

"How do you determine which hatchery stocks which waters?"
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Determining which hatchery will be stocking a body of water is a bit more complicated than one might expect. The way we allocate our stocking assignments may not always appear to be an efficient way to get fish to your waters, until you understand the complexity of successful stocking. It isn't as simple as raising all of the fish for an area in the nearest hatchery. For stocking to be successful, many factors must be taken into consideration.

Rearing assignments are based on statewide fish stocking requests made by Fisheries Biologists, physical structure of the hatchery, water temperature and source, wastewater discharge limitations, disease management issues and biological requirements of each species and strain. (Table 1). Our goal is not to just stock fish, but to stock fish that will survive, meet the needs of our Fisheries Managers, and be caught by anglers, all while keeping economics in mind. Therefore, it makes the most sense to rear the fish at the hatchery that can produce the highest quality fish possible. This means that not all stocks can be reared at every hatchery and sometimes fish must be trucked long distances for effective stocking and the best returns to our anglers.

Table 1. Physical differences between Michigan's six state fish hatcheries determine with species and strain is best suited for each hatchery. Note that the sturgeon rearing requires the water to be heated.

State Fish Hatchery	Structures	Species	Water Source	°F
Thompson	Raceways	Brown trout, Gilchrist strain	deep well, shallow well, spring	46.4 to 60.8
		Rainbow Trout		
		Chinook Salmon		
Earth pond	Steelhead	Well	75-80	
	Walleye			
Wolf Lake	Raceways	Chinook Salmon	Well	51.8
		Steelhead		
	Earth pond	Walleye		75-80
	Earth pond	Muskellunge		
Circular tank	Sturgeon	75.2		
Platte	Raceways	Coho Salmon	Stream	34 to 59
		Chinook Salmon		
Marquette	Raceways	Brook trout	Well, Stream	46, 34 to 50
		Lake Trout		
		Splake		
Harrietta	Raceways	Brown Trout, all strains	Well	46.4
		Rainbow Trout		
Oden	Circular tanks, Raceways	Brown trout, Wild Rose and Seeforellen strains	Well	45.7
		Rainbow Trout		
		Trout broodstock, all strains		

Marquette State Fish Hatchery has the coldest water and is used to rear fish that thrive in colder conditions, including lake trout, brook trout and splake (a cross between brook and lake trout). This hatchery maintains captive broodstock for these species on site. Since the bulk of the requests for these species are from management units in the Upper Peninsula, it also makes the most logistical sense to rear these fish at the Marquette State Fish Hatchery.

The hatcheries with the warmest groundwater rearing temperatures are Wolf Lake and Thompson State Fish Hatcheries, which allows them to rear Chinook salmon and steelhead. Platte River State Fish Hatchery also has warmer rearing water, but only during the summer months because it uses surface water supplies. The seasonal and, to a lesser degree, daily temperature fluctuations make Chinook salmon rearing at Platte more challenging. In fact, during much of the Chinook salmon rearing season (October through May) Platte State Fish Hatchery must heat their water in order to achieve the growth needed to reach smolting size by stocking season. However, the warmer temperatures during the summer months allow the Platte River State Fish Hatchery to easily achieve target sizes on coho salmon by stocking season. Since coho salmon are reared for twelve months longer than Chinook salmon, they benefit from the significantly higher summer water temperatures. Both Wolf Lake and Thompson State Fish Hatcheries have pond systems that are warmed by the sun and are capable of rearing coolwater species such as walleye, northern pike, and muskellunge. Wolf Lake, Thompson, and Platte River State Fish Hatcheries are not designed for rearing and holding adult fish and all three must obtain eggs from wild sources annually.

The water temperatures at Harrietta and Oden State Fish Hatcheries are cold and constant as they both use exclusively groundwater. They are cooler than Wolf Lake, Thompson, and Platte River State Fish Hatcheries, but warmer than Marquette State Fish Hatchery. Brown and rainbow trout are the best suited species to rear at both Harrietta and Oden State Fish Hatcheries. The DNR maintains three different strains of brown trout broodstock at Oden State Fish Hatchery, including Wild Rose (somewhat domesticated and very fast growing), Seeforellen (domesticated, but slow growing) and Gilchrist Creek (non-domesticated and slow growing). Because of the variation in growth rates among strains, water temperature is a primary consideration in determining which species will be reared at the three hatcheries (Thompson, Oden and Harrietta State Fish Hatcheries) that rear brown trout. Oden State Fish Hatchery's colder water temperature has driven the brown trout program there to be largely built around the Wild Rose strain. The slower growing Gilchrist Creek and Seeforellen strains can only be economically reared to the desired size at Thompson and Harrietta State Fish Hatcheries. Spreading brown trout and domestic rainbow trout rearing assignments among these three facilities also makes logistical sense, as stocking assignments for these species range from the far western portions of the Upper Peninsula to the southern tier of counties in the Lower Peninsula.

Trout broodstock take a long time to mature (3-4 years in brook, brown and rainbow trout and up to 7 years in lake trout), which means a large investment in time, space, and money. To protect this investment, brood facilities cannot afford to bring in any fish that have not passed a rigorous health screening. The requirement is that a group of fish must pass three health examinations over twelve months before they may be brought into a broodstock facility. The

result of this time requirement is that broodstock facilities (Oden and Marquette State Fish Hatcheries) are not able to rear steelhead, Chinook salmon, coho salmon, walleye or any other fish that we get from wild sources.

After it has been decided which hatchery will rear which species and strains, the number of fish of each lot to rear at each hatchery is then determined. This decision is based on the rearing space available, water flows, fish health concerns, wastewater discharge limitations, and the proximity to final stocking locations, when possible.

In December, inventories are taken of all fish that will be stocked in the following spring. Each hatchery reports the number of each species and strain to the Fish Stocking Coordinator, who then compiles the numbers and reports them to a biologist in Lansing. A computer program is then used to determine how stocking requests will be allocated to the six hatcheries.

In March, each hatchery receives their stocking assignment with detailed information about how many fish of each strain will be stocked at each specific location. Stocking assignments are based on the strain requested, inventories of each fish species, and facility availability. The allocation then accounts for the distance of each stocking location from each hatchery. However, since not all hatcheries rear the same species and strains, fish must sometimes be trucked to waters that are closer to or even past another hatchery.

As you can see the decisions on rearing fish and stocking fish from our state fish hatcheries is a fairly complex decision process to ensure that we provide the best possible product that will properly match the environmental conditions where the Fisheries Managers have directed them to be used. The public owns these fish and has entrusted MDNR Fisheries Division to make responsible decisions so that the fishing community can have the best fishing opportunities possible. This is a responsibility that we take very seriously and put a lot of energy into to meet our Public Trust requirements. Throughout the entire process of managing the resource, we strive to produce fish that will survive and provide opportunity to be caught, and do this as efficiently as possible.

If you have any questions about this topic, please contact Mr. Daniel Sampson or Mr. Edward Eisch using the contact information below.

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