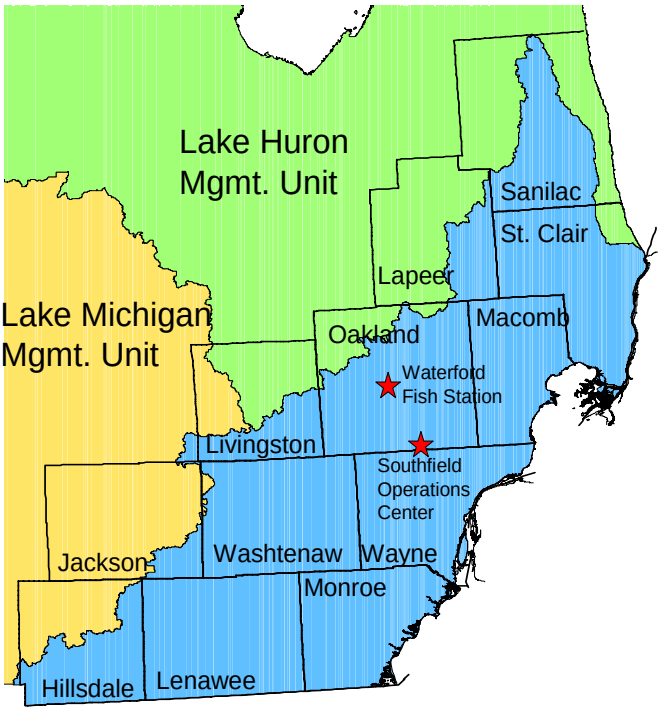
LEMU Fisheries - Newsletter **January 2008**

SOUTHEAST MICHIGAN DNR FISHERIES NEWSLETTER

Hello anglers. This is the first edition of an 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.



Map of southeast Michigan, highlighting LEMU (in blue)

This newsletter highlights some of the field activities conducted by our field staff during 2007.

General Activities

Fish Rearing

LEMU did not conduct any fish rearing in 2007. This was due to a fish virus, Viral Hemorrhagic Septicemia (VHS) that was discovered in the St. Clair and Lake Erie systems. 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. The decision was made to temporarily halt the rearing of coolwater fish (walleye,

northern pike, and muskellunge) statewide as a precaution to the threat of spreading VHS to inland waters. A lot of work is being done to determine the extent of the spread of VHS and how to cope with it in our hatchery system. Even though there was no fish rearing done by the LEMU in 2007, rearing pond maintenance, 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

Only one lake was stocked with coolwater fish species in 2007 (Lake Diane, Hillsdale County). The muskies that were stocked were certified disease-free fish obtained from Iowa. Although there was very limited stocking of coolwater species during 2007 in the LEMU, trout stocking went on as planned due to the availability of fish in the hatchery system (see page 12). 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. There were questions as to whether disinfection would work for coolwater species. After evaluating the risks and benefits of coolwater production, the decision was made that the risk was too great and that 2007 would be used to evaluate the disinfection process with coolwater species. Research is ongoing to determine whether coolwater production will begin again in 2008.

Spring fingerling walleye.

Fish Kill Investigations

We receive numerous reported fish kills each year. We monitor these events, particularly due to the number of recent new pathogens which have been detected in the past five years, including Piscirickettsia, largemouth bass virus, and VHS. Samples were collected from fish die-offs in May from Belleville Lake (Wayne County), Kent Lake (Oakland County), and Stony Lake (Oakland County). Samples were sent to the fish health lab at MSU and results were negative for VHS. It is unclear what caused these fish mortalities, but it is important that we track the potential spread of VHS to inland waters.

Fish Aging

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 scale and fin spine samples collected 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. Both have rings which can be counted similar to a tree. In 2006, a total of 1,921 scales and spines were processed and aged by the Waterford crew. Field activities began as soon as the ice melted on area waters.

Special Activities

Long Lake, Oakland County

Long Lake is a 156-acre lake located in Commerce Township, Oakland County, and has been stocked with walleyes since 1999. The stocking rates ranged from 9,000 to 15,000 spring fingerling walleye once every two years. The goal for stocking walleye in Long Lake was to provide predation pressure on the bluegill

Jim Francis holding a Long Lake walleye.

population that produced small bluegills; the goal was not to create a walleye fishery. Long Lake was surveyed for six days in early April to generate a population estimate of adult walleye to evaluate the effectiveness of the stocking program. A total of 69 individual adult walleyes were captured during this effort. They ranged in size from 14 to 25 inches in length, with an average length of 19.8 inches. The total estimated adult walleye population for Long Lake is from 150 to 300. This works out to an estimate of 1.0 to 1.9 adult walleye per surface acre. This density is about average for stocked walleye lakes in southeast Michigan and is an adequate density of walleye to meet the goal of producing increased predator density in Long Lake.

Other species captured included 69 largemouth bass up to 17 inches in length, 30 northern pike up to 32 inches in length, and 10 smallmouth bass up to 19 inches in length

Lake St. Clair Tributary Sampling

A backpack electrofishing survey was conducted in early April on Marsac and Swan creeks. Marsac Creek is a small tributary in St. Clair County that flows directly into Lake St. Clair. A total of 1,939 fish were captured comprised of 15 species. Bluntnose minnows, an important forage species, made up more than 75% of the total catch by number. The presence of banded killifish and spotfin shiners shows strong evidence that this stream is used by fish moving up from Lake St. Clair. The large number of fish captured indicates that this creek is an important spawning and nursery area.

Swan Creek is also in St. Clair County and empties into Lake St. Clair. Two sites were sampled on

this stream. The first site was at the Arnold Road Bridge. A total of 10 fish of three species were captured. The second site was from the Palms Road Bridge to the Springborn Road Bridge. A total of eight fish of three species were captured. Of significance was the observation of three adult northern pike, indicating that these small tributaries, while too small to support resident populations of pike, provide important habitat seasonally for spawning.

Huron River Walleye Tagging

Walleye were caught during their spawning run in the Huron River in early April as part of an ongoing tagging study. This effort is part of a lakewide project to evaluate walleye movement and harvest in Lake Erie. The fish were captured using a boat electrofisher and taken back to shore for tagging. Spines were sampled for age determination and each fish was weighed, measured and samples taken for VHS disease monitoring. A total of 735 walleyes were tagged and released this year and 64 walleye were caught that were tagged on previous surveys.

FLW Walleye Tournament

In early April, we assisted in a study conducted by the University of Minnesota to evaluate survival of tournament-caught walleye. Fisheries staff from the LEMU, Lake St. Clair Research Station, Alpena Research Station, and Wolf Lake State Fish Hatchery collected data during the Detroit River FLW professional walleye tournament. Anglers were interviewed upon reaching the dock at the end of the day and livewell conditions, including water temperature and oxygen levels were measured. Tournaments also were evaluated at other locations and other times of the year. In addition to collecting data for the study, our hatchery staff was able to collect walleye samples to evaluate for VHS. All walleye tested were found to be negative for VHS.

Lake Hudson Northern Muskies

Lake Hudson in southern Lenawee County is one of two muskie broodstock lakes in Michigan. As discussed above, musky eggs were not taken this past spring due to concerns with VHS. Although no eggs were taken, we still set nets and collected muskies to test them for VHS and other diseases. A total of 60 males and 60 females were sampled for VHS and returned to the water alive. The good news is that the results were negative for VHS and other pathogens.

Gary Towns showing off a typical Lake Hudson musky.

VHS Surveillance in Lake Erie

As part of a statewide VHS surveillance project, we sampled the catch of the only licensed commercial fisherman in the LEMU who operates in Lake Erie. The fish

were checked for VHS by taking liver and spleen samples from each fish. A total of 60 fish of each species, including channel catfish, freshwater drum and carp had samples collected. These samples were sent to the lab for analysis and were found to be negative for VHS.

St. Clair Flats

An intensive fisheries survey was conducted in late August in the St. Clair Flats area of Lake St. Clair. This survey was conducted as part of a multi-year project to survey the nearshore fish communities of Lake Erie, Detroit River and Lake St. Clair/St. Clair River. This was a coordinated effort led by the DNR from Southfield and Waterford. Other partners included the Lake St. Clair Fisheries Research Station, as well as the United States Fish and Wildlife Service, and the United States Geological Service. This survey was conducted using a combination of seining and fyke netting during the day and electrofishing at night. A total of 16 seine hauls, 25 fyke net lifts, and 27 paired electrofishing runs were made. This extensive effort produced a mountain of useful data. A total of 15,494 fish were captured during the survey, made up of 55 species. The sheer number of fish and the diversity of species present demonstrates the importance of the shallow nearshore waters as both a nursery area for gamefish and as a major producer of forage species.

Inland Lake Fish Surveys

Middle Straits Lake, Oakland County

Middle Straits Lake is located in Oakland County and is 171 acres in size. This was a general survey looking at fish health, species composition and relative fish abundance. Many gear types were used including inland trap nets, small mesh fyke nets, gill nets and a boat electrofisher. All fish were measured and a scale or spine sample taken in order to age the fish.

Jeff Braunscheidel releasing a healthy northern pike from Middle Straits Lake.

The only previous survey of this lake was done in 1996, when the results indicated good bluegill numbers with an average size of seven inches. No legal-sized bass were captured during the previous survey. Middle Straits Lake has never been stocked by the state, but permits were issued for several small private plants of northern pike, channel catfish and redear sunfish from 2003 to 2006.

The preliminary results of the 2007 survey show that the bluegill population still has good numbers, averaging just over six inches in

length. Black crappies appear in good numbers with an average size of 8.1 inches. A total of 31 northern pike were captured with 20 of them exceeding the legal size limit of 24 inches. The northern pike averaged 26.2 inches long, with the largest fish measuring 36 inches. There were 69 largemouth bass captured with an average size of 10.4 inches, of which six were legal fish of 14 inches or larger. A total of five smallmouth bass were captured with an average size of 10.5 inches, of which two were legal-sized fish. Rock bass numbers appear good with 74 individuals captured with a large average size of 8.4 inches. No channel catfish or redear sunfish were captured during the survey.

A limnology survey also was conducted on Middle Straits Lake to evaluate the oxygen levels, temperature, plankton abundance, alkalinity, nutrient levels, and chlorophyll. These parameters indicate the health of a lake and the potential to produce fish. A total of 10 northern pike were sent to the DEQ lab for contaminant (mercury) testing. This information will be used to produce the fish consumption guidelines for this lake.

Bishop Lake, Livingston County

Bishop is 119 acres in size and is located in the Brighton State Recreation Area in Hamburg Township, Livingston County. This was a general survey looking at fish health, species composition and relative abundance. Gear types were the same as for Middle Straits Lake. All of the fish captured were measured and had a scale or spine sample taken for age/growth analysis.

Previous surveys of Bishop Lake in 1987 and 1993 showed good populations of bluegills, northern pike and pumpkinseed sunfish. Based on the healthy pumpkinseed population, a management recommendation to stock redear sunfish was made. Stockings were conducted annually from 1992 to 1995 with a total of 44,745 redears stocked. A survey in 1996 was conducted to evaluate the stockings and found that the redears survived and were growing above state averages.

Preliminary results of this survey show that bluegills remain in high numbers with 450 individuals being captured in trap nets (averaging 6.6 inches). Of the bluegill catch, 81% were six inches or larger. The trap nets captured a total of 258 redear sunfish with an average size of 7.1 inches. The average length of redears has fallen since the 1996 survey when redears averaged 7.7 inches. A total of 70 largemouth bass were captured with nine of them exceeding the minimum legal size limit of 14 inches, and three of these measuring over 19 inches.

Bishop Lake also was included as part of the statewide VHS surveillance program. Samples of largemouth bass, bluegill and bluntnose minnows were sent to the fish health lab at MSU for testing. The results were negative for VHS. Ten of the largemouth bass were then sent to the DEQ lab for contaminant (mercury, PCB) testing.

This information will be used to produce fish consumption guidelines for bass on this lake.

Pontiac Lake, Oakland County

Pontiac Lake is a 585-acre impoundment of the Huron River located in White Lake Township, Oakland County. It was created when a dam was constructed in 1926. Pontiac Lake was surveyed to determine fish health, species composition and relative fish abundance. Gear types were the same as for Middle Straits Lake and Bishop Lake. Pontiac Lake has received extensive privately and publicly funded management over the years. There was an extensive winterkill of fish during the winter of 1981-1982. Fisheries Division stocked black crappies, bluegills, channel catfish, fathead minnows, largemouth bass, yellow perch and northern pike during 1982; both from wild fish transfers and hatchery stock. The good panfish fishing shortly thereafter deteriorated to mainly small fish and it was deemed that more predators should be introduced. Walleyes, stocked from 1990 through the year 2000, are proving to have good survival and return to the angler. Channel catfish were stocked from 1995 through 2001. Since the introduction of these predators, angler reports have indicated better fishing with larger and more abundant bluegills and good catches of walleyes. There has been a significant drop in legal-sized largemouth bass over the past few years. In addition to fish stocking, there have been a number of alterations to Pontiac Lake including water level manipulations and extensive aquatic vegetation control by the lake association. These activities have undoubtedly influenced the fish community in Pontiac Lake.

Preliminary results of this survey indicated that large bluegill were present in good numbers. A total of 300 bluegills were captured in trap nets, with 60 percent over six inches and the largest bluegill measuring over eight inches. This is a significant improvement in the number of large bluegills compared to previous surveys. Black crappies were abundant with an average size of 9.2 inches and the largest being over 13 inches. A total of 78 largemouth bass were captured with an average length of 11.6 inches. There were six largemouth bass captured that exceeded the minimum size limit of 14 inches. This is significant because a survey conducted in May 2003 produced no legal-sized largemouth bass. The largemouth bass population now appears to be recovering. A total of 17 walleyes were captured during this survey, all of which exceeded

A 27-inch channel catfish eating a 17-inch northern pike.

the legal minimum size of 15 inches. Walleyes have not been stocked since 2000 when the problem with the largemouth bass became apparent. A significant find during this survey was the abundance of channel catfish. A total of 338 catfish with an average length of 19.9 inches were caught. One individual channel catfish measuring 27 inches long was removed from the net with a 17-inch northern pike in its mouth (see photo above). It is unclear if this type of predation would take place in the wild or if this only resulted because the fish were artificially confined in the net.

Jeff Braunscheidel with a nice smallmouth bass from White Lake.

Fisheries Division advertised the presence of a large healthy population of channel cats in Pontiac Lake and it appears that anglers are beginning to take advantage of this tasty fighter.

Pontiac Lake also was sampled for VHS during the survey. Largemouth bass, bluegill, and bluntnose minnows were sent to the fish health lab at MSU for analysis. The results were negative for VHS.

White Lake, Oakland County

At 540 acres, White Lake is one of the largest lakes in Oakland County. This survey was conducted as an ongoing monitoring of fish management. Gear types were similar to the above mentioned lakes with the exception that fyke nets were not used. White Lake has a reputation of being a good lake for largemouth bass, northern pike and walleye fishing, with fair reports for panfish. Surveys conducted in the early 1980s showed that bluegills and other panfish were over-populated and stunted. A decision was made to introduce another predator and walleye stocking began in 1981. About 50,000 walleye finglerlings have been stocked every other year. Since stocking began, the size of bluegills has gone from poor in 1986 to excellent in 1997, with many fish in the seven to eight-inch range. The walleyes are eating small bluegills, thus thinning bluegill numbers and leaving fewer mouths to feed. With more food available to each remaining panfish – growth is better.

The water temperatures during the survey were low (low 60s), which hindered catching significant numbers of fish, especially spawning adult panfish species. Regardless, preliminary results showed good numbers of bluegills with 174 individuals captured in trap nets, averaging 5.6 inches and ranging up to eight inches. Black crappies appeared to be very healthy with 61 fish captured and 70% of these were over seven inches. The average size of black crappies was nine inches with fish up to 13 inches in

the catch. Largemouth bass also appear healthy with 53 fish captured averaging 13.3 inches in length. Over 50% of these bass exceeded the 14-inch minimum size limit. Northern pike were captured in small numbers, but appear to be healthy too, with 39% of the individuals captured being over 24 inches long. Pumpkinseed sunfish were captured in significant numbers with 222 individuals averaging 6.3 inches long, and 74% were over 6 inches. A total of 12 walleyes were captured during this survey. They averaged 20.9 inches in length and all of them exceeded the minimum legal size limit of 15 inches, with the largest being 24 inches long. A total of 10 walleyes were sent to DEQ for contaminant (mercury) analysis. This information will be used to update the fish consumption guidelines for this lake.

Johnson Creek, Wayne County

Johnson Creek is a small tributary to the Middle Rouge River. It originates in northeastern Washtenaw County and flows eastward into northwestern Wayne County, through Northville where it empties into the Middle Rouge River. It is a coldwater stream, and is the only tributary of 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 1874 and reared whitefish and various trout species until the 1960s.

The state began stocking brown trout in Johnson Creek in 1992 with annual stockings 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 spring 2002 showed that trout were being targeted by anglers with varied success. A new strain of brown trout (Gilchrist Creek) was stocked beginning in 2005. Switching strains has been a big success on Johnson Creek. In 2006, the catch was much higher than in previous years and a significant proportion of the trout were “holdover fish” – or those which survive from one year to the next.

Looking for trout in a habitat structure on Johnson Creek.

Four sites were surveyed using a backpack electrofishing unit in July 2007. The preliminary results showed a good catch of brown trout. A total of 94 brown trout were captured, with over 25% of the catch being holdovers (age-2 trout). A total of three redside dace were captured proving their continued existence in this stream. Redside dace is an endangered species that resides in only two other streams in the state.

Clinton River, Oakland County

The Clinton River has received extensive fisheries management over the years. It has been stocked with walleyes from 1982 through 1997, steelhead since 1985, and more recently, brown trout since 2004. A River Assessment was completed in 2006 and is a comprehensive look at the fish communities, water quality, land use and future management of this watershed (see report at http://michigan.gov/dnr/0,1607,7-153-10364_10951_19056-46270--,00.html). In 2007, a fish survey was conducted as part of a four-year study to evaluate trout habitat installed in 2005 by the city of Auburn Hills. The area where the habitat was placed is an 1,800-foot segment of the river between M-59 and Riverwoods Park, near Squirrel Road. The actual habitat consists of boulders, large logs anchored in the midstream creating scour pools, and log "baskets" creating fish cover. A control site off of Adams Road also was surveyed to compare the impact of this work. There were two years of pre-installation surveys (2004 and 2005) and two years of post-installation surveys (2006 and 2007). The results are compelling and indicate that the habitat improvements are having a positive impact on the stream. There was a 20% increase in total fish numbers at the habitat site after the habitat was installed compared to pre-habitat enhancement fish numbers, versus a 2% decline in fish numbers for the same period at the control site. In contrast, there was an increase in brown trout numbers at both the control and habitat sites. The brown trout catch improved 30% post- versus pre-habitat periods at the control site (from 9.5 to 12.5 trout/1,000 feet); compared to a five-fold increase at the site where the habitat work was done (from two to 11 trout/1,000 feet). Although brown trout numbers were up at the control site during the post-habitat installation period, there was a much larger increase in brown trout numbers and an increase in total fish numbers at the habitat improvement site. This provides strong evidence that the habitat enhancements have benefited fish populations in the river.

Raisin River, Washtenaw County

The Raisin River is a large river system in southeast Michigan (see the Raisin River Assessment at http://www.michigandnr.com/PUBLICATIONS/PDFS/ifr/ifrlibra/special/reports/sr23/sr23Text.pdf). The Raisin is considered a coolwater fishery with smallmouth bass and rock bass as the major gamefish species present. The upper stretches are swift, shallow and clear, while the lower stretches are slow, murky, shallow and very wide. This survey was conducted as part of the statewide Status and

Trends Program. The site surveyed was in the upper stretches of the river, near Manchester.

The stream was surveyed in August using a stream electrofisher. A total of 473 fish were captured with 25 species present. There were 71 smallmouth bass caught, but only three were larger than the minimum legal size of 14 inches. A total of 40 measured two- to four-inches long, indicating good natural reproduction. This section is only one of a handful of river sections to contain the silver shiner. This fish is considered an endangered species in Michigan. A total of 122 silver shiners were captured and released.

Photo of a preserved silver shiner.

Iron Creek, Washtenaw County

Iron Creek is a small tributary of the Raisin River. It flows out of Iron Mill Pond in southwest Washtenaw County and travels east for approximately 10 miles before it empties into the Raisin River, just north of the town of Clinton. The creek is narrow and shallow with high flow rates. The bottom has plenty of gravel for fish spawning. There is no record of Fisheries Division ever surveying this stream.

A total of 500 feet of Iron Creek was sampled with a backpack electrofishing unit. A total of 358 fish were captured with 14 species present. Creek chubs (117), mottled sculpin (115) and river chubs (57) were predominant. The only gamefish captured was a bluegill. This catch is typical of a small stream in this part of the state. This stream appears to be a major producer of forage fish. In the spring, it probably is used for spawning by smallmouth bass from the Raisin River.

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
26000 W. Eight Mile Rd.
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, 2007.

Species	County	Lake	Number	Avg. size (inch)
Rainbow Trout	Hillsdale	Bird Lake	8,050	6.5
	Lenawee	Allen Lake	3,900	5.9
	Lenawee	Deep Lake	2,900	5.9
	Livingston	Appleton Lake	5,952	5.9
	Livingston	Spring Mill Pond	50	25.3
	Livingston	Spring Mill Pond	100	12.9
	Livingston	Spring Mill Pond	1,000	6.4
	Livingston	Trout Lake	2,000	5.9
	Oakland	Clinton River	4,200	6.8
	Oakland	Huron River	100	25.3
	Oakland	Huron River	2,500	6.4
	Oakland	Huron River	400	12.9
	Oakland	Maceday Lake	6,000	7.2
	Oakland	Maceday Lake	6,000	7.9
	St. Clair	Belle River	7,100	7.9
Steelhead	Macomb	Clinton River	25,200	7.8
	St. Clair	Belle River	7,100	7.9
	St. Clair	Mill Creek	10,100	7.9
	Wayne	Huron River	60,500	8.4
Brown Trout	Hillsdale	St. Joseph Maumee	2,390	6.5
	Livingston	Spring Mill Pond	117	19.9
	Livingston	Spring Mill Pond	67	26.2
	Livingston	Spring Mill Pond	16	22.6
	Oakland	Huron River	249	19.9
	Oakland	Huron River	200	26.2
	Oakland	Huron River	50	22.6
	Oakland	Paint Creek	5,220	7.1
	St. Clair	Black River	6,433	6.8
	Wayne	Johnson Creek	1,000	7.7
Splake	Oakland	Maceday Lake	9,600	7.4
Musky	Hillsdale	Lake Diane	850	11.7