



SOUTHEAST MICHIGAN DNR FISHERIES NEWSLETTER

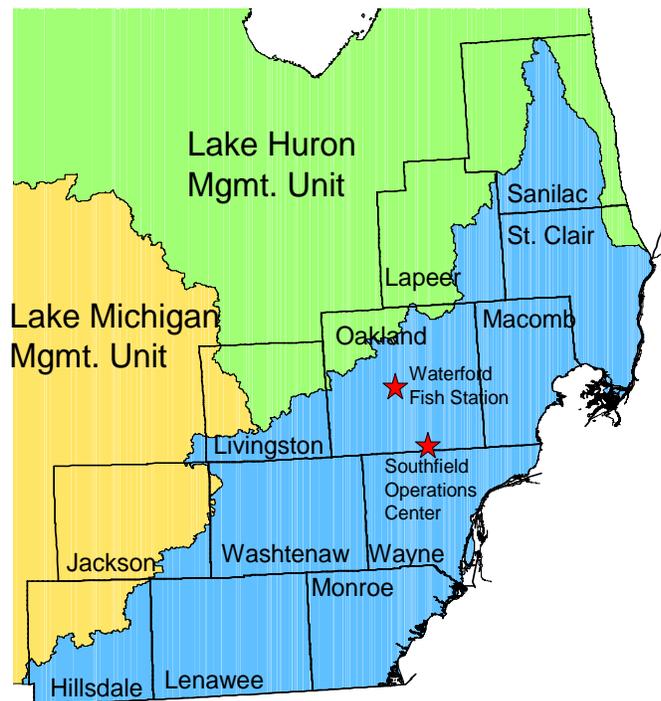
Hello anglers! This is our annual newsletter covering major field activities of the Lake Erie Management Unit (LEMU), shown at right. This unit covers all waters that lie within the watersheds which drain into the St. Clair River, Lake St. Clair, Detroit River, and Lake Erie. Fisheries Management personnel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

This newsletter highlights some of the field activities conducted by our field staff during 2008.

General Activities

Fish Rearing

This was the second straight year that LEMU did not conduct any fish rearing. This was a safety precaution to minimize the potential risk of infecting our hatcheries



Map of southeast Michigan, highlighting LEMU (in blue)

with viral hemorrhagic septicemia (VHS) or the possibility of stocking infected fish and spreading the disease. LEMU usually raises walleye and northern pike for stocking into area inland lakes. Walleye eggs are obtained from the Tittabawassee River in Midland and northern pike eggs from Little Bay de Noc and various inland lakes

throughout the state. There were a limited number of walleye that were produced and stocked last year (approximately 20% of normal statewide production) that met very specific safety criteria to limit the possibility of VHS infection. None of these were stocked in LEMU. Work is being done to determine the extent of the spread of VHS and how to prevent it in our hatchery system. Even though there was no fish rearing done by the LEMU in 2008, 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

Lake Hudson (Lenawee County) was the only lake stocked with coolwater fish species in 2008 (muskellunge). Although there was very limited stocking of coolwater species during 2008 in the LEMU, trout stocking went on as planned due to the availability of fish in the hatchery system (see page 16). Trout were available, 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 the 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. However, after evaluating the risks

and benefits of coolwater production, the decision was made to begin limited production in 2008 at quarantined facilities. Research is ongoing to determine if coolwater production can be safely expanded in 2009.

Fish Aging

Every year from January through March, the fisheries technicians process the biological data collected from the previous field season. This includes determining the age of fish from scales and fin spines sampled from fish collected in the LEMU, and steelhead and Chinook salmon from the Great Lakes creel survey program. The age of a fish can be determined by magnifying either its scales or a cross section of a fin spine (see "How'd they do that?" – page 14). Both have rings which can be counted similar to a tree trunk. In 2008, scales and spines from 1,962 fish were processed and aged by the Waterford crew.

Special Activities

VHS Monitoring

The fish virus, VHS, was first discovered in Michigan in 2002. It has now been found in all of the Great Lakes except for Lake Superior. To date, Bud Lake in Clare County is the only inland lake in Michigan where VHS has been confirmed. As part of the monitoring program to assess the spread of this virus, 5 inland lakes in LEMU were selected for sampling. Because VHS is most active at cold water temperatures, the fish samples were collected from under the ice in February. The lakes included were

Kent Lake-Oakland County, Woodland Lake-Livingston County, Big Lake-Oakland County, Crescent Lake-Oakland County and Long Lake-Oakland County. The target fish species were bluegill, black crappie, yellow perch and pumpkinseed. A total of 60 fish of each species were to be collected from under the ice and sent the MSU lab for testing. All of the samples came back negative for the VHS virus.

Huron River Walleye Survey

The egg source for walleyes for LEMU is the Tittabawassee River which is VHS positive. In April, we investigated local inland walleye populations to evaluate the possibility of developing an alternate egg source. Ford Lake is the only naturally reproducing inland walleye population in LEMU and seems to be quite healthy. There is a large walleye population in Belleville Lake maintained primarily by stocking.

In early April we electrofished the Huron River above Ford Lake. A total of 59 walleyes were captured in 30 minutes of shocking. Many more were observed but missed by the netters due to the swift current. The fish ranged in size from 13 inches up to 24 inches. The Huron was also electrofished above Belleville Lake. A total of 99 fish were captured in 30 minutes of shocking. They ranged in size from 13 to 25 inches. The results of this preliminary survey indicate good numbers of adult walleye at both locations. There are no immediate plans to take walleye eggs from either location, but this survey indicated it may be feasible.

Cass Lake, Oakland County

Cass Lake is a 1,280 acre natural lake located in central Oakland County, a few miles southwest of Pontiac. It is the largest and deepest lake in Oakland County. The lake has four major basins up to 121 feet deep. Despite the great depths, almost 40% of the lake is less than 10 feet deep, with much of this shallow area only sparsely vegetated. The Clinton River enters the lake from the northwest and exits out the northeast into Sylvan Lake. Almost the entire shoreline is developed into residential homes except for that portion occupied by the Dodge No. 4 State Park.



Dennis Tar holding a Cass Lake walleye.

Over the years this lake has been stocked with a variety of fish including kokanee salmon, lake trout, rainbow trout, splake, walleye, and more recently, redear sunfish. Walleye are currently stocked on a biannual basis (since 1983).



A large mudpuppy caught during the Cass Lake survey. Mudpuppies are a good indicator species of clean water.

Cass Lake was sampled using trap nets over a two week period in early April in order to generate a walleye and northern pike population estimate. A total of 122 walleye were captured with an average length of 20.1 inches. A whopping 94% (115) were 15 inches or larger with the biggest fish measuring 28 inches. A total of 338 northern pike were captured, averaging 21.3 inches in length. Fifty of these (15%) were 24 inches or larger, with the longest measuring 35 inches.

Other species of note included 73 smallmouth bass (average 14.7 inches) and 63 largemouth bass, up to 19 inches long.

Cass Lake was last stocked with walleye in 2005, so no walleye smaller than 15 inches would be expected in the catch. Seven walleye less than 15 inches were caught, with the smallest measuring just 9 inches. These results indicate that natural reproduction is occurring in Cass Lake. The lack of recent stockings provided a good opportunity to determine the level of natural reproduction taking place. In late October, we conducted an electrofishing survey of the nearshore waters of Cass Lake

targeting young-of-year walleye. The crew captured 2 young-of-year walleyes in 12 stations, which is equivalent of 3 miles of shoreline. Indicating that natural reproduction is occurring, but at levels below what is needed to support the fishery.

Lake Hudson - Northern Muskies

Lake Hudson, in southern Lenawee County, is one of two muskie broodstock lakes in Michigan. Eggs were not taken in 2007 due to concerns with VHS, but production was re-initiated in 2008. A total of 137 muskies were netted ranging in length from 26 to 46 inches. Of these fish, 73 were first-time captures from the last stocking effort in 2006. A total of 806,300 eggs from 18 females were taken and sent to Wolf Lake State Fish Hatchery. In early October, fisheries personnel from Waterford stocked 1,500 of these northern muskies (averaging about 10 inches) back into Lake Hudson. These were all marked with a left ventral fin clip so in the future we will know that they came from the 2008 year-class.



Matt Hughes with a Lake Hudson crappie. Over the past few years during the musky netting, we typically net a few large crappies (14-18 inches) like this one.

North Maumee Bay, Monroe County

In mid-June, a fisheries survey was conducted on North Maumee Bay of Lake Erie. A combination of seines, fyke nets and trap nets were fished over a three day period. We caught 6,409 fish represented by 37 species and weighing 543.7 pounds. Yellow perch were the most abundant gamefish with 42 individuals captured and half of those were young-of-year fish. The most abundant fish captured was gizzard shad with 2,800 fish. Spottail shiners (1,423), logperch (548) and emerald shiners (325) were the next most abundant fish in the catch.

Detroit River survey

In late July, an extensive fisheries survey was conducted in the lower Detroit River. This project was done cooperatively with the United States Fish and Wildlife Service, United States Geological Survey, Ontario Ministry of Natural Resources, and the University of Windsor. This was part of a larger effort to sample the nearshore fish communities from the St. Clair River to Lake Erie that began in 2004. An added goal was to provide background data on fish production, prior to the construction of a new spawning reef near Fighting Island.

This survey was a very large effort consisting of 23 paired electrofishing sites, 21 small mesh fyke net lifts and 15 seine hauls. A total of 8,382 fish represented by 51 species were captured. Minnow species were abundant, with mimic shiners, spottail shiners, sand shiners and emerald shiners making up 54% of the total catch by number. The most

abundant gamefish species were bluegill (644), yellow perch (215), largemouth bass (208) and smallmouth bass (160).

The results of this survey are consistent with those from the other nearshore areas. These areas have high species diversity and provide important habitat for forage species and juvenile gamefish.

Mill Creek, Washtenaw County

After several years of discussions and planning, the dam on Mill Creek in Dexter was removed this past summer. The dam removal was in conjunction with an MDOT project



Dexter Mill Dam on Mill Creek.

replacing the failing bridge over the stream. Mill Creek is the largest tributary to the Huron River. Fish movement to the upper section of Mill Creek has been cut off from the



Mill Creek after the dam removal.

Huron River since Henry Ford built the dam back in 1932. Fish sampling was conducted this past summer upstream of the dam prior to removal. Future fish sampling will be done at this site to evaluate changes in the fish community after the dam has been removed. Removing this dam will allow fish to move upstream from the Huron River and anglers should start seeing smallmouth bass, northern pike, and other fish species moving up into Mill Creek.

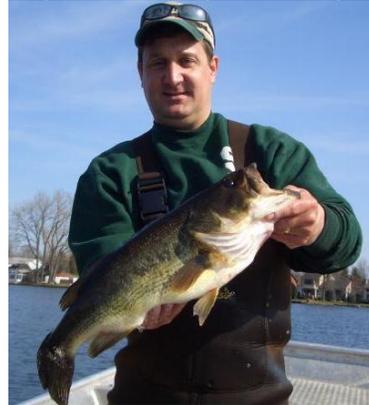
Woodland Lake Bass Study

In mid-October, fisheries personnel from Waterford, Southfield and Saline Research Station tagged bass in Woodland Lake as part of a study to evaluate the effects of the recently expanded catch-and-release regulations on bass populations. Passive integrated transponder (PIT) tags were used to mark the fish. PIT tags are about the size of a grain of rice and are inserted under the skin with a syringe. These tags can be read with a hand-held reader passed over the fish and each tag has a unique 12 digit number that can be used to track individual fish over time. This data will be used to estimate fishing pressure and generate a population estimate.

A total of 1,307 largemouth bass ranging from 2 to 18 inches and 27 smallmouth bass ranging from 5 to 15 inches were captured, measured, weighed and released in Woodland Lake. A total of 650 bass were tagged. The target size for tagging a fish was nine inches or larger.

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 MSU. Students from MSU snorkeled these lakes this past spring to document bass nest locations and nest success. This is the first year of a 4-year study.



Jim Francis displaying a nice Woodland Lake largemouth bass.

Sturgeon Angler Survey

The largest population of lake sturgeon in Michigan exists in the St. Clair River and Lake St. Clair. Sturgeon anglers are required to register and pick-up a sturgeon harvest tag in order to fish for sturgeon. This provided the opportunity to evaluate the fishery by surveying anglers who were specifically interested in sturgeon fishing with a questionnaire sent by mail. Anglers from the 2006 and 2007 fishery were asked to respond to the survey based on their fishing trips during those two years.

A total of 458 anglers were mailed the survey and there was a response rate of 67%. Anglers who responded reported 979 sturgeon trips in 2007, with reported catches of 683 sturgeon in 2006 and 573 in 2007.

The sturgeon caught in 2007 ranged in size from 12 inches up to 88 inches, with 22% falling within the 42-50 inch keeper size limit. Only 4 sturgeon were harvested in 2007, or roughly 3% of the legal-sized sturgeon caught in 2007.



Jim Francis with his lake sturgeon catch from the St. Clair River.

This is a relatively small, but unique fishery. The fishing season on the St. Clair River and Lake St. Clair ran from July 16 until September 30. Beginning last season, the fishery was extended with an October 1 until November 30 catch-and-release season.

Inland Lake Fish Surveys

Geddes Pond, Washtenaw County

Geddes Pond is a 261 acre impoundment of the Huron River located on the west side of Ann Arbor. The Geddes Dam was constructed in 1884 and was the first hydropower facility constructed on the Huron River. The dam is owned by the Detroit Edison Power Company who once used the dam for power generation, but this hydroelectric facility is now retired.

Most anglers gain access to Geddes Pond from Gallup Park which is located on the south side of Geddes Road. Geddes Pond was first surveyed in 1939. At that time, largemouth bass, mud (grass) pickerel, northern pike, walleye, panfish and forage fish were reported as present in the lake.

A fishery survey conducted in May of 1972 resulted in a catch of fish that was dominated by carp and suckers. As part of a very large fish removal project which treated the Huron River and all of its impoundments from Barton Pond to below Belleville Lake, Geddes Pond was drawn down to the stream thread and treated with rotenone to eliminate all fish species in October of 1972. The treatment was reported as successful and after dam repairs had been made, the impoundment was refilled. During the period between 1973 and 1976, Geddes Pond was stocked with largemouth bass, hybrid sunfish, tiger muskellunge, rainbow trout, walleye, smallmouth bass, largemouth bass, channel catfish and northern pike. A survey conducted in August of 1973 found that carp had quickly recolonized the lake, finding over 1,500 carp ranging in size between 6 and 11 inches.

Geddes Pond was stocked with tiger muskellunge from 1979 through 1983 and in 1985. Largemouth bass were stocked in 1984, and channel catfish were stocked intermittently from 1987 to 2004. Channel catfish were used to increase the size of the panfish and to create an opportunity for shore anglers to catch a large fish.

In May 2008, a survey was conducted using trap nets, gill nets, and seines. A total of 1,091 fish comprised of 17 species were captured. The most predominant fish captured was bluegill, accounting for 49% of the total catch. The average size was 6 inches and 53% were six inches or larger. Only 14 largemouth bass were caught with an average length of 12 inches, but four exceeded the minimum size limit of 14 inches. The channel cats seem to be doing very well. A total of 153 catfish were captured with an average length of 22.5 inches. Of interest to anglers too was that four walleyes were caught averaging 19.5 inches long. Six northern pike were in the catch, averaging 27.3 inches and five exceeded the minimum size limit of 24 inches.

Bruin Lake, Washtenaw County

Bruin Lake is a 136 acre lake in the Halfmoon chain of lakes located in the Pinckney State Recreation Area in Washtenaw County. Much of the shoreline is state-owned, encompassed in the Pinckney State Recreation Area. A state-owned and maintained boat launch is located in the campground on the lake's west side. Bruin Lake is part of the Portage River system that connects several lakes.

Much of the eastern half of Bruin Lake is less than 5 feet deep; however, the western basin drops off abruptly to a maximum depth of 48 feet. Bruin Lake was stocked with bluegills, largemouth bass and yellow perch intermittently between the late 1930's and the mid-1940's.

This practice was discontinued after research showed that stocking these species added little to the overall fish population. Rainbow trout were stocked in 1955, 1956, 1958 and 1959. Local conservation officers reported good results from the initial plants, however the trout stocking program was discontinued because of subsequent poor catches by anglers. More recently, redear sunfish have been stocked in Bruin Lake in 1990, 1991 and 1993.



A pumpkinseed displaying spawning colors from the Bruin Lake survey.

In mid-June of 1994, a fisheries survey was conducted on Bruin Lake to evaluate the redear sunfish stockings. Sixteen redears averaging 6.4 inches were captured in trap nets. These fish exhibited growth rates that were somewhat below average. There was an impressive catch of 364 bluegills that averaged nearly 7 inches and had above average growth.

Bruin Lake was surveyed again in early June of 1998. Only 6 redears were caught in 4 trap nets that were fished for 2 nights. These fish averaged 9.2 inches but growth trends were below average. Pumpkinseed sunfish are close relatives of redears. Only 14 pumpkinseeds were observed in the

survey and they were small in size and exhibited below average growth rates.



A good sized redear sunfish from Bruin Lake.

In May 2008, a variety of gear including trap nets, fyke nets, gill nets, seines, and electrofishing, were used to sample the fish on Bruin Lake. A total of 1,965 fish comprised of 28 species were captured. The most abundant gamefish were bluegills, with 1,108 fish captured. They averaged 5.6 inches for all gear types, but the trap net catch was dominated by 7 inchers! There were 41 largemouth bass caught with an average length of 9.8 inches and only 5 exceeding the minimum size limit of 14 inches. Rock bass were next with 212 fish captured averaging a healthy 7 inches. Although not very popular with anglers, they are good eating and plentiful in this lake. We did catch 20 redears averaging 7.8 inches. An interesting catch is that of 2 ciscoes (lake herring). This is a deepwater fish that is not common in LEMU. We also captured 10 northern pike averaging 20.5 inches with 3 fish being legal size of 24 inches or longer. A total of 33 black crappies were captured averaging 8.8 inches.

During the summer of 2008 a fishing pier was built on Bruin Lake near the campground. This will provide additional fishing opportunities for shore anglers.

South Lake, Washtenaw County

South Lake is approximately 200 acres in size and is located in the Pinckney State Recreation Area in northwest Washtenaw County. Access to South Lake is available at the public fishing site located on the northern shore and at a private campground and boat livery on the south end of the lake.

South Lake has an interesting stocking history. Rainbow trout were planted intermittently from the 1950s until 1980s. The program was discontinued in 1985 due to poor survival. In 1971, 1972 and 1973, Chinook salmon were introduced into South Lake at the rate of 20,000 fingerlings each year. However, subsequent surveys produced no salmon and the program was discontinued.

Historically, South Lake has had the reputation of having a very good panfish fishery. Fish surveys in 1972, 1973, and 1987 confirmed good numbers of large panfish. South Lake's healthy pumpkinseed sunfish population, coupled with the abundant marl substrate, made South Lake a prime candidate for stocking redear sunfish. Redear sunfish fall fingerlings were stocked in South Lake in 1995, 1996 and in 1997. A follow up survey in 1998 caught over one hundred redears and they averaged nearly 8 inches.

Cisco (a whitefish which is also a member of the trout family) have been a part of the South Lake fishery for as long as records have been kept. Although not an important gamefish in this area, this species still persists at low population levels in a few clear-water lakes in southern Michigan. During a trout survey in 1985, one hundred and eleven ciscoes were caught in gill nets and they averaged just over 11 inches long. Ten were caught during the 1987 survey and they averaged 11.6 inches and six were caught in 1998 ranging in size from 13-14 inches. Ciscoes are sometimes caught on hook-and-line; however, most of these fish are incidental to catches of bluegill and perch in the winter.

A netting survey in 2008 caught 1,282 fish comprised of 23 species were captured. The most dominant fish by numbers were bluegills with 622 individuals captured. The trap net catch averaged 6.5 inches and over 1/3 were greater than 7 inches. The next most abundant gamefish was redear sunfish with 203 fish captured. They averaged 6.7 inches and 67% were 6 inches or longer. Largemouth bass ranked third with a healthy 101 individuals caught. They averaged 9.7 inches with 14% exceeding the minimum size limit. Ten northern pike were caught, averaging 23.9 inches with 40% larger than the 24 inch minimum size limit. There were also 95 brown bullheads captured. Not thought of highly by anglers, they are good eating and plentiful in this lake. No ciscoes were caught in the current survey.

Sylvan/Otter Lakes, Oakland County
 Otter and Sylvan Lakes are impoundments of the Clinton River just downstream of Cass Lake. Together they total 530 acres in size. The water control structure is a rather large dam at the downstream end of the next small impoundment in line. Sylvan and Otter Lakes are two separate bodies of water connected by a wide marsh. The city of Pontiac and the Village of Sylvan Lake share the shoreline. Access to both lakes is from a boat launch located in Baudette Park downstream of Sylvan Lake in the City of Pontiac off of Orchard Lake Road.

The only recorded fisheries activities in this lake are a mapping survey in 1973 and a general fisheries survey in 1988. The 1988 survey caught excellent numbers of large bluegills, largemouth bass, and black crappies. This survey supported the local rumors of the good fishing in these lakes.



Dennis Tar with a pair of smallies from Otter Lake.

A general fisheries survey was conducted in May 2008 to evaluate the species present, their relative abundance and growth rates. Trap and gill nets were used along with 3 seine hauls and 3 electrofishing transects. A total of 2,653 fish comprised of 20 species were captured. The most abundant gamefish were bluegills, with 659 individuals captured. They averaged 5.1 inches with 23% 6 inches or larger. Rock bass were the second most abundant fish, averaging a hefty 6.9 inches with 57% over 6 inches. Again, they are an underutilized species of panfish that provide a good fight with good eating. Largemouth bass were represented by 33 individuals averaging 11.8 inches in length. A whopping 42% exceeded the minimum size limit of 14 inches. A total of 11 smallmouth bass were caught, averaging 14.8 inches with 50% exceeding the minimum size limit. Of interest to anglers is that 6 walleyes were captured, averaging 18.7 inches - great eaters! Most likely, these fish came down the Clinton River from Cass Lake.



A nice looking 9-inch bluegill netted from Sylvan Lake.

Whitmore Lake, Livingston County
Whitmore Lake is a 677 acre lake located in Livingston and Washtenaw counties, 6 miles south of Brighton. It reaches a maximum

depth of 69 feet; however 50% of the lake is less than 10 feet deep. Washtenaw County Drain Commission pumps water into Whitmore Lake from the nearby Horseshoe Lake to maintain a court established lake level at 895.8 feet. Boat access is available via a public access launch on the north shore.

The surrounding shoreline is well developed with residential housing and the lake is heavily used for recreational activities including fishing, swimming, power boating, water and jet skiing, and sailing. It has a fishing reputation that is considered good for species such as largemouth bass, bluegill, and black crappie. Zebra mussels established themselves in the lake in the early 1990's. There is a spearing ban on Whitmore Lake.

Tiger muskellunge were stocked on an alternate year schedule from 1969 to 1991. Stocking was discontinued in 1992 because they were phased out of hatchery production. More recently, redear sunfish were stocked in 1995 and 1997. Walleye have been stocked regularly from 1999 to present.

The 2008 survey used a compliment of gear including trap nets, fyke nets, gill nets, beach seine, and electrofishing. A total of 2,731 fish comprised of 26 species were captured. The most abundant gamefish species caught were bluegills. A total of 647 bluegills were captured and the trap net catch averaged 6.8 inches. Redear sunfish were the next most abundant fish caught. These fish averaged a

whopping 8 inches long with 81 percent 6 inches long or longer. A total of 97 largemouth bass were captured averaging 11 inches with 20% exceeding the minimum size limit of 14 inches. Northern pike were represented by 32 individuals averaging 22.6 inches long with 28% exceeding the minimum size of 24 inches. There were 14 walleyes captured averaging 19 inches in length. Of note is that only 4 carp were captured during the entire survey.

Johnson Creek, Wayne County

Johnson Creek is a small tributary to the Middle Rouge River. It originates in northeastern Washtenaw County and flows eastward through Northville in northwestern Wayne County, where it empties into the Middle Rouge River. It is a coldwater stream and is the only tributary to the Middle Rouge that is cold enough to support trout. One of the first coldwater fish hatcheries in Michigan was located on Johnson Creek in Northville at what is now called Fish Hatchery Park. It was built in 1847 and reared whitefish and various trout species until the 1960's.

The state began stocking brown trout in Johnson Creek in 1992 with annual fish stocking of 2,500 to 4,500 fish. Multiple surveys between 1993 and 2002 have found limited overwinter survival. This is probably due to the small size of the stream, shallow depth, and very limited cover in the upper stretches. The stream is threatened by continued development, increasing erosion and

siltation, resulting in reduced water quality and loss of habitat.

In 2002, legislation was passed at the urging of local trout anglers which changed the fishing regulations to "special regulations". The new trout regulations on Johnson Creek included a minimum size limit of 12 inches and anglers could use only artificial lures. A limited angler survey in the spring of 2002 showed that trout were being targeted by anglers with varied success. Surveys found that most trout captured were age-1 and few if any survived the winter. A new strain of brown trout (Gilchrist Creek) was stocked beginning in 2005. The Gilchrist Creek strain comes from a naturalized population (non-native fish that have developed a naturally reproducing population) of brown trout in Gilchrist Creek in northern lower Michigan. These fish grow faster than the old Wild Rose strain and our hope was to have more trout survive the winter and provide larger trout to the fishery. Switching strains has proven to be a big success. In 2006, 94 brown trout were captured from four sites with a 25% of the catch being age-2 trout.

Three sites were surveyed on Johnson Creek in mid-August of 2008 using a backpack electrofishing unit. A total of 87 trout were captured with 28% being holdover or age-2 trout. One trout measured 15 inches and another large trout was briefly seen, but eluded capture. It is likely that these large fish were age-3 trout. This is a very promising situation for the future of brown trout in Johnson Creek.

Raisin River, Monroe County

The Raisin River is a large river system in extreme southeastern Michigan. It begins south of Jackson and flows east through Monroe where it empties into Lake Erie. The Raisin is considered a coolwater fishery with smallmouth bass and rock bass being the major gamefish species present. The upper stretches are swift, shallow and clear and the lower stretches are slow, murky, shallow and very wide.

In mid-August 2008, a fisheries survey was conducted at the Raisinville Road bridge crossing using a stream electrofishing unit. This survey was conducted as part of a standardized statewide protocol. During this survey, only smallmouth bass were targeted. In addition to the fish survey work, standardized habitat measurements were also recorded.

A total of 681 smallmouth bass ranging from 2 inches to 17 inches were captured in 1000 feet of river. A total of 442 smallmouth were 3 inches or smaller, being fish that were spawned earlier that year. A total of 20 smallmouth exceeded the minimum size limit of 14 inches. There were several year classes present with excellent natural reproduction in this stretch of river.

Belle River, St. Clair County

The Belle River is a medium sized river originating in southeast Lapeer County and flows southeast through St. Clair County until it empties into the St. Clair River in Marine City. In late August and early September 2008, fisheries surveys were

conducted with electrofishing equipment at 12 locations from the headwaters to the mouth of the Belle River, including some major tributaries. Previous fisheries data was sparse on the Belle River, with some sampling done in 1974. The intensive survey effort in 2008 has provided a baseline fish inventory for this stream and these data will be used to manage the fishery.

There was a total of 3,814 fish captured represented by 52 species. Rainbow darter (414), mottled sculpin (336), and rock bass (307) were the most abundant species. Important gamefish included the catch of 33 smallmouth bass ranging in size from 2 to 16 inches (six were young-of-year). A total of 26 northern pike were captured ranging in size from 5 to 24 inches, including 18 young-of-year. The number of young-of-year for these two species shows the significance of the Belle as a producer of young gamefish.



An eastern sand darter from the Belle River.

There was definitely a large variation in the habitat and types of species found on the Belle from upstream to downstream. The upper area was negatively influenced by dredging and agriculture (sedimentation), and the common fish species found were creek chubs, white suckers, and johnny darters. In the middle section, from Riley Center to Indian

Trail, there was a big jump in the number of fish caught and the number of species represented. There was high quality habitat in this middle section dominated by cobble and gravel substrates. As a result there was a big increase in the number of darters, rock bass, hog suckers, and shiners. The two most downstream sites showed evidence of Great Lakes influence with species like gizzard shad, emerald shiners, and yellow perch.

Mottled sculpin were fairly abundant in the upper half of the river. This is a good indicator species for coldwater habitat; consistent with water temperatures we found during the survey (low to mid-60s). We even found a juvenile steelhead near Gratiot Road. Fisheries Division stocks the Belle River annually with 7,500 steelhead fingerlings, yet it is uncommon to find juvenile steelhead in the river this late in the summer. Another species of significance that was caught was the eastern sand darter, which is a state-listed Threatened Species. Good numbers were found in the 1974 survey, so it is good to see they are still present. Brindled madtoms were also caught which is listed as a Species of Special Concern.

Pine River, St. Clair County

The Pine River is a small river originating in central St. Clair County that flows southeast until it empties into the St. Clair River in the town of St. Clair. This river flows through mostly agricultural land in the upper stretches and is heavily influenced by the city of St. Clair in its lower stretches. The Pine River has turbid

water and the bottom is mostly silt-covered, with some gravel in the upper reaches and clay in the lower stretches. There was no previous fisheries survey data on the Pine River to make comparisons. In late August and early September of 2008, a total of 9 stations from the headwaters to the mouth were sampled using electrofishing equipment. These included sites on the mainstem from the headwaters to the mouth, and a few sites on major tributaries.

There were a total of 3,333 fish represented by 50 species captured in this survey. Bluntnose minnow (876), johnny darter (449), and common shiner (364) were the most abundant species present. Gamefish species included 14 northern pike and 12 smallmouth bass. The large diversity of fish species captured in this river shows that the Pine River contains diverse habitat.

Similar to the Belle River, both eastern sand darters and brindled madtoms were caught. An additional state listed species, pugnose minnow, was also caught in the Pine River.

New Section!

How'd they do that?

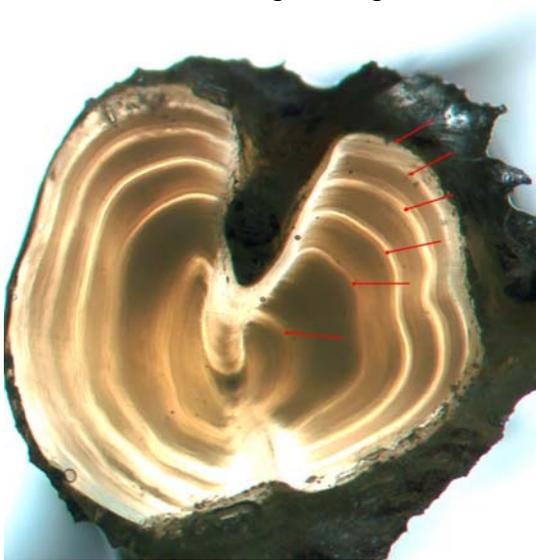
When we survey a lake, we look at the number of fish caught, the catch rate, and the size of fish in the catch to evaluate the fish community. However, size alone can be misleading. For example, a three year old walleye that is 15 inches long indicates good growth rates, but a six year old walleye that is 15

inches has experienced poor growth. So we do not just look at the size of fish in the catch, but we look at “length-at-age.”



The first three or four spines from the dorsal fin are clipped at the base using side cutters.

Because fish are cold-blooded, they grow faster in the summer and slower in the winter. Because of this, they lay down rings in their bony structures indicating slow growth



The cross-section of a walleye spine – the light colored rings are created by slow growth during the winter and can be counted to determine the fishes age. This sample is from a 22.2 inch female walleye that was age-6.

periods - comparable to the growth of rings on the cross-section of a tree trunk. It was common in the past to collect a sample of fish scales to count growth rings to age fish. Recently, cross-sections of spines in the fins have been shown to be easier to read and more accurate, especially on older fish.

It is standard procedure to collect scales and spines on a sub-sample of fish during a survey. Side cutters are used to snip the first 3-4 spines from the dorsal fin. The spines are allowed to air dry and then stored. When field activities slow down during the winter months, technicians age the scale and spine samples collected during the field season.



Sample from an age-4 female walleye that measured 20.8 inches.

A dremel cutting tool is used to slice a small cross-section at the base of the spine. The cross-section is then placed under a dissecting microscope and illuminated. The rings are counted to determine the fishes age (see photos). The age is then recorded along with the length of that individual fish. It is then easy

to compare the length-at-age against a statewide average to determine how fast a fish is growing.

Copies of fish survey reports are available for most public lakes, by request.

For more information about LEMU programs and activities contact us at:

**Lake Erie Management Unit
Southfield Operations Center
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Southfield, MI 48034**

Phone: 248-359-9040

Please take the opportunity to provide us some feedback on the newsletter. Did you find the newsletter useful? Was it too long or too short? Other suggestions. Please send comments to: francisj@michigan.gov

Summary of fish stocking in LEMU, 2008.

Species	County	Lake	Number	Avg. size (inch)
Rainbow Trout	Hillsdale	Bear Lake	8,775	7.4
	Hillsdale	Bird Lake	8,700	7.4
	Lenawee	Allen Lake	3,500	7.4
	Lenawee	Deep Lake	2,600	7.4
	Livingston	Spring Mill Pond	200	17.3
	Livingston	Spring Mill Pond	250	11.4
	Livingston	Trout Lake	1,700	7.3
	Oakland	Huron River	642	17.3
	Oakland	Huron River	750	11.4
	Oakland	Huron River	363	27.3
Steelhead	Oakland	Maceday Lake	6,000	6.7
	Macomb	Clinton River	26,800	8.0
	Oakland	Maceday Lake	6,000	7.9
	St. Clair	Belle River	7,501	7.2
	St. Clair	Mill Creek	10,702	7.2
Brown Trout	Wayne	Huron River	65,959	7.8
	Hillsdale	St. Joseph Maumee	3,000	6.4
	Livingston	Spring Mill Pond	370	20.4
	Livingston	Spring Mill Pond	30	26.8
	Oakland	Clinton River	4,800	4.8
	Oakland	Huron River	370	20.4
	Oakland	Huron River	90	26.8
	Oakland	Huron River	733	18.7
	Oakland	Paint Creek	5,610	4.8
	St. Clair	Black River	20,000	6.4
	Wayne	Johnson Creek	4,020	4.8
	Splake	Oakland	Maceday Lake	10,000
Muskellunge	Lenawee	Lake Hudson	1,500	10.0