

### **Getting back to basics: where, why and how the DNR rears and stocks fish**

Take yourself back in time nearly 50 years ago, to 1966 when the stocking of Pacific salmon first occurred on the Great Lakes in Michigan. Within a short period of time the state's sportfishing landscape changed radically as anglers clamored for the opportunity to chase Chinooks and cohos and to bring home a beautiful fillet to be cooked.

What motivated this fisheries management action? A variety of factors, but the primary reason was to address the near total extirpation of lake trout (the top Great Lakes predator at the time), due largely to sea lamprey predation, which thus led to unchecked growth of the population of invasive alewives.

The after-effects of this specific action were much broader than just better control of the alewife population, leading to a world-class salmon fishery that still affords anglers catch rates that far exceed those seen in the Pacific Northwest. But at the root of this – and similar activities – is the art and science of fish production, specifically fish stocking.

“There are multiple reasons why we stock fish,” said Ed Eisch, the DNR's Fish Production Manager. “They may be stocked to restore ecosystem balance (like the Pacific salmon example), to provide diverse fishing opportunities, or to rehabilitate depressed fish populations and to reintroduce extirpated species.”

For each of these reasons there are examples of their success, such as the rearing and stocking of Atlantic salmon – which has produced one of the finest opportunities in the country to target this species for those who pay Torch Lake or the St. Marys River a visit.

“Our Atlantic salmon fisheries are the result of a partnership between Lake Superior State University and the DNR,” said Eisch. “It's a prime example of using stocked fish to produce world-class sportfishing opportunities for Michigan's angling community.”

In many cases, when a specific fishery is labeled as outstanding and/or world-class, you can see first-hand that strategic fish production and stocking has helped it get to that status. Saginaw Bay's walleye fishery is no different!

The current fishery exists today as the result of rehabilitation stocking efforts that began in the 1970s. That effort has proven to be especially successful as the fishery has become self-sustaining and no longer needs supplemental stocking.

None of these examples would be possible without the strong foundation of Michigan's fish production efforts – spearheaded by six fish hatcheries, three permanent egg-take stations, and numerous rearing ponds, many of which are operated in partnership with sportsman's groups. The state's fish production system annually produces tens of millions of fish for stocking, with rearing programs generally broken into two main groups: coolwater and coldwater.

Coolwater species reared by the DNR consist of walleye, muskellunge, northern pike and lake sturgeon. To rear these species the department first relies entirely on feral broodstocks – which means taking eggs and milt from wild adults at various locations throughout Michigan. For example, walleye eggs are collected from adult fish captured in the Muskegon River and Little Bay de Noc and muskellunge gametes are taken from adults collected in the Detroit River.

Coldwater species reared by the DNR include trout and salmon. To rear the DNR gathers eggs for steelhead and Pacific salmon from feral broodstock that return to the harvest weirs on the Platte River and Little Manistee River. Atlantic salmon eggs are collected from fish that return to the Aquatic Research Lab located on the St. Marys River and operated by Lake Superior State University, while brown trout, brook trout, lake trout and domestic rainbow trout gametes are collected from captive brood stocks that are reared at Marquette and Oden hatcheries.

Just as with egg collection efforts, the rearing effort for coolwater versus coldwater species is entirely different. For coolwater fish the eggs are incubated and hatched in hatching jars and then they are moved to indoor tanks or rearing ponds soon after hatching. They feed on a variety of things, with walleye preferring zooplankton and muskellunge preferring brine shrimp, pelleted feeds and then minnows.

Meanwhile, coldwater rearing consists of incubating the eggs in vertical flow-through incubators for six to eight weeks, followed by their stay in incubation trays for another three to five weeks. They are then transferred to tanks where they eat commercially-produced fish food until they are eventually moved out to concrete raceways where they finish their grow-out.

“The length of time it takes to get fish to stocking size varies significantly, depending on the species,” explained Eisch. “Walleye are typically harvested and stocked in June, but some small number may be held onto until they become larger and are then stocked in the fall. Raising walleyes to fall fingerling size is much more expensive though, because they require minnows as forage once the plankton crashes. Muskellunge are usually stocked in October while Chinook salmon are stocked after only six months, but other trout and salmon species are reared for 12 to 16 months before they are sent on their way.”

The stocking season is when the delicate balance of getting the fish to the desired size, while avoiding issues of overcrowding must be maintained within the hatcheries. Typically after the winter weather breaks the bulk of the work begins thanks to a fleet of 17 specially-designed stocking trucks that drive thousands of miles across the state to stock fish into various waterbodies.

“As you can see, producing fish is an expensive, labor intensive process,” Eisch said. “Hatchery produced fish are a limited resource and our fisheries managers take great time and care to think strategically about where and how many fish should be stocked in

the waters they manage so anglers can experience the best opportunities further down the road.”

It’s important to note there are many factors that go into determining where and why fish are stocked in a particular lake or stream – in fact, it’s one of the most frequently asked questions the department receives. Some of these factors include the current habitat, forage and predators and/or competitors of the waterbody. Have you often wondered why your favorite lake isn’t stocked? It’s probably because in its current state it does a fine job of maintaining natural reproduction and sustainable fish populations all on its own – which is a great thing!

Many folks also don’t realize that the DNR has no investments in the rearing of warmwater fish – such as bass and panfish. These species are prolific breeders and even small numbers of wild reproducing fish can sustain viable populations. As opposed to managing them through stocking, fishing regulations are an important tool used to manage their populations.

Want to find out exactly where the DNR stocks fish? Then check out the Fish Stocking Database. (<http://www.michigandnr.com/fishstock/>)