



**River & Streams Technical Committee  
State of Indiana Report – 2022  
North Central Division American Fisheries Society  
Kayla Werbianskyj**

The following accounts have been solicited from the Indiana American Fisheries Society membership and summarize some of the major lotic ecological research, restoration projects, management strategies, monitoring appointments, and conservation efforts ongoing across the state of Indiana.

**Indiana Department of Environmental Management (IDEM) / Office of Water Quality / Watershed Assessment and Planning Branch – Kayla Werbianskyj**

Fish Community monitoring and results from 2022

Collections for the year 2022 focused on the East Fork White River as well as other targeted watersheds throughout the state. A total of 157 fish community samples were collected resulting in the capture of 26,445 individuals representing 124 different species.

Probabilistic Monitoring Efforts

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. Sites are randomly generated each year for the selected basin from the U.S. EPA laboratory in Corvallis, Oregon. This project is on a watershed rotation schedule to cover the whole state in 9 years (West Fork White River, Patoka River, East Fork White River, Great Miami, Upper Wabash, Lower Wabash, Kankakee River, Great Lakes, Ohio River).

The Watershed Assessment and Planning Branch (WAPB) collected 42 samples at 38 sites on waterbodies in the East Fork White River Basin. A total of 89 different species were captured and 7,502 individual fish were identified. Macroinvertebrate community, water chemistry, algae and *E. coli* were also collected at the same 38 sites.

Index of Biotic Integrity (IBI) scores had a range of 14-54. The lowest IBI score of 14 occurred at one site: Cammie Thomas Ditch at Waskom Bridge Road in Washington County. The highest IBI score of 54 occurred at three sites: Buck Creek at Maze Road in Marion County; Sugar Creek at Sugar Creek Road in Johnson County; and Sugar Creek at CR 500 East in Hancock County. Eleven sites scored 50 or higher on the IBI. Northern Studfish (*Fundulus catenatus*) was collected in Sugar Creek. Results are currently under review to determine whether the stream segments these sites fall on are considered "supporting" for aquatic life use.

Watershed Characterization

The Clean Water Act (CWA) and U.S. Environmental Protection Agency (U.S. EPA) regulations require that states develop Total Maximum Daily Loads (TMDLs) for waters on the Section 303(d) List of Impaired Waters. A TMDL is the total amount of a pollutant that can be assimilated by the receiving water while still achieving water quality standards. TMDLs are composed of the sum of individual wasteload allocations (WLAs) for regulated sources and load allocations (LAs) for sources that are not directly regulated. TMDLs are developed at a 10-digit watershed scale. After a watershed is selected for TMDL development, a watershed characterization monitoring project is implemented to determine the extent and magnitude of impairments throughout the watershed. Selecting a spatial monitoring design, with sufficient sampling density to accurately characterize water quality conditions, is a critical step in the process of developing an adequate watershed study. The next task is to reassess each waterbody using new sampling data and identify current impairments for TMDL development. The reassessment data also help IDEM identify critical areas of concern with the largest number of impairments. A TMDL report is then developed that includes information regarding point and nonpoint sources of pollutants, allocations of allowable pollutant loads, and recommended implementation activities. The final TMDL report is provided to the local watershed group so they can include the TMDL information into a local watershed management plan and use the data to make improvements throughout the watershed.

Twenty-six samples were collected at 23 sites on waterbodies in the Black Creek watershed. A total of 56 species were captured and 2,075 individual fish were identified in this 10-digit HUC. IBI scores had a range of 16-46. Five sites scored 50 or above on the IBI. The lowest IBI score of 16 occurred at two sites:

Black Creek at CR 610 South in Greene County; and Black Creek at CR 1200 West in Greene County. The highest IBI score of 46 occurred at Hill Ditch at Grandview Drive in Knox County. Harlequin Darter, Slough Darter (*Etheostoma gracile*), Mud Darter (*Etheostoma asprigene*), Orangespotted Sunfish (*Lepomis humilis*) and Freckled Madtom (*Noturus nocturnus*) were captured in this watershed. Western Mosquitofish (*Gambusia affinis*) were present at 48 percent of sites with one site recording 180 individuals. Results are currently under review to determine whether the stream segments these sites fall on are considered “supporting” for aquatic life use.

#### Reference Site Project

In 2015, IDEM started a 10-year project to sample 250 sites across Indiana with the intention of finding sites with the best water quality in the state. In 2022, the WAPB collected 29 samples at 25 sites on waterbodies in various 8-digit HUC watersheds. The IBI scores had a range of 14-54. The lowest IBI score of 14 occurred at Coffee Creek at Mander Road in Porter County. The site on Coffee Creek was also a Coolwater IBI project site. The highest score of 54 occurred at two sites, both on the Blue River (a tributary to the Ohio River) in Harrison County. There were twelve sites that scored 50 or above on the IBI. A potentially undescribed madtom was collected in Indian River (another tributary to the Ohio River in southern Indiana) just North of Corydon, Indiana. At first glance, it looked similar to a Freckled Madtom; however, there are no historical or recent distribution records of Freckled Madtom in the area. Results are currently under review to determine whether the stream segments these sites fall on are considered “supporting” for aquatic life use.



Pictured above: Freckled Madtom (*Noturus nocturnus*) or potentially unknown madtom to Indiana?

Performance 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, depending on the parameter(s) for which the watershed is impaired, 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.

The WAPB collected fish and macroinvertebrate communities at nine sites across six sub-watersheds as part of performance measures’ monitoring to determine if there are improvements in the biological integrity. Site locations and Index of Biotic Integrity scores are summarized below in Table 5. A score of lower than 36 (out of 60) on the IBI or macroinvertebrate IBI indicates impairment for both communities.

Table 2. Performance Measures Monitoring waterbodies, HUCs, counties, fish and macroinvertebrate IBI scores

Project Site Number	Waterbody	HUC	County	fIBI <sup>1</sup>	mIBI <sup>2</sup>
22W001	Black Creek	041000050104	Allen	38	32
22W002	Maumee River	041000050103	Allen	42	26
22W003	Rock Creek	051201010701	Wells	38	36
22W004	Majenica Creek	051201020403	Huntington	24	32
22W004.5*	Majenica Creek	051201020403	Huntington	28	NA
22W005	Deep River	040400010508	Lake	36	36
22W006	Deep River	040400010508	Lake	36	34
22W013	Silver Creek	051401010805	Clark	38	34

<sup>1</sup> Index of Biotic Integrity Score for fish community

<sup>2</sup> Index of Biotic Integrity Score for macroinvertebrate community

\*Fish only revisit of site 22W004 at a different date of the same year

Performance Measures Monitoring results are currently under review to determine whether the stream segments these sites fall on are considered “supporting” for aquatic life use and if any segment improvements can be reported as Success Stories.

Coolwater IBI Project

IDEM, working with U.S. EPA and Tetra Tech, is modifying new biological indices for coolwater streams in Indiana. Identify coolwater streams, mean stream summer temperature less than 22 °C, using the temperature tipping points for coolwater taxa and stream temperature data modeling. Determine temperature tipping points for coolwater taxa, using plots of cold or cool taxa, and warm taxa versus maximum water temperature between 15 °C and 30 °C. Validate stream temperature models and tools, used to identify coolwater streams, by deploying temperature loggers and collecting biological assemblages at reference and stressed coolwater sites around the state. Determine the disturbance of a site, reference or stressed, using land use evaluations and identification of other anthropogenic impacts such as road crossings, point source impacts, and population density. Following data collection, modify new biotic indices to accurately evaluate biological assemblage expectations for coolwater streams. Collected data fulfill several goals such as development of a Coolwater IBI for macroinvertebrate and fish communities, and ALUS assessments at probabilistic, reference, and watershed characterization sites. Forty-five of 90 sites were sampled in 2021 for fish and macroinvertebrate communities and the remaining 45 were sampled in 2022.

## Fish Tissue Contaminants Monitoring Program – 2022

In 2022, contaminant monitoring in fish tissue was conducted in the East Fork White River Basin and the Whitewater River Basin, in addition to the Indiana waters of Lake Michigan. All samples are scheduled to be sent to the lab for analyses in February 2023. Data will be used to support Indiana’s Integrated Report, the 303(d) List of Impaired Waters, and the Indiana Department of Health’s Indiana Fish Consumption Guidelines. The Indiana Fish Consumption Guidelines can be used by anglers to help them maximize the health benefits from eating fish, while minimizing the risks ([IDOH Fish Consumption Guidelines](#)). Per- and polyfluoroalkyl substances (PFAS) will continue to be analyzed, all 40 sites collected in 2022 will have PFAS analyzed. Staff assisted with the 2022 EPA National Lakes Assessment project by collecting Largemouth Bass whole fish samples from 14 lakes throughout the state. For more information on IDEM’s contaminants monitoring program or to inquire about fish tissue contaminants data, contact IDEM Watershed Assessment and Planning Branch staff member Tim Fields, at [tfields@idem.IN.gov](mailto:tfields@idem.IN.gov) or (317)308-3184.



*Left: IDEM staff Tim Fields holding a Largemouth Bass; Right: IDEM Intern Jocelyn Bainter and a Flathead Catfish*

### **Elkhart – South Bend Aquatic Community Monitoring Program – Daragh Deegan, Aquatic Biologist**

The Elkhart-South Bend Aquatic Community Monitoring Program continued to monitor fish and macroinvertebrate communities in the Indiana section of the St. Joseph River (Lake Michigan Drainage) and tributaries in 2022. In 2022, we completed 61 fish community surveys resulting in 70 species and 32,724 individuals in Elkhart and St. Joseph Counties. In 2022, we also completed our 24<sup>th</sup> year of biological community sampling and we have a robust dataset containing over 500,000 fish.

While our program primarily focuses on fish community monitoring, we also do macroinvertebrate sampling at 22 sites on an annual basis. In addition, we collect 10 fish tissue samples annually and provide data to the state for inclusion in the fish consumption advisory.

In general, biological community indices for the St. Joseph River and tributaries in Indiana indicate healthy streams. Some tributaries with high agricultural intensity and wetland loss have impaired biological communities, but most streams host diverse communities of fish and other organisms. While our index scores have remained consistent past 24 years, our fish communities have changed modestly

with an increase in centrarchid abundance and a decrease in catostomids. In the last decade, Common Carp (*Cyprinus carpio*) abundance has also dropped significantly at most St. Joseph River sites.

In 2021, for the first time in 23 years of sampling, our program collected flathead catfish (*Pylodictis olivaris*). Over the past 2 years, we have collected several more and angler reports have been coming in from Indiana and Michigan. Flatheads have been in the lower sections of the St. Joseph Watershed (towards Lake Michigan) for years, but their recent introduction in the upper reaches is cause for concern.

In 2022, we continued to collect turtles during electrofishing surveys in an effort to determine local species distributions. Species collected in order of highest abundance include Northern Map Turtle (*Graptemys geographica*), Snapping Turtle (*Chelydra serpentina*), Painted Turtle (*Chrysemys picta*), Red-eared Slider (*Trachemys scripta elegans*), Eastern Musk Turtle (*Sternotherus odoratus*), Spiny Softshell (*Apalone spinifera*), River Cooter (*Pseudemys concinna*), and Blandings Turtle (*Emydoidea blandingii*). The River Cooter population is isolated to a small section of the St. Joseph River in Elkhart, which is far from their native range. It's believed that they were introduced into the area.

During the summers of 2021 and 2022, we collected crayfish during electrofishing surveys. Similar to turtle sampling, crayfish were collected in an effort to determine species distributions in the St. Joseph River Watershed. Six species were collected over the 2 summers which include the Northern Clearwater Crayfish (*Faxonius propinquus*), Rusty Crayfish (*Faxonius Rusticus*), Virile Crayfish (*Faxonius virilis*), Calico Crayfish (*Faxonius immunitis*), White River Crayfish (*Procambarus acutus*), and Big Water Crayfish (*Cambarus robustus*). In total, 587 crayfish were collected. Northern Clearwater Crayfish was the most commonly collected species (256 total) and represented almost 50% of the catch. Rusty Crayfish was the second most commonly collected (132 total), while Virile Crayfish was the third (117 total). Northern Clearwater Crayfish was the most common species in the smaller tributaries, while Rusty Crayfish appeared to dominate the larger rivers.



*A juvenile greater redhorse from the St. Joseph River*

### **IN DNR – Invasive Carp Unit – Craig Jansen**

2022 was the first full year for the newly created invasive carp work unit. Despite some turnover and being understaffed for half of the field season, we were still able to accomplish most of our goals. All of the invasive carp unit's fieldwork is part of larger Ohio River basin-wide projects. These projects are collaborative, and the data we collect is combined with that of other project partners (federal, state, and university) to accomplish basin-wide goals.

Targeted carp sampling in April kicked off the field season – standardized electrofishing at fixed sites is used to evaluate any changes in relative densities and population demographic data to evaluate removal efforts. In May, we assisted SIU with fish community electrofishing on the Wabash River as part of their hydroacoustic project. Larval sampling took place on the Ohio River in late-May and June to document the presence of spawning in both the mainstem and some tributaries. 2021 larval sampling results found a few genetically confirmed Silver and Bighead carp eggs in Markland Pool east of Cincinnati, Ohio, indicating the furthest confirmed upstream spawning event to date (2022 genetic confirmation data is still pending). July consisted of some targeted YOY bighead carp sampling in Ohio River embayments and produced Silver and Bighead YOY in Markland Pool (near Rising Sun, IN) for the first time. This was the furthest upstream that YOY bigheaded carps have been documented in the Ohio River. Prior to 2022 YOY findings, previous years have only detected them as far upstream as Cannelton Pool near Derby, IN, and the majority of YOY bigheaded carps are found in J.T. Myers Pool in and around Hovey Lake (near Mt Vernon, IN).

August and September involved targeted invasive carp sampling to collect otoliths for age/growth analysis, along with one trip to the upper Wabash River to implant acoustic tags in carp. In October, we assisted USFWS and KDFWR with standardized fish community electrofishing on the Ohio River. Data collected will inform USFWS hydroacoustic research to help estimate invasive carp biomass in the river. Throughout the entire year we maintained a Vemco receiver array on the lower Ohio River, and a couple of days were spent conducting targeted invasive carp removals. The rest of the fall consisted of entering/analyzing data while sectioning and aging around 400 Silver Carp otoliths.



*YOY Silver carp captured via surface trawl in Markland Pool of the Ohio River, August 2022.*

### **IN DNR – Big Rivers Unit – Philip Kacmar**

The Big Rivers unit did a variety of work on the Wabash, and Ohio rivers in 2022. We completed drift net surveys targeting Shovelnose Sturgeon sampling on the Wabash River in spring near Lafayette, IN. We caught 311 Shovelnose, including 297 unique individuals, and 14 individuals tagged in previous years. The oldest recaptured fish had been at large for 7 years and had not grown since that time and was captured at the same location as it was originally tagged.

In 2022 we sampled the Wabash River system: Two sampling sites were on the Lower Wabash River, where the river borders Illinois, at New Harmony, IN and Beal, IN and two sites are upstream of the Illinois Border at Montezuma, IN and Williamsport, IN. In June, 20 hoop nets were set for two nights at each sample site. We also electrofished for two hours at each site, with pedal time split between general community settings (high-pulse) and catfish specific setting (low-pulse). Electrofishing normally occurs in July, however high water and staffing issues split sampling between July and August this year. While we specifically target catfish, we record information on all species. Hoop nets caught 18 species: Smallmouth Buffalo were the most abundant in hoop nets followed by Channel Catfish, Flathead Catfish, River Carpsucker, and Freshwater Drum. Electrofishing caught 36 species: Flathead Catfish were the most abundant electrofishing, followed by Smallmouth Buffalo, Channel Catfish, Silver Carp, Shortnose Gar, and Freshwater Drum. Overall, 40 species were caught.

We completed trotline surveys targeting catfish in J.T. Myers pool of the Ohio River in July and August as part of a cooperative project with Kentucky DFWR. A total of 39 Channel Catfish and 70 Blue Catfish were collected with zero bycatch. Mean catch rate of Channel Catfish was 1.7 fish/trotline and was the lowest catch rate since 2015. Mean catch rate of Blue Catfish was 3.0 fish/trotline and increased for the prior year.

#### **IN DNR – District 2 – Matt Horsley**

In October 2022, IDNR district 2 fish management staff along with the assistance of other DFW staff conducted a black bass survey on the St. Joseph River in Elkhart and St. Joseph Counties. The purpose of the survey was to continue to monitor the black bass population in the St. Joe after the implementation of the 12 to 15 inch slot limit imposed in 2013. Over the 40 mile stretch of the St. Joseph River that flows through Indiana, 16.5 miles was sampled with over 12 hours of electrofishing. Eight sites spanning from Bristol downstream to Saint Patricks Park were sampled that ranged from 1.33 miles to 4.23 miles and effort ranged from 1 hour to 2.5 hours per site. Over the course of the survey 426 Smallmouth Bass and 54 Largemouth Bass were collected. Smallmouth ranged from 3.1 to 20.2 inches and Largemouth ranged from 3.4 to 18.5 inches. CPUE for Smallmouth ranged from 11/hour at Six Span Birdge to 50/hour below South Bend Dam. For Smallmouth only 11% were over 15 inches, whereas 50% of Largemouth were 15 inches or larger.



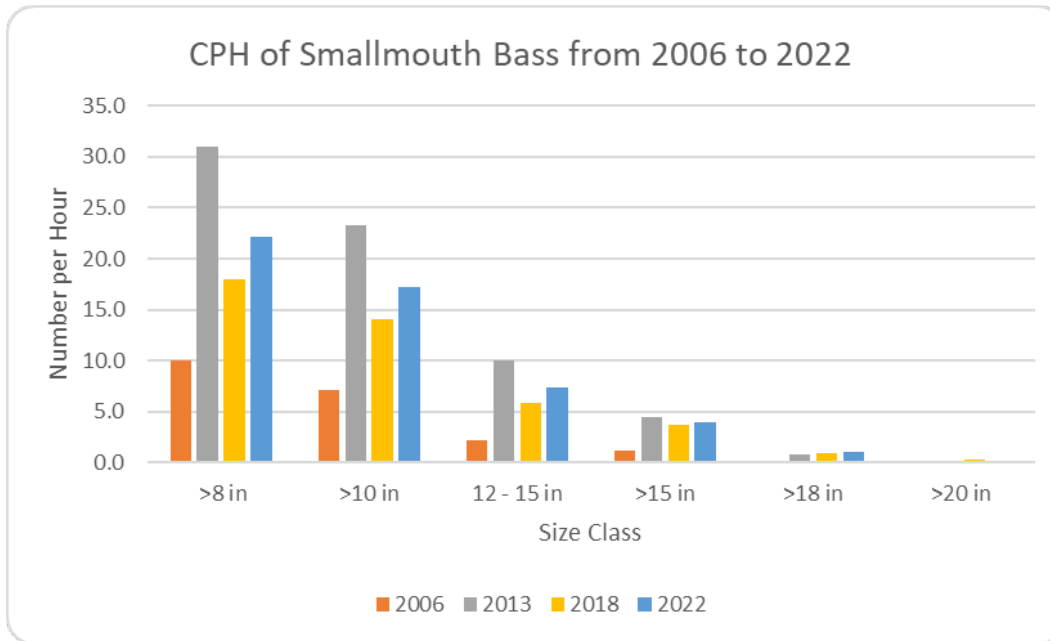


Figure 1. Catch per hour of Smallmouth Bass of different size classes. Note: 2006 sampling was conducted in July of 2006.



Fisheries Biologist Tyler Delauder (Left) and LARE Biologist Rod Edgell (Right) hold a few nice bass collected during sampling on the St. Joseph River in 2022.

## IN DNR – Nongame Fish and Wildlife – Brant Fisher

### Snuffbox Augmentation in the Tippecanoe River:

- Seven female Snuffbox (*Epioblasma triquetra*) were secured from the Salamonie River, Huntington County, and used to infect 71 Logperch (*Percina caprodes*). The infected Logperch were divided among six cages in Lake Shafer, White County; these cages will remain in place until near the end of September 2023.
- Annual monitoring of our Snuffbox augmentation site on the Tippecanoe River, White County, was completed. As with every monitoring event to date, the males have remained basically in place, right where we put them, but females have scattered from original placement areas. We are looking at this as a positive sign for reproduction – as females grab the snout of Logperch during transfer of glochidia, which leads them to being dislodged and likely moved around. Hopefully this scattered movement of females is a result of active reproduction.
- Snuffbox cages from 2021 propagation work were pulled – 71 Snuffbox were recovered, tagged, and placed at the augmentation site on the Tippecanoe River.



### Kidneyshell reintroduction in the Wildcat Creek drainage:

- Kidneyshell (*Ptychobranhus fasciolaris*) used in a silo study in the Wildcat Creek drainage in 2021, and placed in a cage in Lake Shafer once the study was completed for further grow-out and eventual reintroduction efforts, were pulled to check on survival and growth. Of the 136 placed in the cage, 115 were alive and had grown well.

- Sites were visited on the North Fork Wildcat Creek and Kilmore Creek where juvenile Kidneyshell had been placed directly into the substrate 2021, in conjunction with the silo study. Because of how small the juvenile Kidneyshell were when placed, only two per site were PIT-tagged. Neither individual was recovered at the North Fork site; both were recovered at the Kilmore Creek site, but one had died. The living individual had stayed pretty much where we had placed it and showed good growth.
- Assisted TNC personnel in releasing around 400 propagated Kidneyshell at two locations in the Wildcat Creek drainage. These reintroduced Kidneyshell were monitored later in the year and all 16 PIT-tagged individuals were scanned at each site, and none had not moved from their placement location. Three individuals were dug up at each site and were living.



Wabash Pigtoe fatty acid study with Purdue University:

- Wabash Pigtoe (*Fusconaia flava*) individuals were collected and samples provided to Purdue University as part of a pilot study to investigate the potential use of fatty acid profiles as a condition index for freshwater mussels. Samples were collected from the Mississinewa River upstream and downstream of the Mississinewa Reservoir (Miami and Grant counties), the West Fork White River upstream and downstream of where Prairie Creek Reservoir enters (Delaware County), and the Tippecanoe River upstream and downstream of Lake Shafer-Freeman (White and Tippecanoe counties). Samples were collected in both July and October.



Slippershell Mussel genetic study with Shedd Aquarium:

- Tissue samples were collected from Slippershell Mussel (*Alasmodonta viridis*) – a state species of Special Concern - from the upper parts of the Sugar Creek (Clinton County), North Fork Vermillion River (Warren), North Fork Coal Creek (Montgomery), Sugar Creek (Hancock County), Iroquois River (Benton County), Whitewater River (Randolph County), and Fish Creek (Steuben County) drainages, as part of a range-wide study of the species' genetics being conducted by researchers at the Shedd Aquarium (Kentaro Ioune) and Central Michigan University (Dave Zanatta). This diminutive species is for the most part restricted to headwaters streams and has widely disjunct populations in Indiana and throughout its range.



#### Fish Creek mussel survey:

- In partnership with personnel from USFWS and TNC, mussel surveys were completed in Fish Creek, Steuben and Dekalb counties. Sampling was focused on the collection of federally listed species on TNC properties in the watershed. Three live Clubshell (*Pleurobema clava*) - federal endangered - were collected from one location; live individuals (and in some cases robust populations) of other Indiana listed species (all Special Concern) were also collected – Spike (*Eruynia dilatata*), Kidneyshell, Rainbow (*Villosa iris*), and Slippershell Mussel.

#### Northern Riffleshell Augmentation in the Tippecanoe River and Clubshell Reintroduction in the Eel River:

- Annual monitoring of Clubshell and Northern Riffleshell (*Epioblasma rangiana*), two federally endangered mussel species, reintroduced in the Eel River and augmented in the Tippecanoe River, respectively, in 2015-6 was completed. Clubshell continue to show good growth and survivability. We continue to try and locate several missing Clubshell at one site that got hit hard by muskrats in 2021 – while they ate many Clubshell, they also apparently moved a lot around in their attempts to eat them. Northern Riffleshell are still hanging on in low numbers – the ones that remain look healthy and have had good growth since placement.

#### Upper West Fork White River mussel restoration:

- Kidneyshell, Wavyrayed Lampmussel (*Lampsilis fasciola*), and Plain Pocketbook (*Lampsilis cardium*) propagation was attempted at the Muncie Bureau of Water Quality's facilities, with varying levels of success.
- 32 Fantail Darters (*Etheostoma flabellare*) and 38 Rainbow Darters (*Etheostoma caeruleum*) were inoculated with Kidneyshell glochidia and tested for transformation success.
- Transformed Plain Pocketbook juveniles were tested using different rearing methods, to dial in techniques for next year's work.

#### East Branch Little Calumet River mussel restoration:

- Several rounds of gravid female Plain Pocketbook and Fatmucket (*Lampsilis siliquoidea*) were collected, glochidia extracted, and provided to the Dunes National Park for mussel propagation work.
- Gravid female Fatmucket were collected and transported to the USGS, Chesterton office. Glochidia were extracted for mussel media culture trials.
- Dunes National Park and USGS mussel propagation work is intended for restoration of mussel assemblages in the East Arm Little Calumet River watershed.

Eel River fish sampling – Logansport dam removal site:

- Fish were sampled in the Eel River, Cass County, just upstream of where a dam was removed in 2021 at Logansport. Riffles that were non-existent last year were sampled, specifically looking for Tippecanoe Darter (*Etheostoma tippecanoe*) and Bluebreast Darter (*Etheostoma camurum*), two species previously collected from the Eel River downstream of the Logansport dam, but not recorded above. While no Bluebreast Darters were encountered, two male Tippecanoe Darters were collected. Steelcolor Shiner (*Cyprinella whipplei*), Streamline Chub (*Erimystax dissimilis*), and Brindled Madtom (*Noturus miurus*) were also collected – additional species that were not known from the Eel River upstream of the Logansport dam prior to removal.



Lake Sturgeon monitoring East Fork White River:

- Lake Sturgeon (*Acipenser fulvescens*) spawned in the East Fork White River on Saturday, April 16<sup>th</sup> below Williams Dam, Lawrence County. Fish were back downstream to Shoals, Martin County, by Monday morning.
- Annual netting for Lake Sturgeon in the East Fork White River was completed at several locations, with five individuals collected, ranging from 18 to 63 pounds. Two of the larger individuals were fitted with radio transmitters.



Posey County Nature Preserve sampling:

- Four sloughs-swamps on Nature Preserves in Posey County were sampled for fish - specifically targeting Banded Pygmy Sunfish (*Elassoma zonatum*). None were collected in Goose Pond (where habitat was extremely limited). Pygmies were found in the three others – Cypress Slough and both waterbodies in Twin Swamps (Cypress Swamp and Overcup Oak Swamp). Water was extremely low in all three. This was the first record for Pygmies from the Twin Swamps Nature Preserve.





#### Clear Lake Round Goby sampling:

- Assistance was provided to Tom Bacula, District 1 Fisheries Biologist, in sampling Clear Lake in LaPorte, LaPorte County. An angler had reported catching some Round Gobies (*Neogobius melanostomus*) in the lake. Sampling yielded three YOY individuals. This is the first known occurrence of Round Goby in Indiana in a lake or stream without direct connection to Lake Michigan. Sampling in nearby Pine and Stone lakes did not turn up any others – there is not a direct connection between Clear Lake and the other lakes.



#### Blacknose Shiner and Blackchin Shiner collection for Ohio restoration work:

- Sampling was conducted for Blackchin Shiner (*Notropis heterodon*) and Blacknose Shiner (*Notropis heterolepis*) with staff from the Ohio State University. They are working on restoration-reintroduction projects with the species in Ohio and annually come to Indiana to collect additional broodstock. Both species are common in Indiana glacial lakes but have seen drastic declines to the point of extirpation in Ohio. The targeted number of needed fish was collected from West Otter Lake and Fox Lake in Steuben County.

#### Kankakee River Asian Carp sampling:

- Assisted Tom Bacula in sampling the Kankakee River, Lake and Newton counties, for Asian carp. The sampling was prompted by a boater who reported an encounter with a school of fish 'jumping out of the water 1-2 feet'. Asian carp, while right on the doorstep in the Illinois section of the Kankakee River, have yet to be verified inhabiting the Indiana portion of the drainage. None were found during several hours and miles of boat electrofishing; data on other species inhabiting the river was obtained.