*(Note: This article first appeared in the summer 2022 issue of Michigan Trout magazine.)*

**Move over, Dow Jones; we’re investing in Michigan fisheries**

**by Sarah Lapshan, senior communications advisor**

**Michigan Department of Natural Resources**

Ed Eisch knows fish.

After 30-plus years working in the state’s fish production program – doing just about every job from technician to hatchery biologist, and now overseeing the entire effort – Eisch understands even the smallest details of what it takes to keep the state’s six fish hatcheries humming.

Those Michigan Department of Natural Resources sites, in Alanson, Beulah, Harietta, Manistique, Marquette and Mattawan, produce the fish eggs and fry that ultimately stock state lakes, streams and ponds, complementing natural fish production in these waters. That includes an average of 6 million to 7 million trout and salmon coming from the DNR’s cold-water facilities each year.

Eisch is confident that recent state investment in the fish hatcheries will not only keep the lights on, but also positively influence fisheries.

“Replacing roofs, repaving parking lots … some of that stuff isn’t very exciting, but it’s all part of protecting our investment in these facilities,” he said. “Other improvements have a direct impact on the quality and health of fish. Our current feeders are ancient, well past their expected life. Replacing feeders in at least two facilities will give us much better feed conversion rates, more efficient use of our feed dollars. That means bigger, healthier, more robust fish.”

All six hatcheries have infrastructure needs, and all are set for some level of improvements – but Wolf Lake, in Mattawan, probably will see the most changes. One of the biggest is the proposed construction of a new, $6 million cool-water facility for rearing walleye and muskie.

“This is key because it’s going to allow us to physically separate our cool-water rearing from cold-water rearing, and that’s a big biosecurity improvement, especially where viral hemorrhagic septicemia is concerned,” Eisch said. “It will also secure our steelhead rearing even more.”

The DNR is looking at biosecurity boosts at several locations: things like recoating the insides of rearing units and adding UV filtration to remove pathogens from the water.

“Recoating is important because the old coating starts to peel away and that creates divots in the units, which make great spots for waste material to collect and for bacteria to grow,” Eisch said. “Recoated rearing units provide cleaner places for fish to thrive.”

Some projects include maintenance and replacement of wells, possibly some dredging of ponds – more flow means healthier, fitter fish.

Other planned work is more structural. Visitors to the Platte River hatchery in Beulah might see areas where the rebar is exposed because the concrete is crumbling. These are needs that have to be addressed and fixed now, or else the buildings will face replacement down the road. That’s a much more expensive proposition.

The DNR also will target electrical distribution systems for repairs and upgrades, especially at Wolf Lake and Platte. Those systems (each at least 40 years old) have aging components including switch gears, buried electrical lines that are replaced as they fail, transformers, motor control centers – big, important components that, in the end, add up to hundreds of thousands or even millions of dollars.

“It’s all critical to securing state fish production,” Eisch said. “Making sure that our electrical distribution systems are performing at peak is something we are committed to investing in.”

**An eye toward efficiency**

Investment is everything, but DNR staff always look for ways to leverage every last dollar. That’s especially true around the fish hatcheries, where, Eisch said, he’s been known to hold things together with “baling wire and duct tape,” and hatchery system utility costs can edge north of a million dollars per year.

“Everything we do is done with energy efficiency in mind. Whatever we can do to bring those costs down, so much the better,” he said. “If we’re looking at replacing a pump, for example, the intent is to replace it with a high-efficiency pump that reduces the electrical draw.”

A departmentwide initiative to identify more energy-efficiency opportunities has influenced other changes. Some hatcheries’ heating boilers and other components are being replaced with high-efficiency units to reduce natural gas and propane use.

As part of the FY 2022 budget, the department received $2 million in capital outlay funds toward solar energy installations. Five of the six hatcheries will get them. Eisch said he is hopeful the DNR will see a sizable decrease in utility expenditures as a result of that investment.

In the DNR’s overall push for greener operations, the Fisheries Division is right in the mix.

A series of upgrades completed last year at the Thompson hatchery in Manistique included a new backup generator, construction of a new cool-water fish production facility, and improvements to the existing facility that will benefit Chinook salmon and steelhead production for decades.

At Oden, in Alanson, the visitor center already has a solar installation. Though it is smaller – more of a residential-scale installation – it has significantly reduced expenditures there. An electric vehicle charging station is planned there, too, for visitor use as part of the state’s larger campaign this year to place such stations at a dozen state parks (and Oden) along the proposed Lake Michigan EV circuit.

Eisch said he knows these investments aren’t going to change the number of fish the DNR produces, but they will address needs that have been unmet for a number of years.

“What these changes will do is secure our level of fish production, going forward for decades. It’s going to make us more efficient and our product better and healthier,” he said. “Just putting the fish in the water doesn’t get it done. The fitness of the fish that we stock is critical to the program. We need to know those fish are available to anglers and they’re catching good, high-quality fish.”

**A new approach to the Au Sable**

Another department initiative seeing success on an iconic Michigan river has the capacity to better position other watersheds and fish populations. More than halfway through a two-year pilot project that applies structured decision-making to assess the resilience of the Au Sable River in the face of existing and emerging threats, results are promising.

Randy Claramunt is the DNR’s Lake Huron basin coordinator. He and Tammy Newcomb, DNR senior executive assistant director, are department leads working with Michigan State University experts on structured decision-making and a group of stakeholders representing the U.S. Forest Service, Michigan Trout Unlimited, the North Branch Area Foundation and fishing groups, among others. The DNR has additional representation from its fisheries, forestry, wildlife and executive divisions.

To understand where structured decision-making fits in, Claramunt said it all starts with a stream.

“If you restore a fish population in a stream, especially in a cold-water stream, the next logical jump is to habitat protection for that stream,” he said. “If the fish don’t have the cold water, woody debris and water quality, you’re going to be continually restocking that stream. Making that stream self-sustaining is the goal, but to get there you need to attack the in-stream habitat and the watershed.”

The challenge? None of that happens in a vacuum. A change on one branch of the river has implications downstream. In-stream habitat has to be holistic and consider the entire watershed.

“A watershed like the Au Sable River is the most dynamic stream in the state,” Claramunt said. “From the headwaters in the North Branch to the main stem through the ‘Holy Waters’ down past Mio Dam where it’s open to Lake Huron – that river changes dramatically, and boy, does it have amazing trout fishing.”

Unfortunately, it’s also a river experiencing several threats: thermal changes, climate change, flooding events, continued sedimentation … threats that aren’t going away.

“The question was, if we’re going to do habitat restoration or enhancements to improve the resiliency of the Au Sable River – which is, for the most part, a self-sustaining, incredible fishery – how do we pursue that resiliency,” Claramunt said.

The rise in challenges, paired with an already overstretched fisheries management staff and a passionate stakeholder base, presented an opportunity to try structured decision-making on the river.

“The power behind SDM is that stakeholders – the people who love, use and value the resource – not only help with goals and objectives, but they work with the data and the models right alongside us,” Claramunt said. “It’s not the DNR saying ‘You can’t look at our models.’ It’s us making sure we are clearly explaining the neural network models, the watershed models, and asking the stakeholders for their input on what models and data to use.”

The group uses data, population estimates, quantitative measures, values and qualitative input from the stakeholders, and then assesses the risks of different decisions. They’ll consider questions such as:

* Who are the decision makers?
* Who are the stakeholders?
* What is the scale of our decision?
* Are there legal and regulatory contexts to consider?
* What variables or unknowns could affect decision-making?

The idea isn’t to define a set of actions – Claramunt said that’s a misconception about SDM, that you enter all the data, put in all the actions, and you get back a definitive “Do A, B or C” and you’re done.

“What structured decision-making does, at its best, is identify risks around different actions so you can choose an action and then monitor the results to see what the impact of that decision was. You’re always reassessing. You might discover A, B and C aren’t right, so you move to D. It’s a truly adaptive approach in the sense that it’s meant to have interaction.”

Newcomb, who has used the SDM process to address cormorants, grass carp and salmon goals, agreed.

“It’s a great way to get people engaged, to ensure that all voices are heard and that no one entity sways the outcome,” she said. “This project is about a shared vision for a watershed highly valued by many different types of people with different interests. By using contemporary, scientific approaches to understanding landscape processes and how they affect river habitat and fish populations, we can develop an action plan with outcomes that have everyone pulling in the same direction.”

And when it comes to the Au Sable River, no one wants to make decisions that are high-risk. The goal, instead, is decisions with a far higher likelihood of reaching desired outcomes.

“The Au Sable is an incredibly beautiful, unique and valuable river. But structured decision-making has never been applied to a river system like this,” Claramunt said. “In my opinion, the Au Sable is the most dynamic river system for cold-water trout. If we can successfully use SDM here, now all of a sudden, we can apply it to the Pine River, to the Cedar River, and to a number of brook trout streams across the U.P.”

The Au Sable research, hatchery investments, energy upgrades and work done across all levels of the DNR with support from valued partners are all in service to healthy, world-class fisheries and the people who love to fish our waters season after season.

There is a passion there you won’t find anywhere else.

“Avid anglers live, eat and breathe this stuff,” said fish production manager Eisch.

“A number of years ago, my wife was a nurse working with the Area Agency on Aging and did a lot of really great things to help people who are getting older but who want to stay in their homes,” he said. “I started comparing that to what I was doing and began feeling like maybe I’m not making much of an impact here. Then I realized some people wait all week just to hit the water. Michigan fishing is their happy place. It’s salve for their soul. They *need* to be out there.

“It's pretty cool knowing the work we do at the DNR helps make the experience that much better for them.”

For more on how the DNR takes care of state fisheries, visit [Michigan.gov/Fishing](https://www.michigan.gov/dnr/things-to-do/fishing).

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