Freeing The Fry From Harwich Headwaters

By William F. Galvin . From Cape Cod Chronicle January 4 2017

State Division of Marine Fisheries staff worked with the town's natural resources department to install a new aluminum floating sluiceway extension where Long Pond and Princess Brook connect. The new structure improved river flow allowing herring fry to migrate back to the ocean.

HARWICH — Low water levels and sand deposits at the sluiceways in the headwater ponds of the Herring River made it a challenge for fry to make their way to the ocean this fall. Fisheries officials observed juvenile fish seeking a route to Nantucket Sound as late as early December.

In response, a unique solution has been developed to prevent sand from blocking fishways.

Natural Resources Department Director Heinz Proft said this past spring was a good year for herring moving through the river to spawning ponds. The newly installed electronic counter located at Johnson's Flume, at the herring ladder in West Harwich, registered more than 340,000 fish migrating to headwater ponds to spawn, he said.

"That's up quite a bit and its a good sign we may be increasing herring migration to headwaters there," Proft said.

While the numbers were encouraging, the lack of snow melt last spring based on the limited amount of snow last winter and a relatively dry summer and fall had an impact on water flow from the headwater ponds. Proft points out the flow is essential for herring to move up stream to spawn and return to the ocean and for fry to leave the ponds in the fall.

The lower flow from the headwaters, coupled with sand deltas forming at the mouth of sluiceways, became a concern when herring fry were observed in the ponds late into the fall.

"There is only so much we can do to assist the migration of these fish, ultimately it depends upon how much water there is in the stream," Proft said.

More than a decade ago, then-natural resources officer Thomas Leach was faced with a similar problem where Long Pond and Princess Brook connect, allowing fish to migrate down to Hinckley's Pond. There were reports of fry caught in the pond late into the fall. Leach had a wood extension built at the sluiceway into deeper water.

"Tom Leach wrestled with it for years," Brad Chase, senior marine fisheries biologist for DMF, said on Tuesday. "Sand travel has been a big problem." Chase, a Harwich resident, said sand travel has been a problem for many fishways on the Cape.

When DMF looked at the situation officials discussed building another retaining wall to prevent sand migration. The wood structure built more than a decade ago was wearing thin, Proft said. His department spent a lot of time shoveling and pumping sand from the area, he said.

Chase, who oversees diadromous fish projects, said he had a conversation with Ed Clark, a member of DMF's fishway crew, who recommended the wood structure be replaced with a floating aluminum sluiceway designed to keep sand transport out of the fishway.

"It's a unique solution to a common problem," Chase said. "I'm really excited about it. It resolves the input of sand into the fishway."

There was a problem with juvenile herring releasing from headwaters throughout the Cape this year, Chase said. When town and DMF workers began to install the newly designed fishway extension on Dec. 7, Chase said he saw juvenile herring still in the pond. They were also in Seymour's Pond. DMF constructed a wood sluiceway barrier to keep sand from the high banks on either side from sliding into the brook outlet, Cahoon's Canal, hand dug by Alvin Cahoon and his son in 1852 to connect to Hinckley's Pond. Proft said his department has planted shrubs there to stabilize those banks. The projects were brought to the conservation commission for approval before the work was conducted, he added

"It was stressful with the water levels so low," Proft said. "It was challenging for the fry to get back to the ocean, but most made it back."

"We're happy with the run," Sara Turner, an aquatic biologist with the state division of marine fisheries, said on Tuesday of adult herring migrating to the ponds this past spring. "The Cape did have declines and it depended on a site by site basis. Part of the issue had to do with lower flow and atypical spring

temperatures." DMF instituted a moratorium against the taking of herring in the runs in 2006 based on the reduced number of anadromous fish passing through the runs to spawn in the freshwater ponds.

The natural resources department and DMF staff will be at the Long Pond sluiceway in the next week or so taking the newly constructed extension out for the winter so it is not damaged by ice. Proft said the plan is

to re-install it in March, after ice has thawed and in time for the adult herring migration to spawning grounds.

"I'm not aware of a device like this anywhere," Chase said of the innovative design engineered to prevent sand blockage in the fishway. "It can also be used elsewhere in the state."

Chase called it an experiment and he said it would be monitored closely for several years to better understand its success. He also said an operations and maintenance plan would be developed to determine when it should be installed and removed each year. A means of controlling water to allow fishway passage will also be investigated.