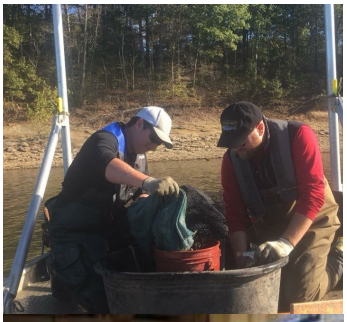
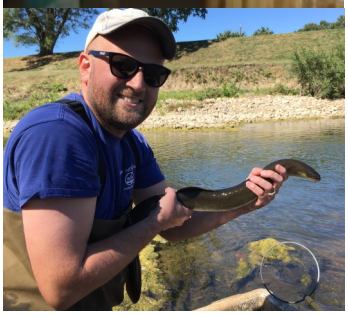
Hoosier Edition January 2018

Lateral Lines





Happy New Year to all my fellow AFS members!

I'm excited to start off 2018 but I'd be remiss if I didn't take a second to look back on all the great things that IAFS did in 2017. We kicked off 2017 with a very successful joint spring meeting with Ohio AFS. To echo Reuben's comments from the past president's message, I believe this was the first joint-state meeting that I can remember and I hope we can pursue more in the future. I believe our planning team, with lots of phone coordination with Ohio AFS, put on an excellent conference and I would again like to thank all that assisted in that effort. We continued our long standing tradition of assisting Clint Kowalik by volunteering for a day of helping youngsters fish for "Fish with a FishHead" at the DNR State Fair Fishing Pond (thank you to our volunteers!). Our fall business meeting was also very well attended at the Four Winds Resort on beautiful Lake Monroe, so thank you to all who participated. Helping draw folks in was an exciting continuing education demonstration, featuring a number of different trawling methods, put on by our distant neighbors from the Missouri Dept. of Conservation. A huge thank you to those folks (Dave Herzog, Dave Ostendorf and Sara Tripp) for hauling themselves and their massive boat all the way up to Indiana and being a true pleasure to learn from all day (and to our own Andy Bueltmann for his connections and coordination). We also were awarded the AFS Small Chapter Award which was accepted by Reuben Goforth at the 2017 AFS Conference in Tampa Florida (congrats all!).

We begin 2018 with an exciting, upcoming, joint "spring" meeting with the Indiana Chapter of the Wildlife Society, February 12-13 in Lafayette, IN. As Reuben touched on in his last message as president, we as a conservation community, seem to be facing more and more challenges when it comes to politics, policy and funding. At this upcoming conference we hope to address these challenges head on rather than shy away from them, discuss how we can overcome them in the future and look at how we have been able to overcome similar challenges in the past. This seemed to be an ideal theme to partner on with our conservation partners at The Wildlife Society. Rather than both groups just being in the same room to split costs and have beers with old friends (both still benefits), I really hope we all take the time to learn more about an issue, project or research area that we are unfamiliar with and also share the important work we are doing with others who may be unfamiliar.

...Continued on Page 2.

President Message ...Continued

Current Officers

President:
Ben Miller

President Elect:
Drew Holloway

Vice President:
Daniel Arndt

Past President
Reuben Goforth

Secretary/ Treasurer:
Bri Ciara

Newsletter Editor:
Tom Bacula

Visit us at:
www.indianaafs.org
&
Facebook

The more we can educate each other in the conservation community, the more effective we will all be in educating the public and expanding our base of support. I am excited to have Mary McConnell, Director of the Indiana Chapter of The Nature Conservancy, as our plenary speaker to share some of her wisdom, advice and inspiration on these issues as well.

I am truly looking forward to working with you all and seeing how we can move IN AFS forward in 2018. I am lucky to have a great supporting cast of officers who are truly passionate and engaged. I know with their assistance we can accomplish a lot this year, so please don't be shy in suggesting ways you'd like to see the chapter improve. Also, a sincere thank you to Past-President Tom Bacula for taking over newsletter duties and to Sandy Clark-Kolaks for all her past work putting these together.

So as I sit here writing this with temperatures in the negatives, I tried to think of a few positives:

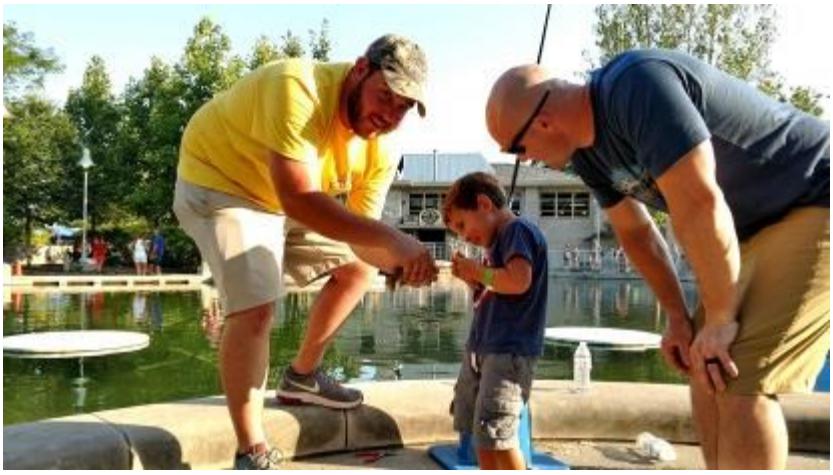
1. IN will have an ice fishing season this year (maybe even our friends in So. IN, sorry panfish..)
2. Dr. Goforth can teach his students how to gill-net through the ice (while weeding out the weak ones..)
3. My dog was quite excited to experience pooping "on" the creek, rather than beside it for the first time at our new house (don't tell on me IDEM friends, it only happened once..)

Thanks for the opportunity to be your president,

Ben Miller

Mark your Calendar

Fish with a Fishhead Day
at Indiana State Fair Fishing Pond 8-18-18



Secretary Report — Bri Ciara

IAFS Fall Business Meeting Minutes
Fourwinds Resort and Marina, Lake Monroe
Bloomington, IN
October 18, 2017

Call To Order
The meeting was called to order at 10:15am by Ben Miller.

Establish Quorum
The Secretary confirmed that there was a quorum to conduct business. There were 40 members in attendance, 28 Parent Society members.

Agenda Editions/Deletions
None.

New Members/Guests
Corey Deboom, new IDNR District 4 Management Biologist, introduced himself.
Nick Abell and Dan Roth, IDNR Assistant Big Rivers Fisheries Biologists, introduced themselves.

Secretary's Report.
Bri Ciara stated that few comments were received regarding the Spring Meeting Minutes. They will be sent out to the membership for final approval and posting to the website.

Treasurer's Report
The treasurer's report was passed out and Bri Ciara briefly explained the report. See Attachment 1 for the report. A summary of income and disbursements since January 1, 2017 were summarized along with account balance totals. The cost of the Spring Meeting was also discussed. EXCOM explained that a majority of the monetary loss was a tradeoff to allow greater student attendance which was seen as an overall benefit to the meeting. The status of the seed money for the next MW Fish and Wildlife Conference to be held in Indiana was discussed. The Parent Society cashed our investment check and will be handling the investment from here. There was a motion to accept the report, seconded, and approved as written.

Committee Reports
Standing Committees
Awards
Ben Miller presented Caleb Artz, Ball State student, the award for Best Student Presentation from the 2017 Spring Meeting.
Drew Holloway, Fisheries Biologist at the Muncie Bureau of Water Quality, was presented the award for Best professional presentation.
Reuben Goforth, Past President and Purdue University Professor, was presented with the Past President plaque and thanked for his service.

Programs
No report.

Secretary Report — Bri Ciara

Membership
Bri Ciara and Ben Miller stated a current membership of 92 members, 56 Parent Society members. Those wishing to become new members or pay dues should see Bri Ciara.

Nominations
No nominations.

Resolutions
None.

Communications

Newsletter
Sandy Clark-Kolaks announced that due to lack of content, there will be no newsletter released until the New Year. She will be stepping down from this position and allowing someone new to take over the Newsletter Editor role.

Website
Nick Haunert reported no issues and smooth maintenance of the IAFS website. If anyone has anything they'd like posted or has any ideas, please send them to Nick.

Social Media
Drew Holloway gave an update on the IAFS Facebook page – it is doing great. He reminded people to remain active and posting photos, cool news stories, and interesting articles/research.

Ad hoc Committees
Continuing Education
Steve Andrews introduced himself to new members and thanked those that helped plan the trawling workshop as the continuing education workshop for the day. If anyone has any ideas or suggestions for future continuing education workshops, please contact Steve.

Certification
None. Megan Gunn will likely be assuming this position. For further information on becoming a Certified Fisheries Professional, please see the AFS website.

Legislative Communications
None.

History and Archives
None.

Outreach
Fish with a Fish Head Day
IAFS has participated in Fish with a Fish Head Day at the Indiana State Fair for at least 10 years now! All spots were filled this past year and it was deemed a success!

Secretary Report — Bri Ciara

White River Fishing Trip
Clint Kowalik expanded his annual White River Fishing Trip this year from Muncie to Mounds State Park and then from Noblesville to downtown Indianapolis. This trip coincides with the White River Festival during the month of September. Clint broadcasts his fishing adventure on Facebook, primarily via IN DFW, to showcase fishing opportunities and access sites along the river. Drew Holloway was able to participate in the Muncie portion of the trip that promoted fun fishing opportunities there in town. This seemed to be well-received.

Technical Committees
Rivers and Streams
None. Vacant.

Centrarchid – Kevin Gaston
Kevin Gaston reported that the Centrarchid committee met in July at a joint meeting with the Esocid Committee. Meeting minutes will be posted when received. All those with any information, research, or updates should send them to Kevin Gaston.

Esocid – Nick Haunert
Nick Haunert reported that the Esocid committee met in meeting at the joint meeting in July with the Centrarchid Committee. Anyone with information, research, or updates should send them to Nick Haunert.

Walleye
None. Vacant.

Ictalurid – Craig Jansen
Craig Jansen was not able to attend the Midwest. Hopefully a meeting will occur at the National AFS meeting in Little Rock, AR. As for Catfish work done around the State, Craig Jansen and the IN DFW Big Rivers Unit conducted a White River Survey using electrofishing and hoop netting to catch over 400 Flathead Catfish, almost 200 Channel Catfish, and a few Blue Catfish along with 25 other species. The Catfish are currently being aged. They also assisted Kentucky for a few weeks on the Ohio River conducting annual trot line surveys for long term data analysis. They have helped with this for 5+ years. IN DFW has also been conducting some Catfish nesting box research. Andy Bueltmann explained success noted from spawning boxes placed in a 40-acre Saddle Lake, where 16/18 boxes showed Go-Pro documented spawning success. Stockings will be discontinued to monitor survival and recruitment of these naturally spawned Catfish. The Go-Pro videos have been posted to the IN DFW Facebook page and will also be sent to Drew to post on the IAFS Facebook page. Craig explained that as of the last 2008 Farm Bill, Catfish and Catfish products are being regulated under the Food Safety Inspection Services so that any commercial operation that processes 75+ lbs. of Catfish/Catfish products will be under their [FSIS] jurisdiction and subject to additional inspection. Will not affect IN DFW biologists very much, but should be aware. Anyone with information, research, or updates should send them to Craig Jansen.

Secretary Report — Bri Ciara

Reservoirs – Sandy Clark-Kolaks
Sandy reported that she attended the National Reservoirs and Habitat Partnership meeting in Pennsylvania. Small partnership with limited monetary funds, but they do award grants as they are able. Previously their funds estimated at around $120,000 and this year will be closer to $100,000. These dollars are used to award grants for projects ranging from dredging to watershed and water quality treatments. Roughly 15 states are represented in this partnership. There are a few reservoir habitat projects underway here in IN like this Saturday Nov. 4th which will include a volunteer work day at Raccoon (Cecil M. Harden) Reservoir to build 100 crib structures that will be placed this winter. These will be in addition to rock pile structures already placed on the lake bed to help with spawning. Good opportunity for student sub-units to participate and learn. Will meet at 9 am at the DNR office there. IN DFW Southern Research Unit in partnership with the Indiana Bass Federation was also awarded a $1,500 grant from Mossback Structures last week which will provide additional structures to be placed in the reservoir. IN DFW will also be starting a habitat project at Lake Monroe Summer 2018 with the Indiana Bass Federation to put out over 200 structures on the causeway side on the slow side of the reservoir. Again, more opportunities for involvement and volunteer work. For more information, please contact Sandy.

Student Subunit Reports
Ball State
Ryan Seymour, President of the Ball State Student Sub-Unit, reported 15 active members. They experienced a 100% internship placement rate for their undergraduates seeking summer internships. So far they hosted an annual Internship Night, Electrofishing Demonstration, and Mongolia Research presentation. They also promoted their group through Clint's Shoreline White River Fishing Trip and are in the final steps of their apparel fundraiser. T-Shirts, hats, and cozies are available for purchase if anyone is interested.

Purdue
Jason Jaworski, Purdue Student Sub-Unit President, reported that the sub-unit is in the process of switching officers, faculty advisors, and some reorganization after recent graduations. They have roughly 12 active members and have participated in several workshops with Purdue professors.

Manchester
None.

Indiana University
None. IU Student Sub-Unit is a growing chapter and had classes to attend to during the business meeting.

Unfinished Business
Procedures Manual – Benjamin Miller
Still ongoing edits. Drew and Ben will work on picking up where Tom left off.

New Business
NCD Update
Mark Pyron reported that there is a new publisher for AFS journals and now all journals are available online to all members. Students and other professionals are encouraged to join the National AFS for the wonderful benefits of journal availability and Fisheries Magazine subscription. Professional membership dues have slightly increased but membership is still worth it.

Secretary Report — Bri Ciara

State Fish

Drew Holloway introduced a fun idea of deciding and campaigning for a State Fish for IN. Currently IN does not have a recognized "State Fish". Explained article that suggested Spotfin Shiner to be State Fish but other professionals think differently regarding game/non-game fish, etc. Drew proposed fun "political style" debate at Spring meeting to decide which fish we want to be our State Fish. Reuben highlighted potential to use the "debate" for fisheries publicity and outreach too, similar to the elementary students and their State Insect proposal.

AFS Directory Update

Ben explained that only 8 membership directory entries were submitted. He handed out a paper form to Membership for folks to turn in at close of the business meeting for directory entries.

Other

Bri brought up idea of IN AFS T-shirts to be sold at Spring Meeting. Idea and past designs were vetted. Ad-hoc committee was created consisting of Reuben, Bri, and Paul DeRolf.

Instillation of New Officers

Reuben thanked membership for his time as President and provided insight as to the time and commitment of serving as President. Ben presented Reuben with the Presidential Plaque and thanked him for his service to the Chapter. He then introduced the rest of the Ex-Com: Tom will no longer be the Past-president as that designation will fall to Reuben, Ben will now assume the role of President, Drew is the Vice President, Daniel Arndt the President Elect, and Bri the Secretary/Treasurer.

Announcements

Spring Joint Meeting with TWS

The Spring Meeting will be held in conjunction with Indiana Chapter of the Wildlife Society the week of February 12-16 in West Lafayette. The theme of the meeting will be about upbeat success stories of Conservation through Collaboration. Interested speakers and presenters should contact Ben or Drew with their success stories and/or ideas. More details will be released as they come.

Continuing Ed: MO DNR Trawling Demonstration

Missouri Department of Conservation will be teaching us about their trawling methods and utilization within their fisheries program. They will meet us after lunch at the boat ramp here on Lake Monroe. We will break for lunch and meet there for their talk and following demonstration.

Adjourn

No more new business and a motion to adjourn was made and seconded at 10:58 am.

Secretary/Treasurer Report— Bri Ciara

Indiana Chapter of the American Fisheries Society
Financial Report
For the Period 01/01/2017 - 10/17/2017

INCOME		DISBURSEMENTS	
Dues, registration fees, grants, and miscellaneous		**Operating expenses, contributions, gifts, donations, and miscellaneous**	
Spring meeting registrations and member dues	$ 4,925.00	Sponsorship of Coolwater Workshop	$ 500.00
Transfer from PayPal	$ 5,344.51	Reminbursement for MWFWC Drew Holloway	$ 939.01
Sponsorship from Aquatic Control and Commonwealth Biomonitoring	$ 750.00	Reimbursement for spring meeting supplies	$ 130.50
Rebate from Parent AFS	$ 454.80	Plenary Speaker costs for Andrew Rypel and Dan Shoup	$ 1,132.60
		Ohio Chapter Dues	$ 104.10
		BSU Catering for Spring Meeting	$ 9,492.74
		Best presentation plaques	$ 114.14
		Student poster awards	$ 200.00
		Chapter Insurance	$ 150.00
		IWF membership renewal	$ 100.00
		Investment	$10,000.00
TOTAL Income	$11,474.31	TOTAL Disbursements	$22,863.09
Assests as of: 01/01/2017		**Assests as of: 10/17/2017**	
Checking 1084	$16,961.13	Checking 1084	$ 5,572.35
PayPal	$ 2,153.86	PayPal	$ 219.41
Investment	$ -	Investment	$10,000.00

Prepared by
Brianna Ciara
IAFS Treasurer
10/17/2017

Chapter News

Awards Committee—Rob Ackerson

Volunteers are needed for judging papers and posters at the Spring Meeting.

If you are willing to judge several presentations (oral or posters) at the Spring Meeting, please contact me by January 31. Remember this is an excellent way to be involved with chapter activities, students are also encouraged to be involved. I will provide the standard form, which simplifies the process. If you have a preference for judging please leave a note of poster or oral.

Rob Ackerson
rackerson@dnr.in.gov
Phone: 219-369-9591

Outreach Committee—Clint Kowalik

Please share your IAFS outreach activities with me by Feb 5.

For example, I promoted AFS and IAFS during a IMN class of 30 people on Sep 14.

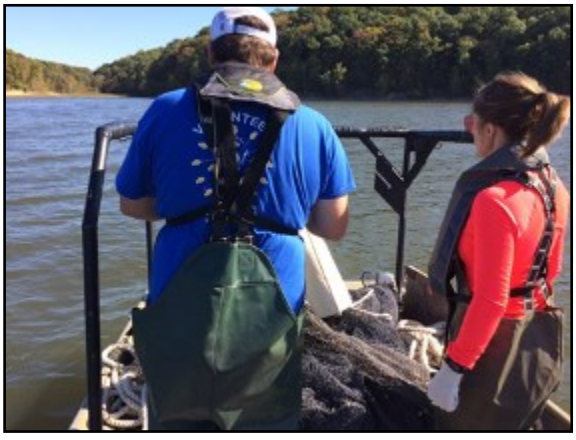
Mark your calendars, Fishheads…It's Fish With a Fishhead at the Indiana State Fair Fishing Pond on 8-18-18.

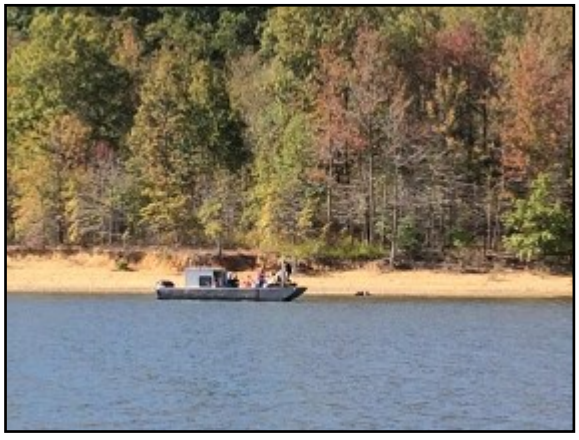
Clint Kowalik
ckowalik@dnr.in.gov

Continuing Education—Steve Andrews

A continuing education survey was conducted by the EXCOM and identified fish trawling as the topic for the 2017 fall workshop. The workshop date was October 18 at the Fairfax State Recreation Area on beautiful Lake Monroe. We couldn't have asked for better weather. The fish trawling demonstrations were done by Missouri Department of Conservation personnel (huge thanks to Dave H., Dave O., and Sara T.; and IN AFS Andy Bueltmann for assisting with contacting Missouri). We had a great turnout with 40 people present including new members and students from three universities! Indiana Chapter members actively participated in the demonstrations and learned about a possible new sampling technique. If you have other ideas for future continuing education topics, please call or email me. As I get close to retirement, I find continuing education and passing on knowledge to be particularly rewarding. Thanks to the EXCOM and chapter membership for supporting these events.

Steve Andrews
steven.andrews@navy.mil
(812) 854-6656





Continuing Education—Steve Andrews

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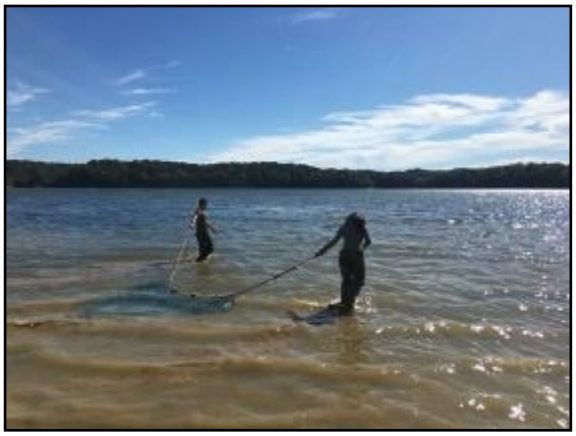

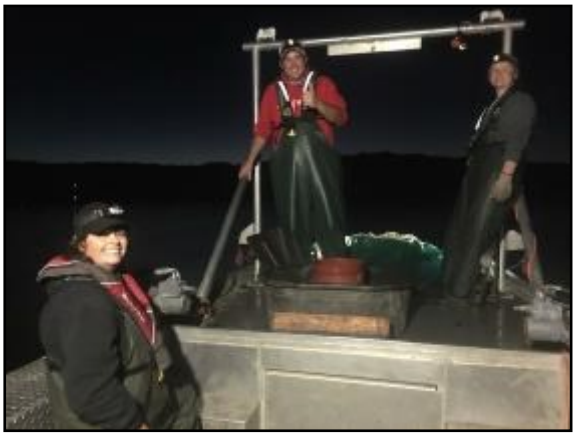

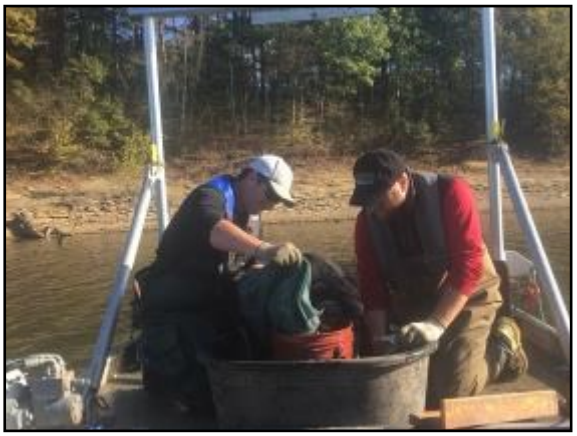

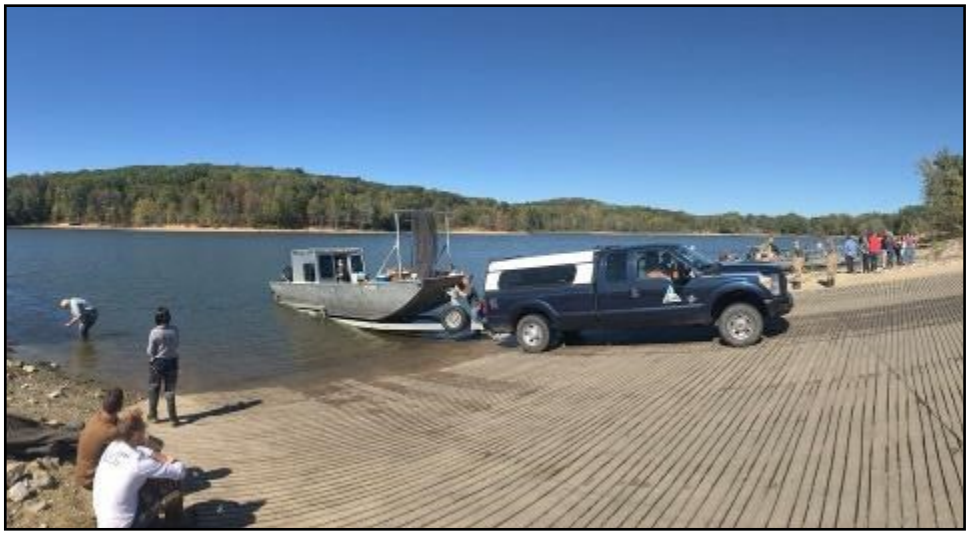

Continuing Education—Steve Andrews

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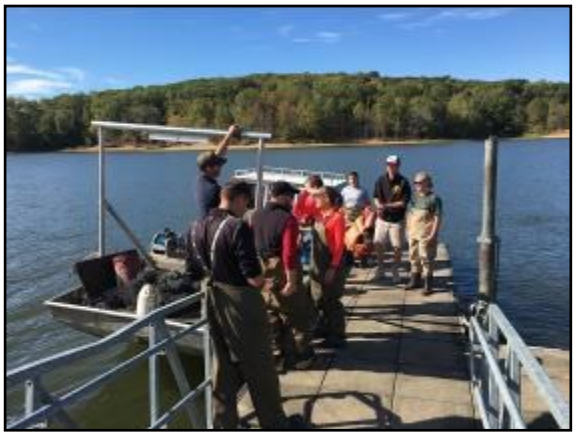
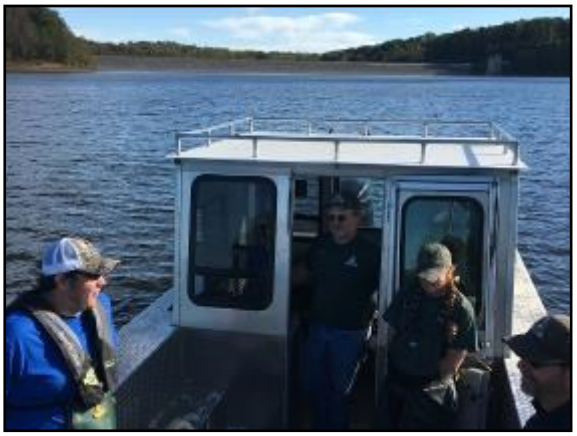
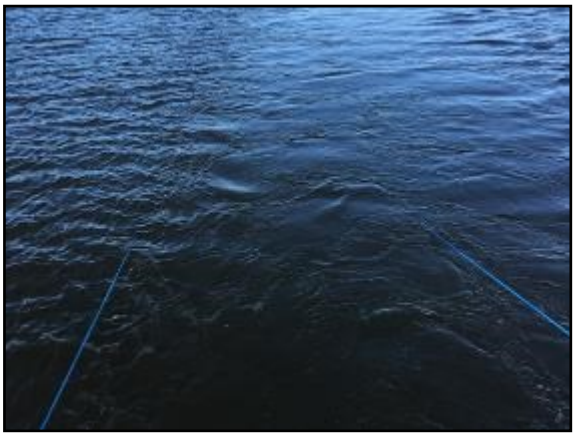
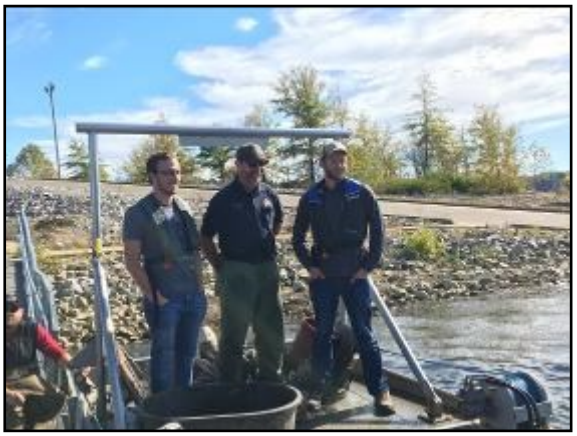
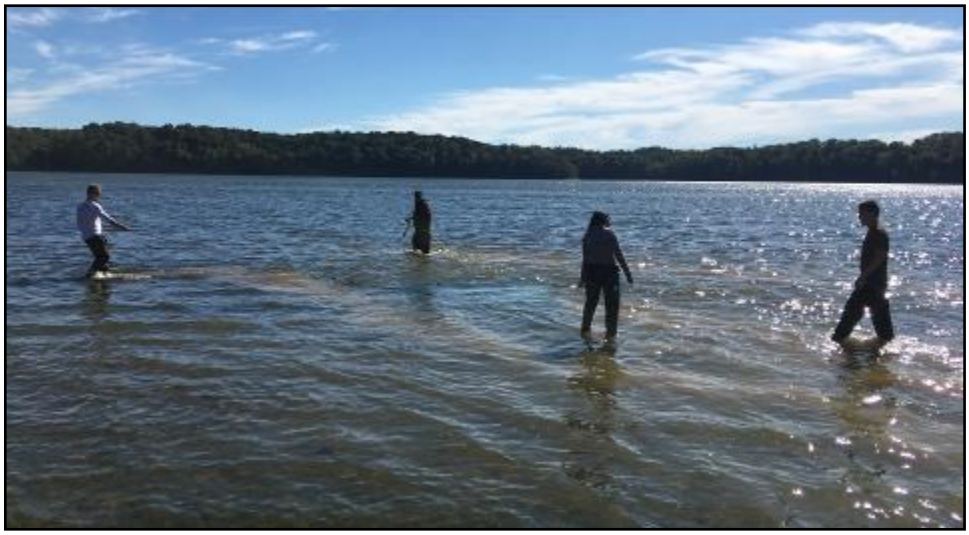










Chapter News

American Fisheries Society-Indiana Subunit Chapter (Fall 2017)

2018 Elected Officers

President: Matthew Lloyd
mclloyd@umail.iu.edu

Vice President: Seth Williams
setmwill@umail.iu.edu

Secretary: Anna Klingbeil
aatalib@umail.iu.edu

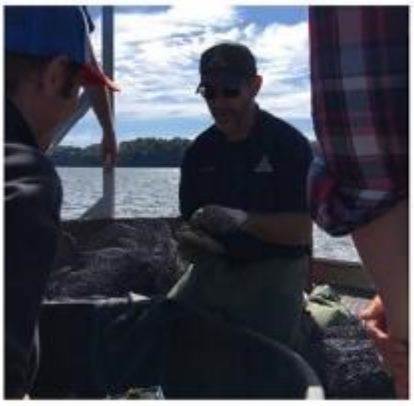
Treasurer: Travis Hobbs
tshobbs@umail.iu.edu

Conservation Committee Chair: Lewis Baker
lewbaker@umail.iu.edu

Recruitment Committee Chair: Jared Cox
coxjada@umail.iu.edu

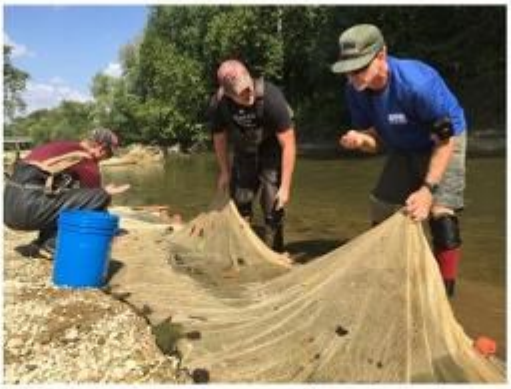
Recreation Committee Chair: Ross Bohlander
rdbohlander@gmail.com

Research Committee Chair: Kathleen Lich
kmlich@umail.iu.edu

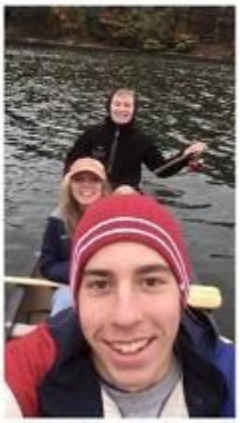


Trawling Workshop with Missouri DNR

Fall Involvement



Black Bass and Non-Game sampling at Flatrock River



Canoe Trip at Lake Griffy

Thesis Research: Gizzard Shad

Chapter News

In the News

- A call to action: Support dedicated funding to recover America's fish and wildlife
https://fisheries.org/2017/12/a-call-to-action-support-dedicated-funding-to-recover-americas-fish-and-wildlife/

- AFS Policy Outlook for 2018
https://fisheries.org/2018/01/policy-outlook-for-2018/

- National fish habitat effort focuses on imperiled waters
https://fisheries.org/2018/01/national-fish-habitat-effort-focuses-on-imperiled-waters/

North Central Division
of the American Fisheries Society

- Looking to hire a new employee? Looking for a job in the Midwest? Check Out the NCD Job Board. It's free to post to.
http://ncd.fisheries.org/ncd-jobs-board/

- Looking for learning opportunities? Check out the Continuing Education section.
http://ncd.fisheries.org/continuing-education/

Upcoming Events

"RESTORATION THROUGH COLLABORATION"

IN AFS and TWS Annual meeting
February 12-13, 2018
Lafayette, IN

ATLANTIC CITY 2018

COMMUNICATING THE SCIENCE OF FISHERIES CONSERVATION TO DIVERSE AUDIENCES
AUGUST 19-23, 2018

Strengthening Natural Resources through Collaboration
78th Midwest Fish and Wildlife Conference
Milwaukee, Wisconsin | January 28-31, 2018

Find us on: facebook

Indiana Chapter of the American Fisheries Society (IAFS)

North Central Division of the American Fisheries Society

Don't forget to post your field sampling pictures to show the rest of the IAFS members what types of projects you are working on!

All in a Days Work

Indiana Department of Environmental Management (IDEM) / Office of Water Quality / Watershed Assessment and Planning Branch: Compiled by Kayla Werbianskyj

2017 Monitoring Efforts

Probabilistic Monitoring

The main objective of IDEM's Probabilistic Monitoring Program is to provide a comprehensive, unbiased assessment of the ability of rivers and streams in a river basin to support aquatic life and recreational uses. In 2017, sampling for the program focused on waterbodies in the Kankakee River Basin. For the purpose of this program, the Kankakee River Basin is geographically defined as within the borders of Indiana and is contained by the 8-digit Hydrologic Unit Codes 07120001, 07120002, and 07120003. Biological communities and habitat information were sampled at 38 sites with landowner approval.

Starhead Topminnow (*Fundulus dispar*) – Kankakee River Basin

Performance Measures Monitoring

Performance monitoring is initiated to show improvements in water quality when waterbodies cited in Categories 4A and/or 5A of Indiana's 303(D) List of Impaired Waters have received documented nonpoint source (NPS) control or watershed planning and restoration efforts. This type of monitoring provides chemical, physical, biological, and/or bacteriological data that can be reported to U.S. Environmental Protection Agency (U.S. EPA) Region 5's NPS Program showing improvements in watersheds previously listed as impaired.

In 2017, Watershed Assessment and Planning Branch (WAPB) staff revisited five subwatersheds to determine if there have been improvements in the waterbodies' ability to support aquatic life. Headwaters Curtis Creek (071200020401) – Newton County; Elliot Ditch (051201080104) – Tippecanoe County; Kilmore Creek (051201070306) – Clinton County; Jenkins Ditch-South Fork Wildcat Creek (051201070308) – Clinton County, and Ell Creek (051202090405) – Dubois County each had one site that was sampled for fish and/or macroinvertebrate communities.

Banded Darter (*Etheostoma zonale*) – Kankakee River Basin

IDEM Cont.

Nutrient/Diel Dissolved Oxygen Pilot Study

U.S. EPA has mandated that states either adopt U.S. EPA numeric nutrient criteria or develop their own criteria for incorporation into State water quality standards. IDEM's Office of Water Quality (OWQ) has collaborated with the U.S. Geological Survey (USGS) on several projects that have provided the technical background for developing numeric nutrient criteria for lakes, rivers and streams in Indiana. Numerous field studies have demonstrated the links between nutrients and algae, aquatic macroinvertebrates and fish such that a reasonable picture exists of how biological conditions change across a nutrient gradient. A dose-response relationship is thought to occur, but it is an indirect path influenced by numerous environmental variables (i.e., land use, light, temperature, flow gradients, in-stream and riparian habitats, and substrate types) that can affect whether a given amount of nutrient enrichment is limiting, sustaining, or detrimental to the aquatic communities. The impact of eutrophication on higher trophic levels is difficult to quantify because fish and aquatic macroinvertebrate communities are strongly influenced by physical habitat. However, the dose-response relationship can be exploited because there is a reasonably predictable and consistent response between increasing nutrient concentrations and periphyton, and between periphyton and dissolved oxygen concentrations.

In order to further the development of a weighted approach to nutrient criteria development utilizing multiple response variables, in 2017 the WAPB implemented a pilot study. The goal was to trace steps from nutrient utilization to periphyton biomass as chlorophyll-a; from periphyton to dissolved oxygen; and from dissolved oxygen to diatom, macroinvertebrate, and/or fish communities responses, with the goal of identifying benchmarks or change points at each step that would help define where a given water body is positioned along a continuum of enrichment or nutrient utilization. Partially funded by a U.S. EPA supplemental Section 106 grant, 28 sites were targeted for sampling based on a number of qualifying criteria. In addition to water chemistry, aquatic macroinvertebrate, fish and periphyton communities were sampled using IDEM's standard sampling protocols. Continuous data collection for dissolved oxygen also occurred at these sites through the deployment of dissolved oxygen data loggers to gain an understanding of dissolved oxygen diel swings and extremes.

The objectives are twofold. The first is to measure whether concentrations of primary nutrients (phosphorus and nitrogen) are positively associated with periphytic chlorophyll-a, and, in turn, increasing daily variation in dissolved oxygen concentrations. If those relationships hold, then determine if the increasing expression of nutrient enrichment given by either of these secondary response indicators corresponds to decreasing condition of diatom, macroinvertebrate, and/or fish community indicators. Where clear associations between stressor and response variables are found, the second objective becomes identifying concentrations or levels in the stressors over which the respective response variables change appreciably through further, more expanded sampling and modelling in a subsequent study. The change points then form the basis for defensible water quality standards for nutrients in small rivers and streams. Quite simply, OWQ is testing the utility of dissolved oxygen swing as a linking covariate to biological community response.

OWQ completed the data collection phase in 2017 and is currently verifying and managing the data. Staff will complete a report in 2019.

Assessment of Downstream Fish and/or Aquatic Macroinvertebrate Community Response and Recovery from Permitted Thermal Discharges

In accordance with Title 327, Article 5, Rule 7 of the Indiana Administrative Code (IAC) and Section 316(a) of the federal Clean Water Act, National Pollutant Discharge Elimination System (NPDES) dischargers may request alternative thermal effluent limitations (ATEL) for a discharge based on a demonstration that the proposed effluent limitations

IDEM Cont.

(ATEL) for a discharge based on a demonstration that the proposed effluent limitations for temperature are more stringent than necessary for the protection and propagation of the receiving waterbody's balanced, indigenous community (BIC) or balanced indigenous population (BIP) of shellfish, fish, and wildlife in and on the body of water. 327 IAC 5-7 is based on federal regulations (40 CFR Part 125.70 through 125.73) designed to implement Section 316(a) of the Clean Water Act. With that, the regulated dischargers are required to demonstrate no harm to the BIC. The State must establish a demonstrably safe limit on allowable thermal discharges with a confidence interval/margin of error that will reliably protect stream habitats and fish populations from either longer term and/or acute adverse impacts to those habitats and shellfish, fish, and wildlife in a manner consistent with maintaining aquatic life use of State waters.

In support of this, in 2017 the WAPB implemented several studies downstream of thermal dischargers to further understand biological community response and recovery from thermal loads to riverine systems. The objectives were to test and refine sampling methods; collect data on biological community response and recovery moving downstream from the discharge point of the thermal loads; and provide additional information for the determination of "No Harm" to the BIC.

The stream conditions downstream of three electrical generating stations were targeted for sampling; the Cayuga Electrical Generating Station (EGS) on the Wabash River, the Petersburg EGS on the lower White River, and the R.M. Schahfer EGS on the Kankakee River. A travelling zone approach was applied for assessing fish community response. This involved sampling in 10 transects set equally spaced based on the wetted width of the river and a standard unit of effort beginning at the discharge point. Fish community sampling occurred along each transect for the right descending bank, left descending bank, and middle of the river channel, recording fish accounts separately for each of the 10 transects (total of 30 reaches). Travelling zone assessment methodology will be applied. In all cases an upstream location was also selected and sampled by standard protocols of the WAPB for a full fish community assessment. Subsurface temperature measures were also collected at right, middle and left channel along each transect boundary to gain an understanding of thermal plume movement and dissipation downstream.

Staff is currently working on data management and will be assessing the results of these studies through the winter months.

Fish Tissue Contaminants Monitoring Program

Fish tissue contaminant samples from IDEM's 2017 sampling efforts (East Fork White River, Great Miami River, and Great Lakes basins) were sent to the analytical laboratory in October. Staff sampled 38 sites on 23 waterbodies and collected a total of 764 individual fish. Data results are anticipated to be received by the end of April 2018, at which time results will be incorporated into the Indiana Integrated Water Monitoring and Assessment Report, the 303(d) List of Impaired Waters, and the Indiana State Department of Health's Indiana Fish Consumption Advisory.

2017 Monitoring Results

IDEM will report results for Probabilistic Monitoring and Performance Measures Monitoring in the 2018 IAFS April newsletter. Limited results may or may not be available for the nutrient/diel pilot and thermal studies.

IDEM Cont.

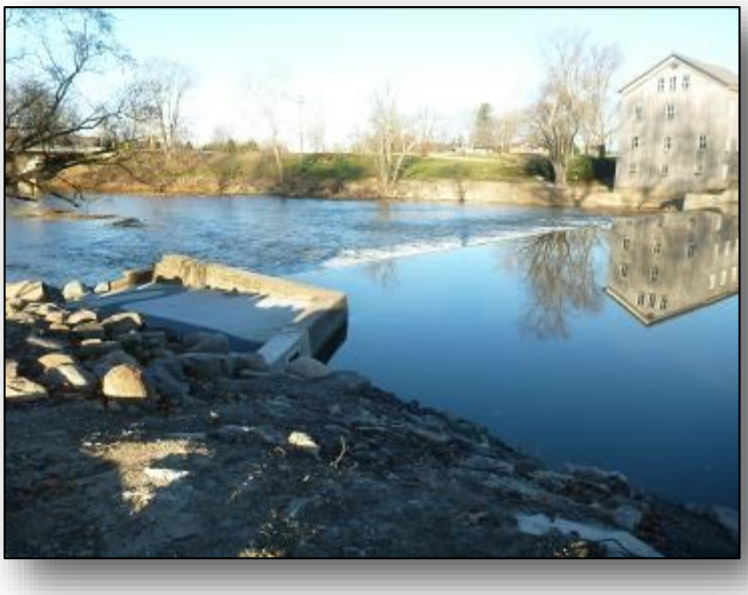
Other News

The Watershed Assessment and Planning Branch (WAPB) would like to thank this year's interns: Breegan Andersen (Manchester University/IU-SPEA), Kyle Linville (IU-SPEA), Cassi Root (Manchester University), Scott Zello (Ball State), and Maya Rao (IU-SPEA) for their hard work! Intern positions will need to be filled for summer 2018 to assist with office, laboratory and field work in project locations around Indiana. Anyone interested in the Governor's Public Service Summer Internship Program can apply now on the Indiana State Personnel Department's website at www.IN.gov/spd/2335.htm. For more information about WAPB internship positions or contact information for WAPB projects, please contact Kayla Werbianskyj, IDEM Office of Water Quality, at kwerbian@idem.IN.gov or (317) 308-3373.

Manchester University: Jerry Sweeten

This summer (2017) Manchester University Environmental Studies Program in partnership with BK RiverFish, USFWS, Central Michigan University, BioMark, Indiana Corn Marketing Council, Indiana Soybean Alliance ,and Stockdale Mill Foundation installed a prototype fish passageway ladder around the dam at Stockdale Mill on the Eel River near the town of Roann. This innovative passageway has been successful in passing thousands of fish around the dam including 12 species. This is the first time in 160 years fish have been able to move upstream past the Stockdale dam. The smallest fish has been a 30 mm bluntnose minnow (Pimephales notatus). This is 20 mm smaller than anticipated from laboratory data. A BioMark antenna array has been installed across the river 50 meters below the dam and there is an antenna at the downstream entrance and at the upstream exit of the passageway ladder. So far 750 fish have been PIT tagged with an additional 1,300 fish anticipated to be tagged spring 2018. This passageway, invented by Boyd Kynard of BK Riverfish, holds tremendous potential to provide fish passage around stream barriers at much less expense than traditional concrete ladders and rock ramps.

Since 2012 three low-head dams have been removed from the Eel River. With the addition of the fish passage ladder, over 700 miles of the Eel River ecosystem has been reconnected. The Eel River is now connected from the dam in Logansport (RM1) to the Collamer dam (RM 70). Environmental Studies students continue to collect data on the ecological response of the Eel River to these instream treatments. For information, contact Jerry Sweeten. Email; jesweeten@manchester.edu Phone: 260-982-5307

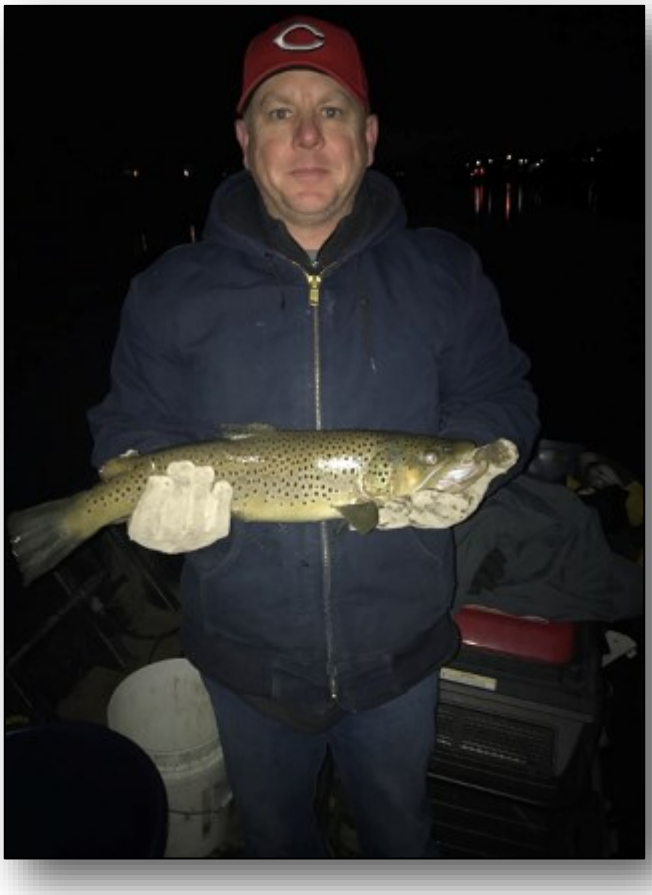


Stockdale Dam on the Eel River.

All in a Days Work

Aquatic Control: Jimmy Ferguson

Aquatic Control had a very busy 51st season in business. The annual Aquatic Control Applicator Workshop was held in January, in Indianapolis. This workshop provides a great way to receive continuing education credits for the Category 5 Applicator License, as well as many different speakers on a variety of lake management topics. License credits are available for Indiana, Kentucky, Ohio, and Tennessee. Our new office in Memphis, TN, opened for business in January as well. Cody Bragg is the manager of the Tennessee Office. We also attended several different meetings including the Spring & Fall IAFS, Aquatic Plant Management Society, Midwest Aquatic Plant Management Society, MidSouth Aquatic Plant Management Society, Indiana Lake Management Society, Illinois Lake Management Association, Society of Lake Management Professionals, and Missouri Natural Resources Conference. Fountain and diffused aeration system installation began in March this past year. In April, as usual, our Aquatic Vegetation Management projects began. In October, when most of the aquatic vegetation management projects were completed, we began our fisheries surveys. We completed twenty-six surveys this season in Indiana and Kentucky. Our biologists have been busy compiling data, reading scales, and writing reports. We also welcomed several new faces to the team this season. New at our Seymour office are Dylan Michaels, Wes Goldsmith, and Keith Evans. Dylan is from Brownstown, Indiana, and graduated from Brownstown Central High School. Wes is from Batesville, Indiana, and graduated from Purdue University with a degree in Fisheries Management and Aquatic Sciences. Keith is from Newnan, Georgia, and graduated from Northgate High School. Our Northern Indiana office welcomed Greg Kunze, Casey Hershberger, Nick Pearce, and Zach Allyn. Greg is from Michigan, and graduated from Lansing Community College with a degree in Business Management. Casey is from Wakarusa, Indiana, and graduated from Grace College and Theological Seminary with a degree in Environmental Science. Nick is from Dansville, Michigan, and graduated from Grand Valley State University with a degree in Natural Resource Management. Zach is from Culver Indiana, and graduated from Grace College and Theological Seminary with a degree in Environmental Science. Our Missouri office welcomed Cody Sunby. Cody is from Missouri and graduated from Missouri State University with a degree in Wildlife Conservation and Management. Our Kentucky office welcomed Jarrod Boles and Zac Tankersley. Jarrod is from Cookeville, Tennessee, and graduated from Tennessee Technological University with a degree in Wildlife and Fisheries Science. Zac is from Lafollette, Tennessee, and graduated from Tennessee Technological University with a degree in Wildlife and Fisheries Science. Aquatic Control would like to wish everyone a safe and happy New Year!

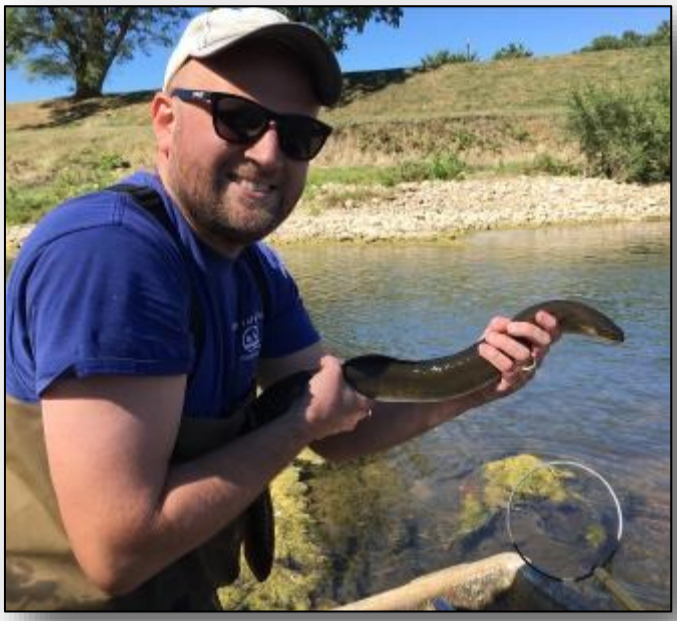


All in a Days Work

Muncie Bureau of Water Quality: Drew Holloway

In 2017, the Muncie Sanitary District Bureau Water Quality (BWQ) sampled 56 sites from the West Fork White River (WFWR) and its surrounding tributaries in Delaware County, IN to evaluate the health and integrity of their fish communities. These sampling events yielded 11,029 fish representing 53 species. Looking at the White River specifically, 48 species were harvested bringing in 7,226 fish.

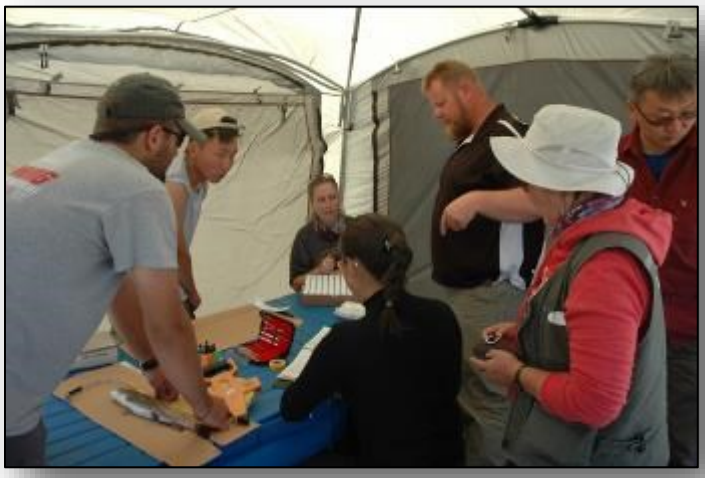
In addition to our yearly sampling events a Smallmouth Bass population estimate was conducted for all sites on the WFWR. The results of this population estimate will be presented as a poster by two of our summer fish crew interns, Cole Baird (Ball State University) and Matt Byrnes (Purdue University), at the spring Indiana American Fisheries Society meeting. Our other fish crew intern, Ryan Seymour (Ball State University), will be presenting a poster as well looking at length frequency distributions of all darters sampled throughout the summer.

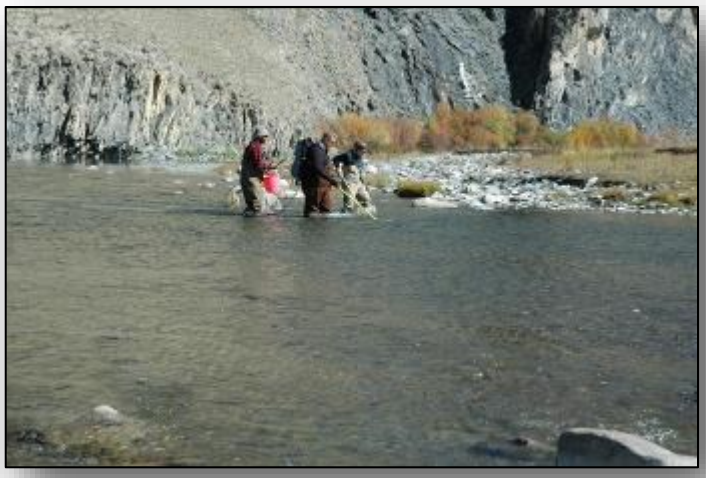


This year also marked the 3rd time an American Eel has been sampled by the BWQ since our organization started in 1972. The first came in 1986 and the second in 2013. The eel sampled this year was at the same location as the one caught in 2013, below a lowhead dam in Muncie, IN.

Ball State Research: Dr. Mark Pyron

Myself, students Robert Shields and Caleb Artz were in Mongolia for five weeks this fall. We are part of a river ecosystems project with four teams examining geomorphology, metabolism, macroinvertebrates and fishes of Mongolian and western US rivers. We were in northern Mongolia watersheds surrounding Lake Hovsgul. The rivers and surrounding landscapes are beautiful. Rivers are nearly pristine, other than effects of thousands of grazing cattle, sheep, goats, and yaks. Our trip was great except for 10-12 hour trips in Russian vans, food that disagreed with our GI systems, and camping for five weeks.





All in a Days Work

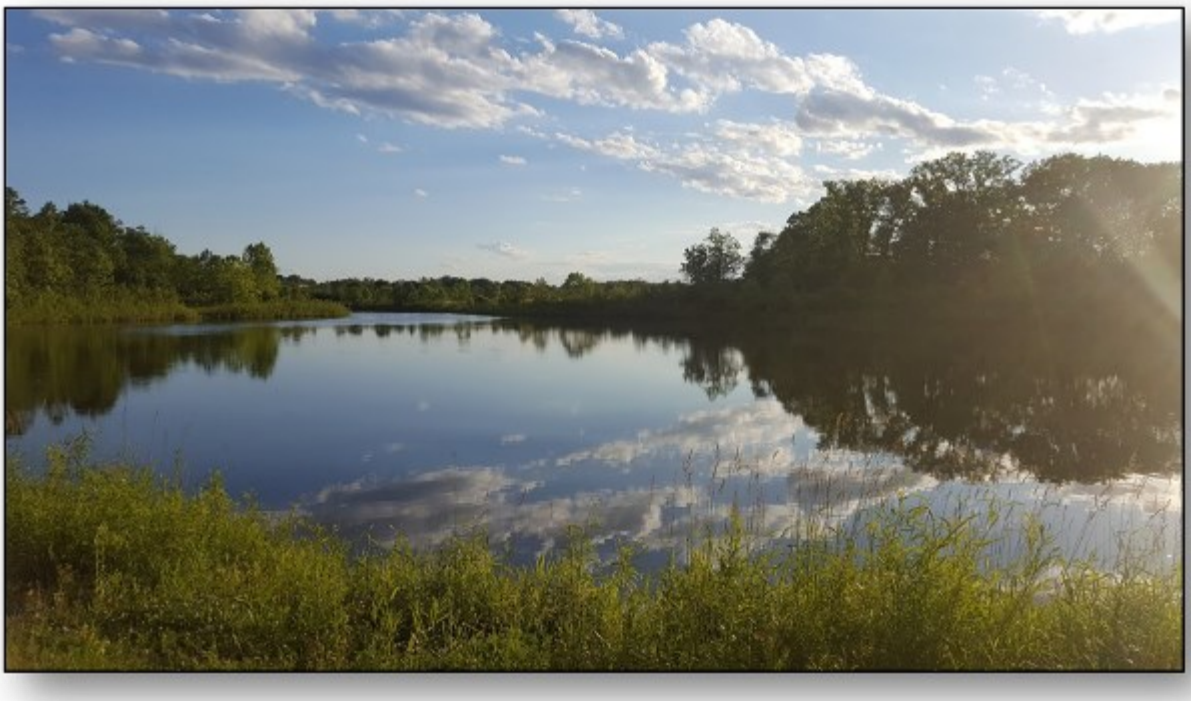
IDNR Fish Management District 1: Tom Bacula and Bri Ciara

We reminisce the deathly, sweaty, dog hot days of summer as we stare at the frost forming on our windows while watching waterfowl huddling for warmth in the slushy, subzero temperatures. It's been fun to write reports as we get to look back at the raw data sheets, seeing our smudges, slime, water stains, and squished bugs bringing us back to the fun and excitement (and warmth!) of each survey!

The 2017 field season was good to D1 Fisheries Management this year. We had two great summer aides, Damon Binkley and Roger Kajer, that helped us accomplish a full schedule of surveys, outreach events, net repairs, and projects in the garage. Damon is an ambitious aquatic biology student at Grace College who also commercially farms within the District. Roger is a property staff cross-over who proved to be extremely handy and fun company to be working long hours with. It is hard to put a price tag on a good team! We were also very thankful for some exceptional volunteers from other work units, Division sections, universities, and local enthusiasts.

This summer we welcomed a new lake to the District down in Lafayette, explored a few others we are not often on, sampled Sturgeon on the Wabash, played with power tools, climbed a fish ladder, battled Asian Carp on the Tippy, worked with some excellent (and some not so excellent) Walleye populations, made some new friends, and learned a lot!

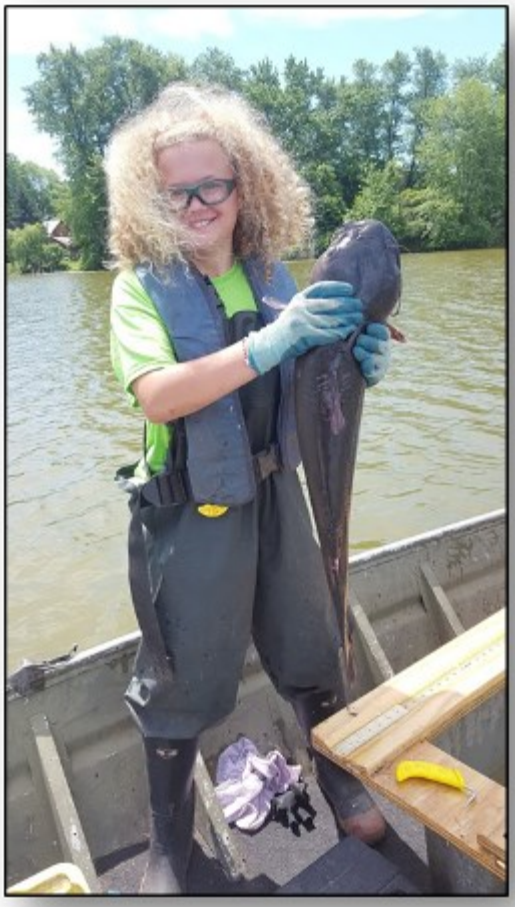
One very exciting discovery this year stems from a collaborative effort between the City of Lafayette and IDNR to acquire a new property called Bicentennial Park. The property lies just off of Sagamore Parkway near the Wabash River and Wildcat Creek and contains 2 ponds, one large (60 acres) flooded gravel pit (that fluctuates greatly), and one smaller (6 acres) more eutrophic pond. The City, with partial sponsorship of Bicentennial Funds, has decided to turn this into a new urban nature area and has asked for us to manage the ponds. We were excited to find some great fishing opportunities on the smaller pond and look forward to helping improve the habitat of the larger one to sustain a better fishery.



Six acre pond at Bicentennial Nature Area, Lafayette, Indiana May 2017. Fifteen Largemouth Bass $\geq$ 14 inches and numerous Sunfish (59.7% of catch) were collected during an electrofishing survey.

All in a Days Work

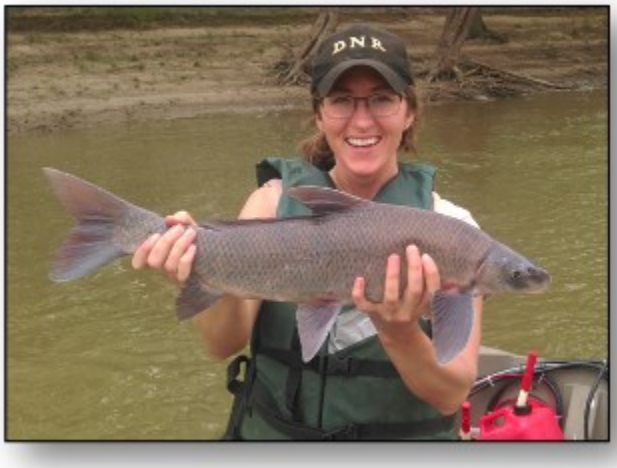
IDNR Fish Management District 1: Cont.



Samantha, 4-H participant and District 1 volunteer, proudly displays a 28.5 inch Channel Catfish from Gilbert Lake, Marshall County, Indiana June 2017.

One of the new friends we made this year was an awesome volunteer working on her 4-H project. Samantha, a 13-yr old student, asked to interview and job shadow us for a day to learn what fisheries biologists do and ended up hanging out for an entire fish survey! This hard working chick learned about water quality sampling, electrofishing, passive sampling with trap and gill nets, fish communities, and how watershed land uses impact our lakes. Her 4-H project went on to win blue ribbons at both the Newton County AND State Fair!

We finished out the season exploring the Tippecanoe River and assessing some of our best (and not so best) Walleye fisheries in the District. Now, we are focusing on analyzing data, writing reports, reading, and dreaming of the coming field season.



Bri with a Wabash River Blue Sucker, April 2017.

IDNR Fish Management District 5: David Kittaka and Debbie King

The fish sampling season is over for 2017. Debbie is winterizing and storing equipment for the winter.
Some of the highlights for the fall season include; working a shift at the State Fair Fishing pond for IAFS day at the state fair. Debbie attended the fall meeting and trawling workshop. Debbie also attended the USFS Stream crossing workshop.

The Spring Trout stocking at Spring Mill Lake had a great following and in an attempt to keep the momentum going we began a fall channel catfish program in September.

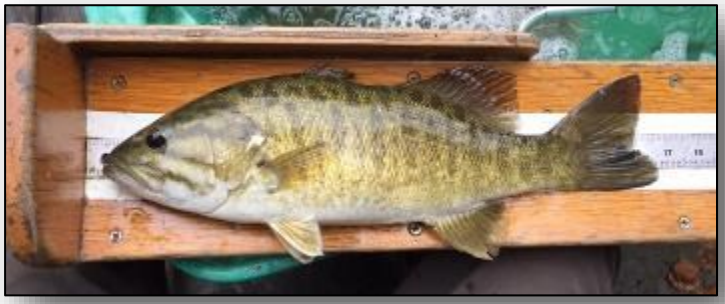
In September we conducted a gamefish survey of the Flatrock River in Shelby, Rush, and Bartholomew Counties. The survey covered 44 river miles of stream with stations roughly 8 miles apart. Results are not finalized but there were 106 Smallmouth Bass collected at a length range of 2.9 to 17.8 inches. The catch rate was 19 fish per hour. PSD Q was 73, PSD P was 23 and PSD M was 4. There were 141 Rock Bass collected at a length range of 2.9 to 9.4 inches. The PSD Q was 44 and PSD P was 2. Other game fish included, Spotted Bass, Largemouth Bass, Flathead Catfish and Channel Catfish.

All in a Days Work

IDNR Fish Management District 5: Cont.

There will be two lake renovations on Fish and Wildlife properties in D5. Both of them involving dam repair and drain replacement. In addition to the fish and wildlife properties, the Divisions of Reclamation and Forestry will also be removing and replacing three high wall coal pits on the Greene-Sullivan State forest. We plan to be very involved in the rehab process so we can use the techniques learned from our habitat work with South Fish Research. All lakes will involve dewatering, dredging and restocking, so habitat replacement and enhancement could determine the success of these fisheries for the next 30 years.

Flatrock Creek Rock Bass (above) and Smallmouth Bass (below).



In October, we conducted a fall electrofishing evaluation of the Walleye fry stocking and the Hybrid Striped Bass fingerling stocking at Monroe Reservoir. Based on size structure and number collected it does not appear that the Walleye fry stocking was successful. The June stocking of Hybrid Striped Bass (HSTB) was below the target number of 5/acre, we collected less than 10 YOY HSTB for 5.5 hours of Electrofishing. The plan will be to evaluate the Walleye Fry stocking using gill nets and electrofishing in 2018.

Happy Holidays from District 5 fisheries

Gambill Lake Restoration

All in a Days Work

IDNR South Region Fisheries Research: Sandy Clark-Kolaks and Andy Bueltmann

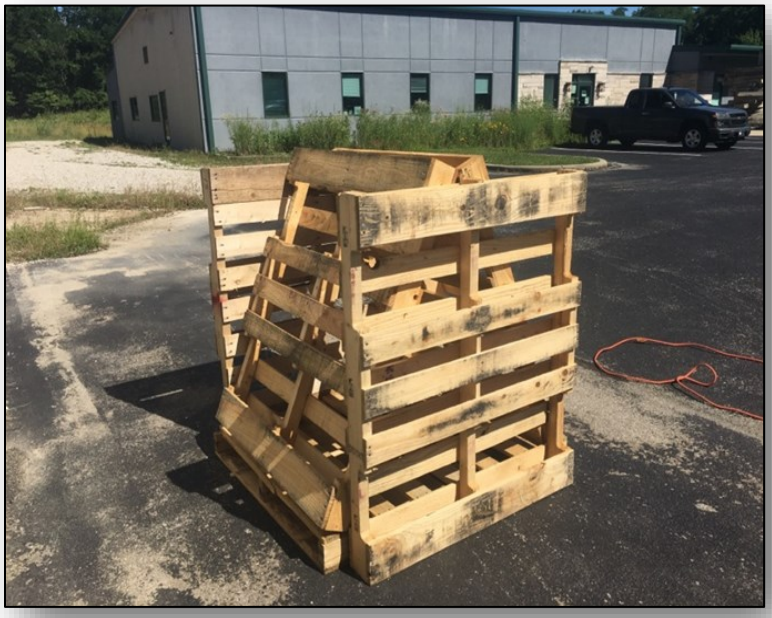
Since last year, Southern Fisheries Research has been mainly focused on implementing and monitoring habitat enhancement projects. The Harden Reservoir habitat project has made a lot progress this year during which 41 volunteers built over 160 structures on Nov, 4th. Since the build day Sandy has been working with the Army Corps of Engineers and Harden Reservoir Property to place built structures on the dry lake bed during this year's draw down. Along with habitat enhancement at Harden we are also planning a project at Monroe Reservoir. For this project we are teaming up with Bass Federation who asked us if we had any use for wooden pallets. So, we got to experiment with building a new habitat structure type out of wooden pallets (picture shown below). We have picked out a 174 acre at Monroe reservoir to place about 130 structures including the new pallet structure. While planning the aforementioned projects, we have also been monitoring our channel catfish nesting box project at Saddle Lake.

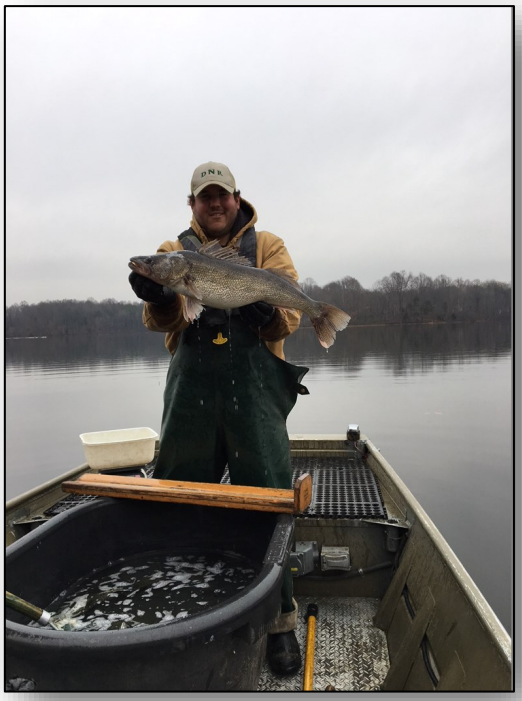
We finished monitoring the nesting boxes at the end of June. We planned on using a gopro to evaluate nesting box use, but after the first couple of boxes we became worried that the water was going to be too murky to see anything inside. So the next alternative was to go noodling by sticking our arms in the boxes to feel for the presence of a catfish. We found out quickly, that even if we could not see anything on camera, there were still catfish in the boxes. So after the first day we "observed" (were attacked or felt a fish swimming out) in 5 of 9 boxes were being used by catfish. The following week we went out again, but this time the water was much clearer and we were able to use the gopro to investigate the boxes. We observed catfish in 8 of 14 boxes (the reason why there were more boxes was because we replaced boxes that were dislodged the previous week). Overall, 12 of 14 boxes were used at least once throughout the spawn. We intend on implementing these nesting boxes in other lakes which receiving stockings and are not heavily pressured. We will monitor this year's spawn to evaluate how many fish recruit to the population. Our hopes are that recruitment is at a high enough level to where we can lower stocking rates or completely eliminate a stocking. This will allow us so to focus on stocking more heavily pressured lakes.

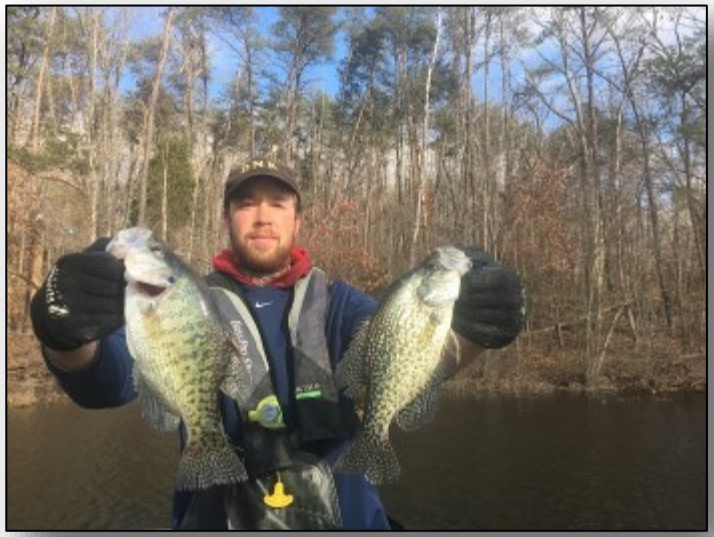
All in a Days Work

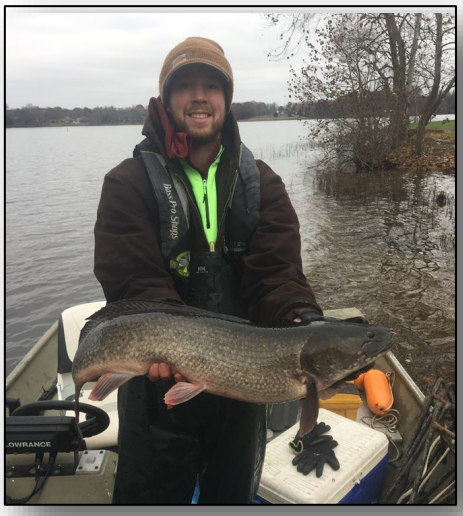
IDNR South Region Fisheries Research: Cont.

Along with Habitat enhancement, we recently completed a fall Crappie survey on Hardy Lake in an effort to evaluate a 9 inch minimum length limit that was put in effect in 2016. During this survey we collected a total of 510 Crappie of which we floy tagged 353 so that we can acquire an exploitation estimate this upcoming year from anglers' catches. A few interesting catches during the survey included 6 Walleye all over 20 inches with the largest being an 8.5 pounder, two bowfin with the largest being 12.5 pounds, 32 inches, and many 10+ inch Redear sunfish.







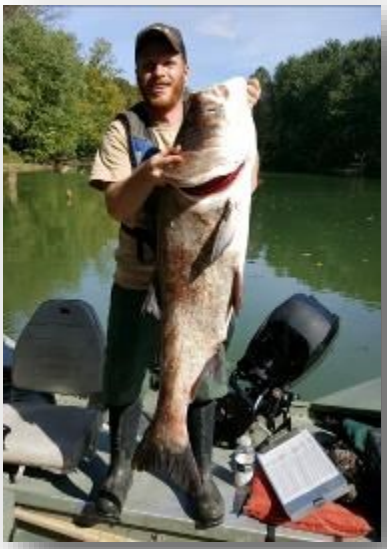


All in a Days Work

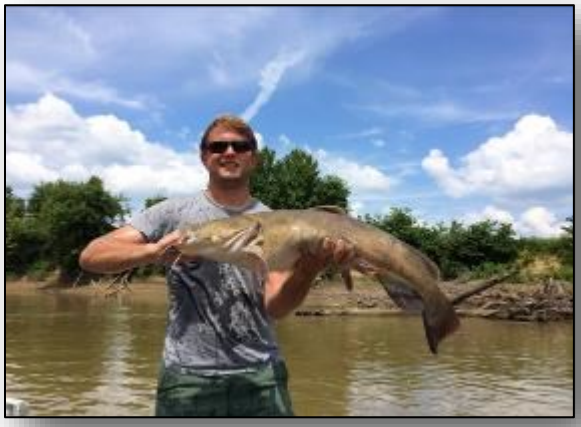
IDNR Big Rivers Unit: Craig Jansen

Sauger tagged below Newburgh Lock and Dam in December as part of an ORFMT movement and exploitation project.

The Big Rivers Unit has experienced no shortage of work during this past summer and fall. During June, we spent a day sampling an oxbow of the White River where an Alligator Gar was shot by a bow fisherman. We did not find another Alligator Gar, although we did find swarms of leaping Silver Carp that jumped into our boats. During the summer we also extended the inland rivers catfish monitoring project to the White River and completed hoop netting and electrofishing surveys at eight sites, with four of those sites on the main stem, and two on each fork. We also assisted Kentucky with a trotline survey on the Ohio River targeting catfish. In addition, we collected, processed, and filleted Silver Carp from the White River which were fried and served at the State Fair; we encourage everyone to try it if you haven't yet!

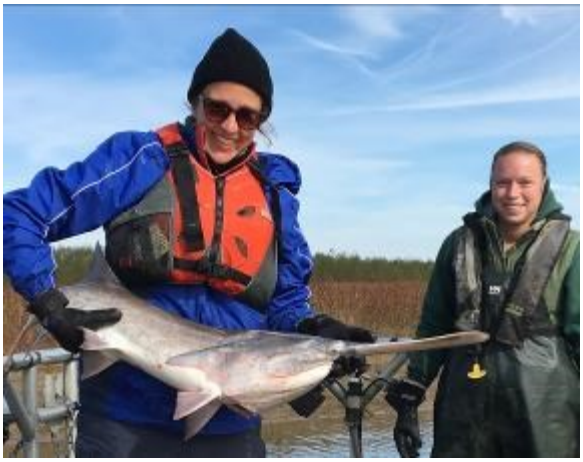


Dan Roth (Big Rivers Assistant Biologist) holding a large Bighead Carp captured in the Little Blue River.



Nick Abell (Big Rivers Assistant Biologist) with a Flathead Catfish from the White River.

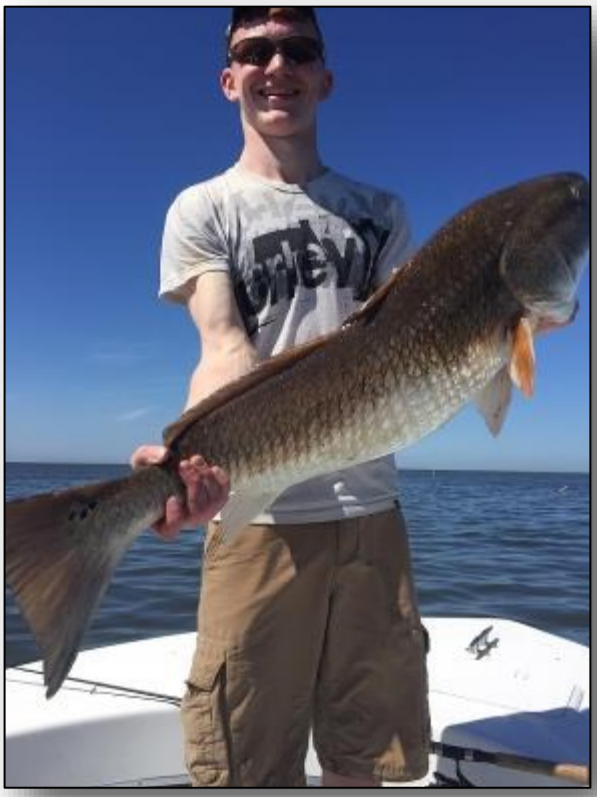
We have been assisting the KYDFWR and USFWS on collaborative Asian carp projects on the Ohio River again this year. We sampled multiple tributaries on the Ohio River targeting juvenile Asian carp in an effort to determine abundance, habitat preferences, and the extent of the "established" range. Nearly all juvenile Asian Carp collected from the Ohio River were in the lower end of JT Myers pool. Hovey Lake and its drain appear to be a desirable nursery for young of year (YOY) Asian carp. During the fall we conducted monitoring work which will help to determine long-term impacts of Asian carp on native species. We also performed larval trawls within and near tributary mouths in an effort to identify potential Asian Carp recruitment sources.



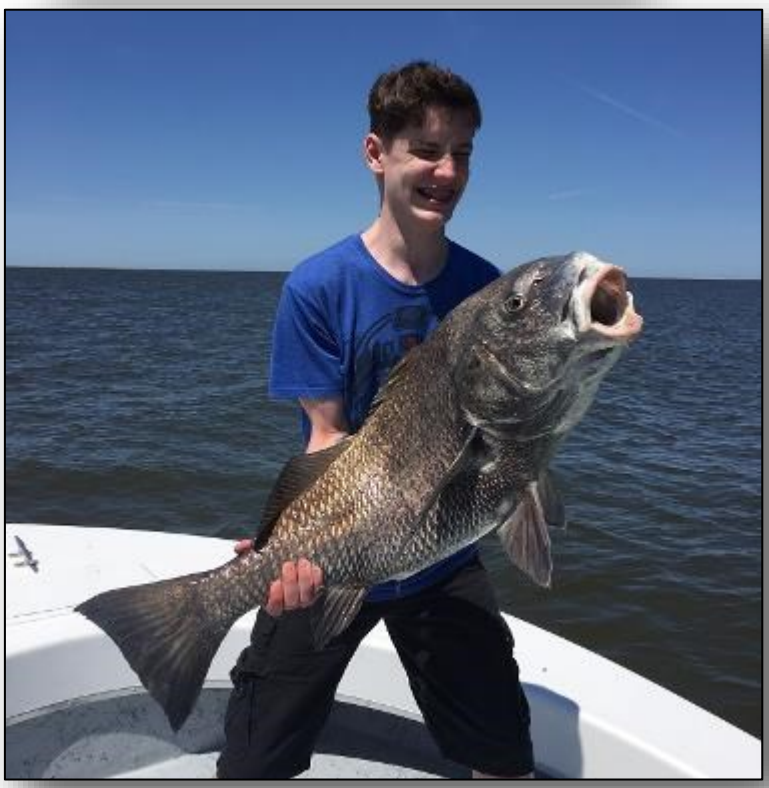
Nature Conservancy and Big Rivers staff posing with a Paddlefish collected at Mackey Island oxbow.

This fall, we have been assisting the Ohio River Fisheries Management Team (ORFMT) with annual Sauger sampling on the Ohio River. The ORFMT is tagging Sauger at several locations on the Ohio River this year in an effort to determine movement and exploitation rates among pools. So far we have sampled 394 Sauger below Newburgh Dam, 121 of which were large enough to tag. We also conducted a general survey on Oil Creek Embayment (Ohio River tributary) this fall. We are currently working on aging scales and catfish pectoral spines collected during the survey. In addition, we conducted a survey on the Mackey Island oxbow lake near the Confluence of the Wabash and Ohio Rivers in order to assist Nature Conservancy staff with data collection.

Catch of the Day



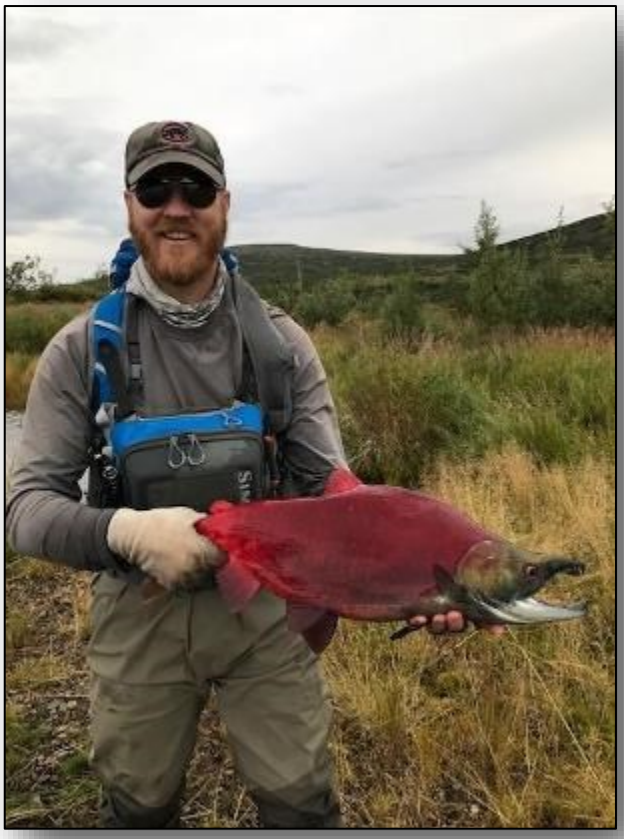
Seth Ackerson with a 20+ lb Redfish.



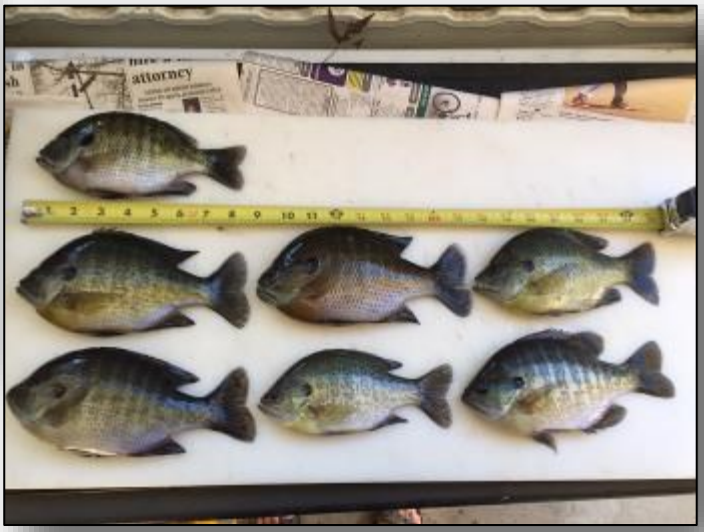
Luke Ackerson with a 30+lb Black Drum.

> The charm of fishing is that it is the pursuit of what is elusive but attainable, a perpetual series of occasions for hope.
>
> John Buchan

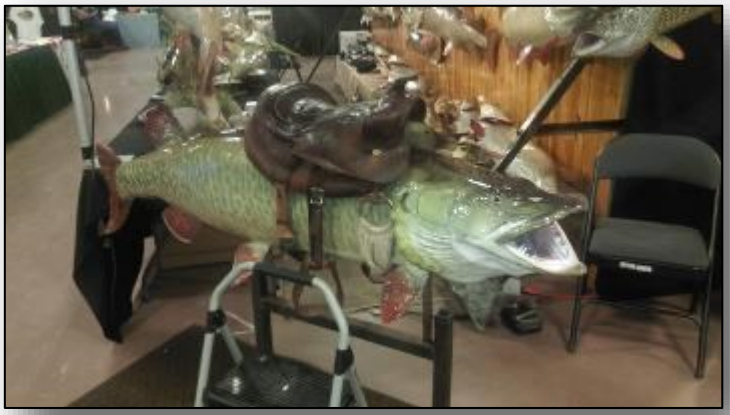
Catch of the Day



Bryan Kalb with a Sockeye Salmon from a secret location.



Dave Kittaka's 3 year old Bluegills from West Boggs Lake.



Buckin' Muskie