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**President's Message, Joe Parkos**

Dear fellow IL AFS members,  
 The end of another busy year looms on the horizon while I ponder what I should write for my last article as your chapter president. As I stare at the blank screen, I find that I have a few items kicking around in my skull, and so in no particular order, I will go through what's on my mind regarding current and future challenges and opportunities for the Illinois chapter.

At a time when rampant misinformation and political polarization has led to mistrust and scorn of science, more than ever I believe that we need to be committed to public engagement and earning stakeholder trust. Many of our chapter's members are natural resource management professionals, and so are already working hard to earn reputations as professionals that can provide objective, actionable information to policy makers and other members of the public. I know that public engagement can be uncomfortable sometimes, but in the end this engagement will be critical for cultivating both the public's trust and their interest in protecting the integrity of Illinois' aquatic life. Educators within our chapter also play a role with these efforts by increasing scientific literacy and inspiring the next generation of biologists.

Ideally, the next generation of professional biologists and future leaders in our field will become an increasing-



ly diverse community. The representation of diverse experiences and perspectives in our profession will enhance the relevance and nimbleness of science and management, as well as create an environment likely to foster new discoveries and directions. Our chapter is working hard to find ways to encourage and inspire folks from a wide range of backgrounds to join us in our chapter's mission to advance sound science, promote professional development, and disseminate science-based fisheries information for the protection, conservation, and sustainability of fisheries resources and aquatic ecosystems in Illinois.

*Continued on page 3*

**Chapter Objectives:**

- Promotes training of fisheries professionals.
- Provides education outreach to the citizens of Illinois.
- Fosters research in fisheries and aquatic sciences.
- Provides sound fisheries policy information.
- Enhances communication and synergistic relationships amongst fisheries professionals.

## Chapter Officers and Chairpersons

President: Joe Parkos

President-Elect: Nathan Grider

Secretary: Ben Lubinski

Treasurer: Rich Lewis

Past President: Karen Rivera

Excom Members at Large: Rebekah Anderson, Seth Love

Committee Chairpersons:

Archival: Nathan Grider

Arrangements: Karen Rivera

Awards: Tad Locher

Continuing Education: Ben Lubinski

Environmental Concerns: Sam Schaick/Mitch  
Rosandich

IL Environmental Council: Diane Shasteen

IL Wildlife Action Team: Trent Thomas

Membership: Blake Bushman

Newsletter: Brian Metzke/Jason DeBoer

Raffle: Rebekah Anderson/Claire Snyder

Resolutions: Rob Hilsabeck

Student Concerns: Brandon Harris/Kristopher  
Maxson

Student Subunits:

Eastern Illinois: Mitch Rosandich

Southern Illinois: Jake Bowman

University of Illinois: Rafael Davila

Western Illinois: vacant

Website: Brian Metzke

NCD Committee Reports Representatives:

Centrarchid: Andrya Whitten

Esocid: Joe Parkos

Ictalurid: Jeremy Tiemann

Rivers and Streams: Trent Thomas/Steve Pescitelli

Walleye: Jason DeBoer/Mike Garthaus

If you or someone you know is interested in supporting our organization, please contact the membership committee chairman, Blake Bushman ([blake.bushman@illinois.gov](mailto:blake.bushman@illinois.gov)), for more information.

**President's Message, continued from page 1, *Joe Parkos***

One plank of this strategy is to support attendance at our annual meeting by folks from groups typically underrepresented in fisheries by offering a travel grant to cover some of the costs of attendance. This new grant opportunity is also meant to support attendance by students from academic institutions that we have seldom, if ever, seen attend one of our meetings and so in every sense is an attempt to broaden the diversity of voices at our annual meeting. At our next annual meeting, to be held March 7-9, 2023 in Effingham, we will also once again have an opening social geared towards mentorship and providing a casual, welcoming atmosphere for new students, new members, and early career professionals.

I feel deeply honored and privileged to have had the opportunity to serve on the chapter's Executive Committee. (Don't worry; you are not done with me yet! I still have a year as Past-Presidency to look forward to!) While serving in the various offices of the ExComm, I have found that our chapter's former officers have been incredibly helpful with their advice and generous with their time whenever I had any questions. I certainly intend to follow their positive example and be there for our members and next group of officers whenever my assistance may be needed. Be well, and I hope to see you in Effingham next March.

Respectfully,

Joe Parkos (Kaskaskia Biological Station, Illinois Natural History Survey, University of Illinois at Urbana-Champaign, Sullivan, IL 61951)

**Spotlight on Graduate Student Research, Josh Bruegge, EIU**

Hello Illinois AFS members! My name is Josh Bruegge and I'm currently a second-year Master's student at Eastern Illinois University studying the recent Vermilion (Wabash basin) River dam removals in Danville. I've been in and out of Illinois a couple times in my fisheries career, including working on the multitude of projects at the Illinois River Biological Station in Havana. Between my time at IRBS and now, I worked for the Missouri Department of Conservation monitoring Pallid Sturgeon *Scaphirhynchus albus* population trends in the Missouri River. I'm excited to be back in Illinois and working on this fascinating project that focuses on what is arguably one of the coolest ecosystems in the region.

Fish community and habitat sampling for this project began on the Vermilion and North Fork Vermilion rivers a decade ago, collecting a robust baseline dataset several years before the dams were slated for removal. After a series of delays, the two low-head dams were finally removed in late 2018 and 2019, alleviating some major public safety concerns as these dams had regrettably caused several fatalities with recreational canoeists. The removals also restored connectivity between the lower river and well over 1,000 km of upstream habitats throughout the basin. These dams had served as barriers to aquatic organisms for roughly a century, fragmenting fish populations and excluding several fishes from the upper basin.

In addition to the new connection allowing passage of aquatic organisms, local habitats in the upstream impounded reaches changed dramatically. Prior to the removals, the impounded reach above each dam consisted of simplified and degraded habitats and spanned upstream for several kilometers. These reaches featured sluggish flows and silt dominated substrates, and hosted a reduced fish assemblage consisting of lentic-adapted generalist species such as Longear Sunfish *Lepomis megalotis*. Within months of the dam removals, these reaches returned to a more lotic, natural riffle-pool-run sequence and decades of fine sediment accumulation flushed out.

Fish communities at our sampling sites responded rapidly and previous students working on this project have used an ecological guild approach to characterize the community before and after the dam removals. They found that the community had diversified after removal, with significant increases in abundances of riffle specialists and other lotic-adapted fishes, especially in the formerly impounded reaches. The shifts in the fish community occurred quickly through-



Josh daintily holding a Tippecanoe Darter

**Spotlight on Graduate Student Research**, *continued from page 5*

out our local sampling sites, prompting questions about the rate and spatial extent of the impacts from these dam removals.

My research focuses on two specific aspects of the fish community responses. First, I am continuing to characterize the community changes after several more years of sampling. Rather than using the ecological guild approach, I am using a multidimensional trait matrix to identify how different combinations of traits are responding to the changes. This should give broader applicability of our results to future projects by describing what functional aspects of the fish community respond to dam removals. I'm expecting to find increased functional diversity and dispersion of traits as more potential niches become available for fishes to occupy.

Second, I am curious about the degree that increased connectivity versus local habitat changes are involved in structuring the fish community. Partitioning the effects of these two processes will be useful for predicting the impacts of other dam removals and stream restoration projects on other systems. In addition to assessing the roles that connectivity and habitat have at the local scale that we have sampled at EIU, I plan to do similar analyses using IDNR Intensive Basin Survey and IEPA data. This will help address the spatial extent of the impacts from these dam removals by seeing if similar patterns occur at local, river segment, and basin-wide scales.

Another exciting aspect of the dam removals has been the discovery of some new species to the state of Illinois in the Vermilion River basin. In 2020, EIU and the IDNR discovered two new species: the Streamline Chub *Erimystax dissimilis* and Tippecanoe Darter *Nothonotus tippecanoe*. While the Streamline Chub has since been fairly elusive, Tippecanoe Darters have been rapidly expanding their upstream distribution. Tippecanoe Darters are one of the smallest fish in the state, reaching a maximum of around 45 mm. This fall I completed sampling to determine the extent of their upstream dispersal and assess their density throughout their range as well as how they partition their microhabitat use within riffles with the state-endangered Bluebreast Darter *Nothonotus camurus*. In approximately four years after the Danville Dam was removed, they have expanded their range at least 11 km upstream, quite the rapid trek for such a small, relatively dispersal-limited fish! It will be interesting to watch their progress over the coming years as they continue the upstream expansion.

Dam removal projects are occurring at an increasing rate every year, with 57 dams removed across the country last year. As this project wraps up its bi-annual fish sampling in 2023, hopefully it will provide valuable insights and justification for additional removals of outdated dams throughout the Midwest, as well as other beneficial restoration projects. This has been a fun project to be involved with and I'm excited to share more results this spring at the Illinois AFS meeting in Effingham.

## The latest installment in the Fishes of Champaign County series, *Jeremy Tiemann, INHS*

We are pleased to share with you our upcoming publication – “Fishes of Champaign County, Illinois: as affected by 120 years of stream changes” that will be published as an Illinois Natural History Survey Bulletin. In what is likely the longest long-term dataset on freshwater fishes in the US – with data from the 1900s, 1930s, 1960s, 1990s, and now 2010s – the Fishes of Champaign County project allows us to understand how fishes assemblages respond to a highly altered, ever-changing landscape. If you are interested in a PDF of this ~150 page paper, please email Jeremy Tiemann (jtiemann@Illinois.edu).

- Josh Sherwood, Jeremy Tiemann, and Jeff Stein

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## Fishes of Champaign County, Illinois: as affected by 120 years of stream changes

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### Research Article

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#### Data Accessibility Statement

Associated data set is available from the Illinois Data Bank (\_\_\_)

#### Keywords:

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### Abstract

With data spanning over 120 years, the Fishes of Champaign County is a comprehensive, long-term investigation into the changing fish communities of east-central Illinois. Surveys first occurred in Champaign County in the late 1880s (40 sites), with subsequent surveys in 1928–1929 (125 sites), 1959–1960 (143 sites), and 1987–1988 (141 sites). Between 2012 and 2015, we resampled 122 sites across Champaign County. The combined data from these five surveys have produced a unique perspective into not only the fish communities of the region, but also insight into in-stream habitat changes during the past 120 years. After a period of degradation, fish communities appear to be improving throughout the county, demonstrated by the return of two state-threatened species that had not been recorded since 1928. Our analysis of in-stream habitat indicates a general trend away from small streams of various substrate types toward wider, deeper streams with a more uniform substrate. Fish community data support the results, indicating a shift from typical headwater species to those species that frequent deeper streams with more stable flows. Long-term surveys such as this are rare, and the data and analyses of these surveys can provide managers with valuable information to further restoration efforts using a historical perspective.

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**Travel Grant for Midwest Fish and Wildlife Conference, Jason DeBoer, INHS****The Walleye Technical Committee is now seeking applications for our annual student travel grant: the Percid Award**

**Purpose:** To financially assist one or more students conducting research of interest to the Walleye Technical Committee (WTC).

**Description:** A travel grant of \$300 from the WTC of the North Central Division of the American Fisheries Society for up to three students to attend the Midwest Fish and Wildlife Conference.

**Eligibility Criteria:** The recipient(s) of this award must be currently enrolled in a college or university for an undergraduate or graduate degree program. Preference will be given to those involved in research of interest to the WTC.

**Documentation required:** An application letter that includes: student's name, address, telephone number, educational institution, department, degree level, a short description of current research, reasons for wishing to attend the meeting (paper or poster presentation, pertinent paper session, sub-unit business and/or technical meetings), and reasons why financial assistance is needed.

**Selection Criteria:** The Executive Committee of the WTC will evaluate applicants based on the following criteria:

- a. AFS involvement (reasons for attending the meeting).
- b. Relevance of research to the goals of the WTC.
- c. Number of applications and current funding levels.

**Frequency of Award:** The WTC will select up to three recipients each year. Multiple applicants from the same state will be handled at the WTC's discretion, given the student's state/province AFS chapter will be asked to match the award, but is under no obligation to do so.

**Deadline:** The deadline for receipt of completed applications by the WTC Chair is December 31, 2022.

**E-mail application materials to:** Jason DeBoer at [jadeboer@illinois.edu](mailto:jadeboer@illinois.edu) with the subject line "Percid travel award application".

## Call for Award Nominees

### **Stephen A. Forbes Fisheries Excellence Award**

This award will be given to fisheries professional who has made an outstanding contribution to the fisheries profession in Illinois. This contribution should be a collection of achievements over the individual's career which surpass normal job duties, and contribute to advancement of the profession through either research or management activities. While not necessarily a requirement, evaluation of the nominee should consider dissemination of their work by publication (in refereed or non-refereed formats) and/or presentations at AFS, or other profession meetings. Award recipients should be members of the Illinois Chapter during the period the work was accomplished. Nominations should include the names and signatures of at least 2 nominators, a brief (1 page maximum) biographical sketch of the nominee, a brief (1 page maximum) narrative of significant contributions made by the nominee, and copies of any additional materials to support the application. Nominations should be submitted to the Awards Committee ([tad.locher@illinois.gov](mailto:tad.locher@illinois.gov)) and must be approved by the Executive Committee.

### **Illinois Chapter Meritorious Service Award**

This award will recognize extraordinary service to the Chapter by an active or past member. Nominations may be based on a variety of service activities benefiting the Illinois Chapter. Consideration may also include contributions to North Central Division or Parent Society. In the nomination, evidence must be presented that this service has gone beyond routine membership and that it has made a genuine and lasting contribution to the betterment of the Chapter. Nominations should include the names and signatures of at least 2 nominators, a brief (1 page maximum) biographical sketch, a brief (1 page maximum) narrative of significant contributions made by the nominee, and copies of any additional materials to support the application. Nominations should be submitted to the Awards Committee ([tad.locher@illinois.gov](mailto:tad.locher@illinois.gov)) and must be approved by the Executive Committee.



**Announcement: Save the Date**

***The 2023 Annual Meeting***

of the Illinois Chapter of the American Fisheries Society

will be held March 7-9

at the Thelma Keller Convention Center in Effingham.

More information will be posted to our website soon.