Southern Lake Michigan Management Unit

What is the SLMMU?

The Southern Lake Michigan Management Unit (SLMMU) encompasses all of the lakes and streams that make up the watersheds that drain into the southern portion of Lake Michigan. Our work area includes all or portions of the following counties: Allegan, Barry, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Ionia, Jackson, Kalamazoo, Kent, Livingston, Mecosta, Montcalm, Muskegon, Newaygo, Ottawa, Saint Joseph, Shiawassee, Van Buren, and Washtenaw. Most fisheries staff within this unit work out of the Plainwell Customer Service Center and include a Unit Manager, two Fisheries Biologists, a Technician Supervisor, two Technicians, and an Administrative Assistant. Our two creel clerks work the ports of Grand Haven, Holland, Port Sheldon, South Haven, and St. Joseph.

Meet our new Biologist

Matt Diana grew up in Michigan in the Ann Arbor area and attended the University of Michigan where he studied stream ecology and restoration and received a Bachelor and Master’s degree. He worked for the DNR as a seasonal worker conducting stream surveys and tracking lake sturgeon in Lake St Clair. Following graduation, he worked for the Illinois Natural History Survey for 15 years as a Fisheries Research Ecologist where he conducted research on sport fish populations, stocking, regulations, effects of angling on fish communities, and Asian carp detection and control. He is excited to return to Michigan to work in the Southern Lake Michigan Management Unit where he can work directly with managing fisheries and providing quality fishing opportunities. Matt looks forward to working with groups in the area to conduct restoration projects and work with anglers to address fisheries concerns.
Thornapple Lake is a 409 acre lake that lies in eastern Barry County, about 5 miles west of the village of Nashville. It is a popular recreation lake with two boat launches and shore fishing opportunities. The lake originally supported a native Great Lakes (GL) strain muskellunge population until it declined in the 1950s. Stocking of Northern strain muskellunge in Thornapple Lake began in 1964, and the lake was utilized as a muskellunge brood stock source from the early 1970s to 2010. Each spring, biologists collected eggs from muskellunge in Thornapple Lake and the offspring of these fish were raised at the Wolf Lake State Fish Hatchery. In the fall, these fish were stocked throughout the state to support muskellunge fisheries.

Recently the Michigan Department of Natural Resources implemented a program to stock only native GL strain muskellunge in waters connected to the Great Lakes to reduce the potential for negative genetic effects on naturally reproducing muskellunge populations. At present, the GL strain eggs for our hatcheries are collected from muskellunge in Lake St. Clair and the Detroit River. There are two disadvantages with the current system. The muskellunge are hard to locate in such a large system, and the late spawning period for fish in this Great Lakes connecting water reduces the rearing period in the hatchery and, thus, the size of the muskellunge at the time of stocking into other waters.
Thornapple Lake was chosen as a preferred location for brood stock establishment to meet the increased demand for GL strain fish. We began stocking GL strain muskellunge in Thornapple Lake in 2011, and have stocked 9,613 fish to date. These fish were expected to thrive due to the diverse community of prey fish available and the past success of the Northern strain stockings. However, surveys conducted in 2016 collected 97 muskellunge and only four were confirmed as GL strain. Low survival of juvenile GL strain muskellunge could be due to the high density of adult Northern strain muskellunge (along with moderate numbers of northern pike) resulting in predation and competition for resources.

In an effort to increase survival of the GL strain brood stock, the SLMMU plans to relocate 100 Northern strain muskellunge from Thornapple Lake and introduce them into Lower Crooked Lake in Barry County. If more than 100 individuals are collected, additional fish (up to 20) will be stocked into Long Lake in St. Joseph County (Fabius Township). Northern Pike will not be targeted during the muskellunge transfer efforts; however those captured will be transferred to areas downstream of Thornapple River dams located in Irving and Middleville.

In preparation for the fish transfer, samples were collected in fall 2016 for disease screening. Relocation of pike and Northern strain muskellunge will be completed in April 2017. The fish will be collected with trap nets and transferred to recipient waters in hatchery trucks. The objectives of the project are to improve survival of stocked GL strain brood stock in Thornapple Lake and enhance the muskellunge fisheries in the recipient waters.

We also are modifying our GL strain stocking practices to further increase survival of GL strain fish in Thornapple Lake. We have been stocking GL strain muskellunge in the fall as 8-10” fingerlings. Beginning in 2017, fish will be held in the hatchery over the winter and stocked in Thornapple Lake in the spring as yearlings.
Our walleye fall fingerling program will begin its fifth year in 2017. We started with one pond in 2013 and now operate three ponds at Wolf Lake State Fish Hatchery. A partnership between SLMMU and the West Michigan Walleye Club (WMWC) enables us to operate a larger pond at our Belmont property north of Grand Rapids. We also partner with the Holland Fish and Game Club (HF&G) to stock walleye in Lake Macatawa. At each location, fathead minnows are raised to help feed the growing walleyes throughout the summer.

Since 2013, we have continued to increase our production of these valuable fish in terms of numbers and total pounds produced. These fish are stocked into lakes in which spring fingerling stockings failed to produce a consistent fishery in the past. We plan to evaluate some of these waters in the upcoming years to determine the stocking success. In 2015, we began a program to fin clip walleyes going into some of these lakes. This fin clipping provides us with known-age fish to track stocking success across years along with providing verification of our fish aging processes. The ability to accurately age fish is essential in determining growth rates of fish in individual waterbodies which helps paint a picture of our management activities.

In 2016, we were able to raise a record 14,523 fall fingerlings to an average size of 6.2 inches. These fish were distributed to eleven lakes throughout our unit (see page 11 for stocking locations). With the help of the WMWC and HF&G, we hope to build on each year’s success.
Lyons Dam in Ionia County, a high hazard structure located on the Grand River, was completely removed during a lengthy project through-out the summer of 2016, restoring natural river functions and allowing unimpeded fish movement.

Lyons Dam, owned by the Village of Lyons, was an eight-foot-high concrete covered rock-crib structure. The dam was in a deteriorated state prompting dam safety inspectors from the Michigan Department of Environmental Quality to issue an emergency order to stabilize the structure. Due to cost estimates it was determined that removal was more feasible than repair.

Demolition was slowed when the removal crew encountered a steel sheet pile wall that was not included on historical design documents.

This discovery required the post removal design to be changed dramatically.
The process for removing Lyons Dam was complex as several issues, including the presence of the endangered Snuffbox mussel, needed to be addressed. Design changes were made to reduce the overall project footprint and Snuffbox mussels were relocated prior to the removal and will be monitored for two more field seasons.

In the dam’s place is now a “Newberry riffle” – which looks and functions like natural rapids. The design includes a low-flow channel to allow for passage of canoes, kayaks and fish. During normal flow it also will allow for the passage of small boats.
The White Lake Area Sportfishing Association has been helping to improve fishery resources and promote fishing in Western Michigan for over 30 years. This organization originally formed in 1982 to help begin restoration of walleye fisheries in the western part of Michigan. They have continually helped Fisheries Division with walleye rearing activities since that time and currently assist us with the Muskegon rearing pond. Other activities they have worked on with Fish Division include improving public access to White Lake, the White River Natural Rivers Program, White Lake Habitat Restoration, and the White Lake Area of Concern Program. This group also is very active in community activities. They sponsor organized natural resource education events for local schools, sponsor educational fishing programs for all ages, annually sponsor several special fishing events for children, sponsor children for the MUCC Kids Camp, and have their very popular fish boil that is well known in western Michigan. They also work on cleaning up local area roads and partcipate in various community fund raising projects.

The White Lake Area Sportfishing Association is truly an outstanding volunteer organization that protects Michigan’s fishery resources, promotes fishing through many avenues, and is a substantial asset to Western Michigan through its broad-based community activities.
Species Spotlight - Lake Sturgeon

The lake sturgeon is the largest fish species native to Michigan. Adult lake sturgeon typically range from 3.5 ft to 6 ft in length, but are capable of exceeding 7 ft in length and 300 lbs in weight. They have five rows of bony plates (scutes) that are sharp in juveniles and become smoother with age. Sensory organs called barbels on the snout assist sturgeon in finding prey items (e.g., insect larvae, crayfish, mussels, and small fish) on the bottom of lakes and rivers before sucking them up with their protrusible mouth. Despite their intimidating size, lake sturgeon do not have teeth and are no threat to humans.

Lake sturgeon have a unique life cycle relative to other Michigan fishes. Most sturgeon spawn in rapids or riffles of Great Lakes tributary streams during mid April through May when water temperatures are between 50° F and 64° F. Larvae emerge from the eggs after an incubation period of approximately 1-2 weeks and drift downstream at night. Juvenile sturgeon usually spend at least a few months in the river or drowned river mouth lakes before moving into the Great Lakes. Upon entering the Great Lakes, sturgeon typically remain in nearshore habitats but may swim hundreds of miles from their river of origin.

Unlike most fish species in Michigan which reach sexual maturity by age 5, male lake sturgeon generally do not reach maturity until at least age 12, whereas females often do not mature until age 20-25. Upon reaching maturity, adult sturgeon return to their natal rivers to spawn. However, they do not make this journey every spring. Male lake sturgeon spawn once every 1-4 years, and females only spawn once every 3-7 years. Lake sturgeon are one of the longest-lived freshwater fish species in the world. It is not uncommon for sturgeon to live more than 50 years, and individuals over 100 years old have been reported.

Lake sturgeon populations in the Great Lakes region declined rapidly in the late 1800s and early 1900s due to commercial overfishing, dam construction and habitat loss in spawning streams, and pollution. Lake sturgeon are listed as a threatened species in Michigan and are either threatened or endangered in 19 of the 20 states within its original range. Several strategies have been employed to facilitate recovery of lake sturgeon populations in Michigan, including a ban on commercial harvest, restrictive sport fishing regulations, stocking, habitat protection and enhancement, and installation of fish passage facilities at dams.

In southwest Michigan, the Grand, Kalamazoo, and St. Joseph rivers historically were important spawning rivers for lake sturgeon. A remnant lake sturgeon population remains in the St. Joseph River downstream of the Berrien Springs Dam. The estimated spawning run size is less than 10 fish per year. Anglers occasionally catch lake sturgeon below the Sixth Street Dam on the Grand River. The size and turbidity of the Grand River have hampered efforts to assess lake sturgeon spawning runs in this system, but researchers continue to search for new ways to collect data on sturgeon in the river. For information on the Kalamazoo River, check out the Kalamazoo River Sturgeon Spawning Riffle article on page 10.
During the spring, summer, and fall of 2016, the SLMMU staff completed surveys on twelve lakes and thirteen streams (some streams had multiple sampling locations). These surveys included walleye and brown trout stocking evaluations, status and trends surveys, fish community surveys, habitat improvement evaluations, and natural resource damage assessments. Most stream surveys use electrofishing gear while lake surveys use a combination of netting and electrofishing gear to sample fish. Waterbodies surveyed in the SLMMU during 2016 include:

Battle Creek River (Eaton County)
Dumont Lake (Allegan County)
East Branch Paw Paw River (Van Buren County)
Fourth Lake (Baw Beese Chain) (Hillsdale County)
Gravel Lake (Van Buren County)
Grand River (Eaton County)
Grand River (Ionia County)
Grand River (Kent County)
High Banks Creek (Barry County)
Howard Lake (Kalamazoo County)
Kalamazoo River (Calhoun County)
Kenyon Lake (Branch County)
Little Paw Paw Lake (Kalamazoo County)
Long Lake (Ionia County)
Looking Glass River (Clinton County)
Mill Creek (Berrien County)
Mona Lake (Muskegon County)
Oliverda Lake (Branch County)
Pokagon Creek (Cass County)
Silver Creek (Allegan County)
Spring Brook (Kalamazoo County)
Talmadge Creek (Calhoun County)
Thornapple Lake (Barry County)
Thornapple River (Barry County)

Surveys conducted in CLMMU waters-
White Lake (Muskegon County)
Muskegon Lake (Muskegon County)
Muskegon River (Newaygo County)
The Kalamazoo River historically supported large spawning runs of lake sturgeon. The population declined dramatically in the late 1800s and early 1900s due to commercial overfishing, dam construction, and pollution (see Species Spotlight article on page X). Despite protection from harvest and improvements to water quality in the river during the last 40 years, the lake sturgeon population in the Kalamazoo River has not recovered. Several years of sampling have revealed that annual spawning runs consist of only 20-30 adults.

One factor that is hindering the recovery of lake sturgeon is a shortage of suitable spawning habitat. The Consumers Energy Calkins Hydro-Facility (locally known as the Lake Allegan Dam) prevents sturgeon from accessing historic spawning habitat in upstream reaches. Furthermore, the rocky habitat that sturgeon need for spawning is scarce downstream of the dam. Recent lake sturgeon stocking in the Kalamazoo River is expected to speed recovery of the population, but stocking will only yield temporary benefits if stocked fish are not able to reproduce downstream of the dam.

During late summer-fall 2017, a new sturgeon spawning riffle was constructed approximately 800 ft downstream of the Lake Allegan Dam. The riffle is made of 4 to 24-inch field stone that is placed across the river. The overall size of the riffle is 22,400 square feet – about half the size of a football field. The riffle was designed to create lots of nooks and crevices. When fish eggs fall into these crevices, they are less vulnerable to predators. Although primarily constructed for lake sturgeon, other species such as walleye, smallmouth bass, steelhead, salmon, and suckers also are expected to benefit.
Each spring, staff from the SLMMU coordinate the walleye egg take on the Muskegon River. Eggs from the Muskegon River are hatched at Wolf Lake State Fish Hatchery in Mattawan and the Platte River State Fish Hatchery in Honor. Some of the walleye fry are directly stocked into lakes and rivers. In 2016, the Grand River received 8,820,000 fry in Kent, Ionia, and Jackson counties. Fry were also stocked in Mona Lake (3,900,000), White Lake (6,830,000) and Thornapple Lake (818,000). Some of the fry were transferred to the Muskegon, Belmont, Gun Lake, Union Lake, Holland, Wolf Lake, and Jackson rearing ponds. Most of the walleyes from these ponds were collected as spring fingerlings (approximately 1.1-1.5 inches) in late May-early June and stocked in public waters. Although spring growing conditions were less than optimal, 733,852 spring fingerling walleye were raised in SLMMU ponds in 2016. An additional 14,523 fish were collected from these ponds in October as fall fingerlings (about 5.6-7.8 inches) and stocked in eleven lakes in southwest Michigan. Below are the waters that were stocked with spring and fall fingerlings within the SLMMU in 2016.

### Spring Fingerling:
- Black River: 8,932
- Diamond Lake: 51,040
- Grand River: 11,696
- Gun Lake: 61,421
- Klinger Lake: 39,729
- Lake Macatawa: 49,728
- Maple Lake: 10,463
- Selkirk Lake: 4,864
- St Joseph River: 82,930
- Sturgeon Lake: 12,567
- Union Lake: 1,000

### Fall Fingerling:
- Bills Lake: 797
- Crystal Lake: 2,895
- Lake Macatawa: 483
- Lincoln Lake: 1,631
- Long Lake: 900
- Osterhout Lake: 675
- Paw Paw Lake: 3,366
- Portage Lake: 1,437
- Selkirk Lake: 156
- Sessions: 559
- Wabasis: 1,624

*Additional spring fingerlings were stocked in Central Lake Michigan Management Unit waters including Muskegon Lake, Muskegon River, Fremont Lake and Silver Lake.

### Planned Lake and Stream Surveys for 2017

Throughout the spring and early summer, our unit conducts fish community surveys on lakes. Early spring work often includes population assessments of northern pike, walleye, or muskellunge during the spawning seasons for these species. General lake surveys are completed in May-early June when water temperatures are between 55 and 75 degrees Fahrenheit. Our stream surveys primarily are conducted during July-early September. A variety of gear types are used on lakes including nets and night-time electrofishing gear, whereas day-time electrofishing is the main gear used on rivers and streams. We plan to complete surveys on the following waters in 2017:

- Bear Creek (Kent County)
- Bigelow Creek (Newaygo County)
- Birch Lake (Cass County)
- Brandywine Creek (Berrien County)
- Coldwater River (Ionia County)
- Crandall Lake (Eaton County)
- Curtis Creek (St. Joseph County)
- Curtis Lake (Cass County)
- Dowagiac Creek (Cass County)
- Eagle Lake (Cass County)
- Fish Lake (St. Joseph County)
- Flat River (Kent County)
- Grand River (Eaton County)
- Grand River (Ionia County)
- Grand River (Kent County)
- Gun River tributary (Allegan County)
- Honey Creek (Kent County)
- Juno/Christiana/Painter Lakes (Cass County)
- Magician Lake (Cass County)
- Sandstone Creek (Jackson County)
- Spring Brook (Kent County)
- Talmadge Creek (Calhoun County)
- Tharp Lake (Cass County)
- Thornapple Lake (Barry County)
- Thornapple River (Barry County)

### Links to our most recent Status of the Fishery Reports

Michigan DNR recently unveiled a new tool to help anglers compare different streams or track fish population trends in their favorite stream over time. The Stream Fish Population Trend Viewer gives anglers access to data on over 40 trout streams throughout the state, including several streams in southwest Michigan. Five species are included in the dataset: brook trout, brown trout, rainbow trout, coho salmon, and smallmouth bass. The Viewer allows users to choose different report formats (maps, graphs, or tables) and select characteristics of interest (e.g., number of brown trout larger than 12” per acre or total pounds of smallmouth bass per acre). The Viewer can be accessed at http://www.mcgi.state.mi.us/fishpop/#.
Interested in Learning More about Fisheries Division?

Visit our web page www.michigan.gov/fishing

- Read our 2013-2017 Strategic Plan.
- Buy a fishing license.
- Read or sign up to receive weekly fishing reports.
  http://www.michigan.gov/dnr/0,4570,7-153-10364_59567---,00.html
- Subscribe to email updates on a variety of topics.

Where Do We Stock Fish?

The SLMMU works closely with our hatcheries to stock fish in the near-shore waters of Lake Michigan and inland lakes and streams. To find out where we stock fish, and the history of fish stocking back to 1979, visit http://www.michigandnr.com/fishstock/ to use our online Fish Stocking Database.

Where Else Can I Fish Around Here?

Family Friendly Fishing Waters

Are you looking for a great place to go fishing that is easy to access, has a high likelihood of catching fish, has various amenities, and is all around family-friendly? Then the Family Friendly Fishing Waters project can help!

http://www.michigan.gov/dnr/0,4570,7-153-10364_52261-299046--,00.html

Do you know of Family Friendly sites that are not already identified? If so, we need your help! There is a survey at the above web site to nominate new sites. Thanks!

For more Michigan fishing tips check out—

http://www.michigan.gov/dnr/0,4570,7-153-10364_52261--,00.html
To obtain information on lake or stream surveys from this year or years prior or to ask any questions, please feel free to contact us. Use the map below to select the most appropriate biologist to contact:

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