

News Reel

Waterville Area Fisheries Newsletter

Summer 2017

Summer survey info provides pieces to the big-picture puzzle

Anglers visiting Waterville Area lakes this summer may see Waterville Fisheries staff busy conducting surveys. Each lake survey provides important information needed for successful fisheries management.

Surveys provide data needed to make management decisions for each lake, such as whether or not stocking is necessary, and if it is, which life stage of fish would benefit the lake the most. It also helps determine how many fish should be stocked to best benefit the existing population.

Survey says: Info for anglers

Surveys also allow DNR fisheries staff to compile fisheries data and present it to the angling public for their own use. Each lake survey consists of three components: trap nets, gill nets, and water quality measurements.

Trap nets are most effective at sampling nearshore fish species, such as bluegill and black crappie. Gill nets are most effective at sampling fish species in deeper water, such as walleye and northern pike. Electrofishing is used during the springtime in largemouth bass-managed lakes, since they are not effectively sampled in nets.

Each of the fish sampling gears is necessary to get a representative sample of the entire fish community. The lake survey schedule is determined by a lake rotation among all managed fishing lakes in the Waterville area. It typically takes about a week to complete each survey, depending on the lake size.

The Waterville fisheries staff usually surveys 9-12 lakes per summer. To complete a lake survey, a series of trap and gill nets are set throughout a lake at standardized

locations, each net is lifted after about 24 hours. Upon lifting the nets, each fish in the net is identified, measured, and weighed.

How old are they?

Aging structures are removed from select species such as walleye, and each structure is examined to determine the age for each individual fish. (See inside for more info.)

The ages of fish are used to determine important pieces of information, such as growth rates, year class strength, and stocking success. The number of fish per net provides information on catch rates, which are averaged and serve as an index of population relative abundance. This information can be compared to previous surveys within that specific lake and also compared to other lakes in the area. All of this information is compiled into survey reports, used to develop individual lake management plans, and then added to a long-term dataset that is used to detect trends and keep track of fish populations.

Contributed by Kip Rounds, fisheries specialist, Waterville Area Fisheries.

Surveys allow DNR fisheries staff to compile data and present it to the angling public for their own use.

ABOVE: Electrofishing is one method of catching fish to evaluate populations during summer lake surveys. Here, Waterville Area Fisheries staff are collecting data on bass in Lake Tetonka.

2017 Summer Surveys

Rice County Lakes:

- Circle • Roberds • Shields
- Hunt • Fox • French

Le Sueur County Lakes:

- Emily
- Sunfish • Tetonka

Steele County Lakes:

- Beaver

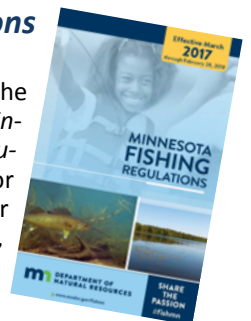
Blue Earth County Lakes:

- Lura

As results of each lake survey become available, view them from MN DNR LAKEFINDER online:
<http://www.dnr.state.mn.us/lakefind/index.html>

Fishing regulations books available

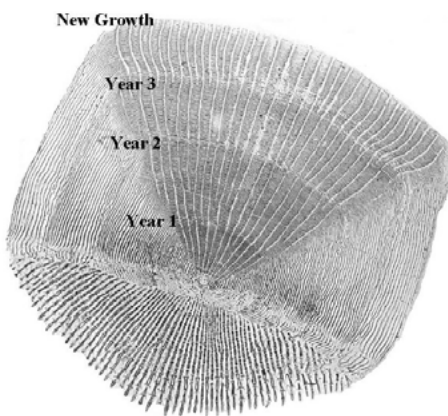
It's easy to keep the current issue of *Minnesota Fishing Regulations* in your boat or tackle box. For your complimentary copy, contact Waterville Area Fisheries at 507-362-4223.



LEFT: This large-mouth bass immediately rights itself in a holding tank after being electrofished and netted during a spring survey of Lake Tetonka. Scales are taken for aging, then the fish is released after being weighed and measured.

SURVEY SAVVY - Aging fish can be like aging trees

There are several aging structures that are removed from fish that can be used to determine its age. Scales, spines, cleithra (a bone near the gills of and unique to northern pike) and otoliths (commonly known as "ear stones" located near the brain of a fish) provide information that can be analyzed to determine age, growth rate, and numerous other valuable facts. Each of these structures form distinguishable growth rings, or annuli, which result from periods of variable growth rates. By identifying and counting these rings under magnification (much like aging rings on a tree), ages can be determined. During summer surveys, Waterville fisheries staff collect data that will be processed and analyzed during the winter months.



ABOVE, LEFT: This magnified scale shows three years plus new growth.

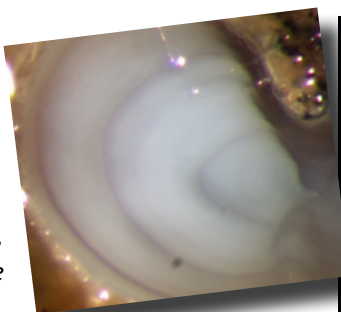
ABOVE: Skyler Wigen, fisheries specialist, assigns a serial number to a fish, catalogs the scales taken and records length and other measurements.



Fish are returned to the lake after scales are taken.

RIGHT: The cross-section of a walleye dorsal spine shows that the fish, taken in the fall, was three years old.

FAR RIGHT: This otolith of a six-year-old largemouth bass clearly shows the annuli that form when fish are growing very slowly over winter. Counting the "rings" determines age. Measuring between them and comparing length at time of capture can tell the size of the fish at each age. As fish age, cracking the otolith in half gives a clearer picture of the annuli, or growth rings. There are five visible rings, but this bass is six years old because the sample was taken in the spring.



AREA UPDATE - Craig Soupir, Waterville Area Fisheries supervisor



Summer months at Waterville Fisheries find staff conducting a variety of activities. We care for fish growing at the hatchery, area lakes are surveyed to assess fish populations, and we manage and improve over 2,000 acres of aquatic management areas. Public tours and outreach events, permitting, environmental review, and responding to concerns of local lake-shore residents, anglers, and area visitors keep our days full. We hope you enjoy the contents of this Newsletter, which goes into more details on these activities. All of these efforts are important components in achieving your and our mutual goal of developing and maintaining excellent fisheries resources. That goal would certainly not be achieved without your continued support.

Anglers make a difference **THANK YOU!**

The passion, dedication, and support of anglers was in full display leading up to the recent legislation signed into law.

Our fishing licenses cost will increase in March of 2018. Resident angling goes from \$22 to \$25; a nonresident angling license goes from \$45 to \$51. Increased fishing license fees will provide for the current level of customer service, management, and monitoring to maintain the world-class fisheries and habitats that keep Minnesota as one of the nation's top three inland fishing destinations. This is a time for anglers to be proud. **Your recent action** in voicing support for fishing license fee increases was hugely successful.

What took two years to accomplish in 2012, was accomplished in less than four months this year. Remarkable!

Your vocal support is truly what made the legislature listen and follow through in support of the proposed fishing license fee increases. We encourage you to take time to thank lawmakers and the governor for listening to you. Thank them for understanding that funding for natural resources and recreation is good for the health of our natural resources; it is good for rural and urban Minnesota; and it is good for our economy.

Funding increases enable us to maintain the same programs and service levels we have today. The new fishing license fees should keep the programs stable until at least 2021.

Thank you!

Healthy lakes need vegetation

Aquatic vegetation around lake shores and docks in the summer can get lumped into the "weed" category. But vegetation is important for the health of area lakes and should be conserved as much as possible. If the vegetation is at nuisance levels the MN Department of Natural Resources offers programs to remove vegetation to allow access and recreation.

Aquatic vegetation is not weeds

Aquatic vegetation occurs naturally in most Minnesota lakes. Most is native, providing benefits to fish, wildlife, and residents. Vegetation is an important component in the food chain as it produces insect larvae, snails, and freshwater shrimp which bluegills, crappie and other species eat. Bass, bluegills, yellow perch, and crappies use the cover that vegetation offers for spawning and nursery areas in the spring and early summer. Northern pike also use vegetation in marshes and flooded areas for spawning as their eggs adhere to the vegetation. Predatory fish use vegetation for cover to ambush and prey on other fish.

Improved water quality

Aquatic vegetation improves water clarity and quality by tying up the nutrients which cause large algae blooms. Rooted vegetation also stabilizes the lake bottom and prevents sediment from re-suspending to keep lakes in a clear water state. Some species absorb and breakdown polluting chemicals. Submerged vegetation plays an important role in the diet of waterfowl. Waterfowl eat the seeds and tubers (roots) produced by the vegetation. Some important species for waterfowl food include bulrushes, sago pondweed, wild celery, and wild rice. Healthy lakes start with vegetation.

Vegetation management

The Aquatic Plant Management (APM) program protects native plants and lake habitat from unnecessary harm while allowing lakeshore owners to control vegetation to allow lake access and recreation. A DNR permit is required when chemicals or automated control devices to control submerged vegetation (like coontail), or any destruction of bulrushes, cattail, or wild rice. Property owners can mechanically remove submerged vegetation via hand pulling, rake, or weedrazer up to 2,500 square feet (50ft x 50ft) area without a permit. The DNR has a set of rules and statutes to follow to determine how much shoreline property owners can control. Property owners can apply for a permit on MN DNR Permitting and Reporting System (MPARS) (www.mndnr.gov/mpars). MPARS offers a convenient online application system that enables applying and paying online. Information regarding the APM program and MPARS can be found on the DNR Webpage.

Contributed by Durel Carstensen, aquatic habitat specialist. Call: 507-359-6046
Email: durel.carstensen@state.mn.us

Fish Kills: Why do they happen?

The sight of multiple dead fish in one area can be troubling to anglers, lakeside property owners and fisheries staff. Although fairly common, there are a variety of reasons why they occur. The Waterville area fisheries team responds to notifications of fish kills by taking required samples to help determine the cause.

Natural causes of fish kills are:

- Low oxygen levels due to natural conditions and other intrinsic factors
- High water temperatures
- Disease
- Winter Kill

Human causes of fish kills are:

- Low oxygen caused by human impacts
- Toxic spills
- Manure runoff
- Pesticides and fertilizers
- Wastewater or storm water discharge high in temperatures



According to information provided by the University of Minnesota, about 500 fish kills occur statewide every year - but only a few of them are reported. Fish kills often occur when multiple factors happen at the same time. Low oxygen tends to affect large-bodied fish before small bodied fish. Fish kills affecting few species are likely to be caused by disease. However, toxic pollution or discharges can cause death among multiple species and sizes. Fortunately, very few fish kills result in total loss of a fish community.

Virus that affects carp responsible for Lake Elysian fish kill

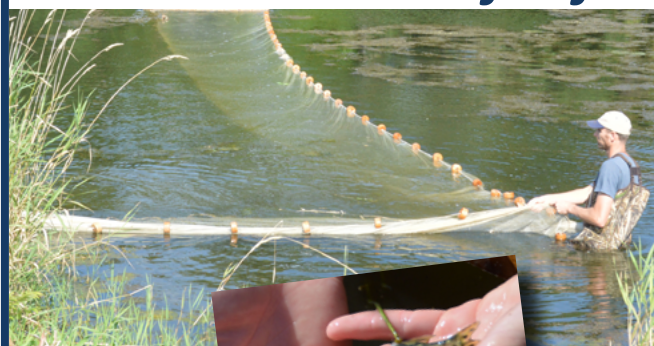
Thousands of common carp died last month in Lake Elysian, because of a virus that was likely introduced by the release or escape of ornamental koi or pet goldfish. A joint effort by MN DNR and the University of Minnesota determined Koi herpesvirus (KHV) was the main cause of the late-June fish kill. KHV does not affect humans and is not believed to affect other fish species. Goldfish can be carriers of the virus, but typically do not show signs of the disease.

This is one example of why it is so important to **not** release ornamental fish in to the wild. To prevent the spread of diseases and invasive species, anglers and boaters are required to clean their watercraft of aquatic plants and prohibited invasive species; drain all water by removing drain plugs and keeping them out during transport; and dispose of unwanted bait in the trash.

Call 800-422-0798
If you see multiple
dead fish in a lake or river
in one location

This number reaches the Minnesota Duty Officer and is available 24 hours per day, seven days per week. Your help is appreciated!

Muskies on track for fall stocking



Andrew Scholten, hatchery specialist, stretches a 100-foot seine to sample a corner of a production pond at Waterville Area Fisheries. Fish are measured and lengths are entered into a spreadsheet to assess comparative growth among ponds and years.

A beautiful Leech Lake strain muskellunge. The spotted patterns and bars help camouflage the fish in clear water with dense vegetation. Muskies from Waterville are stocked locally at French Lake (see back page) and throughout the state.



WATERVILLE AREA FEATURES: French Lake

IN RICE COUNTY

The saying “There’s always a bigger fish” is certainly true in French Lake. Located near Faribault, French is the only muskie lake in the nine-county Waterville Fisheries area. The population is maintained by stocking with muskies that are hatched and raised at the Waterville Hatchery.

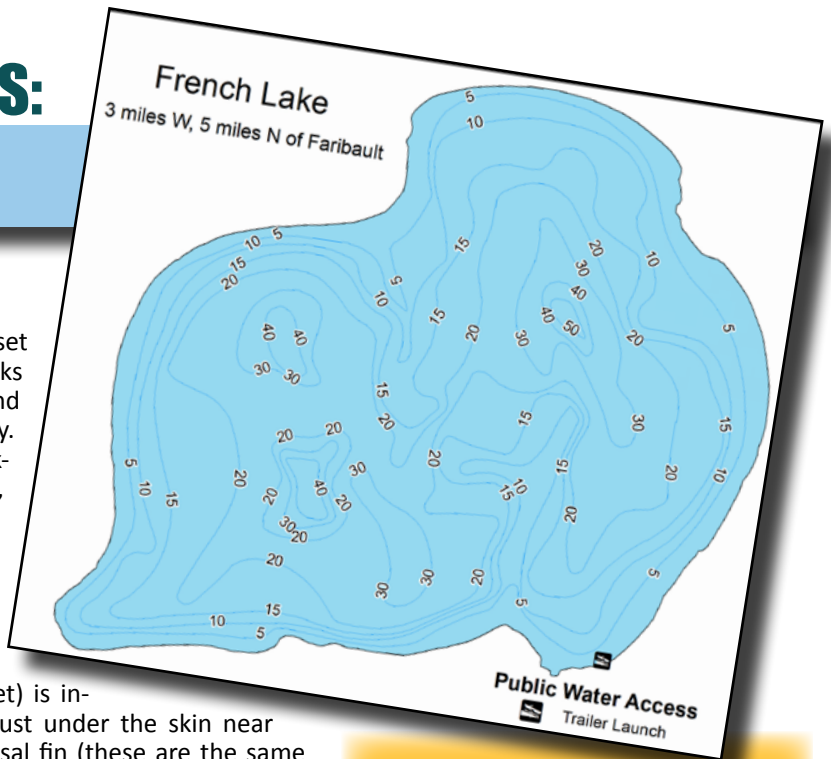
The first muskie stocking at French Lake took place in 1974 with about 600 small muskies. Those fish were descendants of fish from Shoepack Lake, located in Voyageurs National Park. Shoepack fish were used for about 15 years until it was discovered they did not grow nearly as large as fish from other lakes, such as Leech Lake. Since 1989, all fish stocked in French Lake can trace their lineage to Leech Lake. Current stocking plans call for 398, 10 to 12-inch Leech Lake-strain fish to be stocked each fall.

Muskies are difficult to sample. They are wary of nets and are too large to sample with standard survey gear. In order to effectively monitor muskies, fisheries staff conducts surveys targeting them during spring with large nets (pictured below).

Nets are set for two weeks in April and checked daily. When a muskie is captured, it is measured, weighed, and a tiny PIT (Passive Integrated Transponder) tag

(see inset) is inserted just under the skin near the dorsal fin (these are the same “chips” a vet might put in a dog). PIT tags allow fisheries staff to track individual fish throughout their lifespan, which is important for conducting population estimates.

Population estimates are a valuable tool that provide more information than a standard survey. However, they can be expensive and time consuming and are only conducted under special circumstances. Tracking the number of adult muskies in a lake qualifies as one of those important tasks. This year, an estimated 200 adult muskies are swimming in French Lake – that’s about one fish for every four acres of lake. During a recent April survey, 102 of those 200 fish were sampled. The largest fish was just under 51 inches



OTHER FISH

French Lake is also home to black bullhead, black crappie, bluegill, green sunfish, largemouth bass, northern pike, pumpkinseed, walleye, white bass, white crappie, yellow bullhead, yellow perch, bigmouth buffalo, bowfin (dogfish), common carp, freshwater drum, white sucker, emerald shiner, golden shiner, Johnny darter, and spot-tail shiner - as well as muskellunge,

A standard summer survey is being conducted this summer to assess other game fish in French Lake.

and weighed about 36 lbs. The majority of muskies were between 38 and 42 inches.

The next muskie population assessment is scheduled for 2020 and 2021.

Contributed by Brandon Eder, assistant supervisor, Waterville Area Fisheries.



ABOVE: Brandon Eder holds a 50-inch muskie captured in the net shown below during the survey of French Lake. The inset shows three PIT tags, next to a dime for size reference. LEFT: Waterville Fisheries staff stretch huge trap nets to gather survey data and monitor muskie stocking in French Lake.



To receive your complimentary copy of **NEWS REEL** or to submit topic ideas, contact Amy Roemhildt, newsletter editor, at amy.roemhildt@state.mn.us or call 507-362-4223 ext. 221.

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