

DMF Fish Passage and Restoration Projects

Cape Cod Water Resources Restoration Project. The USDA Natural Resources Conservation Service received federal funding in 2010 for the Cape Cod Water Resources Restoration Project, with one component targeting the reconstruction of anadromous fishways on Cape Cod. The Cedar Lake and Santuit Pond fishways were constructed in the summer of 2013. The Santuit Pond fishway required numerous site visits in 2014 to troubleshoot a problem with weir turbulence. Consultations with USFWS engineering staff and trial-and-error testing of weir modifications by our Fishway Crew led to passage improvements.

Town River, West and East Bridgewater. An effort was initiated in 2013 to work with the Towns of East and West Bridgewater to prepare O&M plans for the Town River fish ladders at War Memorial Park and the High Street Dam. Both sites need fishway improvements; however, basic guidelines for fishway operations and flow targets are lacking. Several site visits were attended with representatives of the property owners. Two pond level staff gauges were provided and installed at Town River upstream of War Memorial Park. A second draft of the O&M plan for War Memorial Park fish ladder was reviewed and accepted as a working draft and a first draft of an O&M for the High Street Dam was sent to the dam owner for review.

Back River Fishway Barrier Wall, Weymouth. DMF received a state budget earmark of \$50,000 to replace or redesign the flood control tunnel gate at the Back River Jackson Square fishway that has caused several large fish kills in recent years. A contract was prepared in 2013 to send the funds to the Town of Weymouth. An engineering contractor was hired in 2014 to conduct the project design and permitting. Several drafts of a preferred option were reviewed late in 2014.

Talbot Mills Feasibility Study. A feasibility study on improving fish passage at the Talbot Mills Dam on the Concord River was initiated in 2013. The dam is not passable for diadromous fish. An engineering contractor was hired in 2014 to conduct the study., and the project kick-off meeting was held in Gloucester during March.

Westport River, Westport. After two years of conceptual assessments, a large-scale restoration effort in the Westport River began in 2014. River herring are impeded from reaching the 165-acre Lake Noquochoke at two impassable dams. Discussions were held with the owners of both dams in 2014 to discuss future property plans and the feasibility of creating fish passage. A contract was made with the USFWS to fund a conceptual design for a fish ladder at the first dam, Forge Pond Dam.

Seymour Pond, Harwich. The Fishway Crew began work in September to replace an 8-foot wood weir and pool fishway flume at Seymour Pond in Harwich. The old structure has degraded and is severely laden with sand. The replacement flume was fabricated and the old structure was partially dug out in October. Rising pond levels caused the project conclusion to be delayed until 2015.

Pilgrim Lake, Orleans. The Fishway Crew began work in September 2014 to replace 75 feet of a degraded concrete weir and pool fish ladder connecting Pilgrim Lake to tidal waters in Orleans. The town funded the fish ladder materials. A new concrete form exit chamber was constructed along with approximately 60 feet of the weir and pool ladder. The Crew returned in 2015 to finish this job.

Tom Matthews Pond, Yarmouth. A 24-foot wood weir and pool fish ladder was installed at Tom Matthews Pond in Yarmouth in March 2014. The fish ladder replaced a degraded wood Denil fish ladder. The fish ladder was funded by the Bass River Rod and Gun Club and designed and constructed by our Fishway Crew with the assistance of DQ Engineering.

Mill Pond, West Tisbury. A 35-foot wood weir and pool fish ladder was installed at the Mill Pond Dam in West Tisbury in May 2014. The fish ladder replaced a degraded weir and pool fish ladder. The fish ladder was designed and constructed by our Fishway Crew with assistance from USFWS Fish Passage engineers.

Monument River, Bourne. A concrete diversion weir was constructed at Carter Beal Park on the Monument River in Bourne during September 2014. A failed weir had, for decades, allowed river herring to be falsely attracted to a mill raceway where no upstream passage was allowed. The mill raceway was also the cause of periodic juvenile herring mortality. The Town of Bourne funded project materials and our Fishway Crew constructed a new diversion weir, and board slots and a plunge pool at the mill dam to better manage stream flows and avoid fish mortality.

Gorman Mill Pond, Pembroke. A 23-foot wood Denil fish ladder was installed to replace a non-functional fish ladder at Gorman Mill Pond on Herring Brook in Pembroke. Our Fishway Crew worked with the Pembroke Herring Commission to remove the old ladder that was impeding juvenile herring emigration during the fall of 2013 and to reconstruct and install the fish ladder during March 2014.

Eel Ramp Installations. New eel passageways were installed at Silver Spring at Mass Audubon's wildlife sanctuary in Wellfleet and Morey's Bridge Dam on the Mill River in Taunton in 2014. Both are custom pump-supply eel ramps fabricated by our Fishway Crew. The Mill Brook eel ramp in Rockport, built in 2012, was outfitted with a gravity-supply, floating collection tank designed by our Fishway Crew. The eel ramp at Morey's Bridge Dam was funded by the project partners *MassDOT* and *MassDCR*, and the other two installations were funded by DMF.

River Herring Run Channel Maintenance. The Fishway Crew routinely fields requests to assist towns to maintain passageways for river herring. The work can involve developing plans for removing debris jams and fallen trees that block passage or responding quickly during migration season to remove blockages that threaten sea-run fish survival. In 2014, ongoing efforts took place at Furnace Brook to connect the main stem Taunton River to Lake Rico in Taunton and at Herring Brook in Pembroke to remove wood debris downstream of Third Mill Pond in cooperation with the Pembroke Herring Commission. A single day was also spent working to clear the run between Seymour and Hinckleys ponds in Harwich.

Mystic Lakes Dam, Medford. Work continued with DCR to improve river herring downstream migration and improve upstream passage for river herring and eel at the Mystic Lakes Dam in Medford. The dam was reconstructed in 2011 with a new Denil fish ladder. River herring mortality, both juveniles and adults, has been observed at the spillway during downstream movements. Efforts have focused on the O&M plan and the function of the spillway bays and low flow channel. In 2014, DMF staff assisted with the deployment of over 150 sandbags on the crest of the spillway bays and along the low flow channel to contain flows and emigrating river herring. This short-term fix was successful in reducing river herring mortality and led to continued discussions on long-term structural fixes and O&M plan improvements.