All about Bark River Hatchery

By Greg Winkler
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Here's a nice recipe for you. Place 70,000 northern pike eggs in a large mixing bowl. Frost the top with a generous squirt of fresh northern pike sperm. Stir. Pour mixture into one gallon canister and flush with water at 53 degrees for nine days. Verify that larvae have transferred into the holding trough and exited to river outlet after seven more days. This recipe creates 35,000 northern pike larvae and is enough to feed a county.

This recipe summarizes my basic understanding of what happens at the Bark River Hatchery. There's more stuff, of course, about PH and chemistry and heat absorption all of which increases the chances of success. Success meaning adult fish.

This is not an old family recipe. This is a recipe that I learned recently when I met Doug Lubke, a Fisheries Technician for the DNR.

If you have caught a walleye or northern pike in the Rock River system south of Fort Atkinson, you may have been a direct beneficiary of the Bark River Hatchery. This tiny cinder block building, about the size of a two-car garage, sits humbly on the bank of the Bark River one hundred feet before it empties into the Rock River. For sixteen of the last nineteen springs, tens of thousands of fish have hatched and flowed into the Bark River. I met Doug Lubke, a DNR Fisheries Technician, at the hatchery recently, and he explained how this works.

The DNR bought this property over 20 years ago and changed the small, dilapidated residence into a hatchery. The interesting thing about this hatchery was that the fish would be hatched and released right back into the river within a matter of days. Most hatcheries raise the fish in ponds until they are a viable size and then haul them to a final watery destination. The Bark River Hatchery is much simpler and therefore more efficient. Here's how it works.

In March, just as the last ice is leaving the lake, the fishery people catch northern pike in special nets. The nets are left in the water and the pike swim into them through a funnel but are not able to exit. Over a period of three weeks, the nets are checked daily by boat and ripe females are stripped of their eggs.

In addition to measuring, sorting, and counting, these fish obstetricians deliver the young by gently squeezing the females until a stream of eggs, resembling yellow tapioca, starts flowing into the pan. As soon as the pan contains sufficient eggs, it's time for the male fish to do their part. Apparently, it is quite easy to squeeze a little sperm out of a male fish. The fish guys hold a male pike over the pan and squirt a little onto the eggs.

They release all these fish and return to the hatchery with the fertilizing eggs. Inside the hatchery, there is a fairly simple contraption that provides the correct water flow for the embryos. Well water runs in through a horizontal PVC pipe with side valves that divert the water into ten half-gallon canisters.

The eggs are divided among these canisters and the water is turned on. The water flows down to the bottom of each canister and rises up through the eggs, finally overflowing through a spout at the top where the unhatched eggs cannot escape. The canisters are designed so that a continuous flow of water, at exactly the right temperature, rushes through the eggs for nine days.

The eggs get both oxygen and heat from the water. Believe it or not, 53 degrees is warm to the embryos that came out of the 42 degree lake water. After nine days, the eggs hatch and the fry squirm enough to rise through the canister with the overflowing water. They plunge several feet into a large trough where they will stay up to seven days, typically clinging to the edges.

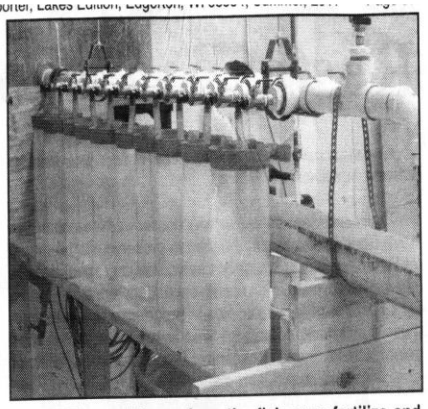
With no digestive tract and only a yolk sac for nourishment, the tiny fish spend these seven days growing enough so that they have a chance to survive in the river flowing right outside their nursery. The trough has a drainage pipe that runs into the Bark River, and when they gain enough strength, they will rise to the level of this pipe. Quite suddenly, they take a quick trip to the river, some 30 feet away, like a wicked waterslide.

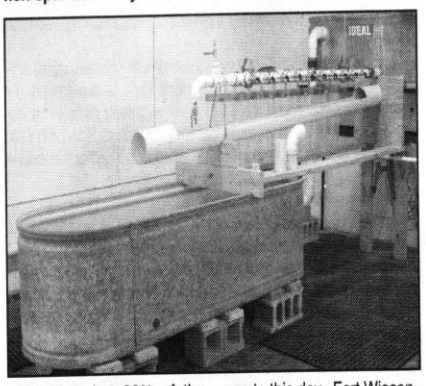
And then what happens, you might ask. Well, these little guys are in for quite a challenge. At one half-inch long, they face a "gauntlet of predators," as Doug Lubke explained. Death will come to them not only from larger fish and other animals but also from extreme weather, water overflow, and other natural causes.

Eventually, if one percent of the original eggs survive and become viable fish, this is considered a success. One percent doesn't sound like much to me, but this year they started with over two million eggs. A success would equal 20,000 fish. That does sound like a lot.

The first challenge in survival is getting the eggs to hatch. In a good year, this happens 50% to 60% of the time. In a bad year, it could be as low as 10%. Then the hatchlings have to make it out of the hatchery, and it seems that most of them are able to reach the river.

Some years ago, the hatchery exposed the hatchlings to a process that stains a certain bone in the fish's head. This allowed them to distinguish fish after they were released into the wild. Through later counting and analysis, they were able to determine that 20% of the walleye in the Lake Koshkonong area began their lives at the Bark River Hatchery.





Above: The canisters where the fish eggs fertilize and hatch. Below: The canisters and the trough into which the fish spill after they hatch.

The hatchery owes its thriving existence to the support of some key organizations. Jerry Richardson of the Lake Koshkonong Recreation Area (LKRA) explained to me that this organization started in 1989 to dedicate the construction of the Newville bridge and continued to grow. In 1994, LKRA started fund-raising to help with the hatchery and continues to this day. Fort Wisconservation and the Rock River Koshkonong Association are current strong supporters of the hatchery. There have been others through the years also.

The Bark River Hatchery operates from March to May every spring, and then it is closed down to await the next delivery. Keep an eye out next April for an open house at the hatchery. It's located on the eastern edge of Fort Atkinson and will be a fun family outing.