Little River Fish Passage Survey

Final Report

November 8, 2012

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Introduction

The Town of Topsham collaborated with Androscoggin Valley Soil and Water Conservation District (AVSWCD), Brunswick-Topsham Land Trust (BTLT), Kennebec Estuary Land Trust (KELT), United States Fish and Wildlife Service (USFWS), Natural Resources Conservation Service (NRCS), Trout Unlimited, Wright-Pierce and private citizens to successfully complete a road crossing fish passage survey within the Little River watershed.

The Little River is a tributary to the Androscoggin River, Maine's third largest river. It enters the Androscoggin approximately seven (7) miles upstream of the Brunswick fishway. The Little River watershed is largely undeveloped and the riparian zones along the river are in excellent condition, making this a good opportunity for fisheries restoration.

Recent fisheries surveys in the Little River have found Atlantic salmon and suitable spawning habitat present as well as habitat for the other diadromous fish species and for coldwater aquatic species. . There is significant regional interest in restoring spawning and nursery habitat accessibility and reconnecting upstream portions will provide access to historic spawning and rearing habitat and help maintain the health of the ecosystem.

Tasks Completed

The Town of Topsham, Brunswick Topsham Land Trust (BTLT), Kennebec Estuary Land Trust (KELT),United States Fish and Wildlife Service (USFWS) and Natural Resources Conservation Service (NRCS) provided interns as survey team leaders, donating their hours as match (NRCS and USFWS are federal and were not counted in the tally). Trout Unlimited members donated time to assist team leaders, as did citizens who were not members of that organization. Wright-Pierce donated their services, providing a GIS map of crossings within the watershed and bound copies of the Maine Stream Crossing Survey Manual to participants of the training session. The Atlantic Salmon Federation also volunteered in-kind match, but as it turned out they did not need to be scheduled. This project generated a substantial amount of interest and a significant list of willing volunteers both experienced and new who are now trained in survey procedures and more aware of fish passage issues. It proved to be a model of public and private cooperation and as a result, tasks were completed quickly and economically and public awareness of the issues increased.

All tasks of the project were completed as planned.

1. A press release notifying the public about the project and the available survey training was issued prior to field work.
2. USFWS developed an informational flyer that was used as a handout.
3. A full day training session for Maine Stream Crossing Survey methods was held for volunteers and interns. Fifteen attended and two others received training as they worked with interns. The training session was conducted by Erin Witham, KELT with Susan Gammon, AVSWCD, assisting. Wright-Pierce provided bound copies of manuals to participants, other materials were provided by the Town of Topsham and AVSWCD. Survey kits were provided by AVSWCD, Wright-Pierce, Topsham, and USFWS and were used throughout the season.
4. 48 crossings were checked, of which three had no structures present. A few sites were inaccessible or missed and may be checked as needed if possible. One site was checked and a barrier was found (beaver dam) but the dam survey was not completed and is not included in the summary, thus that too may be completed at a later date if needed. One site has a dam (D1031) associated with a culvert on a private drive and a beaver dam in the vicinity, though the summary includes just the culvert. Summaries and pictures of completed site surveys are attached. Of the 45 surveyed sites with

structures, 17 barriers were identified. 18 were classified as potential barriers, one was questionable and nine were not classified as a barrier.

5. USFWS reviewed data, entered it into the Maine GIS database and prepared the final GIS map.
6. AVSWCD made additional site to verify data when questions arose during review.
7. Final report was prepared and distributed to partners and to towns.

Priorities

Seven barriers have been identified as priorities for removal, based on the combination of number of stream miles and Atlantic Salmon Habitat Units (ASH) that could be restored. This could change as more detailed habitat information is gathered on all species. For instance, some barriers block stream miles but not ASH units and could be moved up in priority if reconnection would yield benefits to brook trout habitat. Town and private budgets must also be taken into account and one site could be elevated over another if the opportunity to restore it arises. We can ask the towns or landowners to consider replacing culverts at the priority sites first and try to find funding that will help them do it, but in many cases their annual budgets allow replacement only when absolutely necessary. There is need for education and AVSWCD is considering workshops for town officials that will focus on culvert sizing, placement and fish passage issues.

Most of the barriers are the result of undersized culverts and/or improperly placed culverts. Undersized culverts increase the speed of water flowing through them causing erosion downstream, and in many cases water will overtop the road causing yet more erosion of road shoulders. Erosion and sedimentation to streams degrade habitat and the speed of water within the culvert itself may prohibit passage by some species. Regular overtopping and culvert blowout is a continuing economic burden to landowners and towns, yet in many cases they will replace the culvert with the same size, in the same position, or go up a size that still remains too small for the watershed. With increasing storm intensity and frequency, it is more important than ever to size and place the culverts properly and to consider alternatives, such as arch culverts. Improperly placed, perched culverts are common and also contribute to erosion and form a barrier to fish passage.

Priority barriers (based on total number of stream miles and ASH units above the barrier only) include:

1. #20226-located on a state road. Restoration of connectivity at this site has the potential of opening more than three miles of stream and 81.39 ASH units.
2. #20202-located on a private road in Topsham. Removing this barrier will restore more than 3 miles of stream connectivity and 23.76 ASH units.
3. #20238-located on a town road in Bowdoin. Restoration will open up 1.81 miles of stream and 4.19 ASH units.
4. #20246-located on a town road in Bowdoin. Restoration will open .55 miles of stream and 4.25 ASH units.
5. #20240-located on a private road in Sabattus, a beaver dam and collapsed stone box culvert block .15 miles of stream and 4.19 ASH units.
6. # 20204-located on a town road in Bowdoin. Restoration would open up 1.69 miles of stream and .36 ASH units. An area landowner stated that there is a beaver dam upstream of this location.
7. #20227-located on a state road in Bowdoin (seems to be on the town line between Bowdoin and Lisbon). Restoration at this site will open about half a mile of stream and .24 ASH units.

#20202 and #20204 together could be elevated above #20238 if funding is found to do both sites. #20240, 20204 and 20227 could be changed up or down in rating if less emphasis is put on ASH units or

more on stream miles. Two sites without associated ASH units that may prove to be of higher priority than either #6 or #7 individually are #20207 located on a town road in Bowdoin (more than a mile of stream connectivity potential) and #20239 located on a state road in Bowdoin where restoration will open up .89 miles of stream. A third site that could also be on the priority list is #20215 located on a state road in Lisbon. Restoration of connectivity here would open up .66 miles of stream. All other identified barriers block less stream miles ranging from .35 to .05 and can be further down on the queue, addressing them as it becomes possible to do so. The potential barriers have not been prioritized, though some, such as #20212, if they do block streams in the future, may take precedent depending on the miles blocked and associated ASH units.

Future Plans

All towns and collaborating partners will be sent the summary and this report. The towns will be asked to consider replacing priority culverts and a similar request will be made of the state for those on state roads. AVSWCD is considering holding a stream crossing and culvert installation workshop, which will include culvert sizing, however that is funding dependant. Technical assistance can be provided to the towns on a fee for service basis and that option will be made available. AVSWCD as well as other partners will continue to search for funding to provide incentives to help towns and landowners restore connectivity, though this is affected by the economy and funding is becoming increasingly difficult to obtain as the need increases.