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**President's Message, Karen Rivera**

Greetings IL AFS Members.

As I take over the reins of the Illinois Chapter I want to say that I am deeply humbled and honored to be serving as your President. Lately I've been thinking back on my years in the fisheries profession, and reflecting on the many changes that have occurred since I first put a dip net into the water. My journey in fisheries started in 1978 when I was hired to work as a fisheries field technician for a consulting firm. That first summer was my initiation into the wonders of the aquatic world, as we spent countless hours collecting everything from fish and invertebrates, to snakes, frogs, and plankton! That summer job ended up lasting nearly 4 years and helped pay my way well into graduate

school. In those early years I was an oddity, as one of the very few women in the field.

Much has changed over the years. "Fisheries" as a profession has gained in importance, and has broadened from the management of sport fish to the overall management of ecosystems, and (I'm happy to say) women are now commonly seen in professional positions. We still face many challenges, from budget concerns, staffing shortages, and new exotic invasive species, to a warming climate. With this latest challenge, climate change, the American Fisheries Society is needed more than ever to offer the professional expertise to solve this crisis before we lose our fisheries forever.

Our Society has long been a place where fisheries folk can come together to learn about new research and science, and to help mentor the next generation of fisheries professionals. Our annual meetings also offer an important opportunity for folks to exchange information informally and swap battle stories. I hope to serve our members this year in finding new and better ways to exchange information and to stay better connected throughout the year. I also want to plan ways to increase the diversity in our profession. Sharing information with each other, and including everyone that is interested, has always been an important part of our growth as fisheries professionals.

Karen Rivera



**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: Karen Rivera

President-Elect: Joe Parkos

Secretary: Nathan Grider

Treasurer: Rich Lewis

Past President: Blake Ruebush

ExCom Members at Large: Rebekah Anderson, Seth Love

Committee Chairpersons:

Archival: Nathan Grider

Arrangements: Phil Willink

Awards: Tad Locher

Continuing Education: Ben Lubinski

Diversity, Equity, and Inclusion: Claire Snyder

Environmental Concerns: Nathan Grider

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: Kris Maxson/Brandon Harris

Student Subunits:

Eastern Illinois: David Yff

Southern Illinois: Andrew Wieland

University of Illinois: Patrick Watson

Western Illinois: Cassidy Miles

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), for more information.

## Meet Your New ExCom Member, *Nathan Grider, IDNR*

Nathan Grider's interest in fisheries and conservation work began as a child with exploring the stream near his childhood home in Montgomery County, Illinois. He secured permission to fish just about every private pond that he could ride his bike to in the area. He developed a deep interest in ecology and conservation during that time. He later witnessed a private pond electrofishing survey conducted by a Fisheries Biologist (Fred Cronin) with the Illinois Department of Natural Resources (IDNR) that set him on a career path with determination. He began volunteering with IDNR, Region 4 Fisheries Biologists whenever he had the chance while attending community college. He completed his bachelor's degree in biology with a minor in environmental science at the University of Illinois, Springfield (UIS) and served an internship with the National Great Rivers Research and Education Center at the Illinois River Biological Station where he studied White Bass population trends in the Illinois River mentored by Kevin Irons. Nathan completed his master's degree in biology at UIS in 2013 and graduated with honors as a non-traditional student. During graduate school, he served as a Graduate Public Service Intern at the IDNR in the Impact Assessment Section assigned hydro-power and other aquatic impact reviews where he again worked closely with fisheries professionals. For his thesis project, Nathan studied a population of Alligator Gar introduced at Merwin preserve (Spunky Bottoms) in coordination with IDNR, Division of Fisheries. Nathan operated a successful private pond management company on weekends in Central Illinois for a few short years to further explore a particular interest in pond management; but ended that venture to focus on his career with IDNR, and on the special request of his wife who had not seen him in weeks during the survey season...

Nathan has been employed at IDNR for 10 years in positions including Aquaculture Program Specialist and currently serves as the Manager of the Impact Assessment Section overseeing environmental impact reviews on a wide range of state, local, and federally permitted actions. His work now expands beyond fisheries to include wildlife, endangered species policy, nature preserves, and a wide range of natural resource regulations; however, his heart remains in the water with the fish heads.

Nathan attended his first Illinois AFS meeting as an undergraduate in 2010 and has been active with the Chapter ever since. He currently serves as the Archival and Environmental Concerns Chair Member for the Chapter. Nathan lives in Springfield with his wife, Natalie, and two daughters, Hadley (12) and Caroline (7).



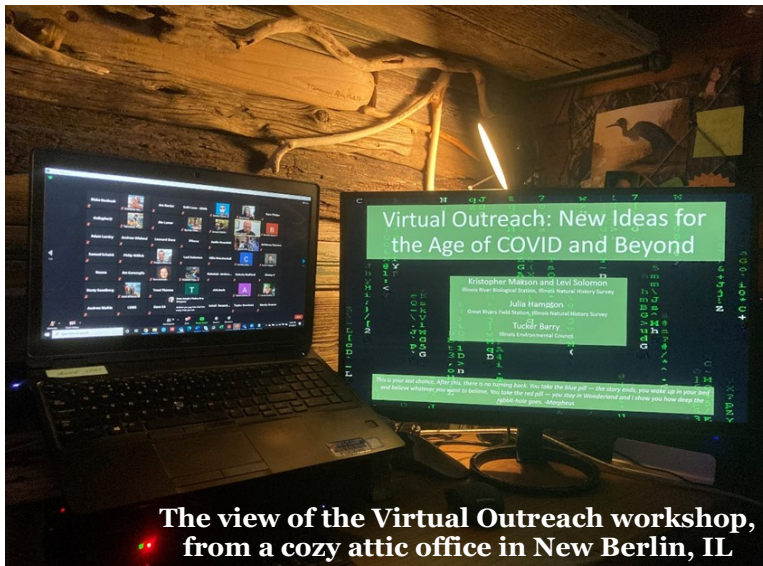
Nathan with a beautiful Alligator Gar

**Recap of 59th annual IL AFS meeting, *Brian Metzke, IDNR***

It may have looked a little different this year, but that didn't stop the Chapter from continuing the tradition of successful annual meetings. The 59th annual meeting of the Illinois Chapter of AFS was virtually held March 10 and 11, 2021. Approximately 120 people attended the meeting which featured 32 presentations and 2 workshops.

The annual raffle event to benefit student awards included a number of excellent prizes and raised \$2,057. The SIU student subunit defended their title from last year, securing the greatest monetary contribution to the raffle for their guided muskie fishing trip. Thank you to all who participated. At the business meeting, Karen Rivera officially ascended to the Chapter Presidency as Blake Ruebush stepped down. The meeting also featured a social event and, because this also was virtual, was a chance to meeting participants' children and significant others.

Although the meeting was an informative and entertaining success we all look forward to meeting in person next year.




**The view of the Virtual Outreach workshop, from a cozy attic office in New Berlin, IL**






**A screenshot of a presentation by Spencer Phillips, an MS student with UIUC and INHS**

## Flathead Catfish Artificial Nesting Structure Project

Spencer Phillips  
&  
Dr. James T. Lamer



## Spotlight on Graduate Student Research, *John Bieber, UIUC*

Hello AFS members! My name is John Bieber. Currently, I am a 1st year masters student at University of Illinois Urbana- Champaign. I have called this campus home since 2017, after I received my B.S. in NRES I was fortunate enough to be able to continue my education and work towards a master's in NRES in Dr. Suski's fish ecophysiology lab.

Since my undergraduate career I have conducted a breadth of research in this lab. I have worked on projects from metabolic rate and genes in fish to carp metabolomics and accelerometry of muskie. Currently, I am focusing my efforts on my master's thesis studying the spatial and behavioral ecology of Muskie (*Esox masquinongy*) in Shabbona Lake. In recent years, the angler catch rates of Muskies inhabiting the lake have been puzzlingly low despite the confirmed presence of a healthy population. So, the question we are trying to answer is *we know that the fish are there, but why are they not being caught?*



**John with a Northern Pike**

To answer this, there are three broad hypotheses that were made:

1. Muskie are evasive to capture because the places they inhabit in the lake are very limited and small, making it difficult for anglers to find and fish
2. Catch rates are low because Muskie are 'learning' to avoid lures presented to them
3. Muskie are not being caught because the food in the lake is plentiful enough and as a result Muskie are less inclined to strike a lure

To address these hypotheses and answer the research question, a series of complimentary field and lab-based studies have been carefully planned and are set to begin with a telemetry study this upcoming April.

The first hypothesis to address that question is that Muskie are not being caught simply because the habitat they occupy is small and does not overlap with the areas targeted by anglers. Past research shows how fish are creatures of habit and will preferentially occupy space which meets their life history needs even if those locations are highly pressured. Fish, being poikilotherms, rely most heavily on temperature for the determination of what is suitable habitat. This has been demonstrated in past research showing the strong impact of seasonality (and as a result, temperature) on the movement and distribution of fish. To understand habitat selection and the influencing factor of temperature of Shabbona Lake Muskie, I will be deploying a passive acoustic array in the lake to track the movement of fish in the lake over the course of the year. The array consists of 7 VR2 transmitters, along with temperature loggers within the lake. I will also be tagging 40 fish with V7 Tags (21 of which can measure temperature along with location). This project is poised to begin later this April.

The next hypothesis is that Muskie are not biting simply because they learn to ignore the lures. Learning in fish, is complex and difficult to measure. However, the direction of experimentation we have established is to expose groups of Muskies to a lure, then provide a noxious stimuli relevant to angling (think netting out of water and air exposing, as if caught) and then releasing them to an experimental pond. Within that there will

*continued on page 6...*

**Spotlight on Graduate Student Research, *John Bieber, UIUC***

*continued from page 5*

be fish that did not receive the noxious stimuli along with the lure, and naïve fish that have not encountered the lure at all. The proposed outcome being that fish who have had to noxious stimuli will retrieve the bait a disproportionately lower time compared to the other groups, thus displaying an element of learning that reduces angling vulnerability.

Finally, we come to analyze the impacts of food availability on the angling vulnerability of fish. Shabbona Lake, being the healthy system that it is, may contain a plethora of forage and food to Muskie, thus reducing the need to strike unfamiliar and novel objects (i.e. lures). To test this, I will be utilizing the natural hormones leptin and ghrelin to simulate satiation and hunger, respectively. By creating groups with elevated levels of each, it will create two distinct populations: one that feels as full as can be and one that feels as hungry as possible. By then releasing the populations into a pond and angling it, the role of food availability will be analyzed. If the experiment works in the framework of this hypothesis the fish that have elevated leptin will be captured significantly less than the Muskie with ghrelin.

Cohesively, these three experiments will investigate the question of why Muskie, the fish of 10,000 casts, is so elusive and seems to be growing more elusive as well. The nature of this fish is one which makes it a prized catch among anglers and this study will supplement information utilized by managers to ensure excellent outings in sustainable fisheries will continue to occur well into the future. This project has given me an opportunity to engage with managers and stakeholders while being able to learn more about one of the most incredible freshwater fishes on Earth: Muskie in a lake close to home. I am excited for the opportunity to spend the next few years learning more about them and be able to contribute to the positive management of our freshwater fisheries and ecosystems.

## Illinois Chapter AFS Student Continuing Education Awards, Dan Grigas

The Illinois Chapter of the American Fisheries Society offers two awards (up to \$125 each) annually to support student attendance in workshops or continuing education courses (such as those offered at the national AFS meeting) that require payment of a registration fee.

Students must complete the application form found below and return it to the Chair of the Student Concerns Committee (Dan Grigas [dgrigas@dupageforest.org](mailto:dgrigas@dupageforest.org)) by May 15<sup>th</sup>. **Students must provide proof of registration in the continuing education course to the Chair of the Student Concerns Committee prior to receiving the award.**

Selection of award recipients will be determined based on the student's written statement in the below application form, including:

- 1) A clear and concise description of the continuing education course the student would like to attend [Maximum 10 points];
- 2) A clear description of how the continuing education course will benefit the student's research project, enhance the student's education and supplement knowledge/skills gained through university courses taken to fulfill the student's degree requirements, and help the student achieve career goals [Maximum 30 points];
- 3) Need for financial assistance [Maximum 5 points]; and
- 4) Completeness, format, and professionalism of the application [Maximum 5 points].

### Application for the Illinois Chapter AFS Student Continuing Education Award

Name:

Address:

Email:

Phone Number:

University:

Degree Sought and Major:

Continuing Education Course request:

*Please briefly describe the course you would like to attend, how this course relates to your education, research, and career goals, your need for financial assistance, and your involvement in AFS. If available, please provide a link to a website with information about the course (Maximum 2 pages, double-spaced).*

## Stream Basin Sampling in Illinois: 40 years of “Shocking” Developments, *Randy Sauer, IDNR*

Illinois’ rivers and streams are the lifeblood of our state’s aquatic biodiversity. With over 100 000 miles of streams traversing the landscape, Illinois supports a diverse bounty of fish, mussels and other aquatic life. Over 150 species of fish dwell in our lotic habitats, ranging from diminutive darters (stream-dwelling members of the perch family) to gargantuan catfish exceeding 100 pounds. What’s more, streams are a valuable indicator of what’s happening on the landscape as water quality and physical habitat are heavily influenced by human activities. Nowhere is this more apparent than in Illinois, where the effects of intensive agriculture, localized industry and other development have long compromised the integrity of our stream ecosystems.



Brindled Madtom Catfish

Evaluation of all natural resources is a critical tool in their management and protection. To this end, the IL Dept of Natural Resources (IDNR) and IL Environmental Protection Agency (IEPA) embarked on a landmark partnership nearly 40 years ago. Our agencies’ Cooperative Basin Survey Program was launched in 1981 with the purpose of evaluating and periodically monitoring the biological health of Illinois streams based upon their aquatic communities. This information would be used to help manage, protect and restore stream ecosystems statewide.



Hornyhead Chub

Because of their relatively long life, mobility and response to environmental stresses on multiple fronts (water quality and physical habitat), fish are an ideal candidate to serve as indicators of overall stream health. Dr James Karr, a University of Illinois ecologist at the time, espoused this in developing the “Index of Biotic Integrity” (IBI) in 1981. The IBI is a numerical yardstick which estimates the biotic integrity (or health) of a stream segment based upon a set of attributes from a fish sample. Revised by IEPA in 2000, the IBI evaluates overall species richness (number of fish species), “intolerant” species (indicators of relatively undisturbed conditions), spawning and feeding specialists adapted to specific habitat conditions and several other metrics which are cumulatively totaled and result in an overall score ranging from zero to 60 with higher scores reflecting less environmental disturbance and thus, more natural conditions.

Another important ecological indicator is the community of benthic (bottom-dwelling) macroinvertebrates, i.e., animals lacking backbones but visible to the naked eye. These include early life stages of insects (e.g., mayfly nymphs and black fly larvae), other arthropods (joint-legged invertebrates), snails, worms, etc. As gill breathers, macroinvertebrates are important trend indicators of water quality (especially dissolved oxygen). They are relatively easy to collect and sedentary, giving us clues to more localized stressors. They are an ideal complement to fishes as environmental indicators.

With this in mind, the IEPA/IDNR Work Group (which also included scientists from IL Natural History Survey at the time) developed a comprehensive, multi-pronged approach to evaluating streams in a highly integrated team approach. IDNR Fisheries personnel would be responsible for fish sampling, identification, and subsequent fish data analysis. Meanwhile, IEPA would sample water quality (i.e., chemical constituents such as dissolved oxygen, total dissolved solids, coliform bacteria, etc.) collect macroinvertebrates, measure stream flow and evaluate physical stream habitat characteristics (e.g., substrate composition, pool/riffle/run, instream cover). IEPA then uses this information to determine whether resource quality meets regulatory standards designed to protect for balanced aquatic life and to ensure that other beneficial aspects of streams are protected and maintained.



IEPA Staff conducting Macroinvertebrate Sampling

IDNR supports these goals and also has additional ones aimed at improving the quality of sport fishing opportunities in Illinois streams and rivers, documenting the need for added protection of our highest quality streams and for restoration of degraded stream habitats, and tracking the distribution of all fish species (including those on the state’s threatened and endangered list) over time. Our predecessor agency, the IL Dept of Conservation (IDOC) had actually conducted

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**Stream Basin Sampling in Illinois, *continued from page 8***



*Longear Sunfish*

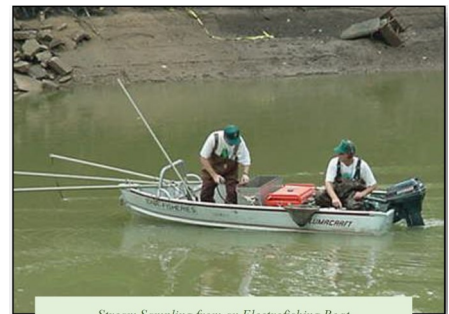
statewide stream fish surveys throughout the 1960 's across all of Illinois watersheds, providing valuable baseline information for what was to come.

The first major watershed sampled jointly between the two agencies was the Sangamon River basin during 1981-82. Additional basins were sampled in coming years (Kaskaskia, Fox, etc.) until the entire state had been covered by 1995. Since then, each watershed has been surveyed on a five year rotation with 100-150 sites completed statewide each year. To date, over 5,000 samples have been collected from over 1,500 stream sites across Illinois, providing one of the most robust biological databases of its kind in the nation.

To allow effective comparison of these data over time, sampling methodologies have remained relatively constant. The 1960 's IDOC surveys, along with the first few years of the cooperative IDOC/IEPA efforts, involved the use of a fish toxicant (rotenone) on wadeable sites. This method effectively "killed out" a section of

stream which resulted in a very thorough sample but exerted a heavy toll on the affected fish community. By 1987 we had replaced rotenone sampling with the electric seine, a device developed in Illinois by Dr. R. Weldon Larimore of INHS some thirty years earlier. This method yields relatively complete samples with much less fish mortality.

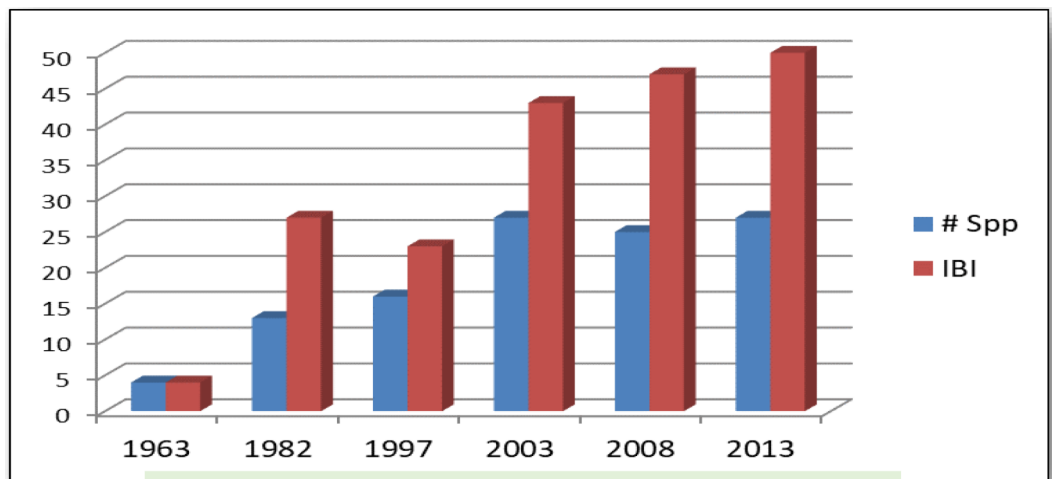
On deeper, non-wadeable sites, we employ an electrofishing boat similar to those used on lakes but somewhat smaller. Minnow seine hauls usually supplement our boat samples in shallower riffle habitats. Most macroinvertebrate sampling involves a "D-frame" aquatic dip net vigorously employed in the bottom substrate, debris jams, root wads, and other likely habitats. Mussel sampling by INHS researchers occurred across all our major stream basins recently to yield an even more complete picture of our aquatic biota.



*Stream Sampling from an Electrofishing Boat*

After almost four decades and upwards of a million fish collected, several positive trends appear when looking at our statewide data set. The most dramatic changes came in the wake of the 1972 passage of the Clean Water Act (CWA), which mandated, and subsequently funded, upgrades in municipal and industrial wastewater treatment. The vast improvements in water quality which accrued throughout implementation of CWA standards appeared most obvious in heavily urbanized Chicago area watersheds such as the Fox and DesPlaines, but were also apparent in more populated localities downstate (see Sugar Creek graph, below). Even relatively agricultural basins such as the Sangamon and Kaskaskia saw moderate gains in biological integrity throughout the 1980s and 1990s likely owing to increased use of conservation tillage, Farm Bill set-aside programs, and other such initiatives.

On the flip side, the proliferation of aquatic nuisance species such as Bigheaded Carps and Round Goby have taken a toll on our native fish communities in waterways across the state. Often, we see a sharp, immediate



*Number of fish species collected (# Spp) and Index of Biotic Integrity (IBI) from Sugar Creek downstream of Bloomington-Normal, 1963-2013*

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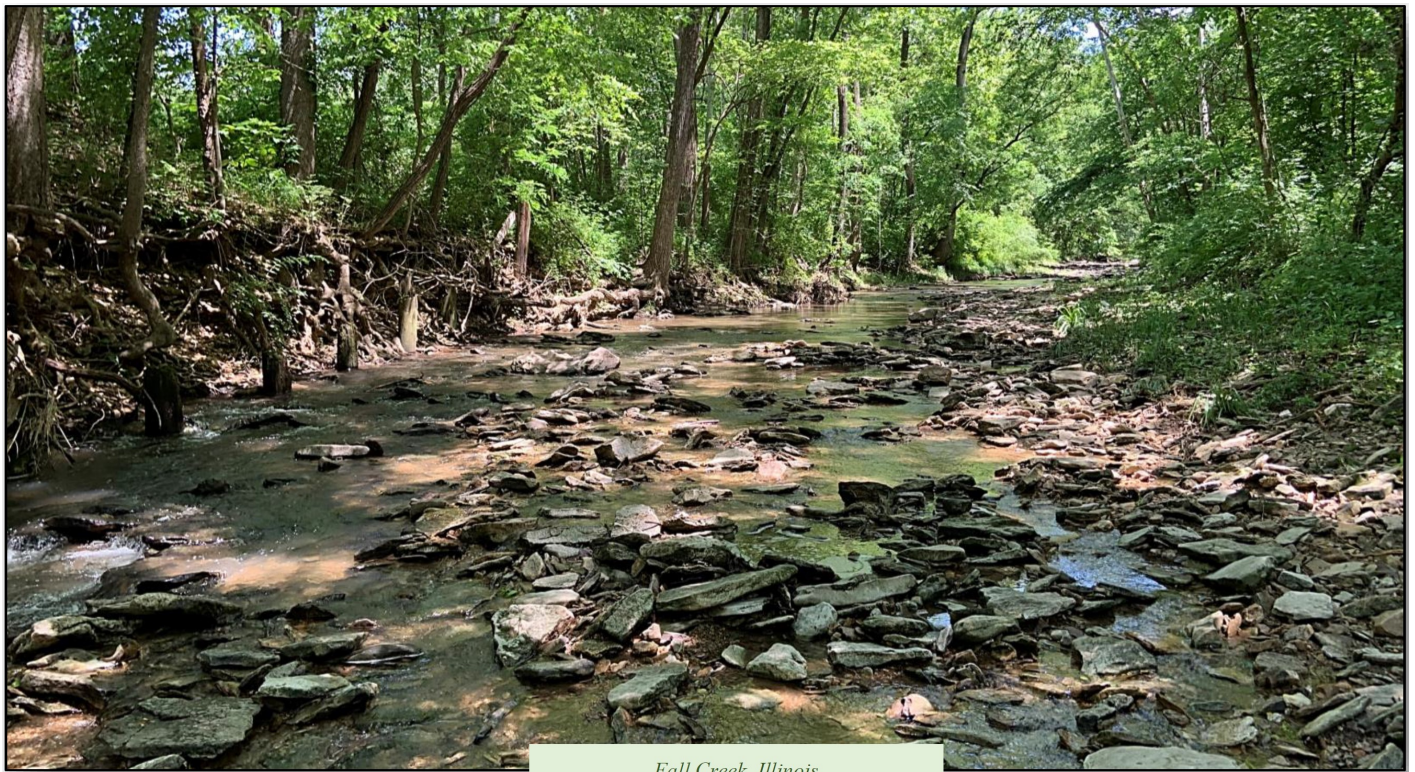
## Stream Basin Sampling in Illinois, *continued from page 9*

expansion in their range (and numbers) followed by an eventual “plateau” with a more stable, yet altered, aquatic ecosystem. Other recent, troubling trends involve loss of aquatic vegetation due to improper herbicide use (and more locally, the invasive Grass Carp) along with waterborne pharmaceutical products which can disrupt fish health and reproduction.

As we complete our fourth decade of basin surveys this summer (work will occur in the Kankakee, Mackinaw and Saline/Ohio basins among others), IDNR Fisheries and IEPA Monitoring staff await the opportunity to put on chest waders and haul our equipment up and down steep streambanks in the heat of summer! The interagency camaraderie and thrill of scientific discovery seem to make up for a little discomfort. Hopefully, lessons learned from our work will continue to enable us all to be effective stewards of Illinois’ amazingly resilient stream dwellers.



*Electric Seine Crew*



*Fall Creek, Illinois*

*Article reprinted from the April 2020 (Issue 112) @ORC, a weekly publication by the IL Department of Natural Resources Office of Resource Conservation about exciting and wonderful things ORC staff are doing throughout Illinois.*

Randy Sauer is a Regional Fisheries Administrator (Regions III and IV) in Carlyle. He joined IDNR in 1982 and has been with the Fisheries Division since 1986 spending 30 years as a Stream Biologist prior to his current position. He has a B.S. in Natural Resources from Cornell University, and an M.A. in Zoology from Southern Illinois University-Carbondale. He retired from IDNR Fisheries in July 2020 after 37.5 years of service. In retirement, he is looking forward to spending time with his family and cheering on the St. Louis Cardinals and Blues.



**Taillight Shiner: Back from the Brink in the Cache River Watershed, Hannah Holmquist, SIUC**

The Taillight Shiner (*Notropis maculatus*) has been considered extirpated from Illinois for several decades. No one had spotted it in over 30 years in Illinois until it was recently rediscovered in September of 2020 in Buttonland Swamp within the Lower Cache River.

This state endangered shiner was first observed in Illinois in 1987 and again in 1988 in Mud Creek (Massac County). The species has been frequently found across the Ohio River in oxbow lakes of northern and western Kentucky. It is primarily a southeastern species, with Illinois being its northernmost range. It is typically found near vegetation in swamps, oxbows, low-gradient streams, creeks, lakes, and rivers. Adults can reach up to 76 mm and typically live for around one year. The shiner is a midwater schooling species and is identifiable by a dark dot on its caudal fin with a thinner dot above and below it, with males having bright red/orange coloration on the posterior of the dorsal fin and caudal fin.

Buttonland Swamp is a 450-acre Cypress-dominated swamp that is valued for its unique habitat and is considered a National Natural Landmark, an Illinois Land and Water Reserve, and a Wetland of International Importance. Southern Illinois University-Carbondale (SIUC) graduate student Hannah Holmquist was conducting fish surveys for her thesis research, but little did she know she would strike lost gold. Cypress swamps are unique in their ability to surprise you, from hidden cypress stumps that lurk below the surface, to shiners that haven't been seen in decades. The water is so muddy it's hard to know what awaits below the surface. Holmquist's first observation occurred in September 2020 with several additional encounters occurring throughout the Fall of 2020 and Winter of 2021. Taillight Shiners have been encountered in the Cache River, Eagle Pond, and the main and side channels of Buttonland Swamp. Multiple individuals typically are collected when the species is encountered. The majority are around 50 mm, but range from 32 mm to 55 mm in length, suggesting some recruitment in this population. Through these fish surveys there has been a total of 48 Taillight Shiners observed using boat electrofishing. Dr. Brooks Burr (SIUC Professor Emeritus and ichthyologist) confirmed the ID of these shiners.



A paper about the rediscovery of the Taillight Shiner is in preparation for submission to Transactions of Illinois State Academy of Science, with Hannah Holmquist as the lead author. This rediscovery has also been mentioned in "An Atlas of Illinois Fishes" authored by Brian Metzke (IDNR State Aquatic Ecologist), Brooks Burr, and others, which is currently in press. Through these fish surveys at Buttonland Swamp, other rare fish species including species in greatest conservation need have been identified, including the Flier (*Centrarchus macropterus*) and Pugnose Minnow (*Opsopoeodus emiliae*). This rediscovery of the Taillight Shiner further confirms the uniqueness and conservation value of Buttonland Swamp and the Lower Cache River.

**Two fish species discovered in Illinois for the first time in 2020, Trent Thomas, IDNR**

The Tippecanoe Darter (*Etheostoma tippecanoe*) and Streamline Chub (*Erimystax dissimilis*) have been reported for the first time in the state of Illinois. Both species were found in the Vermilion River (Wabash River drainage) this year.

The Tippecanoe Darter, named after the location of its original discovery in the Tippecanoe River in Indiana in 1888, is a tiny species that only grows to an adult size of about 1 ½ inches. It is a bottom-dwelling fish that spends the majority of its time under rocks in moderate to fast currents. The species is known to occur sporadically in the Ohio River basin from Pennsylvania to Indiana and south to Tennessee. In Indiana, biologists have noted the species' expanding populations throughout the Wabash River drainage in recent years.

The discovery of the Tippecanoe Darter in Illinois has an interesting back story. Brant Fisher, Nongame Aquatic Biologist for the Indiana Department of Natural Resources, was first notified of the Tippecanoe Darter's potential presence in the lower Vermilion River in Indiana by a microfishing angler, who observed the species while angling. Microfishing is a type of angling that is growing in popularity with specialized gear to catch the smallest of the fish species. Microfishing anglers travel far and wide, catching fish, snapping a photo, and immediately releasing their catch. These anglers often keep a life list of all the species they catch, much like birders keep a list of the species they observe.

The presence of the darter was confirmed in the Indiana portion of the Vermilion River to the Indiana-Illinois state line, and a sampling crew was organized to search for it further upstream in Illinois waters. Brant Fisher and Jacob Adams (Indiana's assistant Nongame Aquatic Biologist) brought their sampling gear and proven techniques for collecting this difficult-to-find species from Indiana and joined Jeremy Tiemann, Aquatic Ecologist from the Illinois Natural History Survey, and Trent Thomas, Streams Biologist from the Illinois Department of Natural Resources Division of Fisheries, to search for the darter in Illinois on September 18th. The trip was a success, as the Tippecanoe Darter was found at several locations in the 12 ½ miles of the Vermilion River from near the state line to the lower North Fork Vermilion River at Danville.



**Tippecanoe Darter collected from the Vermilion River on September 18, 2020.**  
(Photo by Trent Thomas)

*continued on page 13...*

**Two fish species discovered in Illinois for the first time in 2020, *continued***

The Streamline Chub was discovered in Illinois less than a month later. Researchers from Eastern Illinois University (EIU), led by graduate student Adam Jones, collected a single individual on October 7th from the Vermilion River, while conducting boat electrofishing surveys to study the response of the fish populations following the removal of the Danville and Ellsworth Park Dams. The Streamline Chub was previously known to occur sporadically in the Ohio River basin from New York to Indiana and south to Alabama, preferring habitats of deep, swift current over rocky substrates. A second sampling crew was assembled, again relying heavily on Brant Fisher's expertise collecting the species in Indiana. The original crew was joined by Cassi Moody-Carpenter and Dr. Eden Effert from EIU on October 16th. The Streamline Chub was found at several locations in the Vermilion River from Danville to just downstream of the state line.

**Streamline Chub collected from the Vermilion River on October 16, 2020.**

(Photo by Trent Thomas)

These range expansions of the Tippecanoe Darter and Streamline Chub will be presented to the scientific community in a paper submitted to Transactions of Illinois State Academy of Science, with Jeremy Tiemann as the lead author. As exciting and interesting as these new discoveries are, the targeted surveys also revealed increasing numbers of other rare fish species, including Illinois state-endangered Bigeye Chub (*Hybopsis amblops*) and Bluebreast Darter (*Etheostoma camurum*) and state-threatened Gravel Chub (*Erimystax x-punctatus*) and Eastern Sand Darter (*Ammocrypta pellucida*). Large populations of Shoal Chub (*Macrhybopsis hyostoma*), which was believed to have been previously lost from the Vermilion River basin for many years, were also documented throughout the entire stretch of the Vermilion River that was sampled. These range expansions and increased abundance of rare species are believed to be attributed to widespread improvements in water quality and changes in aquatic habitat and unimpeded water flow resulting from the removal of the Danville and Ellsworth Park Dams.

## Announcement: Save the Date

The 2022 Annual IL AFS meeting is scheduled for March 17-18, 2022, at the I Hotel and Conference Center in Champaign, IL (<https://stayatthei.com/>).

This will be a joint meeting with the Illinois Lake Management Association.



# ILMA-LAKES

ILLINOIS LAKES MANAGEMENT ASSOCIATION