Focus on Aitkin Area

Fisheries

DEPARTMENT OF NATURAL RESOURCES

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Spring operations in the Aitkin Fisheries Area

By Rick Bruesewitz

Spring time is many of fisheries staffs' favorite time of year. This is the time we survey spawning runs of our favorite game species. This year, we have two larger projects. The first is to survey pike and walleye on Round Lake (1-137).

The author with a hefty walleye trap-netted from Round Lake in mid-April. These fish were measured, sexed, given a fin-clip and then released.

While the Round Lake walleye population is supported by fry stocking every other year, there is a fair amount of natural reproduction that also occurs; maybe even as much as from stocking. This is why we are interested in learning as much as we can about this spawning population and the habitat they are using for spawning. We use trap nets set along shore and nighttime electrofishing to sample these fish just after ice-out. Later in the spring we will go back with our electrofishing boat and re-sample the lake for walleye, and in this case also for bass. This information will help us determine whether or not the lake's naturally reproducing walleye population is limited by the amount of spawners, or by the amount of suitable spawning or nursery habitat available to them.

Later in spring we will also be assessing the Cedar Lake muskellunge population using large trap nets and electrofishing. We also have a handful of lakes that we will be conducting additional electrofishing to assess the bass populations in those lakes.

In any event, it is great to get back on the water again. Be sure when you hit the water you are properly prepared for safe boating. *Wear those PFDs!*

This and all 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.

TINY TIDBITS

The abundance of small pike is an issue throughout central Minnesota. We believe one of the best controls for small pike are larger pike. Releasing larger pike also increases your chance of catching it again in the future when it is even larger. Practice selective harvest to help improve your fisheries.

Belastoma spp. male (~1" long) with eggs attached to wings.

Did you know that…

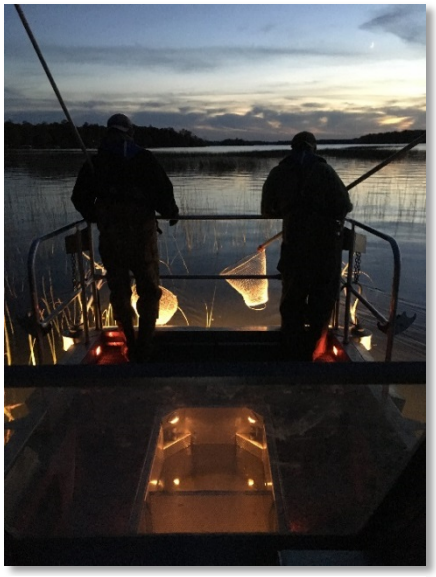
Giant water bugs offer Daddy Daycare? Females lay their eggs on the backs of the males for them to care for until hatching. These cool creatures live at the surface of lakes and streams within the vegetation. They actually have a snorkel protruding from their tail that they use to breathe air. They also have raptorial forelegs with which they catch their prey – smaller insects and other invertebrates, and the larger species in this family, the Electric Light Bug (Lethocerus americana) will also feed on minnows. They all feed by injecting a digestive enzyme into their prey, and then sucking out the liquefied meal with their retractable straw-like proboscis. Good thing they don't get too big!

Farm Island Lake Walleye

Natural Reproduction or Stock?

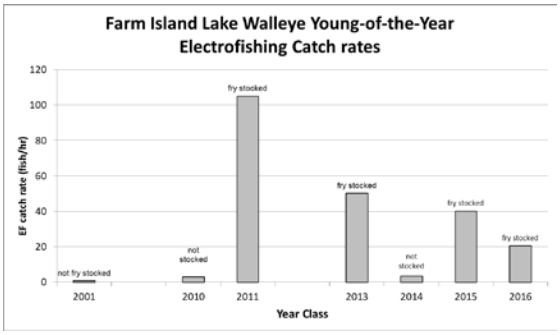
By Rick Bruesewitz

Success of fish stocking operations is determined in a variety of different ways. Ultimately, the bottom line question is "How well did they do in the fishery?" However,



Aitkin Fisheries staff wait to net fish as the fish are immobilized by the electrical current.

that question is hard to answer without a creel survey, which is pretty costly to perform. Other indicators of success are evaluated by examining the catch of walleye in our assessments. Normally we need to wait two or three years after stocking to judge a single year class based on how many we see in our assessment gill nets. Multiple assessments give an even more complete picture, which is why we increased the frequency of the assessment schedule at Farm Island to every three years from every five years. In order to get an early glimpse of



how well a year class survived, we can also conduct fall electrofishing surveys.

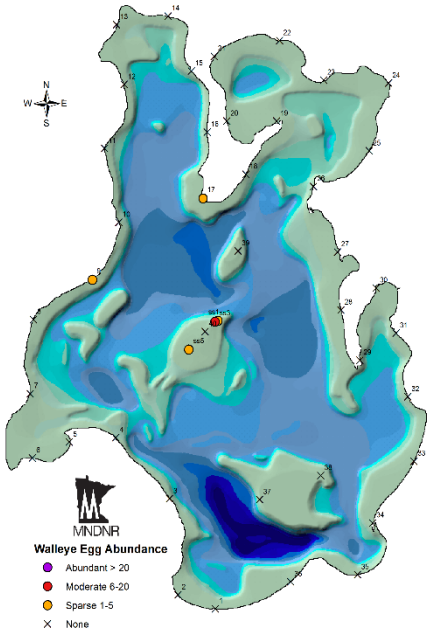
On Farm Island Lake we have conducted fall electrofishing surveys 6 times in the last 7 years, plus once in 2001. What we found was that in the years when fish were not stocked, catch rates were very low with only 1-3 young-of-the-year observed per hour of shocking time. Whereas in years that were stocked, catch rates ranged between about 20-100 per hour of shocking time. This suggests that while natural reproduction was occurring, it was still not enough to create the fishery that we are all used to. Based on this data, we changed the stocking plan back to annual stocking.

While we believe stocking is currently producing the bulk of the walleye in Farm Island, natural reproduction is important and may in some years add substantially to the fishery. While we caught few young-of-the-year walleye in 2014 (a year not stocked), we did see more than we expected of this year class in the gill net assessment last summer. Based on the historical gill net assessments, this natural year class appears to be about ½ of average strength. While not tremendous, it is certainly the best we have seen of the 7 natural year classes we have sampled since 1974.

Some of you may remember that we attempted to enhance the spawning area in the Ripple River in the 1980s and 1990s. Substantial spawning riffles were created and sediment traps were installed to help keep those riffles free of sediments, but the project wasn't too successful. While rock is still there, sediments have deposited on top of them making them undesirable spawning habitat for walleye. We are going to attempt to change that.

While we had the right idea back in the 1990s, the fine details of river hydraulics were not as well understood as they are today. This spring we are going to be bringing in one of our river experts to help us figure out what we need to do to make it work better. There is a substantial run of fish that use that stretch of the river for spawning and we did observe walleye eggs both upstream and downstream of Ruby Road this spring, so we just need to figure out how to make those eggs survive a little better.

In addition to the river spawning, walleye also spawn in the lake. Last year one of our researchers worked with staff from the University of Wisconsin – Stevens Point to examine shoreline and identify the primary areas being used for spawning. They were similar to where we have found walleyes spawning in past spring trapping and electrofishing assessments. They also found some habitats that looked good, but were just not being used. His thoughts were that the water flow in these good looking areas was just not as prevalent as it was off the little islands and Johnson's Point, where



Farm Island Lake with locations checked for walleye eggs, and relative abundance of areas eggs were found. Map from Researcher Tim Cross, MN DNR

most of the eggs were observed. Wave action and water flow is exceedingly important to maintain oxygen levels near the eggs to allow for development and hatching. They also measured the depths of water and distance to shore where these eggs were observed on 28 different lakes. Most were found in less than 2 ft of water and less than 10 ft from the shoreline. This gives you some idea why good shoreline management is so critically important.

"GRUMPY" TECH TIPS

By Kris Nissen

As a Fisheries Technician, I am responsible for hauling and stocking a variety of different fish species, including Walleye, Musky, Northern Pike, Perch, and trout. At work we have specialized hauling tanks that help us to get the job done. Our hauling tanks are insulated to help maintain water temperature, have oxygen tanks that inject pure oxygen into the water, and some type of agitator that helps to circulate water in the tanks and to help get rid of waste gasses given off from the fish.

Minnow care is very similar. If you address the needs of your bait, it's more likely to be healthy and survive. Here are a few tips to help keep your minnows lively:

- Use chlorine free water. Chlorine is toxic to fish.
- Try to keep the water cool and consistent temperature. Cool water can hold more oxygen than warm water, so sometimes a little ice added in summer may work to keep them cooler longer. Whatever you do, keep them out of the sun! Seems obvious, but that bucket will warm up tremendously fast catching rays.
- A minnow aerator can also be very helpful. Battery and plug-in versions are available for use in your vehicle, boat or at home. Use a decent air stone too, so the benefit of your aerator is maximized. Air stones increase the surface area of the bubbles, which increases the diffusion of the oxygen into the water.
- Because you can't legally transport minnows or leeches in lake water, if you want to bring your bait home after fishing, you will need to keep non-lake water in your vehicle so you can change out the water. Keeping that water in an insulated container in your vehicle will help to keep it cool too.
- Lastly, that old garage fridge can help keep your bait much livelier, assuming there is space available.

Cold Water Kills! Wear a life jacket!

Click pic for more cold water safety info!

Such a Pretty Face!

By Rick Bruesewitz

OK…so I may have a bit of an odd sense of pretty, but my bias is well founded when it comes to Burbot (*Lota lota*), or Eelpout as they are commonly called around here. I spent two summers in graduate school chasing Burbot in Green Bay and Lake Michigan for Sea Grant. Just like many of the larger predators in the Great Lakes, these creatures' abundance had declined tremendously in the 1950s and 1960s, presumably due to predation by Sea Lamprey. They had started a comeback in the 1970s and 1980s, which is when I became involved in the research in Green Bay and Lake Michigan. Besides collecting the standard population statistics, for which I was hired to estimate, I also came to appreciate them for being one of the cooler freshwater species to roam the globe!

A bunch of Burbot caught in a deep water trap net on Green Bay in 1988.

Burbot are members of the cod family *(and taste like they are too!)*, and are the only freshwater species in this vast coldwater group of fishes. They live on all continents of the northern hemisphere and can live in both lake and stream environments. They do best in cold water (think Lake Superior, or Alaskan rivers), and can grow to pretty large sizes (MN state record is almost 20 lbs!).

Because Burbot are evolved for cold water, they are pretty inactive during summer months. Then when fall comes they start feeding heavily again, and this continues throughout the winter with a brief break in mid-late winter for their spawning season. Yup, they like the coldwater so much they even spawn under the ice! Then after spawning they continue to feed through late spring. In summer, they slow their activity once water temperatures start to heat up. Unlike most other fish in our area, they do most, if not all, of their growing in the cold water period and have quite variable growth rates. On Lake of the Woods, Burbot averaged about 19 inches by age 4, while on Ocean Lake, Wyoming, they were almost 24 inches in the same time. On another water in Wyoming, Torry Creek, they only averaged about 9 inches in 4 years. Closer to home, at Mille Lacs they averaged about 14 inches at age 4, when I was looking at them in the early 1990s. I suspect this great variability has to do with both the available food and the seasonal temperature profiles for these waters.

Another interesting fact is how prevalent they actually are in our area, albeit at very low densities. We have observed burbot in most of the lakes with close connections with the Mississippi River. In addition, the Pollution Control Agency and DNR have observed burbot in the Mississippi River and a number of streams and small rivers too; including the Ripple, Hill, Little Hill, Sandy, Swan, Prairie, Willow, Moose, Tamarack, and Little Tamarack Rivers, and a number of smaller streams like Libby Brook, Two River Springs, Morrison and Cedar Brooks, Sissabagamah Creek and others.

A Burbot from Lake Minnewawa. A nice example of their excellent camouflage patterning. Click on the pic for some cool recipes from Alaska.

While Minnesota and most (if not all) states to the east have liberal angling regulations for Burbot, states to the west offer greater protection to Burbot than even walleye! In the panhandle of Idaho the limit is zero (catch and release only)! The remainder of the western states have daily limits ranging from two in Montana to ten in North Dakota.

Top view of a Burbot from Round Lake, west of Palisade, MN.

Those regulations were driven by the burbot's popularity for angling and table fare, as well as issues with dams and habitat loss that have degraded those Burbot populations. In Minnesota, burbot have taken on their own popularity as evidenced this winter by the 38th Annual Leech Lake Eelpout Festival. That's a lot of burbot fun! But here too we are seeing signs of stress, sometimes related to changes in climate (*burbot don't like the longer warm summers*), and some related to habitat degradation.

So…next time you have Cod or Haddock or Pollock for supper, consider their cool freshwater cousin.

Columnaris Disease

(*Flavobacterium columnare*)

By Greg Berg

It will soon be that time of year again when our office will start getting calls regarding fish kills on our local lakes. "Fish Kills" are wide spread and common throughout Minnesota and occur for a multitude of reasons including low oxygen levels, disease and pollution. The most common types of fish kills in the Aitkin area occur due to unsuitable oxygen levels caused by heavy snow and thick ice conditions in the winter (also known as winterkill), or when we get heavy, often flooding rains that flush oxygen depleted water from our woods and wetlands into lakes in mid-summer, or even just long hot summers that result in a quicker depletion of the oxygen in the deeper waters of lakes (tullibee kills). However, disease can also be the culprit. The focus of this article, and probably the second most common type of fish kill that we hear about, is caused by Columnaris disease.

Columnaris disease is an infection caused by the bacteria *Flavobacterium columnare*. Symptoms of this disease include a lightened area with greyish color on either the head or the body of the fish. In severe cases, fish can display open sores with yellow edges due to the yellow-pigmented bacterium. The lesions can vary in size, location and appearance. The disease usually occurs after a rapid change in water temperature like in spring and early summer, and infects fish that are already weakened or stressed. It is capable causing moderate to high mortality when fish are infected. The disease is not transmittable to humans and infected fish that are caught can be eaten when prepared in a usual manner. The disease has been reported in freshwater fishes throughout the world and is found in the wild as well as hatchery settings.

As mentioned before, the disease usually peaks following a rapid increase in water temperature. It's common for us to receive calls in late May or early June since this is the time of the year when lake temps are typically on the rise, and often quickly. Though all species of freshwater fish are susceptible to the disease, we see it most often in bluegill, black crappie, and yellow perch. These species are often in close proximity to one another (often in direct contact) that time of year during spawning, which increases their stress and also aids in the spread of the disease. I would say that on average we receive a handful of calls each year that can be linked to Columnaris, but there's likely many other cases that go unreported or unnoticed.

Infected black crappie from Fleming Lake in 2016. Click on pic to learn more about fish diseases.

Fortunately, due to the size of many lakes and the variable distribution of fish populations, Columnaris outbreaks seldom affect the entire lake and the number of fish that die are a very small part of the total population. Some of the larger kills we have seen in this area can affect 1,000 or more fish, and if they happen to wash up on your shoreline they can leave a mess and really smell up the neighborhood for a while. While the disease is treatable in hatchery situations, there's not a whole lot you can do about it in natural lakes. Sometimes a little thinning of the herd can be a good thing, too.

As always, we want to know about all fish kills that occur in our area so PLEASE continue to report them if you see them.

2017 Opener Outlook for the Aitkin Area

By Alisha Hallam

Open water fishing in the Aitkin Area should get off to a good start. Ice off on area lakes happened in early to mid-April, and spawning runs should be well done by opener. As such, water temperatures should be well into the 50 degree range and offer some excellent conditions for chasing walleye and pike.

The 2013 year class of walleye appears to have been pretty good all over the area so decent numbers of walleye 13-17 inches would be expected. Slow trolling or drifting with live bait is often one of the best methods to put fish in the boat this time of year. Some lakes in the area with decent walleye populations include Farm Island, Hill, Big Sandy, Minnewawa, Waukenabo, Round (North of Garrison) and Cedar Lakes. The very dark water of Big Sandy will be the first to warm in comparison to the clearer waters of Cedar and Farm Island, and will probably make it one the best bets for numbers of walleye early in the season. Other, often forgotten fishing options are the Mississippi River and its larger tributaries (Willow, Sandy, Swan, Rice Rivers) in the area. These waters often don't get the same fishing pressure of the more popular lakes and can provide for some fast action.

Although often overlooked, the Mississippi River is known to produce excellent catches of walleye, northern pike, catfish and of course smallmouth bass later in the season. With over 100 miles of river in the Aitkin area, the Mississippi can be a great place to get away from the crowds.

Also, don't forget there are special regulations on a number of area lakes, including Big Sandy and connecting waters, Farm Island, Long (near Glen) and Sissabagamah Lakes. Northern pike should also provide plenty of action on most lakes in the area. Remember CPR (Catch/Photo/Release) for those big ones you catch! Once a population suffers from poor size structure, often due to over harvest, it is a long and difficult process to reverse the trend. With recycling of these large fish, the next time you or your kids are out in the same area you'll have another chance at catching a trophy, which may be even bigger the second time around.

In addition to these typical species, stream trout roam the waters of Blue, Taylor (1-109) and Loon Lakes, and Morrison Brook and Two River Springs too. We also ask anglers to do their part in preventing the spread of aquatic invasive species by remembering to clean-drain-dispose each time you leave a lake.

But the most important thing we ask is that everyone stay safe and have fun during the upcoming season – Sober boating and wear your PFDs!

From all of us at the Aitkin Fisheries Office,
Good luck and have a great year!