Field Notes

From the Hinckley Area Fisheries Office

Fisheries management news from the Chisago, Isanti, Kanabec, and Pine County area, Summer 2021

Area news

Things are returning to normal in fisheries work in 2021. As of the first week of June, the Hinckley Area Fisheries Office field work season had been underway for almost two months.

We began with trap netting on Knife Lake around the time of ice out, as part of our periodic monitoring of the northern pike special regulation (24-36 inch protected slot, limit 3 with 1 over 36").

This was followed by a muskie population assessment on Island Lake. Special large trap nets were set and lifted for a period of just over a week to capture muskies. Individual fish were measured, weighed, and tagged. From our initial observations, the muskie population in Island Lake continues to have a low population density.

Walleye egg collection and hatching were successful around the state, and at the Hinckley office we were able to stock all of our base quotas for walleye fry in lakes and rearing ponds, as well as stocking all "surplus" lakes (lakes that are occasionally stocked once base quotas are filled).

The Lanesboro hatchery truck made its annual visit to the Hinckley area, with rainbow and brown trout for Grindstone Lake. We also stocked trout in Crooked Creek east of Hinckley. Stocking locations are just above Highway 48 and at the Matthew Lourey trail crossing in St. Croix State Park. Grindstone Lake received lake trout as well from Peterson State Hatchery in southern MN.

Although no lakes in the area were reported to have severe winterkills in 2021, three lakes, Pomroy, Little, and Fish (by Finlayson) had suffered severe kills in the winter of 2019-2020. We stocked these lakes in May with adult pre-spawn crappies, sunfish, and largemouth bass in an effort to boost re-population of these species.

Creel survey in progress on Grindstone, Knife Lakes

Beginning on the weekend of the fishing opener, Caleb Waters, our temporary employee, has been counting and interviewing anglers on these two lakes. The goal of this survey is to collect current information on angler use and preferences on the lakes, as well as to estimate the numbers, sizes, and species of fish that are being harvested and released. The last time a survey like this was done on Grindstone and Knife lakes was in 2003. We owe many thanks to a Knife Lake shoreline owner who is allowing us to dock a boat at their property. Caleb will continue working the survey through October.

Cross, Pokegama lakes proposed for quality sunfish regulations

A 10 fish bag limit has been proposed for sunfish on Cross Lake, Pokegama Lake, and the Snake River between the two lakes. This is a reduction from the statewide 20 sunfish bag limit currently in place. The goal of the proposed regulation is to protect the quality sized sunfish populations that exist in these lakes.

Studies have shown that angler harvest, especially of large male sunfish, can have a huge impact on size quality in a sunfish population. Reduced bag limits have been shown to be effective in maintaining good sizes in sunfish populations. Test netting on Cross and Pokegama lakes has shown that these lakes consistently produce large sunfish. However, with increasing use of technology in fishing, combined with rapid social media communication, lakes with good sized sunfish may be at risk to overfishing.

The public is invited to comment on the proposed regulations, and public input meetings are planned for this fall. Currently the best way to comment is by e-mailing us at hinckley.fisheries@state.mn.us. More information on quality sunfish management can be found on the DNR website: https://www.dnr.state.mn.us/fish/sunfish/index.html .

Work continues on Grindstone dam environmental review

A mandatory Environmental Impact Statement (EIS) is being prepared for the proposed removal of the Grindstone River dam at Hinckley. Several studies are being done, including a mussel survey, hydrology studies to determine potential impacts to wetlands and local wells, geologic surveys, and reservoir topography. As of June, the extensive EIS process is expected to conclude in the spring of 2022. Completion of the EIS must take place before permits can be obtained and ground work can begin. Learn more about this project at: https://dnr.state.mn.us/areas/fisheries/hinckley/rivers/grindstone.html .

Lake Mora: Providing year round local fishing, no boat necessary

A lot of anglers heading from the Twin Cities north on Highway 65 may go by Lake Mora without giving it much attention. At first glance, Mora does not look like a fishing destination. But the 75 acre basin, bisected by the highway, is known to locals as a destination for shore fishing at the library park, and ice fishing in the winter.

The Hinckley Area Fisheries Office manages Lake Mora as a "kids' fishing pond". That means that while the lake naturally produces some species, additional fish are stocked to provide greater fishing opportunities for families and to increase young anglers' chances of success. This type of management is done on numerous small lakes in the Twin Cities metro area through the DNR's Fishing in the Neighborhood (FIN) program.

Lake Mora has an interesting history of water levels. The lake is believed to be closely related to and dependent on the underlying water table and drought cycles to maintain levels. It has gone from nearly completely dry in the 1930s to times when it has nearly overtopped Highway 65. In those cases, pumps have been used to divert excess water to the Snake River. Lake depth maps available on LakeFinder on the DNR's Web site were done at a low water period; the maximum depth of 9 feet listed on the maps is probably more like 20 feet at current levels.

With fluctuating water levels comes the possibility of winterkill. Shallow lakes tend to lose their oxygen supply in winter; this can vary depending on ice thickness, snow depth, connections to springs and other water bodies, and other factors. The City of Mora operates an aeration system most winters to improve overwinter survival of fish in the lake. The system creates areas of open water and thin ice that are required to be marked for safety purposes, but ice fishing is still possible in other parts of the lake.

Lakes that are prone to winterkill tend to accumulate high numbers of species that are tolerant to low oxygen, such as black bullheads and fathead minnows. Bullheads can stir up the bottom and make things undesirable for game fish. So what to do about bullhead populations? If the fish are big enough, some licensed commercial netters will net them for market. But it can take years for black bullheads to reach a size that is desirable for commercial fishing. The commercial netter assigned to this area attempted to harvest bullheads from Lake Mora in 2018, but had minimal success.

It turns out the bullhead's close relative, channel catfish, doesn't mind eating small bullheads and can be effective in controlling bullhead numbers. Channel catfish are native to the Snake River watershed but there is no connection between the river and Lake Mora. So the management plan for Lake Mora involves stocking adult or fingerling channel catfish when available to provide a bonus fishery while also attempting to keep the bullhead population at bay.

Finding a source for channel catfish can be difficult. We used to stock them from the Horseshoe chain of lakes near Richmond, MN where they are abundant, but that is no longer an option due to the possibility of transferring invasive species. This spring we had the opportunity to purchase fingerlings from a hatchery in Missouri. On March 26, 2021, fisheries specialists Nate Painovich and Heath Weaver picked up the 1,575 catfish fingerlings from the DNR hatchery at St. Paul and stocked them into Lake Mora. The fingerlings weighed about 1/5 of a pound apiece and are expected to grow quickly.

There are other species to be found. Crappies and sunfish have been numerous in recent years but tend to be on the small side. There were good numbers of largemouth bass in the 10 inch range last year; these fish should continue to grow and provide some good fishing action. Walleye fingerlings were last stocked in 2019; walleyes can be a bit tricky to find on the lake. Perch occasionally produce a good bite. Some patience might be required when fishing as small bullheads are abundant and will readily bite on many kinds of bait.

IF YOU GO: Lake Mora is best suited for shore fishing and ice fishing and can be accessed by the library park on Maple Avenue or by Olsen Park just off Highway 65. Small boats can be launched at Olsen Park if water levels allow, but safe parking is scarce.

South Center monitoring seeks to shed light on long term trends

How do you locate and retrieve a rope anchored below the surface in 90+ feet of water on an 800 acre lake?

That is the task John Frank, Nate Painovich, and Deb Vermeersch from the Hinckley Fisheries office had in late winter on South Center Lake, located between Lindstrom and Center City in Chisago County. It turned out to be somewhat like the proverbial needle in a haystack (and threading said needle), but technology such as GPS and an underwater camera ultimately helped to make the job a success.

South Center is one of 25 Sentinel Lakes located throughout different ecoregions in Minnesota. The Sentinel Lakes Program is an intensive, long-term lake ecosystem monitoring program begun in 2008 to detect and understand the physical, chemical and biological changes occurring in Minnesota's lakes. Along with partner organizations, the DNR monitors the water quality, aquatic plants, phytoplankton, zooplankton and several aspects of the fisheries community.

Water temperature data are collected on all of the sentinel lakes year around. For some shallow lakes, these data are collected at only a single depth. Since South Center is a complex basin with deep areas, temperature sensors are placed every 2 meters on a rope that is anchored in 90 feet of water, near the lake's deepest point.

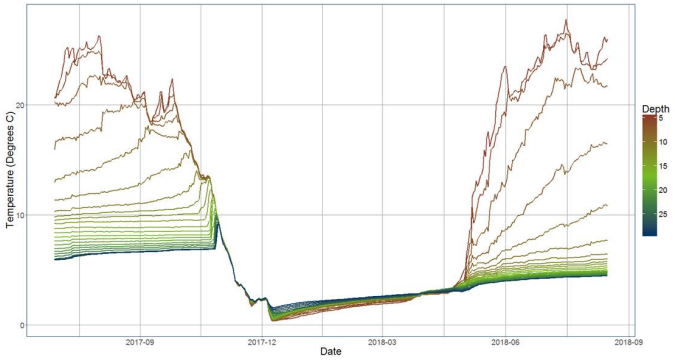
Temperature sensor chains can be retrieved during open water or ice covered conditions, depending on the preferences of the area office. Previously the South Center chain was retrieved in open water by circling around the GPS coordinates of the chain in a boat with a weighted hook on a rope. This process worked, but it often took a long time of circling around (and a lot of luck) before the chain was finally snagged. The ice method is preferred by many Fisheries offices because the chain can be located more easily with underwater cameras, and reset with more precise GPS coordinates, than in open water. Also, staff workloads are generally more flexible in late winter than during the open water field season.

To locate the sensor chain, we first located the last GPS coordinates where the chain was set. Painovich proceeded to drill holes in the ice, while Frank used an underwater camera to get a visual observation. We ended up having to drill numerous holes before getting close enough to see the chain and snag it with a hook on a rope. To make matters worse, the float that was originally set to suspend the rope had been broken off, and there was not a good sized loop in the rope to hook on to. Often the rope would drift away from the slight turbulence the snagging hook created. After a long time and many near misses, we finally hooked on to the rope and were able to pull up the sensor chain.

After retrieval, Vermeersch connected each temperature sensor to a laptop computer to download data. Luckily all of the sensors were functional. Once every sensor had a satisfactory reading, and with a new float installed on the rope, the sensor chain was sent back into the depths of the lake. Back at the office, data were uploaded to a central database for additional processing, quality control, and archiving.

Because most fish species have specific temperature habitat requirements, these data are important in understanding how these habitats are changing at both short- and long-term timescales. Additionally, temperature metrics are related to many other physical, chemical and biological processes that occur in lakes and help us gain greater knowledge about what is going on in Minnesota's lakes.

Here is a sample graph that plots temperatures at various depths through time on South Center Lake. The middle area is a period from fall-spring when the water is mixed and temperatures are even throughout the lake.



For more information on the Sentinel Lakes monitoring project, please visit the project home page on the DNR website:
https://www.dnr.state.mn.us/fisheries/slice/index.html

Staff spotlight: Deb Vermeersch

I grew up in Robbinsdale, a suburb of Minneapolis. I spent a lot of weekends at my grandparents' home on West Rush Lake near Braham MN, along with a few trips to my other grandpa's place on the St. John's River in Florida. These times near water made me who I am; catching crappies and sunfish out in front of the neighbors' place in an old rowboat, swimming and water skiing, catching shrimp on the St. John's River by lantern with a cast net, and watching birds. I consider myself very lucky to have had these quality times outdoors growing up.

I had a really good biology teacher in high school, and that influenced my choice of a biology major at Gustavus Adolphus College in St. Peter MN. That saved my parents a lot of worries, as my other choice would have been a music major, severely limiting my opportunities to make a livable income. After I graduated from Gustavus, I went on to pursue my Master's in Fisheries Science from South Dakota State University in Brookings, SD (go Jackrabbits!) I was part of a team that studied the physical, chemical, and biological characteristics of Lake Oahe, a reservoir on the Missouri River. My work focused on the lower levels of the food chain, and my thesis specifically studied food habits and distribution of emerald and spottail shiners.

I began my DNR career at the former Montrose area fisheries office (now in Sauk Rapids) just weeks after the Halloween blizzard of 1991. I have worked in several area offices over the years, but most of my time has been at the Hinckley office. I have been the Assistant Area Fisheries Supervisor for the past 8 ½ years. My favorite part of my job is exploring the historical aspects of the local lakes and rivers, and working with partner agencies on improving aquatic habitat. I also enjoy the task of writing and editing our area newsletter.

I have lived in northern Pine County for over 18 years on 40 acres by Sand Creek, one of our trout streams. I am mom to three young adult kids, four cats, and one Siberian husky, and wife to a musician. My hobbies include playing music on several instruments, gardening, yoga, running (slowly), kayaking, and writing. My goal is to add fly fishing to that list this year.

Got questions? The DNR Information Center can help you:

- Get in touch with a Conservation Officer
- Learn what to do about injured or nuisance wildlife
- Learn to manage your shoreline for water quality

And more! If you're not sure who in the DNR you need to contact, they can help. Call **888-646-6367** (888-MINNDNR) or email info.dnr@state.mn.us

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