

# Pennsylvania Fish & Boat Commission Musky Culture Program

*by Larry Hines, Fish Production Manager photos by the author*



*A female muskellunge is shown prior to the spawn.*

Pennsylvania anglers spend hours searching state waters for huge muskies, but few are aware that these fish probably started as tiny fry at a Pennsylvania State Fish Hatchery. Natural reproduction is very limited in Pennsylvania, so populations are maintained by the Pennsylvania Fish & Boat Commission (PFBC) stockings. Muskies are spawned at our Linesville facility and eggs are distributed to Union City, Tionesta and Pleasant Mount hatcheries. Over 100,000 fingerlings are stocked each year in 26 lakes and 13 rivers around the state.

The PFBC Musky Culture Program started in the late 1890s when eggs were obtained from the Old Bemus Hatchery on Chautauqua Lake in New York. These eggs

were hatched at the PFBC's Corry State Fish Hatchery. Fry were stocked in Northwestern lakes with indigenous musky populations. This practice lasted about 10 years. In 1953, the PFBC again became interested in culturing muskies and started to raise and stock fingerlings along with fry from Linesville and Union City State Fish Hatcheries.

For the PFBC's Linesville and Union City State Fish Hatcheries, musky season starts when Northwest Pennsylvania waters begin to warm near 50 degrees. That's the signal for muskies to begin moving into the shallows to spawn and for fish culturists to set up trap nets. There are nine brood musky lakes in Northwest Pennsylvania that are used to capture adults for spawning. Culturists set their

nets in the shallower lakes first as these lakes typically warm up the earliest. All ripe muskies captured are transported to the hatchery for spawning. Muskies captured by Union City are crossed with northern pike for the PFBC Tiger Musky Program. Tiger muskies are cultured at Union City, Tionesta and Pleasant Mount hatcheries.

The Pymatuning sanctuary is a 2,500 acre lake located at the north end of Pymatuning Reservoir. The Linesville Hatchery resides on the shores of this sanctuary lake. Linesville uses this body of water to capture broodstock for the PFBC Musky Culture Program.

Upon arrival at the hatchery, the muskies are sorted by sex and spawned the same day. All muskies are anesthetized for spawning. A 30-pound thrashing musky is hard to hold, let alone spawn. After spawning, the muskies recover from the anesthetic in a few minutes and are released to their original lake the next day.



***Fish culturists collect eggs from a female musky.***

The anesthetized female is placed on her stomach on an elevated table causing the eggs to easily flow out the vent. The eggs are captured in a glass jar. Sperm from the male are added to the eggs, and the contents are gently rolled. A small amount of water is added to activate the sperm and fertilizes the eggs. At this time, the eggs are placed in a disinfectant to kill any viruses present. Then, the eggs are rinsed and placed in hatching jars at 50- to 55-degrees water temperature. The eggs hatch in about 14 days.

The fry spend the next 7 to 10 days in a hatchery tank absorbing their yolk sac. This yolk sac is the sole source of nutrition during this critical first week of life. As the sac disappears, the fry will suspend in the water column. For about 10 days, culturists will hatch brine shrimp to feed to

the young muskies. Near the end of the 10 days, dry feed will be introduced and gradually increased as the brine shrimp is decreased. This forces the muskies to switch from shrimp to dry feed.

The fish will be inventoried, placed in tanks and fed by automatic feeders for the remainder of the summer. Feed size is increased as the fish grow. The PFBC cannot raise enough minnows to feed the 100,000 musky fingerlings cultured each year, so it is very important that the muskies are converted to dry formulated feed. Without this conversion, the PFBC could not raise the number of fish requested for the program. Over the years, the quality of these formulated fish feeds has improved and with that improvement musky survival has greatly increased. The muskies will remain on dry feed until stocking in the fall. About two weeks prior to stocking, the fish will be put on a minnow diet. This helps acclimate them to feeding in the wild. Some of these fall fingerlings will be placed in ponds for overwintering to the following spring. These fish will be stocked as part of our yearling program. During this time, these fish will feed on minnows. We are currently evaluating spring yearling stocking versus fall fingerling stockings in three of our Pennsylvania lakes.



***Superior feeds and advanced culture techniques have improved overall size and quality of musky fingerlings, which should lead to increased survival.***

The PFBC Musky Program has made tremendous advancements over the years. Superior feeds and advanced culture techniques have improved overall size and quality of musky fingerlings, which should lead to increased survival. The future looks very promising for Pennsylvania musky anglers. ☐