



## **2016 Brook Trout Survey Project – Remote Ponds and Coastal Streams Volunteer Angler Survey Results – Report to Public**

### **Project Introduction:**

The Brook Trout Survey Project is an ongoing collaboration between 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 sixth successful survey season in 2016. 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 was 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 100 new anglers during the 2015 fishing season, in addition to many existing volunteer anglers from previous seasons. Maine Audubon maintains a list of over 1,110 anglers who are either past participants in the survey or have expressed an interest in supporting the project in future years. In 2016, 37 volunteer anglers actively participated in the survey by either attempting to survey or by completing one or more surveys at their assigned waterbody. A number of additional volunteers assisted with other aspects of the project, including website maintenance, mapping ponds, and various other tasks.

In summary, 37 volunteers participated in the brook trout survey in 2016. Surveying ponds and streams, volunteers contributed approximately 1,136 volunteer hours. The estimated dollar value of time provided by volunteers totaled \$26,764.16 not including the cost of fuel, vehicle usage, equipment, or

supplies<sup>1</sup>. This project is dependent on the sustained effort of volunteer anglers. Based on our experience with the Remote Pond Survey Project over the last six years and fourth successful season of the Coastal Stream Survey this year, it appears that significant support for finding and conserving wild brook trout populations in ponds and streams in Maine exists among the angling community.

#### **Volunteer Angler Survey Results – Ponds:**

A total of 220 ponds were identified in MDIFW Regions D, E, F, and G as priorities to survey in 2016. Volunteer anglers successfully evaluated 43 remote ponds from April to September 2016. Project volunteers attempted to survey two more ponds during the fishing season but could not complete the survey due to unforeseen circumstances (e.g. getting lost, not being able to access or find the pond, flat tire, etc.). An additional 6 ponds were assigned to volunteers but survey forms were never returned for these ponds and it is assumed that they were not completed.

Based on volunteer angler surveys from 2016, at least 10 ponds will be recommended to MDIFW for net surveys in 2016. These ponds have been designated into two tiers<sup>2</sup>, based on presence or likelihood of brook trout. Volunteer anglers caught brook trout in 6 ponds, all of which were recommended to MDIFW as Priority 1. Volunteers reported that brook trout were likely to be present in four additional ponds, which were recommended to MDIFW as Priority 2. An additional 4 ponds were classified as “BKT Possible”<sup>3</sup> and should be re-surveyed by volunteer anglers before recommending a follow-up survey by MDIFW. A total of 31 ponds will be removed from the priority volunteer survey list based on information from volunteers or MDIFW that suggests that the presence of brook trout is unlikely due to either the presence of competing fish species or unfavorable habitat conditions. There are 155 ponds that were not attempted by volunteer anglers in 2016.

Please refer to the end of this document for a graphical representation of this data.

#### **Volunteer Angler Survey Results – Coastal Streams:**

Over 1,000 streams in four regions of the state (southern, mid-coast, Ellsworth/MDI, and Cobscook Bay) were identified as priorities to survey in 2016. A new list was generated at the beginning of the 2016 survey season in a collaborative effort between TU and MDIFW to include all coastal streams in Maine. Volunteer anglers successfully evaluated 46 different streams within the four regions of the state between April and September 2016. Volunteer anglers caught brook trout in 22 streams which all have potential to harbor sea-run brook trout<sup>4</sup>. It is possible that in some of these streams only wild brook trout and not sea-run brook trout were caught above impassable barriers in the stream.

An additional 7 streams were reported by volunteer anglers as being possible sea-run brook trout streams and should be re-surveyed by volunteer anglers.

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<sup>1</sup>Value of volunteer time is 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](http://www.independentsector.org/volunteer_time)).

<sup>2</sup>Priority 1 = BKT Caught, Priority 2 = BKT Likely; for example: Observations of trout fly, rising fish, past success angling for brook trout

<sup>3</sup>BKT Possible = volunteer re-survey; for example: Anecdotal reports of brook trout from anglers or game wardens, good water quality, habitat conducive to brook trout

<sup>4</sup>Potential for sea-run trout – Wild brook trout 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 brook trout).

A total of 17 streams will be removed from the survey list based on information from volunteers or MDIFW that suggests that the presence of brook trout is unlikely due to unfavorable habitat conditions, barriers to fish passage, or competing fish species. The remaining un-surveyed streams will be added to the 2017 stream survey list.

Please refer to the end of this document for a graphical representation of this data.

### **MDIFW Survey Results:**

In 2016, MDIFW conducted Standard Fisheries Surveys at locations where volunteers caught brook trout, observed brook trout, or reported ponds as likely trout habitat in 2011 – 2015. The purpose of Standard Fisheries Surveys is to confirm the presence of wild brook trout, assess fish community structure, abundance and health, assess water quality, and map pond depths. This information is used by MDIFW to guide fishery management and conservation objectives.

During the 2016 survey season (May-September) MDIFW crews surveyed a total of 41 remote ponds in regions C, D, E, F, and G. 11 of these ponds had confirmed self-sustaining wild brook trout populations in them. Brook trout were also found in the inlets of three additional ponds. Brook trout were not found in 27 of the ponds surveyed by MDIFW. In past years the following success rates were as follows: 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.

### **Six-Year Summary:**

2016 marks the sixth field season for the Brook Trout Pond Survey Project. Since the first field season in 2011, 400 active volunteers for the Brook Trout Pond Survey Project donated over 7,990 hours to the project. In six years, these volunteers have successfully surveyed over 425 remote Maine ponds for which no data was previously available. In the three years since the Coastal Stream Survey was included, volunteers have successfully evaluated 137 coastal streams. During the summers of 2012-2016, MDIFW crews surveyed 122 ponds, documenting the presence of brook trout in 70 of those ponds. Based on the fact that these ponds had never been stocked or formally surveyed by MDIFW, these trout are likely to be previously unknown populations of self-sustaining wild brook trout.

### **Volunteer Group Survey Trips:**

In 2016, project coordinators organized one extended trip for volunteers to survey coastal streams in Downeast Maine and three extended trips in northern Maine for volunteers to survey remote ponds in remote areas with a high concentration of survey ponds. This is the fourth 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 work together to accomplish a great deal in a short period of time. We plan to continue to offer more trips like these in 2017.

**Project Publicity:**

The Brook Trout Remote Pond Survey Project was featured in many different media publications in 2016. These articles and advertisements provided a general project overview in an effort to recruit volunteer anglers for the 2016 survey season.

**Recommendations for 2017:**

- ◇ Continue to work with anglers on pond and stream assignments in the early spring, so that 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 for surveying coastal streams).
- ◇ Group trips: Host survey trips in remote areas where there is a high concentration of survey ponds. Provide accommodations and food for volunteers. Begin planning on locations in winter or early spring to provide volunteers plenty of advance notice.
- ◇ Focus on coastal streams as most survey ponds are extremely remote and may take much more work to get to in this seventh year of the project.

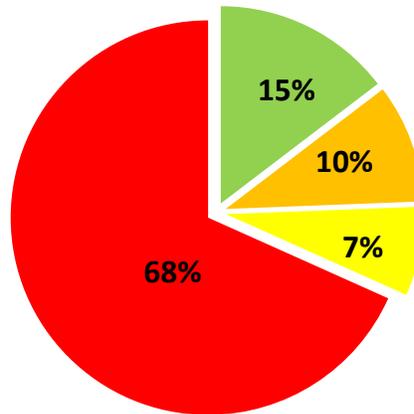
**Acknowledgements:**

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Also, this project would not have been possible without the support of survey volunteers. We sincerely thank them for donating their time, energy, and knowledge to this project. Partner staff who contributed time and expertise include: Leah Bevins (MA), Sally Stockwell (MA), Jeff Reardon (TU), Merry Gallagher (MDIFW-Bangor), Kevin Gallant (MDIFW-Bangor), Tyler Grant (MDIFW-Bangor), Chris Introne (MDIFW-Bangor), Dwayne Shaw (DSF), and Geoff Day (SRBTC).

## 2016 Remote Pond Data

- BKT Caught - Recommended to IFW for Standard Assessment Priority 1 (6 ponds)
- BKT Likely - Recommended to IFW for Standard Assessment Priority 2 (4 ponds)
- BKT Possible - Recommended volunteer re-survey (3 ponds)
- No BKT - Remove from further consideration (28 ponds)



## 2016 Coastal Stream Data

- BKT Caught - Recommended to IFW for Standard Assessment (22 streams)
- BKT Possible or Likely - Recommend volunteer re-survey (7 streams)
- No BKT - Remove from further consideration (17 streams)

