

Fish Passage Project Prospectus: Anguilla Brook

September 2009

Anguilla Brook is a small brook that has its swampy headwaters in North Stonington, CT and flows into Long Island Sound in Stonington, CT. It flows through the 1.7 mile long Wequetequock Cove estuary. It is one of the easternmost streams in Connecticut. There are two dams on it: Wequetequock Pond Dam near the head-of-tide and an unnamed pond (as far as we know at this point) on Lane Way.



Map of Anguilla Brook with location of dams indicated by arrows

“Anguilla” is the genus name for American eel (*Anguilla rostrata*) and this stream has always been known as a hotspot for glass eels. Early settlers likely named the brook for the species like other settlers named the Salmon River for salmon. The brook also supports small runs of alewife (*Alosa pseudoharengus*) that would expand if given access to historical upstream habitat. A fish passage project on this stream would benefit both diadromous species. Wild brook trout are also found in upstream areas and this species might also benefit.

The owner of dam #2 is Bill Rutan who approached the DEP about removing the dam. The dam was damaged in recent floods and he and his wife wish to remove the dam and plant a dense woodlot around the brook. The dam is about 6 feet high with a small pond, very little sediment, and no major historic attributes. The watershed upstream of the dam is rural and lightly developed with little evidence of industrial activity. There is likely to be no significant contamination of the sediments. The DEP Dam Safety Unit has visited the dam and made repair recommendations. However, this dam is not regulated by the CTDEP and does not have a dam number.



Aerial photo of dam #2 off of Lane Way, Stonington

Engineering would be needed to design the removal and to determine how much of the earthen dam is to be removed. It is likely that all of the stone spillway and much of the earthen dam, beginning from the right end (above) would be completely removed. The landowners have a great deal of land and may be able to dispose of some if not all of the dam material on their property. Some of the spillway rocks can be re-used for the project on Dam #1.

This dam removal will benefit eels but will not benefit alewives unless they can get past Dam #1, which is currently a barrier. Mr. Rutan spoke to the owners of Dam #1, who expresses an interest in discussing it further with me. I met with the owners, Bill and Chris Taylor, on September 10 and inspected the very

unique dam, Wequetequock Pond Dam (DEP # 137-12). The main spillway of the dam is a huge boulder known historically as “Saddle Rock”. It is about 6 feet high and 20 feet long and historically it is apparent that the brook flowed around the sides of the boulder. Early settlers filled the gaps at each end to impound the water and have it spill over the rock. A mill was established on the north side (behind the Taylor house) prior to 1690 and the remains of it and subsequent mills are considered some of the oldest artifacts in Stonington.



Aerial photo of dam #1 off of South Broad Street, Stonington

It is clear that removing the dam or building a technical fishway on the north side by the old mill site is not acceptable to the Taylors nor would be to the community. However, there is an opportunity to build a semi-natural bypass channel around the south end of the rock. Such a fishway practically exists now, except for the presence of a pile of large rocks at the top that helps maintain the pond elevation and would block fish passage. The existing channel starts at the base of Saddle Rock and climbs at a modest slope through a rock garden to the base of this rock weir. A series of both natural and historic looking rock weirs could be built using mostly rocks on site to create a series of pools that would allow fish to incrementally ascend the channel and enter the headpond. The top pile of rocks would need to be replaced with a more formal sill with a notch that accept weirboards that can be used to control water into the fishway. It is proposed to use the square, quarried rocks from the spillway at dam #2 to create such sill or headwall and gate. The only materials used for this fishway would be natural rock and

concrete. The approach would be similar to that used to build fishways at Crystal Lake in Old Saybrook in 2009 and Lower Guilford Lake in Guilford in 2003 (without the heavy equipment). Despite the proximity to the house off Trolley Crossing, the Taylors own the entire stream including this channel. They are excited about this possibility and say the neighbors on Trolley Crossing are friends and will likely be supportive, too.

A two- dam fish passage project is envisioned that will open up the entire watershed. By dealing with both dams at once, alewives will be restored to the watershed and connectivity improved for American eel and this will greatly improve the competitiveness of grant applications. The linear distance for restoration would be 4.4 miles, not including any tributaries. The Wequetequock Pond (acreage not yet calculated but perhaps five acres) and the extensive swamps of the watershed will provide excellent spawning and nursery habitat for alewives as well as feeding habitat for eels. A two-grant approach is anticipated: one for design and planning and one for construction once the estimated cost of construction is determined. It is likely that the entire project for the first dam can be done with existing non-federal resources (CTDEP staff and others) and this effort can be used as non-federal match for a federal grant that will pay for the work at the second dam. It is hoped that a grant may be applied for this fall to begin the design phase: Open Rivers (NOAA)- November 16; American Rivers (NOAA)- December 3. If these are not possible, grant opportunities in 2010 include: National Fish and Wildlife Foundation- March; The Nature Conservancy (NOAA)- April; or FishAmerica Foundation- June.

The current challenge is finding a sponsor/project manager to head the project and apply for the grants. It is envisioned that a steering committee would assist whoever steps forward to manage the project and that would include myself, the dam owners, likely NOAA Restoration Center staff, and perhaps others from the community who are in a position to assist.

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