

Conserving the Eastern Brook Trout: Action Strategies



Eastern Brook Trout **JOINT VENTURE**

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Executive Summary

Brook trout *Salvelinus fontinalis* are a recreationally and culturally important species, regional icon, and indicator of high water quality; however, populations are declining across their historic eastern United States range (Maine to Georgia). The Eastern Brook Trout Joint Venture (EBTJV) is a partnership of state and federal agencies, nongovernmental organizations, and academic institutions. This collaborative approach to brook trout management is justified because (1) brook trout are declining across their entire eastern range; (2) causes for these declines are similar; (3) an integrated approach would be cost effective; and, (4) watersheds of concern span state borders and state and federal jurisdictions.

In 2005, the EBTJV completed a range-wide assessment of brook trout populations throughout their native eastern United States range (Hudy et al. 2005). The study area encompassed approximately 25% of the native range of brook trout in North America and 70% of its native United States range. The assessment revealed wild brook trout populations in the eastern United States are impaired. Intact stream populations of brook trout, where wild brook trout occupy >90% of historical habitat, exist in only 5% of the watersheds assessed. Populations of stream-dwelling brook trout are greatly reduced or have been extirpated from nearly half of the watersheds in their native range. The vast majority of historically occupied large rivers no longer support self-reproducing populations of brook trout. Watersheds with intact populations of lake-dwelling brook trout are almost exclusively located in Maine, although some lakes and ponds in New York, New Hampshire, and Vermont still contain self-sustaining brook trout populations.

The EBTJV partners agreed that a broad-scale, range-wide conservation strategy is necessary to stop brook trout declines, improve technology transfer, and effectively prioritize funds and projects to restore this important species. This Conservation Strategy is a goal-oriented, science-based, action plan that explicitly states EBTJV principal goals, presents guidance for decision-making, and provides methods for evaluating success. Findings from the range-wide status and threats assessment serve as the foundation for the development of the vision, goals, objectives, strategies, procedures, and guidelines contained within the EBTJV Conservation Strategy. The EBTJV believes this structure will result in a focused, technically credible, publicly accountable program linking EBTJV projects to specific objectives so funding will be effectively utilized.

The vision of the EBTJV is to ensure “healthy, fishable brook trout populations throughout their historic eastern United States range.” The principal goals of the EBTJV are: (1) conserve, enhance and restore brook trout populations that have been impacted by habitat modification, or other threats and disturbances; (2) encourage partnerships among management agencies and stakeholders to seek solutions to issues such as regional environmental and ecological threats; (3) develop and implement outreach and educational programs to ensure public awareness of the challenges that face brook trout populations; and (4) develop support for implementation of programs that perpetuate and restore brook trout throughout their historic range.

This report summarizes the range-wide, regional, and state-level goals, objectives, and strategies designed to achieve the overall principle goals of the EBTJV. This report also focuses on strategic planning to develop partnerships and secure funding to ensure the continuation of the EBTJV. In addition, individual state conservation strategies are presented, which demonstrate the commitment of all EBTJV partners and focus range-wide goals and objectives down to the state and local levels. Together, the components of this working document represent the framework necessary to begin the conservation of brook trout in the eastern United States.

Introduction

Brook trout *Salvelinus fontinalis* are a recreationally and culturally important species, regional icon, and indicator of high water quality. Biologists have long known that brook trout populations are declining across their historic eastern United States range, which spans from Maine to Georgia. For purposes of this document, a population of brook trout is defined as a group of individuals that are reproductively isolated from other groups. In recognition of this trend of long-term decline and continued vulnerability, representatives from over 50 state and federal fish and wildlife management agencies, nongovernmental organizations, and academic institutions met in June 2004 to discuss the opportunity for a collaborative approach to the conservation of brook trout in the eastern United States. In addition to identifying threats to brook trout across their historic range, it was the group's consensus there was an opportunity to form an Eastern Brook Trout Joint Venture (EBTJV). A collaborative approach to brook trout management is justified because (1) brook trout are declining across their entire eastern range; (2) causes for these declines are similar; (3) an integrated approach would be cost effective; and, (4) watersheds of concern span state borders and state and federal jurisdictions.

At the 2004 meeting, participants agreed a broad-scale, range-wide conservation strategy is necessary to stop brook trout declines, improve technology transfer, and effectively prioritize funds and projects to restore this recreationally and culturally important species. Past conservation efforts and applications of new technologies have occurred in a fragmented fashion without consideration of broader conservation goals, often with only localized effectiveness. For example, techniques for mitigating impacts of acid precipitation are used to great effect in parts of West Virginia, new methodologies for eliminating non-native salmonids have been developed in eastern Tennessee, and locally comprehensive research into the adaptive significance of genetic strains has been applied in New York. However, these valuable developments in management technologies have not been effectively transferred among resource management agencies.

This conservation strategy is a goal-oriented, science-based, action plan that explicitly states Joint Venture partner goals, presents guidance for decision-making, and provides methods for evaluating success. The fundamental framework of the Conservation Strategy is comprised of three distinct components: (1) vision; (2) principal goals and (3) key priorities. Because of the large geographic distribution of brook trout in the eastern United States, this conservation strategy is organized into three primary levels of distinction: range-wide, regional, and state-level.

The EBTJV believes this framework will result in a carefully focused, technically credible, and publicly accountable program linking EBTJV projects to specific strategies so that funding will be utilized most effectively. As such, an important criterion for project funding recommendations will be consistency with the vision, goals, key priorities and strategies of the Conservation Strategy. The Conservation Strategy framework is also intended to provide opportunities for partners to coordinate information gathering, planning, and implementation of recovery actions.

The EBTJV Conservation Strategy is not intended to address all issues relative to brook trout population declines throughout their eastern United States range. Nonetheless, the EBTJV partnership believes the Conservation Strategy will complement other existing brook trout protection and recovery efforts, serve as a model for other species-specific conservation efforts, and foster information sharing.

agreements, cooperative agreements, and contracts to fund and implement Eastern Brook Trout Joint Venture sponsored projects. Encouraging and supporting additional partners will strengthen the effectiveness of the joint venture.

Measuring partnership success is a needed component of the EBTJV. In order to achieve this goal, a series of both short-term (5-year) and long-term (15-year) target tracking goals have been developed.

Strategic Planning for Outreach and Educational Programs

Principal Goal III: *Develop and implement outreach and educational programs to ensure public awareness of the challenges that face brook trout populations.*

Outreach and Education Goals and Strategies

A comprehensive outreach plan is a critical element to engaging, informing, and inspiring the public and policy makers to take action to conserve brook trout in the eastern United States. Equally important is the need to develop a focused educational component designed to provide the public and policy makers with relevant information regarding the status of brook trout, current Joint Venture projects, and opportunities to become involved. Outreach and education goals and strategies include:

1. Raise public awareness about wild brook trout resources
2. Foster public/private collaborative stewardship of brook trout resources.
3. Build strong coalitions that support the conservation of wild brook trout.
4. Produce information on the impacts invasive species have on brook trout and their habitats.
5. Develop an understanding of and support for protecting brook trout habitat among policy makers with an educational and public awareness campaign.

Allocating Responsibilities

The EBTJV needs to develop methods to allocate responsibilities equitably among partners. The allocation of responsibilities for outreach and education program should fall primarily to the outreach and education work group with oversight from the steering committee.

Measuring Outreach and Education Success: Targets, Timelines, and Metrics

The EBTJV also has a need to measure the effectiveness of its outreach and education programs. The allocation of responsibilities for outreach and education program should fall

primarily to the outreach and education work group with oversight from the steering committee. The Outreach and Education work group will develop outreach and education targets, timelines, and metrics for both short-term (2012) and long-term time scales (2025). Progress on education and outreach goals will be reported to the Steering Committee annually.

Strategic Plan for Program Support

Principal Goal IV: *Develop support for program implementation that perpetuate and restore brook trout populations throughout their historic range.*

The EBTJV needs significant public and political program support at local, state, regional, and range-wide levels in order to be successful over the long-term. In addition to program support, the EBTJV will need to ensure consistent, reliable, funding for both short-term projects and long-term goals. To that end, the Steering Committee will develop:

1. List of political and public support goals for continuation of EBTJV.
 - a. Short-term (2012) and long-term (2025) time scales.
 - b. Local, state, regional, and range-wide geographic scales.
2. List of funding requirements for continuation of EBTJV.
 - a. Short-term (2012) and long-term (2025) time scales.
 - b. Local, state, regional, and range-wide geographic scales.
4. Funding matrix that will allow more accurate estimation of project costs at local, state, regional, and range-wide levels. This will be based on a model that is currently under development by the EBTJV that has been successfully tested and applied to New Hampshire. The test matrix will be applied to all states within the EBTJV and will identify:
 - a. Estimated costs for individual states.
 - b. Funding dispersal matrix table created after state cost estimate matrices are completed.
 - c. Develop funding timetable for both short-term (2012) and long-term (2025) cost estimates.
5. Framework for tracking and reporting fund allocations spent on EBTJV projects.

Regional Coordination

Given that the EBTJV encompasses a 17-state geographic area there is a need for regional-level coordination. Three regional subcommittees: (1) Northern (Maine, New Hampshire, Vermont, New York, Massachusetts, Rhode Island, and Connecticut, 2) Mid-Atlantic (New Jersey, Pennsylvania, Ohio, West Virginia, and Maryland and 3) Southern (Virginia, North Carolina, South Carolina, Georgia, and Tennessee) will operate under the umbrella of the EBTJV Steering Committee. The purpose of these subcommittees is to focus efforts on identifying regional threats and coordinating regional conservation actions to address these threats.

Expected Results and Benefits

The EBTJV expects multiple benefits to accrue from the Conservation Strategy:

1. Improved data sharing and coordination will give the management agencies an unprecedented way to monitor population trends and compare brook trout populations geographically across the entire eastern range. A clear understanding of population status, trends, and threats should help the management agencies prioritize restoration efforts.
2. Coordination of restoration efforts, sharing of relevant data, and utilization of previous lessons learned should improve the ability of Joint Venture partners to manage brook trout populations.
3. An assessment and management strategy should help gain attention for restoration needs for brook trout in the east from policy-makers, thereby raising the priority level of resource requests and policy decisions affecting brook trout.
4. A strategic and well-planned outreach component should result in a better informed public. This should produce favorable political decisions regarding funding allocations, land management decisions, and other pertinent conservation measures that support the Joint Venture's vision.

Conclusions

This document presents the framework necessary to begin the conservation of brook trout in the eastern United States. This “working” document will be updated at periodic intervals to reflect changes to priority objectives, add new state conservation strategies, and to incorporate new monitoring and research data. This level of fluidity, we believe, will be necessary to ensure that the EBTJV remains responsive to the needs of the partners that will ultimately ensure the perpetuation of the eastern brook trout.

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