 467 nucleotides of the mtDNA COI gene from Shorthead Redhorse (n = 4) directly upstream of Curwensville Reservoir (Susquehanna River, Curwensville, PA), we found that they appeared more similar to *M. erythrurum* (Golden Redhorse) from the Mississippi River basin than the native congener. In contrast, putative Shorthead Redhorse (n = 8) from other areas of the Susquehanna River were identified as Shorthead Redhorse using the same molecular marker. These findings provide the first evidence that Golden Redhorse now inhabit portions of the Susquehanna River in Pennsylvania.

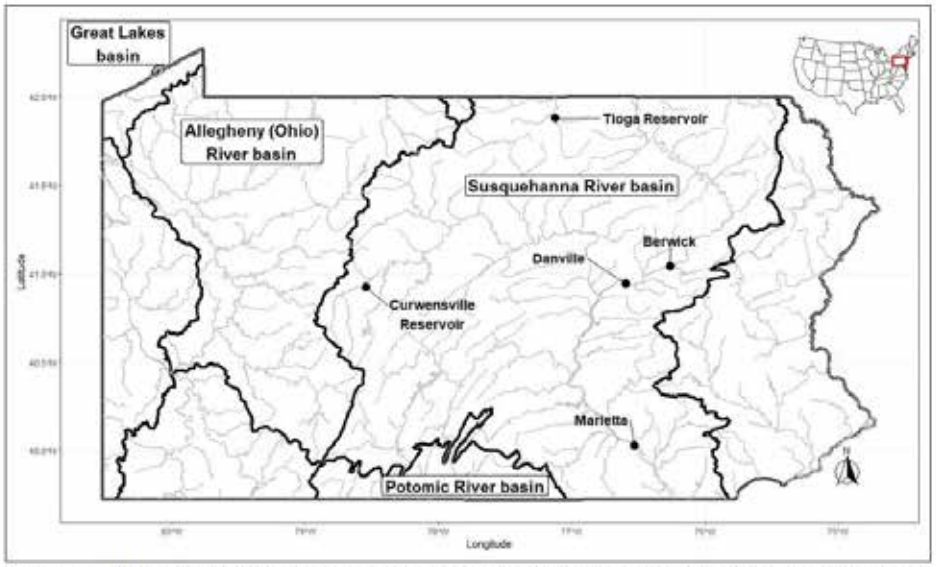



Figure 1. Map of Pennsylvania river basins depicting specimen collection sites for *Moxostoma* used in this study. Note that *M. macrolepidotum* (Shorthead Redhorse) is the only redhorse species documented to occur in the Susquehanna River basin.

Table 2. Barcode of Life species identification of *Moxostoma* specimens collected from the Susquehanna River basin. % Similarity (based on 467 nucleotides) indicates DNA percent similarity to taxon in Barcode of Life Database (BOLD).

| Sample location | GenBank # | BOLD identification | % similarity |
|---|---|---|---|
| Curwensville Reservoir | MW290528 | *M. erythrurum* | 99.8 |
| Curwensville Reservoir | MW290529 | *M. erythrurum* | 99.8 |
| Curwensville Reservoir | MW290530 | *M. erythrurum* | 100.0 |
| Curwensville Reservoir | MW290531 | *M. erythrurum* | 99.6 |
| Berwick | MW290520 | *M. macrolepidotum* | 100.0 |
| Berwick | MW290521 | *M. macrolepidotum* | 98.0 |
| Danville | MW290522 | *M. macrolepidotum* | 100.0 |
| Danville | MW290523 | *M. macrolepidotum* | 99.4 |
| Tioga Reservoir | MW290527 | *M. macrolepidotum* | 98.9 |
| Marietta | MW290524 | *M. macrolepidotum* | 100.0 |
| Marietta | MW290525 | *M. macrolepidotum* | 100.0 |
| Marietta | MW290526 | *M. macrolepidotum* | 99.8 |

# RECENT PUBLICATIONS

Smith, G.D., D.L. Massie, J. Perillo, T. Wagner, and D. Pierce. 2020. Range Expansion and Factors Affecting Abundance of Invasive Flathead Catfish in the Delaware and Susquehanna Rivers, Pennsylvania, USA. North American Journal of Fisheries Management. Special Issue: Catfish 2020—The 3rd International Catfish Symposium
https://doi.org/10.1002/nafm.10628

**Abstract**

Flathead Catfish *Pylodictis olivaris* have been either intentionally or accidentally introduced into Atlantic Slope drainages extending from Florida to Pennsylvania and have quickly become established. In Pennsylvania, Flathead Catfish were first detected in the Schuylkill River at the Fairmont Dam in 1999 and in the Susquehanna River at Safe Harbor Dam in 2002. The species has since moved throughout the respective basins, with subsequent detections during 244 riverine surveys in these drainages. Fishway and electrofishing surveys in the tidal Schuylkill River, a Delaware River tributary, have documented an increase in abundances since 2004, when the surveys were first implemented. Hoop-net surveys in nontidal large-river reaches found mean (±SD) catch rates varying from 0.00 to 4.51 ± 4.38 fish/series. A Bayesian hierarchical Poisson regression model indicated that Flathead Catfish abundance decreased as the distance from the initial point of detection increased, demonstrating a general pattern of fish expansion upstream from the point of detection. The distance downstream of the nearest dam, although not significant, had a relatively high posterior probability of being negatively correlated with Flathead Catfish abundance. Ongoing and future targeted surveys should help to better understand changes in the distribution and abundance of Flathead Catfish in these systems.

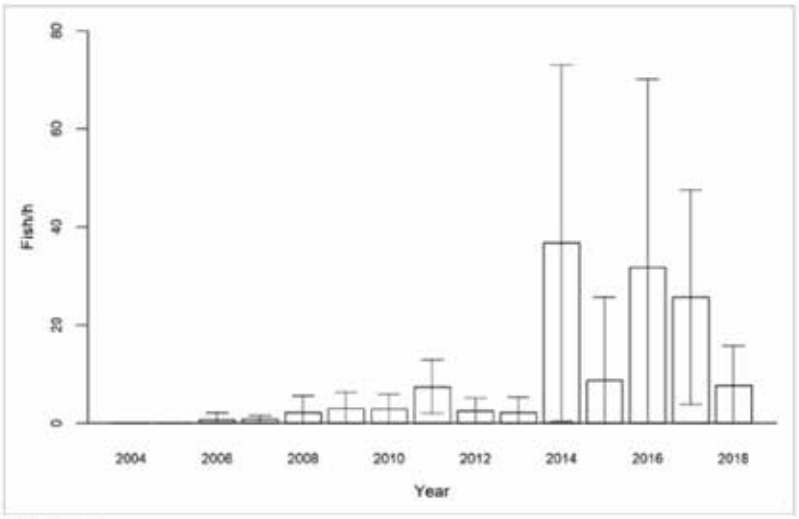



**FIGURE 4**

Mean (±SD) boat electrofishing catch per effort (fish/h) of Flathead Catfish downstream of Fairmont Dam on the Schuylkill River.

# T-SHIRT SALES

## PA AFS IS SELLING T-SHIRTS TO RAISE MONEY TO SUPPORT FUTURE COOPER AWARD WINNERS.

The PA AFS Cooper Award was created to honor the memory of the late Penn State Professor Emeritus of Zoology, and famed author of Fishes of Pennsylvania and the Northeastern United States, Edwin Lavern Cooper, Ph.D.

Under this award program, PA AFS will provide a travel award of $250 - $500 (dependent on number of applicants) to a deserving Pennsylvania graduate and/or undergraduate student annually to present a podium or poster presentation at the national AFS Conference.

In order to ensure funding is available for the Cooper Award, the Excomm has made t-shirts available. Please email us at pachapterAFS@gmail.com to order. This is a great way to support the chapter, make an investment in future scientists, all while looking great!

Dr. Edwin L. Cooper.



Back


Front

Chapter member and 2021 presenter Daniel Gillies (@GilliesScience) showing off his PA AFS apparel

# PA AFS ON TWITTER!

## PA AFS EXCOMM HAS CREATED A TWITTER ACCOUNT

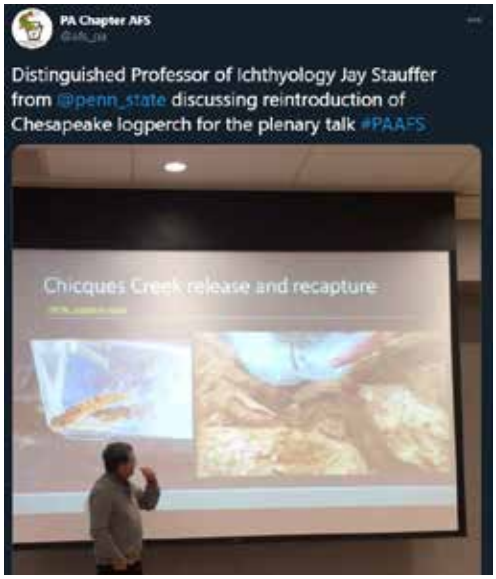
## #PAAFS


In addition to traditional email blasts, we will be making announcements regarding Chapter business and upcoming meetings via twitter.

We'll also be highlighting the efforts of Chapter Members and featuring the contents of this newsletter.

Twitter is a great way to stay up to date with the latest in research, developments with national AFS, and much more!

Follow us @afs_pa to stay informed!




# NATIONAL AFS UPDATE


## 2021 AFS MEETING IN BALTIMORE!

MEETING WEBSITE

REGISTER NOW! >50 SYMPOSIA! >12 CONTINUING EDUCATION COURSES

**AFS IS CELEBRATING OUR 150TH ANNIVERSARY! PA AFS WILL BE PARTICIPATING IN A DISPLAY OF PA'S RICH FISHERIES SCIENTIST HERITAGE. CONTACT THE CHAPTER IF YOU WOULD LIKE TO HELP OUT!**


JOIN THE NATIONAL AMERICAN FISHERIES SOCIETY TODAY!

CHECK OUT THE NEW TITLES IN THE AFS BOOKSTORE!


DOWNLOAD THE AFS JOURNALS APP!

CHECK OUT THE LATEST AT THE AFS WEBSITE

# PHOTO CORNER

## BROOD X

THE 17 YEAR PERIODICAL CICADAS KNOWN AS 'BROOD X' EMERGED IN CENTRAL AND SOUTHERN PA MAY-JUNE 2021. THE FISH WERE LOOKING UP!

KEEP AN EYE OUT FOR BROOD XIV IN CENTRAL AND NORTHERN PA IN 2025!

(Clockwise from Top Left):

Smallmouth bass tricked by a cicada pattern;

Andy King with a Raystown smallie;

Matt Shank with a common carp that was feeding on top

Photo Credits: A. King, M. Shank

# PHOTO CORNER

(Top):
Bear Run in Bald Eagle State Forest

(Bottom):
Laurel Creek in Bald Eagle State Forest

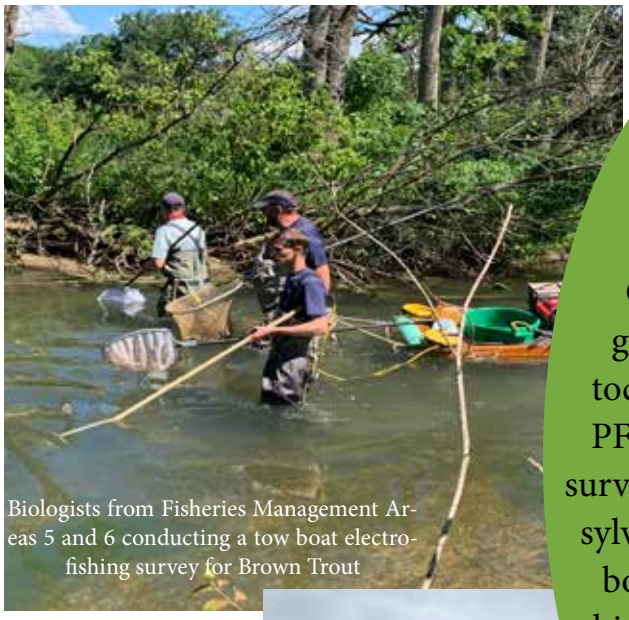
## All weather sondes

PADEP vertical sonde installations in headwater streams. Vertical installations help limit fouling and buildup of sediment and other material on sensors

Photo Credit: M. Shank

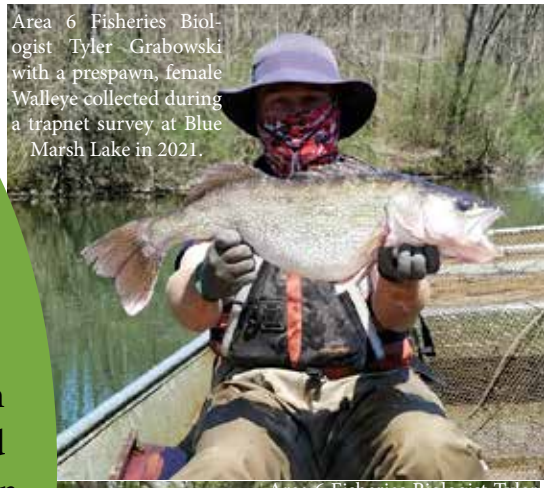
# PHOTO CORNER

## PENNSYLVANIA FISH AND BOAT COMMISSION
## FISHERIES MANAGEMENT AREA 6 (SOUTHEAST PA)

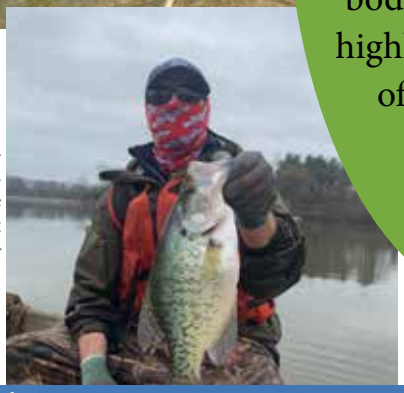


Biologists from Fisheries Management Areas 5 and 6 conducting a tow boat electrofishing survey for Brown Trout

Over the last year, following COVID-19 safety guidelines and protocols, biologists from PFBC have conducted surveys on some of Pennsylvania's unique waterbodies. These photos highlight the diversity of these surveys.

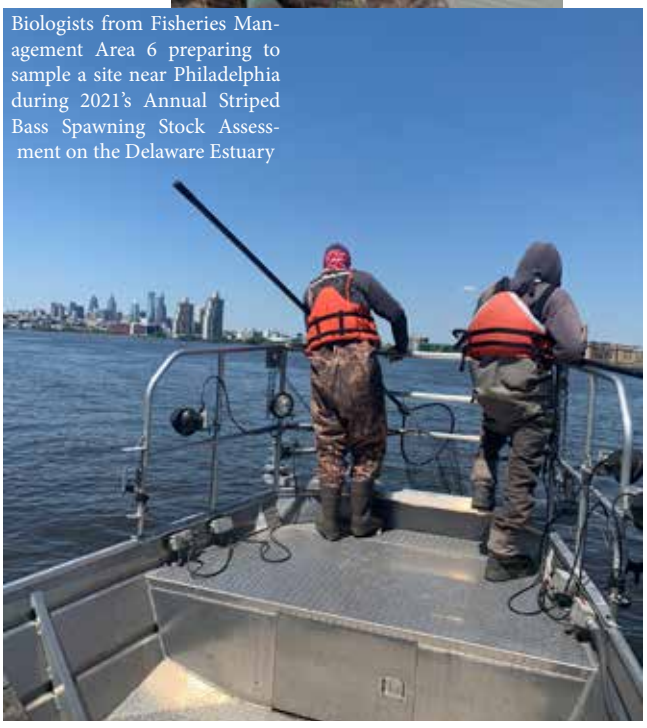


Area 6 Fisheries Biologist Tyler Grabowski with a prespawn, female Walleye collected during a trapnet survey at Blue Marsh Lake in 2021.

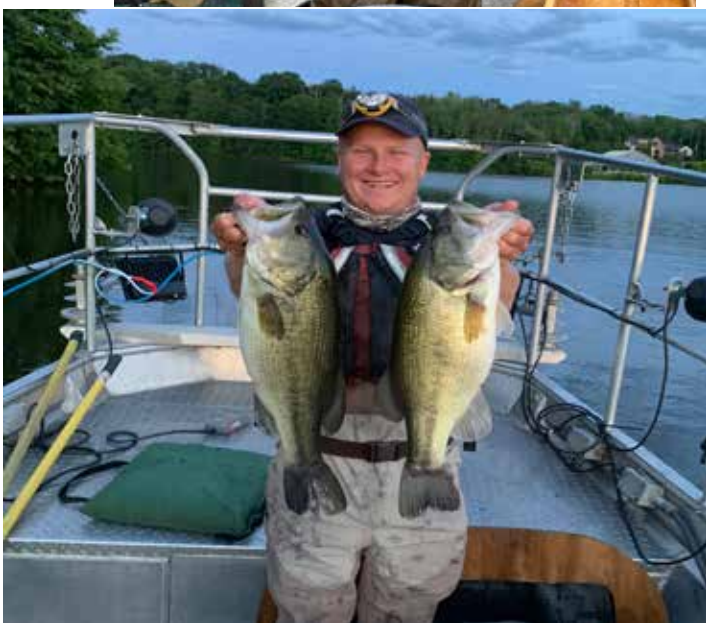


Area 6 Fisheries Manager Mike Porta with a White Crappie collected from Speedwell Forge Lake during a trapnet survey

Area 6 Fisheries Biologist Tyler Grabowski with a large, female Striped Bass collected during 2021's Annual Striped Bass Spawning Stock Assessment on the Delaware Estuary



Biologists from Fisheries Management Area 6 preparing to sample a site near Philadelphia during 2021's Annual Striped Bass Spawning Stock Assessment on the Delaware Estuary



Two healthy, adult largemouth bass collected during a 2021 nighttime boat electrofishing survey at Lake Redman in York County

Photo Credit: T. Grabowski

# 2021 SUMMER SOCIAL

## SATURDAY JULY 17 AT JUNIATA COLLEGE'S RAYSTOWN FIELD STATION!

LUNCH AT NOON: PLEASE BRING A COVERED DISH OR DESSERT

BUSINESS MEETING AT 3 PM
WITH INTRODUCTION OF NEW OFFICERS

14322 FIELD STATION LANE, ENTRIKEN PA 16638
GPS COORDINATES: 40.367336, -78.144544

FUN FOR THE WHOLE FAMILY BY THE LAKE!

COME EARLY. STAY LATE. HIKING, CANOEING, KAYAKING, FISHING, FISH SAMPLING, SWIMMING, SIGHTSEEING, AND CONVERSATION.

FOR MORE INFORMATION ABOUT THE EVENT CONTACT: GEORGE MEROVICH AT MEROVICH@JUNIATA.EDU

TO LEARN MORE ABOUT THE JUNIATA COLLEGE FIELD STATION VISIT: WWW.JUNIATA.EDU/OFFICES/FIELD-STATION

# PA AFS OFFICER ELECTIONS

## 2021-2022 IS AN ELECTION YEAR FOR CHAPTER OFFICERS!

## KEEP AN EYE OUT FOR A BALLOT AND PLEASE CAST YOUR VOTE!

### OPEN POSITIONS:

1. PRESIDENT ELECT
2. EXECUTIVE COMMITTEE MEMBER
3. SECRETARY/TREASURER
4. STUDENT REPRESENTATIVE

INFORMATION ON THE ROLES OF EACH POSITION CAN BE FOUND HERE.

ELECTION RESULTS WILL BE ANNOUNCED AT THE 2021 SUMMER BUSINESS MEETING ON JULY 17.

AMERICAN FISHERIES SOCIETY
PENNSYLVANIA CHAPTER

2020-2021 PA CHAPTER OFFICERS
CHAPTER PRESIDENT: GEORGE MEROVICH
PRESIDENT-ELECT: ADAM SLOWIK
PAST PRESIDENT: GREG MOYER
SECRETARY/TREASURER: SARA MUELLER
EXECUTIVE COMMITTEE: MATT SHANK
EXECUTIVE COMMITTEE: TYLER GRABOWSKI
STUDENT REPRESENTATIVE: EMILY BIERER

CONTACT US: HTTPS://TWITTER.COM/AFS_PA
PACHAPSTERAFS@GMAIL.COM

# 2022 SPRING TECHNICAL MEETING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# SAVE THE DATE!

## WHEN: FEBRUARY 25 - 26, 2022
## WHERE: STATE COLLEGE, PA

### PA AFS AND PA TU ARE TEAMING UP!

WE WILL BE HOSTING A JOINT KEYSTONE COLDWATER CONFERENCE AT THE RAMADA INN (STATE COLLEGE, PA).

KEEP AN EYE OUT FOR UPDATES VIA EMAIL AND TWITTER. CHECK THE EVENTS PAGE ON THE PA AFS WEBSITE FOR DETAILS AS WE GET CLOSER TO THE DATE