

Bristol Mills Dam *ad hoc* Advisory Committee

Minutes of Meeting Tuesday, April 11th, 2017

Committee members present: Jim Albright, Pam Allen, Phil Averill, Bill Benner, Claire Enterline, Charles Farrell, John Freburger, James Hatch.

Also present: Chris Hall, Slade Moore, Rick Poland; Dr. Karen Wilson, University of Southern Maine.

The meeting was called to order by chair Enterline at 6:03 pm with a quorum present, and the Pledge of Allegiance was recited.

1. Chair Enterline welcomed Dr. Karen Wilson, University of Southern Maine biologist and expert on diadromous fishes.

Presentation:

Dr. Wilson explained the difference between two types of sea-run fish: diadromous (freshwater-spawning) and catadromous (sea-spawning), the latter for our purposes being American eels. There is a large variety of diadromous fish in Maine rivers, including important threatened species like Atlantic salmon and shortnose sturgeon. Alewives, shad, sea lamprey, sea-run brook trout, tom cod, blueback herring, rainbow smelt are the native diadromous species found in the Pemaquid River. The river is within Atlantic salmon critical habitat, but the use of the river by Atlantic salmon is unknown. Sea lamprey spend up to 7 years in freshwater before migrating to salt water. During their freshwater residence, they are not parasitic, they only adopt this feeding strategy in salt water.

Wilson presented a chart of the migration patterns of fish in Maine rivers throughout the season from April to November.

Each of these species (with the exception of the catadromous American eel) return to their natal rivers each year, so the effort put into restoring a run on a specific river will see benefits to that population in future years.

There was a catastrophic fall in the numbers of all diadromous species returning to Maine rivers in the 1960s, which is attributed to the large-scale offshore trawling in that decade.

Many species have not returned to their pre-1960s levels; alewives, however, are the most successful species at recovery, reflecting their flexibility and resilience. As an example, the Penobscot alewife count has increased from a low of 9,000 to over a million in 2016.

Water quality is now good throughout Maine with one exception: the accumulation of mercury in some rivers with historic industrial use (like the Penobscot River). As eaters of zooplankton, alewives are low enough in the food chain not to be significantly affected by mercury.

Wilson described dams as bottlenecks where migrating fish are vulnerable. Below the dam, fish are delayed while searching for fish passage; the passage itself can

exhaust fish; and above the dam, the slow-moving water leaves them vulnerable to predators such as largemouth bass.

Both Wilson and Poland stressed the importance of the attraction flow for fish passage – fish hear fast-running water and move towards it.

The characteristics of a good fish passage include:

- A wide range of flow conditions, especially considering climate change predictions for stronger spring precipitation in the Northeast leading to stronger river flows, and less precipitation in the summer, leading to low summer flows;
- Suitable for a diversity of sizes and species of fish;
- Available throughout the ‘movement season,’ i.e. spring, summer and fall;
- Open 24/7, with minimal upkeep (i.e. not fish lifts), and
- Effective for movement both upstream and downstream.

Few if any fish passages work perfectly; there will be trade-offs among the characteristics above (and with the available financing), and each river and site may require a different design. Moore added that “you don’t know how well it will work before you build it. It’s not a clear-cut process,” but that we design a fishway using as much information as possible for the fishway to work well. The Denil design was acceptable before the 1960s, when there were many more fish in the rivers and high harvesting rates.

The results of a study of 5 types of fish passage in Maine were shown, with pool-and-weir showing the best average rates of passage, somewhat ahead of pool-and-slot and natural-like passage. The group discussed how these fishway types look, and that a pool and weir may also be a nature-like fishway. The group also discussed that even though the study found Denil style fishways to have poor performance, these studies may have been based on older style Denil fishways that did not incorporate current design specifications for resting pool and slope.

Farrell asked about designing passage with “trade-offs” to maximize passage for target species. Wilson answered that the best passage is designed for a suite of species.

Wilson showed illustrations of a number of fish passages, including the older, hand-built Damariscotta Mills passage which, she said, facilitated an alewife run that was originally stocked in 1804/5 from Pemaquid River fish when the first dam and fish passage was built at the Damariscotta Mills waterfall. The Damariscotta fishway was recently re-built as a nature-like pool and weir system that is now successfully passing the run. She also showed the example of Patten Stream in Surry where large granite blocks were used to construct a nature-like pool and weir fishway to facilitate passage past a road culvert.

She summarized the impacts of dams as including; (upstream passage) delays, poor health (exhaustion), predation and being ‘late to the party;’ it may select for a subset of the population. For downstream passage, there are delays and there may be trauma from spillways.

2. Title research: Benner and Hall reported on their research in the Registry of Deeds. The Town was the recipient, from CMP in 1955, of the rights and obligations of the owner of the flowage rights of the river as well as the property surrounding the dam. Riparian owners were indemnified against water levels being raised beyond that represented by boards 32” above the top of the existing dam.

Benner was asked if they had found anything that would require additional legal work or potentially be a barrier to removal of the dam. The answer was not as long as the town did not *raise* the water level above the dam.

The committee asked Hall to relay this information to the residents (Plummer and Pendleton) who had asked about these titles during the March 28 meeting. Hall agreed he would relay this information.

3. Minutes:

Motion by Benner, seconded by Albright, to accept the draft Minutes of March 28, with amendments to reflect his presence at that meeting (and Albright's absence), and wording (circulated) showing that a vote was taken to purchase advertising for future meetings.

Farrell then asked for additional amendments. He raised four points: in the meeting with the Parks and Recreation Commission, he wished to record statements regarding (i) the absence of a Town-owned land for an alternative swimming hole; traffic concerns at Ellingwood Park; and the limited management role of the Park Commission. Fourthly, with reference to the main body of the meeting, to note that increased alewife migration could increase sport bass fishing opportunities. In order not to spend the Committee's time drafting these amendments, Benner withdrew his motion to accept the Minutes and Enterline tabled the matter until the next meeting at which Farrell and Hall would have drafted revised wording for consideration.

4. Other business:

Water quality testing: Enterline asked committee members for access around Biscay Pond for water level testing at three locations (one at the outlet, and two around the pond). Pam Allen will check with the PWA for volunteers.

It was questioned whether there is "do not touch" signage on the water level gauges. Apparently there is.

Enterline reported she had asked the DEP for their data from a monitoring site in the wetlands above the dam. They have declined an invitation to present, but said they will answer specific questions by email. Enterline will circulate their reports from their 2007 and 2012 sampling in the wetland.

Next meeting: Wright-Pierce will present at 6 pm, after meeting at 5 pm with the Parks and Recreation Commission at the swimming hole. Benner recommended inviting the Bristol Fire and Rescue Department to the same meeting.

The Nature Conservancy grant: Hall reported he is expecting this by the end of the week. The Wright-Pierce contract will be released once the TNC grant is received.

Communications: Farrell stressed that there should be no press releases or other communications on matters not fully agreed by the Committee. Hatch stated that we should not be concerned about every last word if that caused delays. Enterline reminded members that in the event of disputed recollections, we have the meetings on DVD for reference. After further discussion it was moved by Freburger, seconded Farrell, that if there is disagreement in future on the draft of any press release, the text should be withheld and brought to the next Committee meeting for further discussion. Motion carried 7 - 0 with 1 abstention.

Hall pointed out that Rachel Bizarro's roles as Town Clerk included to be the point of contact for public information requests (Freedom of Information Act) and as keeper of records of who belonged to any Town body. Only persons appointed by the Selectmen and sworn in by her are members of the Committee.

5. Adjournment: it was move by Farrell, seconded by Albright, to adjourn. Passed unanimously at 8.21 pm.