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MICHIGAN DEPARTMENT OF
NATURAL RESOURCES

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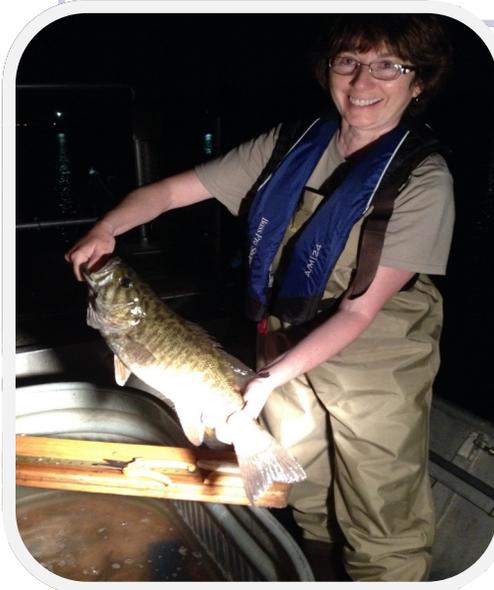


ISSUE 8

2014

Southeast Michigan DNR Fisheries Newsletter

Hello anglers, this is the annual newsletter covering major field activities of the Lake Erie Management Unit (LEMU). This unit covers all of the waters that lie within watersheds draining into the St. Clair River, Lake St. Clair, Detroit River, and Lake Erie (see map on Page 10). LEMU staff work out of the Waterford Fish Station in the Pontiac Lake Recreation Area as well as the Metro Detroit Customer Service Center in Detroit. This newsletter highlights some of the major field activities which occurred during the 2014 field season.



Liz Hay-Chmielewski, (pictured at left) retired from Fisheries Division earlier this year. She had extensive knowledge of the fisheries in southeast Michigan and a passion for both the fish and her fellow employees. She held positions in both field and the research sections over the years, and retired as the unit supervisor of LEMU. Her institutional knowledge and skill will be missed.

Behind the Scenes of Fish Management

Fish Ageing

From January through March, fisheries technicians processed 2,381 scale and spine samples to determine the age of fish. The samples were collected from fish surveys in LEMU, as well as steelhead and chinook salmon from the statewide Great Lakes creel survey program and weirs. The age of the fish can be determined by magnifying either its scales or by looking at a cross section of a fin spine. Both have rings which can be counted similar to how a tree is aged.

Fish Production

Walleye were again raised in LEMU. Walleye eggs were obtained from the Muskegon River and the fertilized eggs were transferred to the Wolf Lake State Fish Hatchery to incubate. After hatching, the five day old fry were put into grow-out ponds at the Drayton Plains Nature Center in Waterford and Camp Dearborn in Milford. We harvested 333,654 spring fingerlings and 27,878 fall fingerlings which were stocked into area lakes.

Fish Stocking

In addition to stocking walleye from LEMU ponds, rainbow trout, brown trout, steelhead, splake, and muskellunge from state hatcheries were stocked into LEMU waters (see table on page 11).

Special Projects



Todd Somers with a huge musky

Great Lakes Musky Egg Take

Fisheries personnel from Waterford, Bay City, Mt. Clemens, Plainwell and Gaylord spent three weeks on the Detroit River collecting muskellunge to collect eggs for the hatchery program. Fall fingerlings from this program are used to develop inland broodstock lakes for Great Lakes muskies, as well as stocking other waters around the state. We captured 103 muskies and spawned 9 females which produced 429,545 eggs. A total of 36,228 fall fingerlings were harvested and distributed to 21 lakes and rivers throughout Michigan. In addition 6,300 spring fingerlings were stocked into one lake.

Sterling State Park Lagoons

Shallow water habitat was created in the lagoons at Sterling State Park as part of a Great Lakes Restoration Initiative grant. A fisheries survey was completed during summer to evaluate the effectiveness of the new habitat. We captured 425 fish with 25 species present. Fish numbers and species diversity were significantly increased compared to survey data collected before the habitat work was completed. Bluegills were the most abundant with 179 individuals captured and most were 2 to 4 inches long. Largemouth bass were the next most abundant with 67 fish caught. Most were small, but there were 4 legal-sized bass. Pumpkinseed were the next most abundant with 57 fish captured, 52 of them being 1 to 2 inches long. We also captured 5 pugnose minnows which are a state endangered species that prefer shallow water. The number of small fish caught is an indication that fish are utilizing the newly created shallow water as a spawning and nursery area.

Minnow Pond Creek

In early 2013, a local naturalist identified an exotic fish in Minnow Pond Creek, a tributary to the Rouge River in Farmington Hills. The mummichog is a small killifish native to the east coast of North America and prefers brackish tidal streams. An unusual characteristic is that the fish lays its egg at the high tide mark and the eggs incubate in the air, and hatch when wetted again. Mummichogs are very common on the east coast. It is unclear how they got into the Rouge River, but they are used for mosquito control, baitfish, and in the aquarium trade.

Repeated sampling in 2013 found the fish in an isolated stretch and through electrofishing, 12 individuals were removed. Additional sampling found zero mummichogs and it was believed they were eliminated.

We returned to the same sites in 2014 to electrofish again. We found zero mummichogs present and they are considered removed from the creek.



Mummichog



Mill Creek Cooperative Trout Management

Mill Creek, located in western Washtenaw County, is one of the largest tributary watersheds to the Huron River. Historically, the Dexter Dam in the Village of Dexter, near Mill Creek's confluence with the Huron River, prevented fish migration from the Huron into Mill Creek. The Dexter Dam was removed in 2009 and the stream was returned to a free flowing condition with no fish barriers between the Huron River and most of the Mill Creek watershed.

The restoration of the Mill Creek channel above and just below the former dam's location created some excellent habitat as shown in the picture. This prompted the Ann Arbor Chapter of Trout Unlimited (TU) to investigate the possibility of developing a trout fishery in the stream. After several years of temperature monitoring and some experimental stocking of brown trout in the creek by the TU Chapter at their own expense, an agreement was worked out to initiate a cooperative trout management program for Mill Creek. Under this agreement, beginning in 2014 and for the next six years, the Ann Arbor TU Chapter and Fisheries Division of the MDNR will annually stock 2,700 brown trout at two locations in Mill Creek and monitor water temperature, trout survival, and angler use of the fishery. Initial response from local anglers has been enthusiastic, to say the least, with many anglers both old and young enjoying the trout fishing that is being provided.



Endangered Species Monitoring

Johnson Creek, Wayne County

Redside dace (pictured below), a state endangered species, were once abundant in Johnson creek, a tributary to the Rouge River. However, habitat degradation has contributed to the decline of this species in this stream. We electrofished three sites on Johnson Creek as part of an effort to monitor the dace population, but did not capture any redbase dace.



Seeley Drain, Oakland County

Seeley Drain is a headwater tributary of the Upper Rouge River watershed that is located in south-central Oakland County. It flows south out of Lake Berry (and a constructed wetland complex adjacent to the lake) in Commerce Township just north of 14 Mile Road and west of M-5. The stream runs south about 3-4 miles before turning east for another couple of miles until it merges with Minnow Pond Drain to create the beginning of the Upper Rouge River.

Once abundant, redbase dace numbers in Seeley Drain have dropped significantly from historical levels. They were a major component of the fish community back in the 1980's and early 1990's when anywhere from 10-20 individuals were usually found in a few hundred feet of stream. Now they are rare; only 6 fish collected in over 6,000 feet of stream sampled in 2005 and none were found in 700 feet of stream sampled during the 2011 survey. Heavy sediment deposits were present through the stretch, with sand and silt covering most of the gravel and hard substrates formerly present. The continued decline of the stream habitat is also apparent in the reduced numbers of mottled sculpin found during the 2011 survey compared to the 1995 and 2005 sampling.

A 2014 survey, did not capture any redbase dace or mottled sculpins. It appears the habitat degradation due to sedimentation of the gravel substrate in Seeley Creek continues to impact the fish community.

Asian Carps Exercise

In 2014 LEMU played a large role in leading a collaborative, multi-agency approach to increase staff preparedness on Asian carps sampling methodologies, while increasing the information base on the grass carp population in western Lake Erie. Efforts for this exercise started in August when Michigan DNR and Ohio DNR staff began collecting water samples in Lake Erie bays and select tributaries for eDNA analysis. The eDNA results were used to help guide fish sampling efforts in September when over 60 staff from state, federal and international agencies came together for a week long exercise.

The exercise showed how effectively natural resource agencies can come together in a coordinated effort to respond to an invasive species threat. Using multiple tactics of electrofishing, gill nets, and a commercial seining operation, crews focused on multiple areas targeting grass carp. Though only two grass carp were captured during the exercise, the lessons learned about how we can react to the threat of an aquatic invasive species will truly benefit the Great Lakes as we move forward. There were also two projects that started concurrently with the exercise; one focused on eDNA, microchemistry and ploidy of grass carp while the other project is focusing on habitat and tributary use by grass carp in western Lake Erie.

Illinois River Carp Training

Staff participated in a training effort in Illinois working alongside commercial Asian carp fisherman on the Illinois River. The goal was to learn effective techniques to capture Asian carp that could be utilized here in the Great Lakes in the event of an invasion by Asian carp. They utilized electrofishing and gill net methods that provided a tremendous learning experience and also revealed some of the negative impacts from having Asian carps invade a system.



Illinois River bighead carp



Illinois River bighead carp



Gill net catch of Asian carps from the Illinois River

How'd They Do That? Acoustic Telemetry



Biologist Cleyo Harris with a grass carp



Inserting an acoustic tag and taking a blood sample

Fisheries managers and anglers often wonder where fish travel during the course of a season or year. Throughout the Great Lakes there are many fisheries research projects ongoing that are using acoustic telemetry to get a better understanding of fish movement and habitat use. These studies are organized through the Great Lakes Fish Commission who has oversight for the Great Lakes Acoustic Telemetry Observation System (GLATOS). The studies that are conducted using GLATOS are collaborative efforts that help collect data through multiple acoustic receivers that can benefit all of the studies. As a partner of the Great Lakes Fish Commission, we (MDNR Fisheries Division) help out with projects focused in the Lake Erie Watershed dealing with walleye, lake sturgeon, and grass carp.

So what is acoustic telemetry and how does it work? A receiver in the water actively listens for pings or sound from a transmitter and that sound will carry with it unique information about the transmitter. Fish are surgically implanted with an acoustic tag (transmitter), marked with an external tag, and then released. As the fish swim past strategically placed receivers the tag information is automatically recorded and stored.

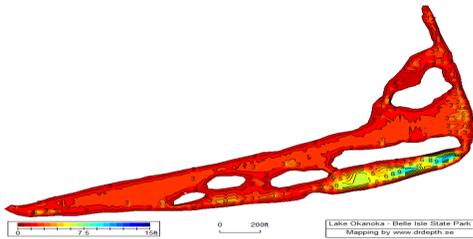


In LEMU, there are stationary GLATOS receivers placed throughout the St. Clair River, Lake St. Clair, Detroit River and Lake Erie. The acoustic tags can be active for up to ten years after implementation depending on the type of tag. This lets us look at fish movement over multiple years and identify patterns over time. We can see where adult walleye go to spawn, how lake sturgeon from the St. Clair River interact with lake sturgeon from the Detroit River, or if grass carp are using tributaries to Lake Erie possibly to spawn. This technology gives us the ability to gain more insight about our fisheries that will help inform our decisions as we move into the future. If you see a fish with an external tag, take the time to report it and you can help us better manage our fisheries!

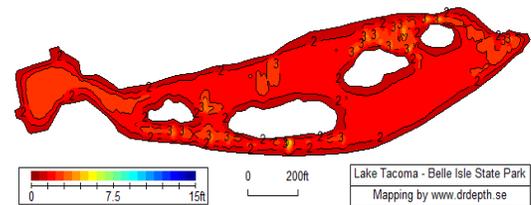
Go to http://data.glos.us/glatos/acoustic_telemetry to find out more info about GLATOS.

BELLE ISLE, WAYNE COUNTY

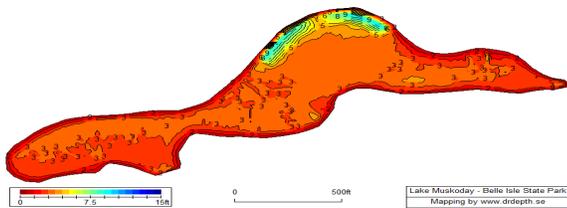
Belle Isle is a 982 acre island park situated in the upper Detroit River. It was designed by Fredric Law Olmstead in the 1880's and is on the national register of historic places. "Belle Isle" means beautiful island in French. On February 10, 2014, the state of Michigan signed a 30 year lease with the City of Detroit and named Belle Isle as the state's 102nd state park. The City of Detroit still maintains ownership of the island while the Department of Natural Resources will manage it according to the Michigan state park system standards. A recreation passport is required for entrance onto the island and a Michigan fishing license is required for fishing the inland waters of the island along with the waters of the Detroit River. Fisheries Division surveyed the four lakes on the island using trap nets, fyke nets and sidescan sonar technology, and a bathymetric maps were constructed for all four lakes.



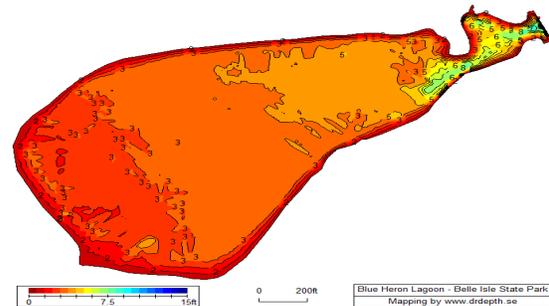
Lake Okanoka is not directly attached to the Detroit River. Its fish community has both low species richness and abundance. We captured a total of 124 fish with 10 species present. Bluegills were the most abundant, but all were small. The next most abundant were white crappie with 40 individuals captured. Only four of these fish were seven inches or longer. Bluntnose minnows rounded out the top three most abundant with 9 fish caught.



Lake Tacoma is not directly connected to the Detroit River and is the shallowest of the four. We caught 81 fish with 13 species present. Emerald shiners were the most abundant and accounted for half of the catch. Bluegills were next with 16 individuals caught, all less than 6 inches. Only 3 white crappie were captured and they were less than seven inches in length.



Lake Muskoday is not directly connected to the Detroit River, but is much larger than the two previous lakes and has some deep water sections. This provides more habitat creating a more robust, but still poor, fish community. We captured a total of 365 fish with 13 species present. White crappie were the most abundant with 133 fish caught, of which 71% were larger than six inches. Bluegill were next most abundant with 94 individuals captured and none exceeding six inches. Black crappie were the next most abundant species with 78 caught. Pumpkinseed rounded out the top four most abundant species with 30 fish captured, but all were small.



Blue Heron Lagoon is the only lake with connection to the Detroit River. As such, its fish community is much more varied. We captured a total of 364 fish with 20 species present. Bluegills were the most abundant with 133 fish caught and 42 were greater than six inches. Yellow perch were second most abundant with 53 fish captured, 33 of which were greater than seven inches. There were 42 pumpkinseed caught, 37 rock bass, and 17 black crappie.

Inland Lakes

Schoolhouse Lake, Oakland County

Schoolhouse Lake is a 37-acre lake that is part of the Clinton River system. This lake is accessed traveling upstream from nearby Loon Lake. This survey was conducted as part of the statewide status and trends lake survey program. We used large- and small-mesh fyke nets, gill nets, seines, and electrofishing to capture 1,100 fish represented by 24 species. Bluegill were the most abundant with 654 fish caught and a third were greater than six inches. Pumpkinseed were the next most abundant with 92 fish captured of which 71 were larger than six inches. Bluntnose minnows rounded out the top three with 85 fish caught. Both largemouth and smallmouth bass were caught during the survey, as well as a walleye. Of note was the lone cisco we caught showing that this species is still found in Schoolhouse Lake.



Alexa Curtis holding a cisco from Schoolhouse Lake

Graham Lakes, Oakland County

The Graham Lakes are composed of two lakes, East and West Graham, and are located in the Bald Mountain Recreation Area. Together they are 33 acres in size and are part of the Clinton River watershed. There is a DNR boat launch and fishing pier on East Graham Lake that provides boat access to both lakes. There have been attempts to introduce northern pike and rainbow trout to the Graham Lakes in the past with no success. Past surveys indicated good populations of bluegills, black crappie and largemouth bass.

This 2014 survey utilized many gear types to capture 753 fish with 18 species present. Bluegill were the most abundant with 453 fish captured, of which 40% were greater than six inches. Brown bullheads were the second most abundant fish with 84 fish caught and they averaged 9.6 inches long. Pumpkinseed were the next most abundant with 69 fish captured of which 34 were greater than six inches. We also caught 61 largemouth bass, but only three were legal-sized.

Patterson Lake, Livingston County



Dennis Tar holding a walleye

Patterson Lake is a 154 acre lake that is part of the Halfmoon chain of lakes located in the Pinckney Recreation Area. It is part of the Huron River drainage and is accessed from the DNR boat launch on Halfmoon Lake. There is no record of previous surveys. We used multiple gear types including large- and small-mesh fyke nets, trap nets, gill nets, and electrofishing to capture 2,059 fish with 28 species present. Bluegill were the most abundant with 973 fish captured and 422 were greater than six inches. Mimic shiners were next with 758 individuals caught showing good forage in Patterson Lake. Pumpkinseed rounded out the top three with 126 fish captured, with 43 exceeding six inches. Other gamefish in the catch were 38 largemouth bass (three legal-sized) and 3 northern pike (one legal-sized).

Woodburn Lake, Livingston County

Woodburn (Bass) Lake is a 67 acre lake located in the Halfmoon chain which is located in the Pinckney Recreation Area. It is part of the Huron River drainage. The lake is accessed by the boat launch on Halfmoon Lake. We used multiple gear types to capture 498 fish with 18 species present. Bluegill were the most abundant in the catch with 217 fish caught, with 37% exceeding six inches. Pumpkinseed were next with 121 individuals captured and 37 of these were larger than six inches. Brown bullheads were the next most abundant with 33 fish caught with an average length of 10.7 inches. We also captured 31 yellow perch, but only one was over seven inches. Other game fish in the catch were 10 largemouth bass, two northern pike, and three walleye that ranged in size from 21 to 28 inches.

Dennis Tar holding a northern pike



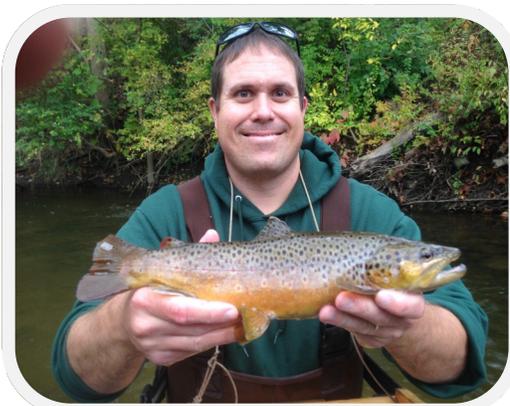
Rivers and Streams

Paint Creek, Oakland County

Paint Creek is a top-quality, coldwater stream in northeast Oakland County that originates at Lake Orion and flows in a southeastern direction until it enters the Clinton River in Rochester.

There has been extensive management of Paint Creek throughout the years. Brown trout have been stocked annually since 1953 to present day except for 1955 and 1971. Paint Creek was treated with rotenone to remove competitors of trout in 1968 and 1984 but results were temporary. The Clinton Valley Chapter of Trout Unlimited completed in-stream restoration projects in 1984 and 2001. A bottom draw structure was installed from Lake Orion in 1991 to mix cold water from the bottom of the lake with warm water flowing over the dam. This has been very successful at reducing the water temperatures of Paint Creek downstream of Lake Orion and makes it possible for Paint Creek to support trout year round. The Paint Creek dam near Gunn Road was removed through a grant received by the Clinton River Watershed Council in 2011 and the stream restoration was complete in 2012. There have been many surveys documenting the successes of trout in Paint Creek including natural reproduction in much of the stream.

The current survey was conducted to obtain a population estimate of trout in Paint Creek. At the writing of this newsletter, the estimate was not complete. What can be reported is that we captured 189 brown trout ranging in size from 2 inches to 19 inches with an average length of 9.6 inches. We also caught 16 rainbow trout ranging in length from 3 to 23 inches with an average length of 6.4 inches. The 23 inch bruiser was caught in the Tienken Road stretch.



Brown trout caught in Paint Creek

Rivers and Streams cont.

River Raisin, Monroe County

The stream reach sampled in this survey was 1000 feet long and located just downstream of Raisinville Road in the City of Monroe, between the two most downstream major dams. This survey was part of the fixed-site portion of the statewide status and trends sampling program looking at the long-term populations of smallmouth bass. This survey targeted only smallmouth bass by electrofishing a single pass up the right and left banks.

In the 2014 survey, we captured a total of 191 smallmouth bass weighing approximately 33 pounds. The fish averaged 4.8 inches in length with a size range of 2 to 17 inches. Most (66%) were less than four inches and presumed to be young of the year. A total of six exceeded the minimum legal size of 14 inches. There were fewer smallmouth bass caught in 2014 compared to the previous survey in 2010, but the same amount of legal-sized bass.



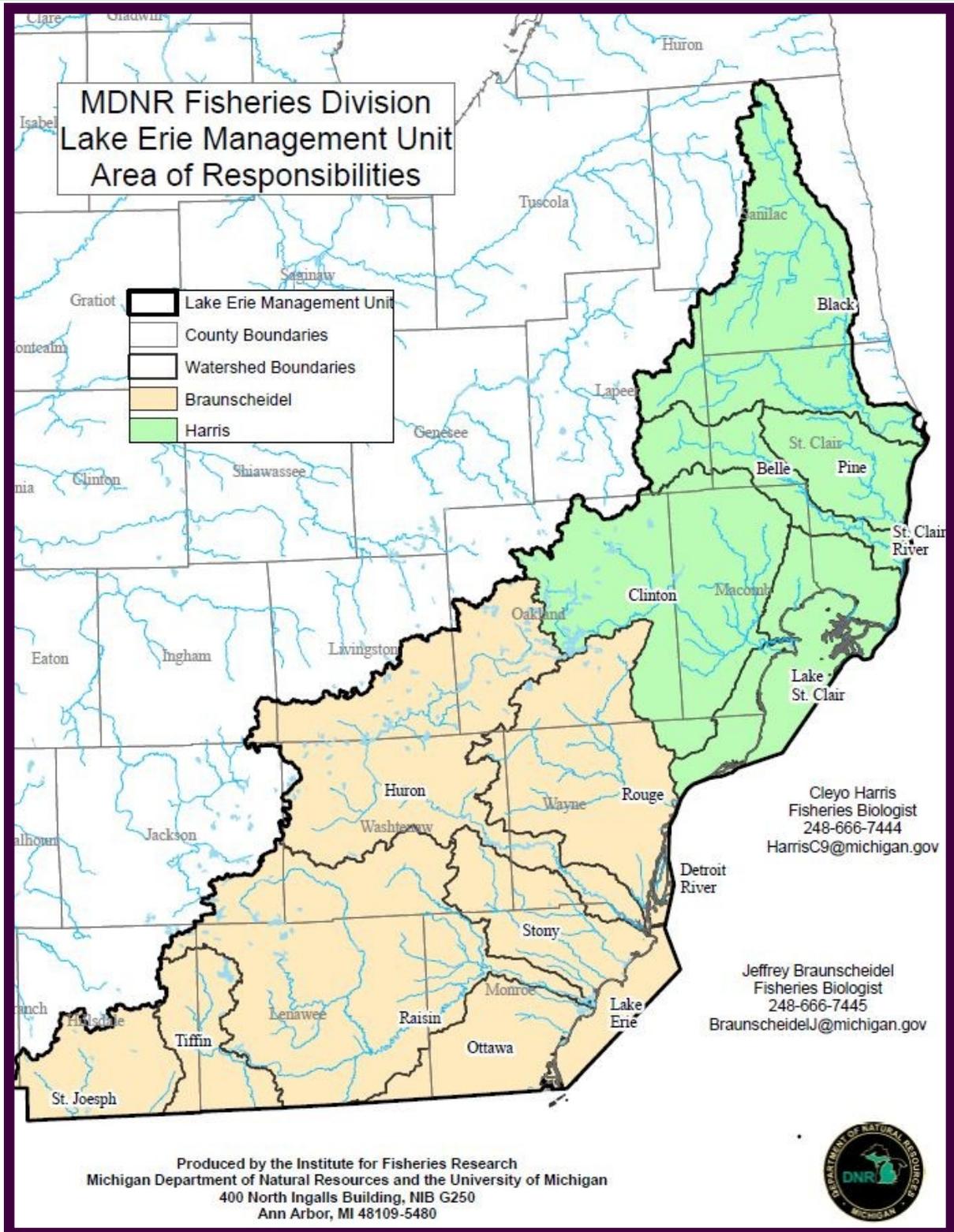
South Ore Creek, Livingston County

South Ore Creek is a small stream originating from Brighton Lake and flowing south through Ore Lake and into the Huron River north of Hamburg. There are no recorded surveys of South Ore Creek. This survey was conducted as part of the statewide status and trends random survey program.

We sampled 900 feet of the stream using electrofishing and captured a total of 452 fish with 28 species present. Bluegill were the most abundant with 151 caught and 28% surpassed six inches. Yellow perch were the second most abundant totaling 108 fish and ranged in length from 3-5 inches. Largemouth bass rounded out the top three in abundance with 45 fish caught, none of which were legal-sized. The catch was dominated primarily by lake species and not typical stream fish species. The stream species in the catch were northern hog suckers, common white suckers, and darter species, but only in very low numbers.



To obtain information on lake or stream surveys from this year or years prior or to ask any questions, please feel free to contact us. Use the map below to select the most appropriate biologist to contact;



Fish Stocking in Lake Erie Management Unit for 2014

Species	County	Water	Number	Avg. Size (inch)	
Rainbow Trout	Lenawee	Allen's Lake	3,800	6.5	
	Lenawee	Deep Lake	2,800	6.5	
	Livingston	Appleton Lake	2,800	6.7	
	Livingston	Spring Mill Pond	150	20.7	
	Livingston	Spring Mill Pond	300	15.9	
	Oakland	Clinton River	650	12.2	
	Oakland	Huron River	1,050	19.1	
	Oakland	Huron river	350	15.9	
	Oakland	Maceday Lake	12,400	6.7	
	Steelhead	Macomb	Clinton River	26,500	7.8
St. Clair		Belle river	7,415	7.7	
St. Clair		Mill Creek	10,116	7.7	
Wayne		Huron River	67,800	7.6	
Brown trout	Hillsdale	St. Joe of Maumee	2,600	6.9	
	Livingston	Spring Mill Pond	100	16.9	
	Livingston	Spring Mill Pond	150	17.7	
	Oakland	Clinton River	600	16.9	
	Oakland	Clinton River	4,200	5.5	
	Oakland	Huron River	167	15.8	
	Oakland	Huron River	333	16.9	
	Oakland	Huron River	680	17.7	
	Oakland	Huron River	680	20.7	
	Oakland	Paint Creek	5,150	5.5	
	St. Clair	St. Clair River	36,000	6.6	
	St. Clair	St. Clair River	15,000	7.6	
	Washtenaw	Mill Creek	1,500	5.9	
	Splake	Oakland	Maceday Lake	10,000	7.6
	Great Lakes Musky	Wayne	Belleville Lake	1,905	8.8
Walleye	Hillsdale	Lake Dianne	28,317	1.9	
	Lenawee	Devil's Lake	30,002	1.9	
	Livingston	Island Lake	7,257	1.9	
	Livingston	Whitmore	51,556	1.9	
	Macomb	Stony Creek Lake	25,840	1	
	Oakland	Big Lake	16,313	1	
	Oakland	Crescent Lake	4,665	1.9	
	Oakland	Kent Lake	25,013	1.9	
	Oakland	Pontiac Lake	30,326	1.9	
	Oakland	Union Lake	70,567	1.9	
	Oakland	White Lake	41,205	1	
Oakland	Lakeville Lake	11,714	3.9		
Livingston	Woodland Lake	5,868	3.9		