IRON RIVER NATIONAL FISH HATCHERY

January — March NEWSLETTER

The West Wing—A new era of brook trout production at Iron River National Fish Hatchery *by Carey Edwards*

Above left: Coaster brook trout sac fry. **Above Right**: Warm well water, captured from the hatchery's domestic well, is plumbed to the new circular tank system to help get the coaster brook trout off to a good start.

Coaster brook trout production at the Iron River National Fish Hatchery, of which 220,000 fingerlings are produced annually, has been…tricky. Two glaring difficulties have been water temperature and rearing conditions. The hatchery's cold spring water isn't conducive to speedy brook trout growth in late winter and early spring and long, deep, rectangular raceways don't provide the personal attention that brook trout need for a sustained healthy growing environment. Trial experiments were run the previous year to address these issues using small circular tanks and the addition of well water from the hatchery's domestic well. The results were phenomenal! Springs fingerlings left the hatchery healthy and nearly twice their normal size. What began as a "What if we tried this?" turned into "Let's go full scale!" and thus the West Wing was created.

Construction began with two goals in mind: provide a healthy, larger fish for our partners and make brook trout rearing easier. A total of six each small, medium and big circular tanks were installed in the western part of the nursery building. These tanks were fitted with new plumbing that would take advantage of the warmer water from the domestic well while spring water is not at the optimal temperature. The tanks are stacked and adjacent to one another to make for easy fish handling and the process goes something like this:

- Hatch small quantities of eggs in specially made jars located in small circular tanks
- Release fry directly into small circular tanks
- Rear fry-fingerlings to the rearing capacity of small tanks
- Release fingerlings directly into medium tanks and grow to rearing capacity
- Inventory and move fish into adjacent large circular tanks and grow until stock out

Full scale production is currently underway in the new wing and the results to date are noteworthy. Our little fry are close to swim-up and will be feeding soon. Last year's experiment is still ongoing with a small portion of yearling brook trout brood stock performing well. If *the proof of the pudding is in the eating*, then Iron River National Fish Hatchery is in for a real treat.

Volunteers Lend a Hand *by Shawn Sanders*

We are fortunate! As an agency, the U.S. Fish & Wildlife Service, is tasked with a number of public trust activities that are "exciting" and "unique." Because most of the general public has not seen these unique events (spawning, stocking, handling fish, etc), it can be fulfilling to volunteers to be involved while service staff accomplish these tasks. So, at Iron River NFH, we are fortunate to have a local group of volunteers that is ready, willing, and able to help us with tasks that help us complete our mission.

This group was formed to focus on hiking and snowshoeing in the Iron River, WI area, with the group often found on the trails every Tuesday, even in the middle of a north Wisconsin winter. The Iron River National Fish Hatchery and the Hiking group come together throughout the year to share in some of the resource projects that the hatchery undertakes. Projects like trail maintenance and fish stocking become an opportunity to share workload and of course lots of stories and coffee once it's done. When and wherever there has been a need, this group has come to our aide.

A few months ago snow covered trails brought us together when tree and brush clearing was needed on the hatchery trail system. Hatchery staff were able to focus on cutting the branches and trees that had grown into the trail area, while the hiking group cleared the debris. This event was a win-win for both groups, since the hiking group is motivated to keep the trail maintained and it would have taken the hatchery much longer without their help. The group was a pleasure for hatchery staff to work with. Sharing the workload also reinforces to the community that the hatchery's trail system is theirs to enjoy and be part of.

The most recent event occurred on January 12th, 2015, a "volunteer Brook Trout stocking day". Retired Brook Trout that had been used for egg collections were released in three area lakes: Perch, Wanoka, and Anderson Lakes in Bayfield and Douglas counties, Wisconsin. Nature provided a beautiful snow-covered backdrop to another fun-filled day, as all group members were highly engaged in stocking these large Brook Trout (some would even call them trophy-sized). Gaining more than just man-power and muscles, the hatchery employees had the chance to share our mission in a manner that is otherwise not shared. A hands-on course that gives our friends the chance to "walk in our shoes" as we together share and make the mission of our agency a reality. Hopefully the Hiking group will tell others where to go ice fishing this year to catch these beautiful brookies, but there's a good chance they may keep this fishing hole a secret.

New Chiller Unit Produces Cool Results *by Carey Edwards*

The Iron River National Fish Hatchery produces 1.6 million lake trout and coaster brook trout annually for restoration purposes in the upper Great Lakes. The Klondike Reef strain of lake trout makes up 200,000 of our total number. These fish spawn in early September which is a month and a half earlier than most other strains of lake trout. The early spawn time has our eggs incubating in some of the warmest water temperatures the hatchery experiences, which leads to faster development of eggs and fry. This has a trickle-down effect that equates to larger fish in the spring when space is limited in both raceways and fish trucks.

This past fall, an egg incubation chiller room was constructed to combat this issue. The chiller room contains a small health incubator and two troughs capable of holding five egg jars each. A pump recirculates water through a chiller and UV unit before entering the system. Shortly after eyed-up, the Klondike eggs were placed into jars and water chilled to 35 degrees Fahrenheit was used to incubate them (regular spring water is twelve degrees warmer). The chilled water had the desired effect we were looking for…delayed hatch by one month. The fry have just started to eat (also delayed by a month!) and will be monitored for any adverse effects that could be seen from the chilling process. The outcome has proven successful so far and the chiller is currently being used on another group of lake trout eggs to slow down development.

Star Trekking *by Carey Edwards*

The Iron River National Fish Hatchery held its fifth annual Candlelight Trek on February 21st, 2015, from 6 p.m. to 8 p.m. Guests could walk, ski or snowshoe a ¾ mile trail by the light of luminaries. Hot chocolate, hot cider and s'more fixings were provided and served by members of the Friends of the Iron River National Fish Hatchery for event goers to enjoy by the campfire. A last minute snowfall (which included a last minute grooming) left the trail in textbook condition for the event which was perfect for walking, skiing and snowshoeing. New LED tea lights set in 1 quart plastic buckets served as luminaries and wrapped the trail in a warm glow. The weather was perfect for an evening stroll and with the clear skies; trekkers were star gazing and counting shooting stars. Over 50 event goers gathered around the fire to roast marshmallows, drink cocoa and chat about the pleasant evening. Stay tuned for more information to come on future evening events at the Iron River National Fish Hatchery.

Presenting...the New Vaki Fish Counter *by Paul Larson*

Above: Fish are weighed and poured through the fish counter. Below: Fish pass through the scanning area and are counted.

All fish hatcheries need to know the number of fish that they are holding in a raceway or tank. This number is important for a number of reasons such as the amount of feed required and whether there is adequate space available for the fish in the tank or raceway. Typically, the inventory process involves finding the number of fish per pound. This consists of taking samples of fish (usually about 200 per sample) and recording the weight followed by counting the number of fish in the samples. Once this number is derived, fish can be inventoried by weight for the raceway or tank. At Iron River National Fish Hatchery where 1.4 million fish are raised annually, this is time consuming. Any method to expedite the process can help a hatchery carry out the day to day activities in addition to implementing inventories, sample counts, etc.

The Iron River National Fish Hatchery purchased a Vaki Micro Counter in the fall of 2014. Fish move through a scanning area in the machine where outlines are recorded. Special software is used to analyze and count each image. It has the ability to accurately count fish at the rate of 36,000 to 570,000 fish / hour depending on the size of fish. What once took days to accomplish can now occur in mere hours.

So far the hatchery has had the opportunity to test the accuracy of the machine with pre-inventoried fall fingerling lake trout and conduct monthly sample counts. Future testing is anticipated with smaller fish during late winter and early spring 2015. The results for comparing accuracy and time savings have been positive and at this point it looks like the counter will be an effective tool for the hatchery.

The Hatchery, out and about....*by Carey Edwards*

The Iron River National Fish Hatchery hosts many events for all ages and is open to the public every day from 7 a.m. to 3 p.m. for viewing and self-guided tours. We also participate in many outreach events throughout the year that are off station. These events forge new ties with partners and make old ones even stronger. They also allow us to advertise the hatchery's mission to a huge audience that we can't reach normally. We'll see you around!

Douglas County Sportsman's Show: The Iron River National Fish Hatchery participated in a two day event hosted by the Douglas County Fish and Game League at the Wessman Arena in Superior, WI. Everyone at the hatchery took turns manning our informative booth with live fish. Thousands of people attend the show and staff were busy answering questions.

Eggs in the classroom project: Two area middle schools (Northwestern and Superior) participated in the eggs in the classroom project. Each school receives approximately 500 eggs to place in their aquarium with chiller unit and watch hatch. The students get to feed the fish once they swim up. Students get to learn the life cycle of trout and learn about the Iron River National Fish Hatchery and its mission. Hundreds of students are touched by this project.