

Field Notes

From the Hinckley Area Fisheries Office

Fisheries management news from the Chisago, Isanti, Kanabec, and Pine County area, Winter 2025

2024 activities

2024 was a busy year for staff at the Hinckley fisheries office. We were fortunate to have the help of temporary fisheries specialist Jeremy Laurich and intern Caleb Anderson, along with staff from other area offices and volunteers.

- Early April: Knife River WAE egg take and spawning
- April: Muskie assessment on East Rush Lake (see results in article)
- May: Special trap netting targeting bluegill (4 lakes) and black crappie (2 lakes). More information in this issue.
- May: Stocking walleye fry in selected lakes and in natural ponds for fingerling rearing.
- Late May: Night electrofishing for largemouth bass on lakes where we completed standard lake surveys.
- **June-August:** Standard Lake surveys including gill netting and trap netting. Lakes surveyed were Tamarack, Upper Pine and Sand (Pine County) and Francis, Baxter, Little Stanchfield, and South Stanchfield (Isanti County)
- Nearshore fish sampling for Index of Biotic Integrity assessment
- Muskie fingerling rearing in 4 drainable ponds
- Survey targeting smelt and lake trout on Grindstone Lake
- Lake sturgeon tagging on the Kettle, St. Croix and Snake rivers
- Channel catfish sampling on the St. Croix River (see article)
- Plant surveys and mapping on Lake Eleven and Upper Pine Lake
- Maintaining and improving fishing trails on Hay Creek in St. Croix State Park with Challenge Incarceration Program crew
- Trout stream surveys: Lawrence, Hay, Sand, and Wolf creeks.
- Fall: Walleye and trout stocking, muskie rearing pond draining and stocking fingerlings

Reports for 2024 surveys are in the process of being written and reviewed; lake survey information will be available at LakeFinder on the DNR website in May. If you would like preliminary results for any of the surveys listed above, please call or email our office (Contact info on last page).

Revised lake management plans are being prepared for the following lakes: Baxter, Francis, Little Stanchfield, Sand, South Stanchfield, Tamarack, and Upper Pine. The public will have a chance to review and comment on management plans.

Surveys planned for 2025

Standard lake surveys (gill nets, trap nets, electrofishing) *indicates additional nearshore fish sampling for watershed assessments

Chisago County

- North Center 13-0032-01*
- Little 13-0033-00*
- Kroon 13-0013-00*
- Goose 13-0083-00*
- Horseshoe 13-0073-00*
- West Rush 13-0069-02*

Isanti County

- Green 30-0136-00
- Florence 30-0035-00

Kanabec County

- Fish 33-0036-00*
- Knife 33-0028-00*

Pine County

- Grindstone 58-0123-00*

Spring trap netting for muskie: West Rush 13-0069-02

Spring trap netting for bluegill

- Cross 58-0119-00
- Pokegama 58-0142-00
- Grindstone 58-0123-00
- Sand 58-0081-00

Spring trap netting for crappie

- Green 30-0316-00
- Island 58-0062-00

Channel catfish hoop netting: Snake River

Lake sturgeon tagging: St. Croix, Kettle, Snake rivers

Trout streams: East & West Crooked, Little Hay, Lost

Spring netting on East Rush reveals healthy muskie, northern pike, and walleye populations



A netting survey was conducted on East Rush Lake from April 9 -29, 2024. 15 large frame traps nets (5 x 6 foot frames) were set to target muskie, northern pike, and walleye. Water temperatures ranged from 50-60 degrees during this survey; this is the temperature when muskies spawn and are most active near shore. This was the eighth spring muskie assessment on East Rush Lake, with previous surveys that occurred in 1987, 1992, 1997, 2001, 2006, 2011, and 2017. Nets were checked daily for 20 consecutive days. All muskie, northern pike, and walleye were measured, and muskie were weighed.

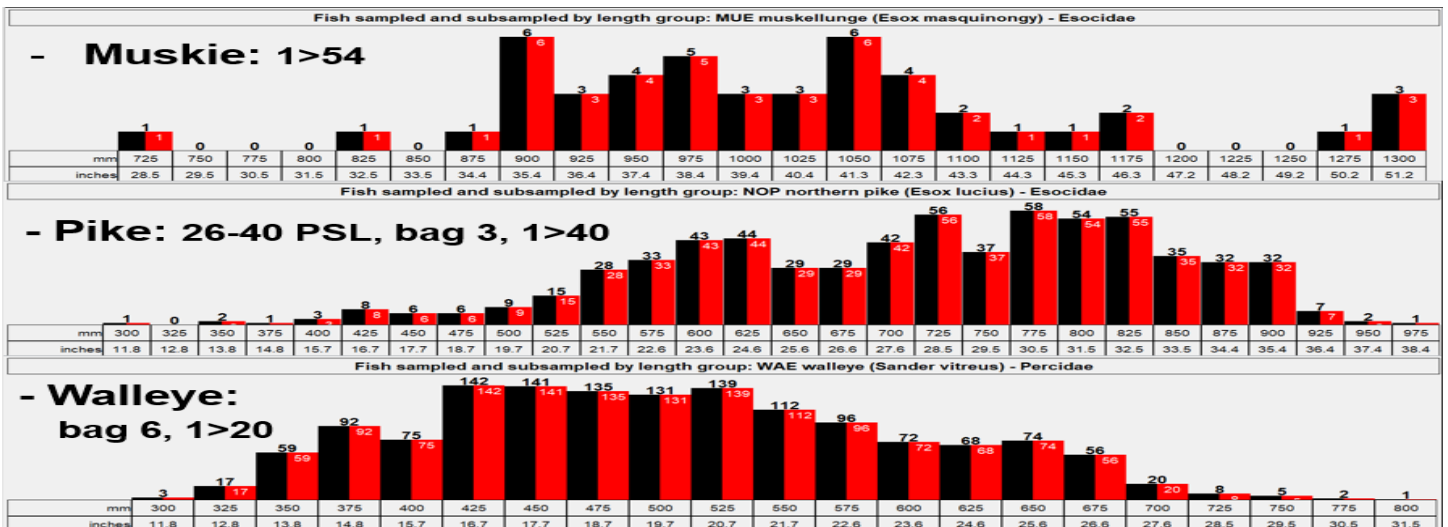
Additionally, muskies were scanned for an internal tag. All muskies caught in previous surveys are tagged with a PIT (Passive Integrated Transponder) tag. The tag has an individually coded number which can be scanned to find out information such as the year the muskie was tagged, and length and weight when tagged. If no tag was found,

a tag was inserted and the number recorded.

A total of 47 muskies were caught in 2024, 11 females, 34 males, and 1 immature fish. Females ranged in length from 41.8-52.0 inches and had an average length of 47.0 inches. Males ranged in length from 33.4-43.3 inches and had an average length of 38.9 inches. The numbers of muskies sampled in surveys from 1987-2024 were: 1987 (38), 1992 (18), 1997 (44), 2001 (82), 2006 (32), 2011 (39), 2017 (22), and 2024 (47). These numbers vary due to spring sampling conditions, sampling effort, changes in population size, and other variables.

In addition to the muskies sampled in 2024, 1,431 walleyes and 667 northern pike were sampled and measured. Walleye ranged in length from 12.6-31.9 inches and had an average length of 20.4 inches. Northern pike ranged in length from 12.7-39.0 inches and had an average length of 28.6 inches. A special regulation is present for northern pike which requires all pike from 26-40 inches must be immediately released. The possession limit is 3, which can only include 1 over 40 inches. Overall, 31% of pike sampled were less than 26 inches and available for harvest, while 44% were 30-39 inches.

Overall, the muskie, northern pike, and walleye populations are very healthy and balanced in East Rush Lake. This fishery provides great opportunities for anglers to catch a diversity of species. Trophy muskies, pike, and walleyes are available for photo opportunities, while there are lots of pike and walleyes available for harvest. Additionally, East Rush Lake has excellent black crappie and bluegill fisheries.



DNR aims to protect big bluegills



Sunfish (Bluegill) are one of the most frequently caught fish in Minnesota lakes. For years, anglers have told the DNR they are satisfied with sunfish numbers, but an increasing number of every-day anglers, guides, and resort owners, are concerned with size quality. Harvest of too many large sunfish is a common factor causing size quality to decline, so reduced limits may be needed to meet angler expectations on some lakes. Special sunfish regulations have been used successfully in Minnesota for well over a decade but have only been applied to select lakes. A review of Minnesota lakes that have had special sunfish regulations in place for over a decade found that lower limits have been effective. Lakes managed with 10 fish bag limits have maintained size quality while average size has increased on lakes managed with 5 fish limits. However, special regulations need to be applied prescriptively, meaning placed on select lakes capable of

growing quality sized sunfish.

The Quality Sunfish Initiative (QSI) is a statewide, stakeholder driven program to maintain and/or increase the number of lakes with quality sized sunfish populations. Currently, Hinckley Area Fisheries has two lakes that are part of the QSI initiative, which include Cross and Pokegama lakes near Pine City in southern Pine County. Bag limits were reduced from 20 to 10 on these two lakes in March of 2022, and populations are scheduled to be surveyed in May of 2025. There is interest for a few additional QSI lakes to be geographically distributed throughout the four county Hinckley Fisheries Area. Therefore, lakes in northern Pine, Kanabec, Isanti, and Chisago counties will be evaluated to identify if sunfish populations that are capable of producing quality sized individuals.

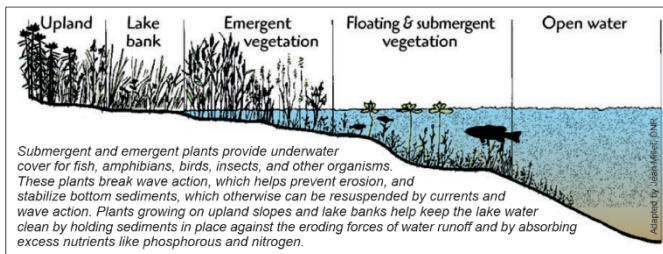
To appropriately evaluate an adult bluegill population, trap nets are used in the spring as water temperatures are warming and adult Bluegill are actively moving throughout the shallows. Water temperatures between 60-67 degrees are ideal to catch adults, as bluegill males start making nests and become sedentary as water temperatures increase beyond 67 degrees. The lakes Hinckley Fisheries evaluated in the spring of 2024 included Blue (Isanti), Quamba (Kanabec), Island (Pine), and Sturgeon (Pine). The goal will be to continue to complete four surveys per year targeting bluegill populations prior to spawning. After lakes are identified as supporting populations with quality sized individuals, fisheries staff will evaluate if a QSI regulation proposal is of interest to stakeholders. Any proposed regulations would go through a thorough 12 to 18-month public review process consistent with any regulation change that involves local stakeholders and public input opportunities.



More information about sunfish biology and management can be found at:

www.dnr.state.mn.us/fish/sunfish/index.html

Healthy shorelines = healthy lakes



The place where land meets water is a productive and diverse zone that provides habitat for plants, fish, and wildlife. Shorelands include the transition between uplands, the land's edge, and the shallows. Each of these zones contain different plants and soil types that serve many functions to the lake ecosystem, including food, cover, shelter, and shoreline stability. When shoreland areas are disturbed, the changes may include loss of wildlife and fish habitat, erosion, and reductions in water quality.

The development of shorelines in Minnesota over the last 100 years has greatly changed the nature of lakes. Research has shown the effects of shoreline development and alteration on water quality, fish, and wildlife. These include:

- Reduction in preferred spawning habitat for largemouth bass and crappies;
- Reduction in the number of frogs counted in calling surveys as number of homes/shoreline mile increases;
- Reduction in fallen trees and other woody debris in developed shoreline waters. This may affect the production of aquatic insects, the base of the lake food chain, and may reduce spawning habitat for species such as yellow perch;
- Loss of aquatic emergent and floating leaf vegetation cover with increased development;
- Loss of tree canopy and shrub cover, leading to changes in songbird communities;
- Increased runoff from shoreland, leading to increased sediment and nutrient levels in water and decreased water quality.

Fortunately, there are ways lakeshore property owners can protect and improve their shoreline habitat while still enjoying lake views and recreation.

Recommendations

Clear as little shoreline as possible to provide access and recreational use. Leave trees and shrubs in upland areas, or plant to restore cleared areas.

Leave fallen trees in the water when possible.

Minimize hard surfaces such as driveways and patios near the water's edge to reduce runoff.

Leave an unmowed buffer strip between landscaping/lawn and water. Plant native grasses and flowers that have long root systems that hold soil in place better than lawn grasses.

On shoreline that is subject to wave erosion, seek naturally engineered solutions before using hard armor such as riprap.

Resources:

The DNR Restore your Shore website has information on the benefits of natural shorelines, shoreline best practices, permitting for in-lake projects and aquatic plant management, plant sources, and more.

<https://www.dnr.state.mn.us/rys/index.html>

Want to know how ecologically friendly your shoreline is? Score your shore is a tool to assess shoreline habitat:

<https://www.dnr.state.mn.us/scoreyourshore/index.html>

Soil and Water Conservation District (SWCD) staff can help with designing shoreland restoration projects and may be able to find cost share programs. They can also help you get involved in [local watershed planning](#) to protect water resources:

Pine County: <https://www.pineswcd.com/>

Kanabec County: <https://www.kanabecswcd.org/>

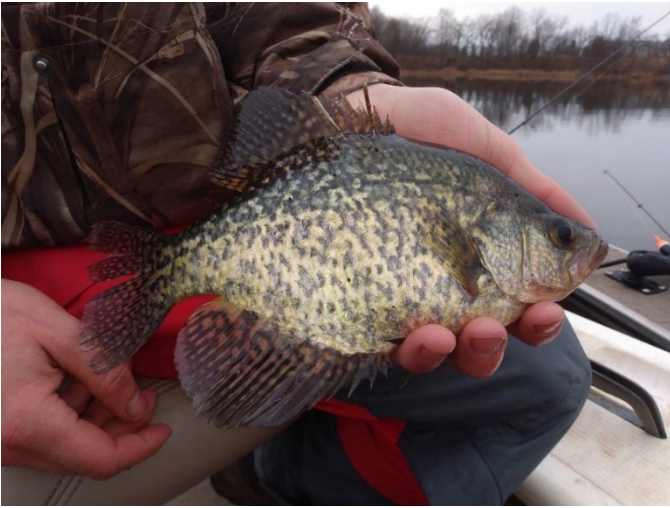
Isanti County: <https://www.isantiswcd.org/>

Chisago County: <https://chisagoswcd.org/>

Planting trees and shrubs can help protect soil and improve lakeshore wildlife habitat. All of the SWCD offices listed above hold annual tree sales. 2025 order deadlines are in mid April, but as popular species sell out quickly it is best to order early. The [DNR State Forest Nursery](#) also has trees for sale in quantities of 100+.

Remember the shoreline is the “thin green line” between land and water, and is critical habitat for a diversity of animals. One 100 foot lot on a lake may not seem like it makes that much difference, but shoreline management has cumulative effects around the entire lake. We all benefit from lakeshore management that considers the entire ecosystem—including humans.





Statewide research study focuses on black crappie populations

Black Crappie are one of the most targeted fish species in Minnesota. Unfortunately, despite long-term datasets, many questions about their populations remain. Previous monitoring efforts relied heavily on MNDNR's standard summer surveys. However, black crappie tend to move offshore and are generally not sampled effectively during the summer months with standard sampling techniques (gill nets, trap nets). In addition, much of the previous work relied on scale aging structures. Unfortunately, these structures tend to underestimate ages and can be unreliable. In an effort to better understand these populations, a statewide research project was initiated in the spring of 2024. Lakes included in this study will span Minnesota and will vary in size, productivity levels, and black crappie harvest regulations. Our goal is to collect information from 30-40 lakes annually, for a project total of 100+ lakes by the end of 2026.

This project will shed some light on population characteristics of Minnesota's crappies (i.e., how fast individuals grow, which lakes tend to have the fastest growth). An improved understanding of these populations will allow MNDNR to improve our management of the species. For example, MNDNR would be able to compare growth rates across populations and describe lake conditions that support high-quality crappie populations. Conversely, it might be possible to identify lake types where black crappie tend to grow slowly and would not achieve desirable sizes – these lakes would likely not be good candidates for special regulations, as reduced harvest would be

unlikely to improve the average length of the population. Finally, high-quality data from this project will be used to explore the effects of various harvest regulations, determining if reduced bag limits may improve average size of crappies and if so, what types of lakes may be best suited to see improvements. Collectively, this project hopes to dramatically improve our understanding and management of crappie populations in Minnesota.

Hinckley Area Fisheries Office has collaborated closely with this project and was able to sample crappies in three lakes this past spring (Goose, Knife, and East Rush). Growth rates varied widely, with Knife (Kanabec) having the most rapid growth followed by East Rush (Chisago), and Goose (Chisago). Hinckley Area is planning to survey West Rush (Chisago), Green (Isanti), and Island (Pine) in the spring of 2025. Surveys are conducted when water temperatures are in the low to mid 50s. These are pre-spawn temperatures when males and females are actively cruising the shallows prior to establishing nests. The goal is to sample males and females in similar proportions.

The DNR Info Center can help you find answers to all of your natural resource questions. Call **888-646-6367 (888-MINNDNR)** or email info.dnr@state.mn.us

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