



2015 Brook Trout Survey Project – Remote Ponds and Coastal Streams Volunteer Angler Survey Results

PROJECT INTRODUCTION

The Brook Trout Survey Project is an ongoing collaboration among Maine Audubon (MA), Trout Unlimited (TU) and the Maine Department of Inland Fisheries and Wildlife (MDIFW).

The Remote Pond Survey Project was initiated in 2011 and completed its fifth successful survey season in 2015. The goal is to *identify* previously-undocumented self-sustaining native brook trout populations in remote Maine ponds and to *protect* brook trout in those survey waters where they are confirmed. The project is designed to effectively identify ponds using a three-step process: (1) Use existing knowledge from anglers and MDIFW biologists and wardens to identify priority waters to survey; (2) Recruit volunteer anglers to visit each water body and document where they observe or catch brook trout or detect signs of active angling; and (3) Use information from the volunteer survey to prioritize a list of waters for a more detailed survey by MDIFW biologists. The information collected by volunteer anglers and biologists will be used to inform future fisheries management decisions and protect a unique wildlife and habitat resource in Maine.

The Coastal Stream Survey Project was added as a new component of the Brook Trout Survey Project in 2014. This project was designed based on the successful pond survey model, wherein volunteer anglers help identify wild brook trout populations. Currently, the distribution and life history of coastal brook trout in Maine are poorly understood. Some brook trout in coastal streams adopt a diadromous life history, and these sea-run populations are thought to be declining throughout their range. There has never been an intensive survey of Maine's diadromous brook trout populations, so their current status in Maine is uncertain. Recruiting anglers to aid in this effort greatly increases our ability to gather data over a wide area and determine their status.

VOLUNTEER PARTICIPATION

Volunteer anglers were enthusiastic and eager to participate in this fisheries-related citizen science project. Project staff spoke with approximately 300 new anglers during the 2015 fishing season, in addition to many volunteer anglers from the previous season. In all, Maine Audubon maintains a list of over 1,110 anglers who are either past participants or who have expressed an interest in supporting the project in future years. In 2015, 91 volunteer anglers actively participated in the Brook Trout Survey by either attempting to survey or by completing a survey(s) at their assigned water. Fourteen additional volunteers assisted with other aspects of the project, including website maintenance, data entry, mapping ponds and fly tying.

In summary, 105 volunteers participated in the Brook Trout Survey Project in 2015, contributing approximately 2,694 volunteer hours. The estimated dollar value of time provided by volunteers totaled \$63,471 not including the cost of fuel, vehicle usage, equipment or supplies¹. This project is dependent on the sustained effort of volunteer anglers. Based on our experience with the Remote Pond Survey Project over the last five years and third successful season of the Coastal Stream Survey this year, it appears that significant support for finding and conserving wild brook trout ponds and streams exists among the angling community.

¹ Based on the 2015 national estimated value of volunteer time at \$23.56/hour, as determined by Independent Sector (http://www.independentsector.org/volunteer_time).

VOLUNTEER ANGLER SURVEY RESULTS - PONDS

A total of 286 ponds were identified in MDIFW Regions D, E, F and G as priorities to survey in 2015. Volunteer anglers successfully evaluated 92 remote ponds from April – September 2015. Project volunteers attempted to survey eight more ponds during the season but could not complete the survey due to unforeseen circumstances (e.g., getting lost, spending the night in the woods, landowner conflict, flat tire, etc.). An additional 38 ponds were assigned to project volunteers, but survey forms were not returned and it is assumed that these surveys were not completed.

Based on volunteer angler surveys from 2015, at least 16 ponds will be recommended to MDIFW for net surveys in 2016. These ponds have been designated in two tiers², based on presence or likelihood of brook trout. Volunteer anglers caught brook trout in 14 ponds, and eleven of those ponds were forwarded to MDIFW as Priority 1. Volunteers reported that brook trout are likely to be present in five more ponds (Priority 2). An additional 35 ponds were classified as “BKT Possible”³ and should be re-surveyed by volunteer anglers before recommending a follow-up IFW Standard Fisheries Survey. A total of 39 ponds will be removed from the priority volunteer survey list based on information from volunteers or MDIFW that suggests brook trout presence is unlikely, due to either the presence of competing fish species or unfavorable habitat conditions. There are 195 ponds that were not attempted by anglers in 2015.

VOLUNTEER ANGLER SURVEY RESULTS – COASTAL STREAMS

A total of 127 streams in four regions of the state (southern, midcoast, Ellsworth/MDI, Cobscook Bay) were identified as priorities to survey in 2015. Volunteer anglers successfully evaluated 76 different streams within all four regions between April and September 2015, for a total of 123 separate angling trips. Volunteer anglers caught brook trout in 40 streams, of which 36 have a potential to harbor sea-run fish⁴. Wild brook trout were caught in two streams above impassable barriers, and brook trout caught in two other streams had clipped fins (hatchery fish).

An additional 15 streams are under consideration for additional angler surveys due to strong anecdotal reports of salter brook trout. Thirteen streams angled by volunteers in 2015 had insufficient survey data and will remain on the list to be re-surveyed. Eight streams in six different subwatersheds will be removed from the list based on information from volunteers that suggests wild brook trout presence is unlikely, due to unfavorable habitat conditions, barriers to fish passage or competing fish species. The remaining un-surveyed streams will carry over onto the 2016 list of coastal streams.

MDIFW SURVEY RESULTS

In 2015, MDIFW conducted Standard Fisheries Surveys at locations where volunteers either caught or observed brook trout or reported ponds as likely trout habitat in 2011 – 2014. The purpose of Standard Fisheries Surveys is to confirm the presence of wild brook trout; to assess fish community structure, abundance and health; to assess water quality; and to map pond depths. This information is used by MDIFW to guide fishery management and conservation objectives.

² Priority 1 = “BKT Caught”. Priority 2 = “BKT Likely”; for example: Observations of trout fry, rising fish, past success angling for brook trout

³ Priority 3 = “BKT Possible”; for example: Anecdotal reports of BKT from anglers or game wardens, good water quality, habitat conducive to BKT

⁴ “Potential for sea-run trout” – Wild BKT caught in a stream with open access to the ocean (and some of these fish were caught below head tide and had morphological characteristics distinctive of salter BKT).

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MDIFW staff surveyed a total of eleven ponds in August 2015. Biologists confirmed the presence of brook trout in eight ponds and did not find brook trout in three ponds. This confirmation rate is consistent with the mean success rate of past survey years: 73% of recommended ponds surveyed by MDIFW were confirmed as brook trout waters in 2015, as compared to 52%, 75% and 88% in 2014, 2013 and 2012, respectively. Some of the ponds originally recommended to MDIFW were removed from the list because they had already been surveyed by Regional fisheries staff. The remaining ponds were not completed due to insufficient time, difficult access or other significant constraints. Some of the remaining unsurveyed ponds will be added to the list of ponds to survey in 2016.

Volunteer angler surveys proved to be valuable in focusing more detailed fisheries sampling on ponds that contained brook trout, thereby assisting MDIFW by improving overall survey program efficiency and management of this important native fish. The most important data provided by the volunteer anglers were: 1) Whether trout were caught during their sampling (or in past years); and 2) Detailed information on how to access each pond. Once again, MDIFW biologists were very appreciative of the volunteer effort and concluded that the success of surveys thus far merit the continuation of this project in future years.

FIVE-YEAR SUMMARY

2015 marked the fifth field season for the Brook Trout Pond Survey Project. Since the first field season in 2011, 361 active volunteers for the Brook Trout Pond Survey Project donated over 6,860 hours to the project. In five years, these volunteers have successfully surveyed 380 remote Maine ponds for which no data were previously available. In the two years since the Coastal Stream Survey was included, volunteers have successfully evaluated 91 coastal streams. During the summers of 2012 – 2015, MDIFW crews surveyed 81 ponds, documenting brook trout presence in 59 of those ponds. Based on the fact that these ponds had never been stocked or formally surveyed by MDIFW, these trout are likely previously unknown populations of self-sustaining native brook trout.

GROUP VOLUNTEER SURVEY TRIPS

In 2015, project coordinators organized one extended trip for volunteers to survey coastal streams in Downeast Maine. Project coordinators also organized three pond survey trips for small groups of volunteers in remote areas with a high concentration of survey ponds. This is the third year project coordinators have offered such trips. Group survey trips have proven to be a great way to build camaraderie between volunteers and project coordinators, who worked together to accomplish a great deal in a short time. We plan to continue to offer more trips like this in 2016.

PROJECT PUBLICITY

The Brook Trout Pond Survey Project was featured in many different print, radio and online media publications from April – October 2015. These articles and interviews provided a general project overview in an effort to recruit volunteer anglers for the 2015 season.

RECOMMENDATIONS FOR 2016

- ◇ Continue to work with anglers on pond and stream assignments in the early spring, so they are ready to begin surveys early in the year. (Surveys should begin as soon as ice is out on ponds, and April through June is best on coastal streams.)

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- ◇ Group trips: Continue to host group pond survey trips in remote areas with a high concentration of survey ponds. Provide housing and food for volunteers. Begin planning in winter or early spring to provide volunteers with plenty of advance notice.

ACKNOWLEDGEMENTS

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