Field Notes

From the Hinckley Area Fisheries Office

Fisheries management news from the Chisago, Isanti, Kanabec, and Pine County area Spring 2020

Spring 2020: Area lakes mostly spared from winterkill

Winterkill is a term used to describe a fish die-off in late winter due to low dissolved oxygen levels. The amount of dissolved oxygen in a lake begins to diminish after ice formation, when water is not aerated by wind. Some aquatic plants can live under the ice and produce oxygen through photosynthesis. But if heavy snow covers the ice, very little light reaches the plants, which then die and decompose. The breakdown of plant matter consumes additional oxygen. Shallow, productive lakes are the most vulnerable to winterkill.

The last time lakes in the Hinckley management area had a significant winterkill was in the spring of 2014, after a long winter with heavy snow cover. The most notable kill was at North Center Lake, where numerous dead carp, crappies, bass, perch, Northern Pike, and Walleye appeared after ice out. North Center had not experienced any winterkill in recent history. However, this kill was far from complete. Electrofishing soon after ice out found live northerns, crappies, bass, and sunfish, among other species. Some pre-spawn Northern Pike, bass, and Bluegill were stocked, as well as Walleye fry. The Walleye fry stocking was successful, with young of year Walleye showing up in fall electrofishing. Fishing reports from 2014 indicated that the partial kill had little impact on fishing in the lake. The connections to South Center and North Lindstrom lakes may have aided the quick recovery of the fishery on North Center.

Due to heavy snowfall early in the winter of 2019-2020, we suspected that there could be potential for winterkill on some lakes. Area fisheries staff began checking dissolved oxygen levels in mid February on selected lakes that were known to be susceptible to winterkill. This included Lake Mora and Knife Lake north of Mora. These lakes have aeration systems that can be operated in the event of low oxygen levels to prevent winterkill. February 2020 sampling found adequate oxygen levels in these lakes, so aeration was not necessary. However, on Pomroy Lake west of Hinckley, oxygen was below 1 part per million at most depths, indicating a winterkill was likely.

Reports from the public after ice out appear to confirm that Pomroy had some degree of winterkill. Fish Lake west of Finlayson in Pine County also had numerous reports of dead fish, as did Little Lake by Center City in Chisago County. We plan to evaluate these lakes by electrofishing as soon as we can resume field work using appropriate safety measures. If game fish are found to be lacking, we will make stocking plans based on fish availability.

Quality Bluegill Initiative: Protecting Big Bluegills

By Deb Vermeersch, Assistant Area Fisheries Supervisor

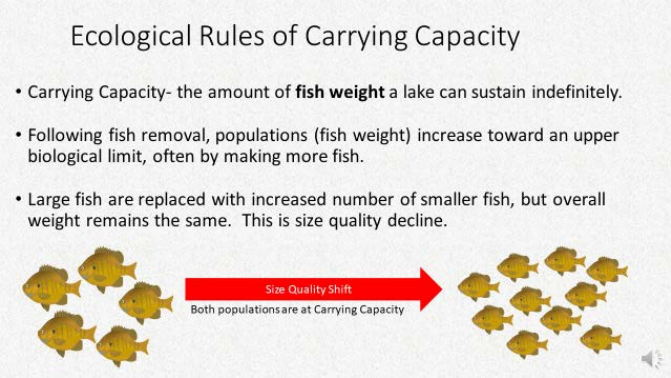
I remember spending summer weekends at my grandparents' home on West Rush Lake when I was growing up. The neighbors' grandkids and I would take an old rowboat nicknamed "The Destroyer" out just in front of their place and catch stringers of crappies and sunfish. The limit for sunfish was 30 back then, and there seemed no end to the colorful Bluegills that were bigger than my hand at the time. If we caught smaller ones, we would throw them back to "let them grow".

Many Minnesota anglers and cabin owners have similar memories. We didn't realize that we could be impacting a seemingly limitless population of sunfish. But, as time went on, fisheries managers and concerned anglers began to notice some signs that things were changing. Although anglers were satisfied with the numbers of sunfish they were catching, they were finding the good sized ones—the eight inch plus, half pound sunfish—fewer and farther between.

There are a few biological reasons for the apparent decrease in sizes of Bluegill. The first is the concept of carrying capacity, or the amount of fish by weight that can be supported by an ecosystem. In a relatively unexploited population with large Bluegills present,

Quality Bluegill Initiative, continued

there will be fewer fish overall but a higher proportion of large fish. When larger sunfish are selectively harvested, there will be room for more fish overall but the biomass will be distributed among smaller fish. Bluegill only grow about an inch a year, so once the larger ones are removed it takes a long time for them to be replaced.



Another reason involves the Bluegill's reproductive strategy. Sunfish spawn in large nesting colonies during the spring and early summer. Parental male sunfish build and defend nests. The larger males are at an advantage for this, and females will select larger males to spawn with. These large males put a lot of energy into getting big, and the benefit is passing along their genetic material.

When larger males are removed from the population due to heavy angling pressure and selective harvest, the remaining small males don't need to compete with larger males to spawn. Instead of growing, they devote their energy to spawning at younger ages and smaller sizes. In time this reduces the population's genetic capacity to produce larger fish.

In 2003, the daily bag and possession limits were reduced from 30 to 20 to alleviate concerns about excessive harvest. Still, an analysis of average sizes of Bluegill from DNR lake surveys since then has shown that the reduced bag limit had no effect on average sizes.

DNR Fisheries managers are responding to angler desire for bigger sunfish by seeking out specific lakes that would be a good fit for improving sunfish size quality by reducing sunfish bag limits. Some angling groups have been asking the DNR for several years to consider modifying the 20-fish bag limit for sunfish and adding length restrictions, but angler survey data show apprehension over a statewide bag limit reduction or length restrictions. In response, the DNR is seeking to identify individual lakes that have the right biological characteristics, and local angler support, to benefit from reducing the sunfish bag limit. The goal of this project, called the Quality Bluegill Initiative, is to increase the number of lakes with bluegill special regulations to 200-250 by 2023.

This approach has been tested on a small scale in select lakes that have had experimental or special regulations for Bluegill for ten years or more. The results have been encouraging: Lakes with a 10 fish bag limit generally maintained a quality size structure, while lakes with a 5 fish bag limit generally saw improvements in Bluegill size structure. The public has been favorable towards these regulations as well: after review including public input, none of these regulations have been removed. Three lakes with 10 fish bag limits actually modified to a 5 fish bag limit after review.

Most of the lakes in the Hinckley fisheries management area have fishable populations of Bluegill. Creel surveys have shown that Bluegill are the single most harvested species in area lakes. But could special regulations help to improve average sizes of Bluegill in the area? That depends a lot on the existing populations of Bluegill, as well as angling pressure. A quick query of recent survey results for Hinckley area lakes shows that most lakes have moderate to high populations of Bluegill with average sizes of 5-6 inches. Many of these lakes have some 7 inch fish, but the number drops sharply for fish larger than that; Bluegill 8 inches and above are almost nonexistent in gill and trap net samples. That makes sense, given that the average length of Bluegill harvested in area lakes is around 7.3 inches (source: creel surveys from 1998-2014).

There are a few exceptions. Cross Lake and Pokegama Lake, both near Pine City, had average harvest lengths of 7.8-8.0 inches for Bluegill in a 2013-2014 creel survey. Trap netting in the spring of 2019 showed a good portion of the populations in these lakes were 8-9 inches. Several other smaller lakes throughout the Hinckley management area have had 8-9 inch Bluegills in recent surveys. Hinckley Area Fisheries staff are hoping to collect more data on select lakes and determine whether special regulations would be feasible. This process will include discussions with lake associations and other interested people.

Regardless of whether a lake is selected for special regulations under the Quality Bluegill Initiative, now is the time to rethink old ideas about harvesting Bluegills. Keeping some for a meal is okay; they are an abundant, sustainable source of food. But keeping the medium sized ones and releasing the big ones will be necessary to keep the memories of quality sunfish fishing alive for generations to come.

Recipe feature: Pickled fish

This recipe works well for any bony fish, such as suckers and redhorse. It's also great for using those small northern pike!

2 quarts fillets, skinned
1 cup pickling salt (not iodized)

Dissolve salt in vinegar and pour over fillets in non metallic container. Allow to stand covered at room temperature or refrigerated for 5-6 days, stirring daily. When the time is complete, drain and rinse fillets well. Allow fish to stand 30 minutes in fresh water, then drain again. Pack fish pieces in jars with onion slices.

BRINE:
2 cups sugar
3 cups vinegar
1 cup water
2-3 tablespoons pickling spice

Mix together in a saucepan and bring to a boil. Let cool, then pour over fish in jars and refrigerate. Fish will be ready in 24-48 hours.

Try your hand at redhorse fishing in our local area rivers!

By Corey Geving

The Hinckley Area has some of the best redhorse fishing in the entire midwestern region. It boasts one of the world's most pristine redhorse rivers: the Upper St. Croix, along with its two major tributaries (the Kettle and the Snake). These rivers attract a lot of attention from serious redhorse anglers - but the smaller rivers and creeks of the area often have untapped populations as well. If you live in the Hinckley area, you can probably find some great redhorse fishing very near your home.

The Upper St. Croix is one of the most ecologically intact rivers in the upper midwest. Native clams that have declined or become extirpated in more disturbed regions, thrive in the Upper St. Croix. Along with them, the big-mouthed, large-bodied redhorse species that like to feed on these mollusks thrive as well. Overall, there are five different types of redhorse in the area. The River and Greater Redhorse are both big, red-tailed suckers that feed and live in the heavy current of the St. Croix - and these fish are a thrill to catch on any tackle. Specimens weighing ten pounds or heavier are possible. The fight of these fish is memorable in the fast, shallow water - you might think you've tied into a salmon or a steelhead! In addition to River and Greater Redhorse, there are Golden, Silver, and Shorthead Redhorse. While the Silver Redhorse gets nearly as big as the Greater and River, the Shorthead and Golden are smaller fish, topping out at about four pounds - still not a small fish in the grand scheme of things! If you're lucky, you might catch all five species in one day - a feat called the "Redhorse Super-Slam". All of these fish are beneficial native species - they're not only great sportfishing targets, but they also provide crucial food for game fish like walleyes, trout, and muskies. Redhorse are an important part of our native fish community.

Worms are the order of the day for redhorse baits - although storebought clams, shrimp, and canned spam can also work for them, most redhorse anglers fish nightcrawlers almost exclusively. These are usually fished on the bottom, either stationary or with a bottom-bouncing presentation. Float-fishing can work extremely well if the bait just brushes the bottom as the float drifts downstream with the current. The "Centerpin" float fishing method works great for redhorse and makes for a thrilling fight. In the clear water of the Upper St. Croix, it's often possible to fish for them by sight in shallow runs and riffles. When looking for a good redhorse spot, look for places with a good steady current and a clean bottom of sand, rock, or gravel. Use small, sharp hooks and enough weight to make good contact with the bottom. Bites can be light, so if you're fishing stationary be sure to prop your rod up on a bank stick to allow for easier bite detection.

While many anglers prefer to practice catch-and-release after battling a thrilling redhorse, others like to keep a few for a nice meal of fresh fish. Redhorse are delicious eating - but the flesh has many fine bones in it that make them difficult to eat. You can, however, smoke, grind, or score the fish, and the extra effort is well worth it as they have a sweet, white, flaky meat, much like a sunfish. Every spring, I cook up a batch of redhorse patties made by grinding the fillets and mixing them with cracker crumbs, egg, and seasoning. There are rarely any leftovers!

Of course, there are a lot more other "underutilized" fish species in the area - future articles will focus on these fishes as well.

Tight lines!

Corey Geving is an IT specialist at the DNR Central Office in St. Paul. His work includes developing and maintaining DNR Fisheries databases and applications. He has a background in native fish research.

Staff spotlight: Nate Painovich

I grew up in Williams, MN in Lake of the Woods County. I was raised close to the lake and spent most my childhood in a boat fishing or recreating. My family taught me early on to enjoy Minnesota's awesome outdoor opportunities and how to live off the land. My childhood is filled with memories of fishing, trapping, camping, hunting, etc. with family and friends.

After high school I decided to go to college at the University of Wisconsin-Superior and pursue an education in Fisheries Science. I graduated in 1997 with an Aquatic Biologist degree. My first fisheries job after college was in Cozumel, Mexico. We worked under water investigating how habitat destruction from building cruise ship docks impacted local coral and ocean fish populations. I also worked in Alaska for a year on board commercial long line vessels as a fisheries observer recording and measuring commercial fish catches for the National Marine Fisheries Service. After returning from Alaska I got a job at the Great Lakes Aquarium in Duluth. My job duties there consisted of collecting fish species for the Aquarium and maintaining and cleaning fish tanks. My first job in the DNR was as a creel clerk in Duluth along the North shore. I interviewed anglers, measured fish and counted boats on Lake Superior in order to estimate fishing pressure and catch rates of the Lake Superior fish community. I started working for the Hinckley Area Fisheries Office in 2006 as a Fisheries Specialist. Some of my job duties include; walleye, trout and musky stocking, lake and stream survey work, report writing, monitoring aquatic management areas, investigating fish kills, conducting evaluations of special or experimental regulations, educating youth groups on fishing and identifying MN fish species, beaver trapping and equipment maintenance.

Hinckley Area Fisheries Office
306 Power Avenue North, PO Box 398
Hinckley, MN 55037
320-384-7721
Hinckley.fisheries@state.mn.us

Area Staff:
Leslie George-Area Fisheries Supervisor
Deb Vermeersch- Assistant Area Fisheries Supervisor
John Frank- Fisheries Specialist
Nate Painovich- Fisheries Specialist
Heath Weaver- Fisheries Specialist
Shelly O'Donovan- Office Administrative Specialist

Do you have ideas for stories you would like to see in future newsletters? Call or email us! You can also subscribe to this newsletter by email or printed copy by contacting the office.

I enjoy spending most of my time outdoors in the woods or in a boat with family and friends. BWCA camping trips and remote fly-in fishing trips are my favorite. I also enjoy trapping with my son in the fall. All of my kids hunt and fish and prepare meals with wild game. I think it is important for all kids to take part in the entire process of bringing wild meat to the table. I also coach high school hockey and enjoy attending my kids' hockey games during the winter months.

DEPARTMENT OF NATURAL RESOURCES