

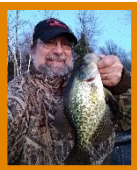


Focus on Aitkin Area Fisheries

A NEWSLETTER OF THE MINNESOTA DNR AITKIN AREA FISHERIES OFFICE

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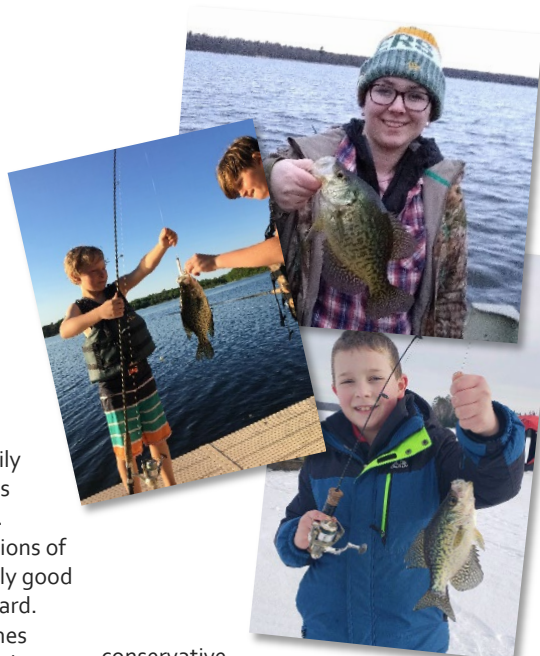
Aitkin Crappie! By Rick Bruesewitz



While Walleye might be

Minnesota state's fish, Crappie must be a close second when it comes to fishing on many lakes in Aitkin County. One can easily judge their popularity by all the fish houses set up over the deepest waters in the lake. Most lakes in our area have viable populations of Black Crappie offering fast action and really good eating fillets for the enduring angler's reward. However, like all good things, we sometimes overindulge. While individually harvesting limits from lakes is no big deal, our take - combined with that of all the other anglers and continual use can have an effect. Although the biology is slightly different than Bluegill, just like with Bluegill, the size structures of Crappie populations are often heavily influenced by harvest in some waters. As such, and since we generally like to harvest the larger Crappies we catch (at least up to a point) Crappie populations often do not reach their full potential for size of individual fish.

This topic has been brought up in our panfish advisory workgroup ([Fisheries Workgroups](#)) and it is likely that a process similar to that for Sunfish ([Quality Sunfish Initiative](#)) will unfold in the not-too-distant future, putting focus on Crappie fisheries that could benefit from more



conservative regulations than the current statewide 10 fish limit. Stay tuned!

Rick

Ps- For more info on Crappie biology and management, check out Greg Berg's article in the Winter 2018 issue that can be found in the "Resources" tab at the link below.

This and all past and future issues will be posted on the Aitkin Fisheries website at: [DNR FISHERIES LINK](#). I look forward to your feedback and suggested topics for future issues. You can contact our office by email at aitkin.fisheries@state.mn.us.

Did you know...that Perch, Walleye and Sauger have many other cousins in Minnesota Waters?



No, these are NOT young Walleye!

Log perch (*Percina caprodes*; above) is in the Perch family too. More specifically it is a "Darter". While these small native fish do not grow bigger than 4-5 inches or so, they are pretty common in many lakes and streams that have the right habitat (sand/rocks/gravel). The most widely distributed of the Darters are the **Johnny Darter** (*Etheostoma nigrum*; below left) and **Iowa Darter** (*Etheostoma exile*; below top). These species are even smaller than Logperch, typically reaching only about 2 inches long. During spawning, coloration of Darters is often enhanced like in the Iowa Darter below, but then fade back to more mottled and camouflaged shadings for the remainder of the year. Another 12 species of Darters exist in Minnesota's waters! The least of which, of course, is the **Least Darter** (*Etheostoma microperca*; below center/right). Aptly named, these little ones typically reach only about 1 3/4 inches long. Lastly, one more cousin of significance (not to dis the rest of the Darters, but I'm running out of space!) is the **Ruffe** (*Gymnocephalus cernus*; bottom right). This invasive species was likely introduced to the Great Lakes via ship bilges and is now resident in Lake Superior and the St. Louis River. It gets a little bigger than our Darters, but rarely exceeds 6 inches.





By Kris Nissen

Hi, my name is Kris Nissen. I have been a fisheries technician at Aitkin for a long time. One of my winter job responsibilities is doing dissolved oxygen checks in late winter to check for possible winterkill lakes. We used to use an older and very heavy gas ice auger, which was cumbersome and sometimes finicky to keep running well. Then several years ago we got a small efficient hand auger. This worked pretty well, but still wasn't perfect if there was a lot of ice. Now I use a high quality cordless drill with an adapter to attach to the efficient 4 inch hand auger. I can drill at least 24 holes through 24" of ice with one 5 amp hour battery. This works great! It's the best of both worlds. One tip for using this type of system is to keep the batteries warm when not being used. Their charge will last much longer if you do. Another is to use some type of device to prevent the auger from sliding down the hole if it comes out of the chuck. We use a round piece of plastic – something like an old plastic dish cover or a small, loose fitting board that's just wider than the hole.

Ice augers have been changing over the last several years and now there are many options for ice anglers. Ranging from two and four



3 Options for ice-augers: Electric drill adapted, Gas and Hand augers.

stroke gas augers, propane augers, electric augers, new light hand augers, and specialty augers made to be turned by cordless drills. These augers are also coming in smaller sizes. Not everyone needs an 8" or 10" auger, especially if you mostly fish for panfish. I have personally been using a 6" auger for local panfishing for several years and I think it works great.

Your personal style of ice fishing might help you decide what ice auger is best for you. If you occasionally ice fish early in the season and drill just a few holes, a good hand auger might be perfect. If you always drill holes while in a fish house, a hand, electric, or propane auger might be the best fit. These styles give off less or no exhaust while in your enclosure. If you are the type of ice angler that drill tons of holes through thick ice, or maybe fish for large Pike or Lake Trout, then a gas powered auger is probably the best fit for you. There is no hard fast rules for what auger is best. Let your style of fishing and budget guide your choice.

4" 5-7" 8-12" 12-15"
MINIMUM GUIDELINES FOR NEW, CLEAR ICE

Ice is never 100% safe!

Update on the Quality Sunfish Initiative



By Greg Berg

As many of our readers know the MN DNR Fisheries section has been working over the last couple of years on a statewide project called the Quality Sunfish Initiative. Formerly called the Quality Bluegill Initiative, QSI was recently renamed for clarity to include all sunfish, not just Bluegill. The reason for committing to such an endeavor was that we know sunfish, particularly Bluegill, have historically been and still are a very important component of the Minnesota recreational fishery. Leading up to the QSI Initiative, studies showed that anglers were generally satisfied with the number of sunfish they catch, yet they often complained about poor quality. Declines in size have been well documented and angler harvest is often the leading cause in reduced quality of Bluegill populations across the upper Midwest.

Statewide sunfish bag limits have been largely ineffective at protecting quality fish (larger than 8 inches). However, reduced daily bag limits have been shown to be successful when prescriptively implemented. A 2016 panfish angler survey showed that a statewide bag limit reduction was not palatable. However, there were a few issues for which anglers were in general agreement: that existing quality Bluegill populations need protection; that overharvested populations need assistance to recover to quality status; and that anglers were supportive of individual lake management through special regulations.

To begin the process for individual lake management of sunfish, each fisheries management area, including Aitkin,



identified lakes where sunfish populations would benefit from protection or improvement. We evaluated the biological data such as density, recruitment, growth and historical fish size structure, the physical characteristics, the fish community structure, and the relative fishing pressure of the lakes in Aitkin County. Following a review of these data, eight lakes were selected to be the best lakes for the initial proposal. We selected: Minnewawa/Horseshoe, Gun, Vanduse, Rat, Waukenabo (including West Lake), Dam and Clear Lakes. It's possible that other lakes may be added in the future if there is a need, interest and support.

Although numerous regulation options were considered, the options for the QSI special regulations included reduced bag limits of 5 or 10 fish. Both offer a significant reduction of harvest from the statewide 20 fish limit, and each extend a different level of protection. The 5 fish limit is the most conservative option, offering the greatest protection and maximizing the chances for improvements in the fisheries. Whereas, the 10 fish limit typically offers more than adequate protection for fisheries that still have some level of quality, the chances for improvements in the fishery are somewhat less than those for the 5 fish limit.

The proposed regulation for the Aitkin lakes was a reduced bag limit for Sunfish of 10 fish daily. If accepted, implementation would occur in 2021, with review by March 2037. In Aitkin, we opted to go with the 10 fish limit since most of our lakes needed more protection than improvements and the 10 fish limit appears to do a good job with protecting quality fisheries.

Next came the public review process and comment period, which began in May of 2020. Anglers had several ways to comment on the regulations including an online survey, attending virtual public meetings, attend in-person public meetings at area offices, or simply by calling or emailing area fisheries managers. The review period went through October 25, 2020. The online survey proved to be the most popular for anglers to comment and by the close of the comment period on October 25, 2020, over 3,700 comments had been received.

General Comments from the Statewide Survey

Anglers were given the option to comment on lake-specific proposals or comment generally on reduced bag limits. Most comments (2,536) were made regarding the QSI in general. Anglers could choose to support reducing the limit to 5 fish ("5 bag"), 10 fish ("10 bag"), or no reduction (maintain statewide limit) and they could indicate support for more than one option. Overall, support for the QSI was very high with 85% of respondents supporting at least one of the reduced bag limit options (combining 10 bag specific, 5 bag specific, and either). Most (59%) said they would support either of the reduced bag options, suggesting that the DNR is best positioned to select the most appropriate bag limit reduction. Only 15% of respondents preferred to maintain the 20 fish statewide limit. Some anglers had a strong preference for a single option. When only one option was preferred, 19% supported a 10 fish bag, and 8% supported a 5 fish bag.

Anglers were asked to self-identify as belonging to one of three user groups; Non-resident (non-lake shore), resident (lake shore) or resident (non-lake shore). Most of the responses (68%) came from Minnesota residents who did not own lakeshore property. Breaking responses down by stakeholder categories produced

similar results, and each group preferred that DNR decide between the 5 or 10 bag option.

Lastly, there were also some general comments by self-identified seniors that were seemingly split. On one hand you had seniors who were concerned about loss of tradition with not satisfying fish fry desires from 5 fish limits or not being able to pass on the tradition without the large fish fry. On the other hand, you had other seniors stating how they have personally seen degradation in the quality of the waters they have fished for 50+ years.

Aitkin Area Comments

In general, there was widespread support for the regulations from the online survey as well as the few comments we received. There was also a significant number of Aitkin Area Lakes suggested for additional inclusion including Aitkin (already is 5 bag), Spirit, Farm Island, Cedar 01-209, French, Fleming, Elm Island, Ripple, Hickory, Hammal, Hill, Long, Section 10, Big Pine, Waukenabo, Wilkins, and Round (which Round Lake was ambiguous in comments, but it's believed to be Round near Tamarack or McGregor). There were multiple suggestions for similar regulations for Crappie, and for changes in regulations for Walleye at Gun Lake. Some persons also remembered when Aitkin used to post closed spawning areas at Dam Lake, suggesting continuation, and yet others suggested altering seasons to reduce Sunfish harvest. Some suggested increased effort would occur if regulations were not as stringent as other local lakes (Minnewawa 10 vs 5 at Big Sandy/Aitkin Lake); ironically, others suggested decreased effort would occur on lakes with regulations.

So what happens next?

Given the large amount of support we received, a decision was made to move forward with a 10 fish bag limit for sunfish on all of lakes that were proposed in Aitkin County. Again, these lakes included Minnewawa/Horseshoe, Gun, Vanduse, Rat, Waukenabo, Dam and Clear. A recommendation to approve these lakes for special regulations was sent to the Regional Fisheries manager in Grand Rapids who then forwarded all of the recommendations to St. Paul where they were approved by the DNR Commissioner. These regulations will take effect on March 1, 2021. These are special regulations and will be evaluated over time with special assessments and regular survey work to determine whether or not they were effective. It is possible that other lakes including the ones that were suggested in the comment period could be added sometime in the future; although there is no Area plan to do so at this time. It is highly likely that we will be going through a similar process with Crappie in the near future, and so a similar review and analysis will be conducted.

In conclusion, we would like to say thank you to all of you who shared your comments regarding the Quality Sunfish Initiative or had comments about a specific lake. We do value your input and appreciate your opinion on fisheries management in the Aitkin area. Please feel free to contact us at any time to share your concerns, observations, ideas or just to chat about your favorite fishery. Thank you!





By John Kempe

If you have fished a Minnesota lake, chances are you have had an encounter with a Yellow Perch. Yellow Perch have a stocky, torpedo-shaped body and vary in color from a pale green to bright yellow-orange with 6-8 dark vertical bands on their sides. The scientific name for Yellow Perch, *Perca flavescens*, is derived from early Greek for “perch” (*Perca*) and Latin for “becoming gold” or “yellow colored” (*flavescens*). Native to Minnesota and much of North America, these small to moderate size fish play an important role in a lake’s ecology and also provide tasty meals for anglers that rivals that of their larger cousin, Walleye. Other Minnesota cousins include Sauger, the diminutive Logperch and many other species of Darters that live in our lakes and streams (see front page for info on some of these cousins). Perch also have two very close cousins in Europe that are very similar, the European Perch and the Balkhash Perch. Both look nearly identical to Yellow Perch. Perch are harvested commercially in Canada and the Great Lakes, as well and in other smaller fisheries across the country. Now let’s dive a little deeper into their biology, ecology, and life history to find out why Perch are so vital to many Minnesota Lakes!

Female Yellow Perch typically mature between two to four years old, with males usually maturing one year earlier at a smaller size. In northern waters, Perch tend to live longer and grow at a slower rate. Most research

has showed the maximum age to be typically 9-10 years, with few living past 11 years (up to 13 years on Mille Lacs). Fun fact – the largest Yellow Perch

recorded in Minnesota was caught in Hubbard County on Lake Plantaganette and weighed a whopping 3lbs., 4 oz! Most, however, don’t



grow past about 10-11 inches in (~1/2 lb), in our area. In fact, in many lakes in our area, Perch do not even reach 6 inches by their 4th year. This makes sampling them with our standard survey methods quite difficult. In order to better understand the ecological relationships in Minnesota lakes, our Research unit has embarked on a project to better sample Perch in all waters. The Aitkin Fisheries crew has been collaborating with our Research staff to do extra sampling on Big Sandy and Hill Lakes in the Aitkin Area.

Unlike their previously mentioned cousin the Walleye, Perch do not have sharp teeth, but instead have bands of brush-like teeth on their jaws and the roof of their mouth. Age, body size, and food availability largely determines the diet of Yellow Perch. Zooplankton (microscopic animals) are the primary food source for young and larval age perch. By age one they have switched over to eating macroinvertebrates (e.g. midges, mosquitoes, blood worms) with large adults feeding on a variety of foods such as invertebrates, fish eggs, crayfish, and other fish species - including their own!



Yellow Perch are usually found along the shore and use aquatic vegetation, woody debris, and docks as habitat (note that docks are only around in the summer and so don’t offer the complexity or longevity of natural habitat). Perch are often

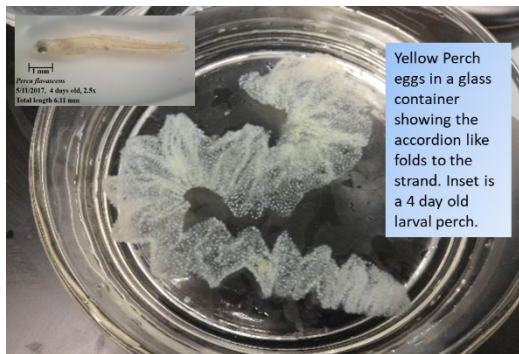
found in schools, containing up to 200 fish, which can be arranged by age and size. Younger Perch tend to school more than older and larger Perch, which occasionally travel alone. Interestingly, the fastest recorded speed for a school of Yellow Perch was just over 12 mph, while individual fish outside of the school only swam at less than half that speed. Being faster as part of a school may provide additional protection from predators for smaller fish and offer better feeding opportunities for larger ones.

Yellow Perch are also a very important part of the aquatic food web, and are a primary species of prey for predatory fish such as Walleye, Northern Pike, Muskellunge and even piscivorous (fish-eating) birds like the Double-Breasted Cormorant and Loons. Sometimes Perch can also be an important



predator. In some waters, it is suspected that Perch, preying on juvenile sunfish, do a good job of keeping the sunfish densities in check, thereby averting stunting situations in the sunfish. Perch are also commonly sought by ice-anglers due to their susceptibility to a variety of baits and tactics and are almost always eager to bite, sometimes they can even get pesky! As table fair, Yellow Perch are quite delicious, their meat is often described as mild, sweet flavor and a firm, flaky texture similar to that of Walleye. However, in some waters Perch can be infected by a parasite known as the yellow grub. This trematode can make the flesh a bit less appealing, although cooking and eating infected Perch is not a health risk for humans. The primary hosts of this parasite are fish eating birds.

Now that we have looked at Yellow Perch diets, habitat, and ecology, let's take a look at their reproduction cycle. Perch spawn in the spring and water temperature is the primary "signal" for Yellow Perch to spawn. In northern climates where lakes freeze in the winter, this normally occurs shortly after ice out, at water temperatures of 45-52° F. The average female will lay



approximately 23,000 eggs (only once a year), but this can vary greatly depending on the length and weight of the individual. For example, a study indicated a perch 5 inches in length might contain 36,600 eggs, whereas a 10 inch perch could contain 109,000 eggs. The Yellow Perch egg mass is a semi-buoyant, jelly like strand that spreads like an accordion up to 2 meters long. A portion of the egg strand usually adheres to submerged vegetation, rocks, gravel, or wood. After they are deposited by the female, two or more



males release milt over the eggs to fertilize them and then adults abandon the eggs. The eggs typically emerge in 8-10 days and the fry are roughly the length of the width of a pencil and survive on food stored within an attached yolk sacks for three to five days. After this, survival of larval yellow perch is based on a variety of factors, such as food availability, wind speed and turbidity. Hopefully you now know a little more information about one of the most common fish found in Aitkin County lakes. They are quite easy to catch angling year round, which makes them a great fish to seek out for new or inexperienced anglers looking for a lot of action. Yellow Perch are also a vital food source for many predatory fish and have a very unique way of depositing their eggs!

Next time you are out fishing if you catch a chunky Walleye you may also want to give thanks to all the perch it ate as well!

Aitkin Field Schedule for Winter and Spring

- **January**
 - Finish fish age estimations, analyses, commence report writing for 2020 surveys
- **February/March**
 - Complete all required reports
 - Check dissolved Oxygen on area lakes susceptible to winterkill.
 - Coordinate with Army Corps of Engineers and selected University for Big Sandy Project.
 - Hire creel clerk for Big Sandy creel survey.
- **April**
 - Ice-out trap netting and electrofishing for purposes of tagging Walleye on Big Sandy Lake, including Sandy and Prairie Rivers.
 - Assist with Walleye Egg takes as needed.
 - Begin water quality collections for Big Sandy project.
- **May**
 - Continued tagging in early May, but then also begin recapture sampling late in the month using short-term gill net sets and electrofishing.
 - Conduct bass electrofishing on a subset of area lakes.
 - Commence creel survey on Big Sandy.
- **June**
 - Finish recapture sampling on Big Sandy.
 - Finish bass electrofishing.
 - Commence summer survey schedule.





Focus on gear: Electrofishing

By Kris Nissen

People are often curious about what types of gear and methods we use to sample fish. The most common methods are trap nets, gill nets, and electrofishing. In this issue, I will focus on electrofishing.

Electrofishing uses electrical current to stun fish so they can be captured with a dip net. This is a non-lethal way to sample fish in shallow water, typically 6 feet or less. The stunned fish are subdued by the current for a few seconds to several minutes depending on how much current was used, water temperature, water chemistry, size of the fish and species.

The Aitkin area uses a boat electrofisher (sometimes referred to as a boom electrofisher) for sampling walleye, largemouth and smallmouth bass, perch, bluegills, black crappie, and muskies. Electrofishing boats are very specialized with a built in generator to power the electronics and bright work lights for night work. The generator provides pulsed DC current through the booms in front of the boat. The hull of the boat functions as the ground. This makes an electric field between the booms in front of the boat and the boat hull. When fish get inside of this "field" they get stunned and can be

netted with a dip net and put in a livewell. Different sized fish get shocked differently. Large fish like Muskies and Northern Pike are good at sensing the current and avoiding the electric field. Bass, Walleyes, and panfish typically shock well and are easier to net. Most of our boat electrofishing is done after dark. The fish we are targeting tend to be shallower at night and are less likely to be spooked by the boat after dark. Operator safety is a primary concern while electrofishing. All people on the boat wear nonconductive waders or boots with rubber rain gear and gloves to prevent accidental electrical shocks.

The Aitkin area also uses a backpack electrofisher to sample small fish near shore like minnow and shiner species, juvenile gamefish and occasionally trout. There are different types of backpack electrofishing units that are powered by either batteries or a small gas engine. The operator wears the backpack unit while wearing waders and rubber gloves for protection from the electric current. Other similarly protected staff walk in the water along with the operator to help dip and collect the fish that are stunned by the



wand like electrode that the operator moves in and out of likely fish habitat. The battery-powered electrofishers are what we use in Aitkin, and are more common than the gas models.



Another variety of shocking equipment that we do not have in Aitkin is a barge electrofisher. This unit is kind of a hybrid between a boat and backpack shocker. A gas generator is kept in a small floating raft to power the cabled electrodes that are used to stun the fish. These types of units are most common in areas that have numerous trout streams and are generally a bit more effective than backpack shockers because the generator is able to put out more power in the water, generating a larger field of capture. Usually one person pulls the small craft and at least two others then use the electrodes just like backpack shocking. Just like all of our shocking techniques, waders and rubber gloves protect each worker.

So, if you see a boat cruising the shoreline at night with bright lights and a running generator, while it might be a night time bowfisher, it might also be your Aitkin Area Fisheries staff working the night shift.

Big Sandy Fish Movement Study Update.



By Rick Bruesewitz

Since our last newsletter, we were able to complete range testing on the acoustical receivers, complete the deployment of the acoustical tagging study receiver array (26 hydrophones are currently deployed), begin tagging fish with acoustical tags, and purchase some additional receivers for more areas in the watershed. The Army Corps of Engineers has also put out a request for proposals for assistance from a university for analyzing all the data and assisting with the project; we are hoping to have a graduate student onboard by late spring. They will also be purchasing more tags for implantation in spring.



Between 9/29 and 10/13 our DNR fisheries staff electrofished and



surgically implanted 45 transmitters in Walleye from 10 to 23 inches long and in multiple locations around the lake, but then the cold weather and snow in mid-October pretty much put an end to any additional fieldwork on the lake. If any of you happen to find one of these tags when filleting your catch, please let us know. If you do harvest a fish and find one of these tags, we may be able to reuse it on a new fish. Also, please let us know right away because these transmitters have only a limited battery life. Some last less than one year, while others may last a bit longer than the study. Since these tags do cost an arm or a leg (Thanks again, Army Corps of Engineers for purchasing the tags!), it would be great to get all the use out of them that we can.



Also, I want to give you all a heads-up that we'll be conducting more surveys (including a creel survey) and tagging more fish next spring. We plan to implant another 55 fish with transmitters, but then also tag another 4,000 fish with more typical external t-bar tags (very much like the nylon tags you see at the clothing store, see pic=>). The acoustical tags will help us determine what percent leave the system and where they go and the t-bar tags will help us determine how many there are in the lake. Anglers catching fish with t-bar tags are also encouraged to report their catch thru our online tag reporting system



(https://www.dnr.state.mn.us/fisheries/tagged_fish_reporting/index.html).

Lastly, if you happen to snag one of our hydrophones with your anchor line, or see one of our single white buoys floating around on its own, please report this to our Aitkin Office number, **218-429-3010**. While we purposely deployed them in areas less likely to be fished or anchored, it is really important we know exactly where they are so we can retrieve the data. If you do contact one, it would be really good if you could record the GPS coordinates too. This will help us re-locate any receiver systems (see diagram below) that were moved by accident

