



SOUTHEAST MICHIGAN DNR FISHERIES NEWSLETTER

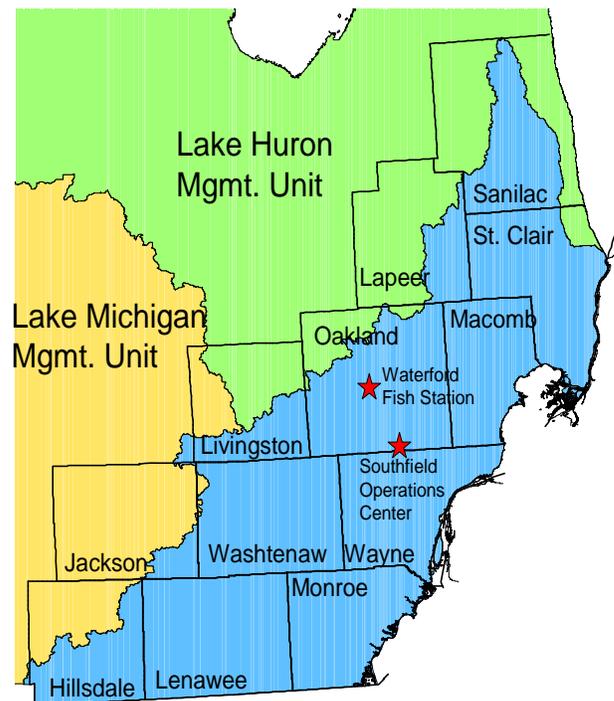
Welcome to the third edition of our annual newsletter covering the major field activities of the Lake Erie Management Unit (LEMU), shown at right. This unit covers all waters that lie within the watersheds which drain into the St. Clair River, Lake St. Clair, Detroit River, and Lake Erie. Fisheries Management personnel in this unit include a basin coordinator in Lansing, two biologists and a unit supervisor located at the Southfield Operations Service Center, and two technicians and a technician supervisor located at the Waterford Fish Station.

This newsletter highlights some of the field activities conducted by our field staff during 2009.

General Activities

Fish Rearing

As in 2007 and 2008, LEMU did not have any fish production in 2009. LEMU usually raises walleye and northern pike for stocking into area inland lakes, but production has been on hold due to concerns regarding the fish disease Viral Hemorrhagic Septicemia (VHS). Walleye eggs are usually obtained from the Tittabawassee River



Map of southeast Michigan, highlighting LEMU (in blue)

in Midland and northern pike eggs from Little Bay de Noc and various inland lakes throughout the state. Care is being taken because fish from these source waters have been found to carry VHS. We are being cautious to prevent the spread of VHS to our hatchery system or to other waters in the state through stocking.

As we learn more about VHS, how to test for the virus, and determine its distribution in the state, we have incrementally increased production at other facilities. For example, this was the first year that muskellunge production was back to normal. Additionally, there were a limited number of walleye produced and stocked in 2009 (approximately 20% of normal statewide production). Eggs were hatched at a quarantined facility and the rearing ponds used throughout the state had to meet very specific safety criteria to limit the possibility of spreading VHS to new waters. Although none of the LEMU ponds were used for production, some of the fish raised at other ponds were stocked in LEMU waters (Table 1). Work continues to determine the extent of the spread of VHS and how to prevent it in our hatchery system. Although there was no fish rearing done by the LEMU in 2009, rearing pond maintenance, including mowing of dykes and removal of trees and shrubs, was still completed to ensure the ponds will be ready when fish production begins again. The ponds are located at the Drayton Plains Nature Center, Camp Dearborn, and the Selfridge Air National Guard Base.

Stocking

Trout stocking (Table 1) has been uninterrupted by VHS because unlike coolwater species where eggs are taken from wild fish, the hatcheries have captive broodstocks of trout which are tested regularly for disease. Steelhead and salmon egg-takes continued from wild sources because salmonid eggs can be disinfected before being brought to the hatchery. It has not yet been verified that this same disinfection process will work for coolwater species like pike and walleye. Research is ongoing to determine if coolwater production can be safely expanded in 2010.

This year marks the first year that walleye were stocked in LEMU since 2006 (Table 1). A total of 181,550 walleye were stocked into five lakes. This year was also the first year since 2006 that Maceday Lake was stocked with lake trout; these fish were obtained from Pendills Creek National Fish Hatchery. Although lake trout stockings have been intermittent in Maceday Lake, they are popular with local anglers.

Fish Aging

From January through March, the fisheries technicians processed the biological data collected from the previous field season. This included determining the age of fish from scale and spine samples collected from fish captured in the LEMU and steelhead and chinook salmon from the Great Lakes creel survey program and weirs. The age of a fish can be determined by magnifying either its scales or a cross section of a fin spine. Both have rings which can be counted similar to how a tree is aged. In 2009, a total of 2,132 scales and spines were processed and aged by the Waterford crew. Field activities began as soon as the ice melted on area lakes.



Blanding's turtle (species of special concern) found during a lake survey.

Cuttle Creek, St. Clair County

In March, fisheries personnel conducted a fish survey on Cuttle Creek in St. Clair County. The creek empties directly into the St. Clair River at Marysville. Two separate sites were surveyed. The first site was immediately upstream from the St. Clair River and a total of 644 fish comprised of 17 species were collected. Emerald shiners (133), creek chubs (120), and striped shiners (35) were the most abundant. The sample also included 28 brown trout which had been stocked two days earlier at sites in Algonac and Port Huron.

Conditions and habitat were dramatically different at the second site, where only a total of 96 fish comprised of 3 species were captured. Although this site was only a short distance upstream, there was an in-line pond between the two sites. The overall catch was poor and consisted of creek chubs (92), brook stickleback (2), and fathead minnows (2), all which are very hardy species. No fish species that are typically associated with the Great Lakes were found because the dam for the pond is a barrier to fish passage.

Marine City Drain, St. Clair County

In early April, we conducted a fish survey on Marine City Drain. This drain empties directly into the St. Clair River and is located between Marine City and Algonac. A total of nine fish were caught, including a 21 inch northern pike. The limited habitat in this drain is not suitable for northern pike year-around, but small drains like this one are often used by pike in the spring for spawning. During the spring we have captured large pike in spawning condition in several small streams which drain directly into the St. Clair River and Lake St. Clair.

Lake Hudson Muskies

Lake Hudson, in southern Lenawee County, is one of two musky broodstock

lakes in Michigan. A broodstock lake is one where adult fish are caught and eggs taken and fertilized for the hatchery program. We spent 6 days in early April at Lake Hudson collecting northern musky eggs for the hatchery program. A total of 124 muskies were captured ranging from 26 to 52 inches. There were 34 new fish tagged bringing the total number of tagged fish in Lake Hudson to 761 since 1991. A fish of note was a 45 inch musky that was caught for the first time this year. This fish was a ten year old male that had managed to avoid the spring netting during the previous nine years. A total of 825,035 eggs from 22 females were collected and sent to Wolf Lake State Fish Hatchery. These eggs were hatched and fingerlings were reared to about ten inches long before being stocked in various lakes in the fall.



A Lake Hudson musky.

Great Lakes Muskies

In early April, fisheries personnel from Waterford, Saline, and Bay City conducted a pilot study and attempted to capture spawning Great Lakes strain muskellunge in Lake St. Clair. This effort was to determine the feasibility of catching muskies from Lake St. Clair as a source for the development of a Great Lakes musky stocking program. This was a one week effort targeting the shoreline in Anchor Bay. Only 8 muskies were captured with none of them in spawning condition. Additional

netting in the open-water area of Anchor Bay was more productive, where the Lake St. Clair Fisheries Research crew caught 38 muskies.



Longnose gar collected during Lake St. Clair musky netting.

Woodland Lake Bass Study

In late September, fisheries personnel from Waterford, Southfield, Lansing and Saline Research Station tagged bass in Woodland Lake as part of a study to evaluate the effects of the expanded catch-and-release fishing regulations on bass populations. Electrofishing was used to capture bass that were measured, weighed, and then released. In addition to the regulation evaluation, this study will also provide information on nest success rates, fish health, affects of fishing pressure, and a population estimate.

A total of 1,381 largemouth bass ranging from 2 to 17 inches were captured, with 4% exceeding the minimum legal size limit of 14 inches. We also caught 18 smallmouth bass ranging from 5 to 15 inches, with 28% exceeding the minimum legal size limit.

Three other lakes were surveyed on the same nights by other crews, as part of a four lake study. This study is being conducted in partnership with Michigan State University. Students from MSU

snorkeled these lakes in the spring to document nesting bass and monitor individual nest success. This was the second year of a 4-year study.

Restocking After Winterkill

During the winter of 2008-2009, Gorman Lake in Pinckney State Recreation Area suffered a complete winterkill. Although this lake experienced a winterkill, Gorman Lake does not have a history of problems with winterkill.

Long Lake in Lapeer State Game Area has an abundance of largemouth bass and bluegills and these were tested for disease earlier in the year. Test results were negative for VHS. During fall, a total of 50 largemouth bass up to 11 inches and 100 bluegills up to 7 inches were taken from Long Lake and stocked into Gorman Lake. Access to Gorman Lake will be limited to allow the fish population to recover.

Chicago Canal – Asian Carp Treatment

The technician crew at Waterford participated in the multi-agency effort to treat the Chicago Canal during the first week in December for Asian carp. The crew assisted in the effort to kill all fish in a 5 mile section of the canal while the electric barrier (to prevent the spread of Asian carp into Lake Michigan) was taken off-line for maintenance.

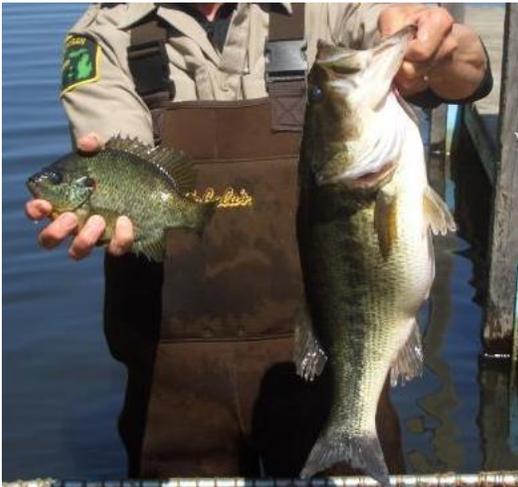


Bighead carp taken during the treatment of the Chicago Canal.

Inland Lake Surveys

Wamplers Lake, Jackson/Lenawee counties

Wamplers Lake straddles Jackson and Lenawee counties, approximately 15 miles southwest of Jackson. The lake is in an area of gently rolling land commonly referred to as the Irish Hills. This 780 acre lake has a maximum depth of 39 feet with extensive shallows of less than 5 feet. The bottom is mainly marl with some areas of pulpy peat, sand, gravel and fibrous peat. The north shore is characterized as having high banks while the south shore is low and marshy. Much of the shoreline has been developed with mainly permanent homes. Public access is available through W.J. Hayes State Park located on the southeast shore. Wamplers Lake is connected via channels to Round Lake to the east and Iron Lake to the south. A small outlet exists on the north shore of Wamplers Lake, which flows into Mud Lake. All of these lakes lie within the River Raisin watershed.



A nice redear sunfish and largemouth bass from Wamplers Lake 2009.

The lake was surveyed in 1928, 1948, 1966, 1978, 1982, 1989, 1994, 1997, 2002 and 2003. Gamefish species

captured during the surveys included largemouth and smallmouth bass, yellow perch, bluegill, pumpkinseeds, black crappie, northern pike, rock bass and bullheads. Rough fish species included carp, bowfin, longnose gar and white suckers. Tiger muskellunge were stocked in Wamplers Lake every other year from 1976 through 1990. Stockings were discontinued because no muskies were ever captured during fish surveys and anglers reported catching very few. The stocking of redear sunfish in 1990 and 1991 added a new species to the lake's sport fishery.

In 1994, a survey was conducted to evaluate the redear stocking. Fifty redear sunfish were caught, averaging an impressive 8.5 inches. Redear growth rates exceeded the state average by 1.3 inches.

Walleye fingerlings were stocked in Wamplers Lake in 1983 and 1985. Stocking was discontinued because poor survival produced a limited fishery. In 1992, 1994, 1995, 1996 and 1997, relatively small numbers (1-2 per acre) of large fall fingerling walleye (averaging 9 inches) were stocked in Wamplers Lake by a local sportsmen's group. Evaluation of the stocking of large walleye was the main objective of the 1997 survey. The catch of 3.6 adult walleye per net was one of the highest in area lakes and indicated that a good fishery had been developed by the local stocking program.

In May 2009, a fish survey was conducted on Wamplers Lake using trap nets and electrofishing. This survey was conducted because of angler complaints that large panfish were becoming very scarce. A total of 954 fish weighing 407 pounds were captured. A total of 32 species were present with bluegill (433), redear sunfish (179), and largemouth bass (39) being the most abundant.

The size of the bluegills caught in the trap nets was good (averaging 6.6 inches), but the number caught was poor - only 41 fish were captured in 8 trap net lifts. A Schneider's index was calculated for the catch. The Schneider's Index provides a relative measure of the size of bluegills. The index was calculated to be 4 based on a scale of 0 to 7, which falls into the average range. Electrofishing revealed a good bluegill catch (364 bluegill), with an average size of 3.1 inches. The abundance of small bluegills indicates good bluegill production in this lake.

Redear sunfish captured (179) averaged 7.3 inches; black crappies numbered 33 and averaged 7.6 inches; and 38 yellow perch were caught, averaging 4.6 inches. A total of 39 largemouth bass were caught, averaging 13.2 inches long, with ½ of the catch exceeding the minimum legal size limit. Fourteen walleyes were caught, averaging 21.9 inches, and all were legal-sized. Northern pike numbered 5 and they averaged 25.9 inches in length.

Blind Lake, Washtenaw County

Blind Lake is a 68 acre lake in the Halfmoon chain-of-lakes in Washtenaw County – which is part of the Huron River system. The lake has very steep sides with little shoal area and reaches a maximum depth of 80 feet. The bottom is marl, which was mined from this lake in the past to make cement. Vegetation is scarce with some rushes and a few lilies.

Blind lake was stocked with rainbow trout in 1979, 1980 and 1983-1985. Blind lake also received splake stockings in 1981 and 1982. A gill net survey was conducted in 1985 to evaluate the success of the stockings and produced poor catches. Of note were the 38 lake herring (or ciscos) that were caught.

In May of 2009, fisheries personnel conducted a survey using a variety of gear including trap nets, fyke nets, gill nets, seines, and electrofishing. A total of 761 fish weighing 125 pounds were captured with 20 species represented. Bluegills (269), brook silversides (169), and mimic shiners (63) were the most abundant species.

The bluegill catch in the trap nets averaged 7.3 inches, with 63% being over 7 inches. There were 33 largemouth bass caught, averaging 11.5 inches with 27% exceeding the minimum legal size limit of 14 inches. Three northern pike were caught and they averaged 29.8 inches. The lake herring appear to be in good shape, with 27 caught ranging in size from 8-16 inches. Rock bass were present in good numbers with 50 individuals caught averaging 6.4 inches.

Big Portage, Washtenaw/Livingston counties

Big Portage Lake is a 644 acre lake located on the border of Livingston and Washtenaw counties, approximately 2.5 miles southeast of Pinckney. The lake is connected to the Huron River system and six small inlets, including Pinckney Creek, Honey Creek, and Little Portage Lake, supply water to Portage Lake. The only outlet is on the south end of the lake and flows only a short distance to the Huron River. A low head dam exists on the Huron River approximately 150 feet downstream of the outlet and maintains the lake level. Big Portage Lake has a maximum depth of 84 feet, although 44% of the lake is considered shoal area. Most of the lake has little vegetative cover. A public access site is maintained on the outlet. Shoreline development is extensive and boating is heavy during peak summer months.

A number of species were stocked in the late 1930's, including bluegill,

largemouth bass, yellow perch, and walleye. The first fisheries survey on Big Portage was done in 1941. Gamefish included largemouth and smallmouth bass, northern pike, walleye, various panfish, and a good number of lake herring. Rainbow trout were stocked from 1942-44, but was discontinued due to poor survival. To address the minimal amount of cover, 200 brush structures were installed in 1949 to enhance fish habitat. Legal sized trout were stocked from 1955-64 (excluding 1957), but switched to fall fingerlings from 1965-70. Tiger muskies were stocked on an alternate year basis from 1980-86, at which point the tiger musky program was discontinued in Michigan. Walleye were stocked intermittently in the 1980's and 1990's. Fisheries surveys in 1967, 1983, and 1995 documented good fish populations and anglers reported good bluegill and largemouth bass fishing.

In May 2009, a fisheries survey was conducted using 3 fyke and 2 trap nets set for 3 nights, 5 seine hauls, 3 electrofishing runs, along with 2 gill nets set for 2 nights.

A total of 1,355 fish weighing 471 pounds were captured. There were 34 species represented, with bluegill (417) logperch (166) and rock bass (125) being the most abundant.

The bluegills looked good, averaging 6.7 inches in the trap net catch. A total of 45 largemouth bass were caught and they averaged 11.7 inches with 11% being legal-sized. Six northern pike were caught, averaging 24.2 inches. The 9 walleyes captured during the survey averaged 18.6 inches long with 6 of them exceeding the minimum legal size limit of 15 inches. Rock bass and pumpkinseeds were also abundant, averaging 6.4 inches and 6.2 inches respectively. Overall, the panfish

populations in Big Portage Lake seem to be doing well.

Baseline Lake, Washtenaw/Livingston counties

As part of our routine monitoring of waters of the state, we found fish that tested positive for VHS in Baseline Lake in 2009. See below for more information.

Baseline Lake is 254 acres in size and straddles the boundary between Washtenaw and Livingston Counties. This is an in-line lake of the Huron River. A dam located on the Huron River a short distance downstream of the lake controls the water level. It is possible to travel by boat downstream of Baseline Lake and into Big Portage Lake. It is also possible to travel upriver from Baseline Lake to access a chain-of-lakes (listed in order) consisting of Whiteford Lake, Gallagher Lake, Strawberry Lake, and ending in Zukey Lake. The only public boat access on the chain is located on Big Portage Lake.



Jeff Braunscheidel with a nice walleye from Baseline Lake.

Big Portage Lake has been stocked with walleyes since the early 1980s and Zukey Lake since the 1990s with the expectation that these stockings would also benefit Baseline Lake. Subsequent surveys confirmed that

stockings in these connected lakes were producing a fishery in Baseline Lake.

The current survey was conducted in May 2009 and included trap nets, fyke nets, gill nets, seines, and electrofishing. A total of 1,168 fish weighing a total 505 pounds were captured. There were 28 species represented, with bluegills (648), rock bass (140), and largemouth bass (90) being the most abundant. The trap net catch of bluegills averaged 6.9 inches and 20% were 8 inches or larger. Largemouth bass averaged 10.5 inches in length with 17% exceeding the minimum legal-size of 14 inches. Northern pike averaged 21.5 inches with 19% being legal-sized (24 inches or longer). There were 10 walleyes caught and all were larger than the minimum legal size of 15 inches. Rock bass, while overlooked by some anglers, were abundant. These fish provide quite a fight and are good eating.

As part of the lake survey, fish samples were collected and tested for Viral Hemorrhagic Septicemia (VHS). Through 2009, VHS surveillance efforts have been conducted on 45 water bodies throughout Michigan. Baseline Lake has the distinction of being the second inland lake in Michigan where VHS has been confirmed. Budd Lake in Clare County was reported positive for VHS in 2007 following a fish kill event. There have been no reported fish kills in Baseline Lake associated with VHS.

The sample that tested positive for the VHS virus from Baseline Lake came from brown bullheads. Other fish species sampled, including bluegills and rock bass tested negative for the virus.

Boaters and anglers are asked to be especially careful to follow the VHS guidelines to prevent the spread of fish diseases and other aquatic nuisance species. Recommendations include cleaning boats before moving between

lakes and do not move water, fish, or bait from lake to lake. Visit the following link for more information.

http://www.michigan.gov/dnr/0,1607,7-153-10364_52259_10950_46202---.00.html

Additional testing will be done in Baseline Lake and connecting waters in 2010.

Cedar Island Lake, Oakland County

Cedar Island Lake is a 180 acre lake located in Oakland County just north of the Village of Commerce. The lake is an impoundment of the Huron River that was originally 140 acres in size, but subsequent digging of canals has increased the size to its current 180 acres. This is a marl-bottom lake characterized by sparsely vegetated shallows with very steep drop-offs from 5 feet down to 72 feet. The numerous man-made canals provide more densely vegetated shallows and probably increase overall lake productivity.

This lake was surveyed in 1985 and again in 1994. In those surveys, bluegills, rock bass and black crappies were the most abundant panfish and all of them had good growth rates. Largemouth bass were the most abundant predator and while plentiful, they were fairly small (average of 10.6 inches). Northern pike, walleye and smallmouth bass were the other predators collected during the 1994 survey (a total of 8 fish). The lake herring catch was good and they averaged 12 inches long.

In May 2009, Cedar Island Lake was sampled using trap nets, fyke nets, seines, gill nets, and electrofishing. A total of 2,035 fish weighing 310 pounds were captured. There were 22 species represented, with mimic shiners (763), bluegills (682), and rock bass (196) being the most abundant.

The bluegill averaged 6.2 inches long with 22% being 7 inches or longer. Rock bass were abundant and averaged 6.3 inches in length. The black crappies, while not as numerous, averaged 7.1 inches in length with 18% being 9 inches or longer. Largemouth bass were represented by 50 individuals averaging 11.3 inches long with 14% exceeding the minimum legal size limit. There were also 18 smallmouth bass caught averaging 10.3 inches. Northern pike were represented by 7 fish averaging 22.8 inches with 2 legal fish captured. There was one walleye caught during this survey measuring 23.5 inches in length. This fish likely came down from Pontiac Lake as they have never been stocked in Cedar Island.

distribution limited to extreme southeast Michigan.



Silverjaw minnows caught from Niles Ditch.

Lake Surveys Planned for 2010

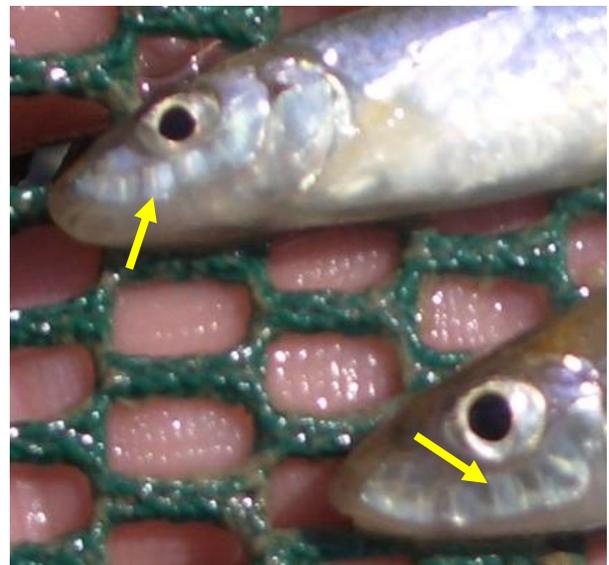
- Deep Lake, Lenawee Co.
- Independence Lake, Washtenaw Co.
- Lakeville Lake, Oakland Co.
- Loon Lake, Oakland Co.
- Wildwood Lake, Washtenaw Co.

Inland Stream Surveys

Niles Ditch, Lenawee County

Niles Ditch originates in south-central Lenawee County and flows northeast into Black Creek, a tributary of the River Raisin. The section surveyed was 8 miles south of the City of Adrian.

This is the first fish survey conducted on Niles Ditch. The fish survey was done using a backpack electrofishing unit and consisted of 500 feet of stream. A total of 1,741 fish were captured weighing 28 pounds. There were 19 species present with bluntnose minnow (607), central stonerollers (274), Johnny darters (207) and creek chubs (205) being the most abundant species. Also of note were the 72 silverjaw minnows caught. These minnows are not overly common in the LEMU waters, with their



Note the distinctive sensory chambers under the eyes of these silverjaw minnows. These are what give this fish its unique name.

Huron River above Flat Rock, Wayne County

In August, a fish survey was conducted on the Huron River above Flat Rock, within Oakwoods Metropark. The site was 1,500 feet long and averaged 107

feet wide and over 5 feet deep. The bottom consisted of fine sand throughout the site. Fish cover present was mostly log jams and downed trees with some pondweed species present.

A total of 439 fish weighing 204 pounds were captured. There were 23 species present with bluegills (181), spotfin shiners (39), common carp (35) and logperch (34) being the most abundant species. Other gamefish captured were 19 largemouth bass ranging from 2-13 inches and 23 smallmouth bass ranging from 2-18 inches. A 12-inch walleye was also caught.

North Branch of the Clinton River, Macomb County

In September, a fish survey was done at two sites on the North Branch of the Clinton River; 33 Mile Road and in Wolcott Mills Metropark. This survey was conducted as part of an evaluation of a dam removal project on the North Branch.

The North Branch of the Clinton River originates in the extreme northwestern corner of Macomb County, approximately 6 miles northwest of Romeo. The stream flows northeasterly into Lapeer County. After flowing through the village of Almont, it flows primarily south and slightly east, until joining the Clinton River mainstream, about ½ mile west of Mt. Clemens.

In 1923, the river and tributaries upstream from 27 Mile Road were designated trout waters and the headwater area contained naturally occurring brook trout. Later, the lower extent of the designated trout waters was moved upstream to 32 Mile Road because the waters downstream could not support trout. Fish planting records go back to at least 1949 when brook trout were planted annually in the headwaters (then called Townsend Creek), until 1965. There are no records

explaining why the stocking program was terminated, but it is likely that poor survival and limited access for anglers played major roles in the decision.

The North Branch above Almont continues to have a self-sustaining brook trout population. The upper portion of the North Branch of the Clinton River was managed as a trout fishery with brown trout stocking taking place in most years from 1971 to 1991. Prior to trout stocking, a total chemical reclamation was done from just upstream of Almont, downstream to 26 Mile Road but the carp kill was incomplete. Trout survival and growth were marginal, so the program was stopped.

No plants were made above Almont in order to preserve the self-sustaining brook trout population. Although the trout stocking program does not continue today, this section remains a designated coldwater stream.

Walleye and steelhead were stocked in the middle area of the North Branch from 1976 to 1989. A number of sites were surveyed in early spring 1977 to 1980 to look for spawning walleye or steelhead, but none were found. The walleye stocking program was stopped because a fishery failed to develop.

A good population of smallmouth bass exists in the middle section of the North Branch. Adult bass can be caught during spring, but these are presumably bass that migrate from Lake St. Clair. Smallmouth bass can be found in good numbers throughout the remainder of the year, but legal-sized bass are typically found only during spring.

A number of fisheries surveys have been done over the years, including general surveys, stocking evaluations (trout, walleye, and steelhead), population estimates, and creel surveys.

The area upstream of Almont continues to support a self-sustaining brook trout population. Water quality decreases and temperatures increase as the river travels south of Almont. Downstream from 31 Mile Road the fishery consists of coolwater species including smallmouth bass, rock bass, walleye, and northern pike.

The first site surveyed in 2009 was in the Wolcott Mill Metropark. An 800-foot section was surveyed using a stream electrofishing unit. The bottom was composed of significant amounts of gravel and cobble with little sand.

A total of 1,427 fish weighing 51 pounds were captured. There were 20 species present with rainbow darter (380), creek chub (174), central stoneroller (158) and river chub (139) being the most abundant. Gamefish species caught at this site included 1 largemouth bass (3 inches), 1 northern pike (8 inches), 5 pumpkinseed sunfish (2 inches), 7 smallmouth bass (5 to 9 inches), and 31 rock bass (2 to 8 inches).

The second site surveyed was at 33 Mile Road. This section too was surveyed with a stream electrofishing unit. The section was 800 feet long and the habitat was mostly large cobble and boulders with overhanging brush. The gradient here is quite steep and several riffles were present.

A total of 2,809 fish weighing 71 pounds were captured. There were 20 species present with rainbow darter (896), central stoneroller (338) common shiner (308) and creek chub (307) being the most abundant species. Gamefish species caught at this site included 85 rock bass from 3 to 8 inches, 34 largemouth bass from 1 to 3 inches, 26 bluegills from 1 to 6 inches, 4 smallmouth bass from 1 to 9 inches and 3 northern pike from 8 to 10 inches.



Fisheries and Law staff display a lake sturgeon caught in the North Channel of the St. Clair River.

River Raisin, Monroe County

In September, a fish survey was completed on the River Raisin, just downstream of Raisinville Road. This survey was part of an evaluation looking at the long term population of smallmouth bass.

This survey site was located between the two most downstream major dams; about four miles downstream of the Murciak Dam (located just upstream of Ida-Maybee Road) and two miles upstream of the Waterloo Dam. The river here has an average width of 237 feet with depths ranging from 6 inches to 3 feet and an average of 9.5 inches. There are several small islands scattered through the upper half of the site with the river channel braided through them. One larger island of about 200 feet in length is also located in the upper end of the site. Fish habitat is limited to some logs along the shoreline and the edge of the larger island. Additional habitat included the grassy edges of the islets and some larger rocks scattered throughout the reach.

The stream reach sampled in this survey was 1,000 feet long and was sampled using a stream electrofishing unit. In the first 500 feet, all fish species were captured and in the second 500

feet, only smallmouth bass were captured. The water was high and very turbid from storms which hampered the electrofishing efficiency (poor visibility).

A total of 1,477 fish were captured weighing 140 pounds. There were 23 species present with greenside darters (337), smallmouth bass (285), and spotfin shiners (187) being the most abundant. This was a good catch of smallmouth bass, with lengths ranging in size from 3 to 17 inches. Sixteen bass exceeded the minimum legal size limit of 14 inches. Several year classes were present, including 57 young of the year.

This most recent survey found an increase in the number of young-of-year smallmouth bass. This production of young fish demonstrates that the river provides good spawning habitat for this species. However, the dams on the River Raisin are a barrier to smallmouth bass to migrate seasonally from Lake Erie during spawning. Removal of these barriers would likely improve production of bass and other species.

Huron River below Kent Lake, Livingston County

In September, a fish survey was completed on the Huron River below Kent Lake, within the Island Lake Recreation Area. The site was 1,200 feet long and the bottom substrate was a mix of sand and gravel. Fish cover consisted of numerous log jams with interspersed aquatic vegetation.

A total of 1,039 fish weighing 295 pounds were captured. There were 31 species present with rock bass (413), greenside darter (99) and northern hog sucker (58) being the most abundant. Gamefish species caught included 413 rock bass ranging from 2 to 9 inches, 48 bluegills ranging from 2 to 7 inches, 15 smallmouth bass ranging from 6 to 17 inches, and 8 northern pike ranging from

6 to 12 inches. There were also 2 largemouth bass ranging from 2 to 6 inches caught.

There were a couple of interesting species captured during the survey, including black redhorse and brindled madtom. Both of these fish are rare catches in southeast Michigan streams.

Middle Rouge above Newburgh Lake, Wayne County

A fish survey was done on the Middle Rouge in September between Newburgh and Wilcox lakes. This site was surveyed with a stream electrofishing unit, measured 1,200 feet long, and averaged 1.5 feet deep.

The site had surprisingly good habitat consisting of boulders and scattered logs. The substrate consisted of cobble and gravel throughout the entire site. There was also good gradient in this stretch which made several riffle/pool sequences.

A total of 789 fish weighing 123 pounds were captured. There were 19 species present with common white sucker (123), creek chub (101), bluegill (83) and rainbow darters (80) being the most abundant. Gamefish species captured included the 83 bluegills ranging from 4 to 6 inches, 61 pumpkinseed sunfish ranging from 4 to 6 inches, 43 largemouth bass ranging from 2 to 13 inches and 4 smallmouth bass ranging from 10 to 13 inches.

Interestingly, there were 19 mottled sculpins captured and no carp. The presence of the sculpins is an indicator of good water quality. Another positive indication of good water quality was the presence of 6 native mussel species that were observed during the survey.

Stream Surveys Planned for 2010

- Chicken Creek, Washtenaw Co.
- Gallagher Creek, Oakland Co.
- Mill Creek, Washtenaw Co.
- Paint Creek, Oakland Co.
- River Raisin, Monroe Co.
- Saline River, Monroe Co.
- Stony Creek, Monroe Co.
- Swan Creek, Monroe Co.

How'd They Do That?

*****WARNING-In this section we discuss electrofishing. DO NOT TRY THIS AT HOME! Any time you mix water and electricity, results can be life threatening. We use specialized equipment, have special training, and follow a rigid safety protocol when electrofishing. Extreme caution must always be exercised. It is illegal to take fish with electrofishing unless permitted through a Scientific Collectors Permit.*****

We use a variety of sampling gear during a fish survey. Factors like the size and depth of the sampling site, target species, location in the water column, and size of the fish are all used to determine the appropriate sampling equipment.



One of the most efficient gear types to use is the electrofisher. There are three types of electrofishing equipment that we use here in LEMU. The concept of

electrofishing is the same, but their use is based on the size of the stream, river or lake that is being surveyed.

The first type is the backpack electrofishing unit. This battery powered unit is used for small streams that are wadable and narrow enough for one person to cover the width of the stream.

The next type is the stream electrofishing unit. This unit is for wadable streams of all widths. One to three electrofishing probes can be connected to this unit, depending on the width of the stream. It is powered by a generator that is mounted in a pull-along boat.



The third type is the boat electrofisher. This type of electrofisher is used for lakes and large rivers that are too deep to wade. This equipment is powered by a generator mounted in a standard work boat.



While there are several forms of electrofishing, the basic principle of how it works is the same. During electrofishing, a probe is used as an anode and either the boat or a trailing wire is used as the cathode to complete an electrical circuit. Each unit has a control box that the electricity is fed through which allows regulation of the voltage and shape of the electrical wave. When fish encounter the electrical field, they are “shocked” or stunned. This temporarily immobilizes the fish and allows it to be netted and transferred to a holding tank. The biological information (length, weight, etc.) can then be collected from the fish, which typically recover within 5 minutes of being shocked. After the information is collected, the fish are then released unharmed.

The non-lethal nature of electrofishing is one of its advantages. This contrasts with gill netting for example, which generally results in the death of the fish being collected. Therefore, electrofishing allows biologists to collect data from a large number of fish without negatively affecting populations.

Electrofishing is affected by many variables, but one of the most important is the conductivity of the water. This affects how much and how fast (power transfer) the electricity can be transferred to the water and into the fish.

Fish size, shape, and habit also affect efficiency. For example, large, broad fish are more susceptible than long and skinny fish. Also, fish may be in different habitats, i.e. open water vs. shallow water.

When electricity is applied to the water, the entire water column or stretch of stream is not electrified. In a stream, the effective field is approximately 30 feet in front of the boat. In a lake, the effective field is about 10 feet around the boat and about 10 feet deep. Electrofishing is primarily a shallow water (less than 10 feet deep) technique for fish collection.

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For more information about LEMU programs and activities, and for copies of fish surveys on area lakes, contact us at:

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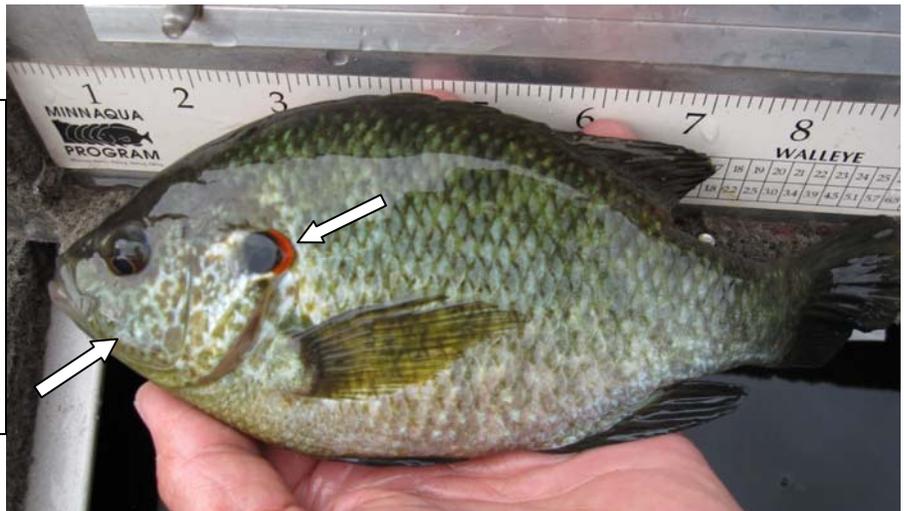
In the 1990s, several lakes in southeastern Michigan were stocked with redear sunfish (also called shellcrackers because they primarily eat snails). The redear is not a “hybrid”, but rather is a unique panfish species which is not native to Michigan. They are native to the southeastern US, but have been stocked further and further north over the past century. Redear grow faster and larger than native panfish species, and can reach lengths of 9-10 inches in about 5 years and even 11 or 12 inches in about 7 years. Anglers often confuse redears with native species like bluegills and pumpkinseeds. The following photos compare these species and point out some of the differences.

Do you know the difference?



Bluegill – note: blue color on lower gill plate and black spot on rear of soft dorsal fin. No red spot on the gill flap.

Redear sunfish – Note: complete crescent of red on margin of gill flap, broken pattern (fish net) 'cheek', overall olive green color without heavy bars or spots, fins without heavy spotting



Pumpkinseed sunfish – note: lines of green in the gill plate, a spot of red near the bottom of the gill flap, fins with spots and bright yellow belly.

Summary of fish stocking in LEMU, 2009.

Species	County	Lake	Number	Avg.size (inch)
Rainbow trout	Hillsdale	Bear Lake	9,800	6.5
	Hillsdale	Bird Lake	9,800	6.5
	Lenawee	Allen Lake	3,900	6.5
	Lenawee	Deep Lake	2,900	6.5
	Livingston	Appleton Lake	2,900	6.9
	Livingston	Spring Mill Pond	200	25.4
	Livingston	Spring Mill Pond	200	19.8
	Livingston	Spring Mill Pond	200	12.8
	Livingston	Trout Lake	2,000	6.9
	Oakland	Huron River	1,140	25.4
	Oakland	Huron River	335	19.8
	Oakland	Huron River	771	12.8
	Oakland	Maceday Lake	12,000	7.2
Brown trout	Hillsdale	St. Joe Maumee	2,570	7.4
	Livingston	Spring Mill Pond	80	25.4
	Oakland	Clinton River	5,400	4.6
	Oakland	Huron River	200	25.4
	Oakland	Paint Creek	6,300	4.6
	St. Clair	Black River	64,000	5.8
	St. Clair	St. Clair River	58,900	5.4
	Wayne	Johnson Creek	4,230	4.6
Splake	Oakland	Maceday Lake	15,000	6.8
Lake Trout	Oakland	Maceday Lake	100	17.9
	Oakland	Maceday Lake	600	15.0
	Oakland	Maceday Lake	300	4.5
Steelhead	Macomb	Clinton River	29,352	7.4
	Macomb	Clinton River	200,813	2.5
	Macomb	N. Br. Clinton R.	99,736	2.6
	St. Clair	Belle River	19,502	7.7
	St. Clair	Belle River	100,540	2.6
	St. Clair	Mill Creek	10,354	7.7
	Wayne	Huron River	70,376	7.7
Walleye	Livingston	Island Lake	7,000	1.3
	Livingston	Whitmore Lake	54,144	1.3
	Oakland	Crescent Lake	7,720	1.3
	Oakland	White Lake	42,807	1.3
	Wayne	Belleville Lake	69,879	1.3
Channel catfish	Lenawee	Globe and Standish Mill Ponds	1,536	8.1
	Lenawee	River Raisin	17,334	8.0
	Livingston	Huron River	1,288	7.9
	St. Clair	Black River	10,099	8.3
	Wayne	Newburg Lake	1,454	7.9
Muskellunge	Hillsdale	Lake Dianne	553	10.9