

Quarterly Progress Meeting: Brook Trout

Step 1: Summarize your outcome.

Outcome:

Restore and sustain naturally reproducing brook trout in the Chesapeake Bay's headwater streams, with an eight percent increase in occupied habitat by 2025.

Lead and Supporting Goal Implementation Teams (GITs):

The Vital Habitats Goal Implementation Team (GIT2) leads the effort to achieve this outcome. It works in partnership with the Sustainable Fisheries, and Healthy Watersheds Goal Implementation Teams (GIT1, GIT3, and GIT4).

Participating Partners:

Participating partners include:

- State of Maryland
- State of New York
- Commonwealth of Pennsylvania
- Commonwealth of Virginia
- State of West Virginia
- Forest Service (*U.S. Department of Agriculture*)
- National Park Service
- Natural Resources Conservation Service (*U.S. Department of Agriculture*)
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- Eastern Brook Trout Joint Venture
- Trout Unlimited

Progress:

According to an assessment by the [Eastern Brook Trout Joint Venture](#) (EBTJV), wild brook trout occupy 33,200 km² of habitat in the Chesapeake Bay watershed. This includes the streams they share with brown and/or rainbow trout. There are 13,500 km² of allopatric or "wild brook trout only" streams, which are comprised of 990 separate patches, or groups of contiguous catchments. This is the baseline from which progress toward this outcome will be measured. Achieving the full eight percent increase means an additional 1,100 km² of new habitat occupied only by wild brook trout serves as our restoration goal. The Chesapeake Bay Program is working to incorporate the EBTJV five-year brook trout census as a formal indicator of progress.

Step 2: Explain the logic behind your work toward an Outcome.

The attached logic table (available as an Excel spreadsheet) explains the reasoning behind our work toward an Outcome. The table indicates the status of our management actions and denotes which actions have or will play the biggest role in making progress.

Step 3: Craft a compelling narrative.

What are our assumptions?

(1) Are you on track to achieve your Outcome by the identified date?

- a. What is your target? What does this target represent? (e.g., the achievement we believed could be made within a particular timeframe; the achievement we believed would be necessary for an Outcome's intent to be satisfied; etc.)?

Our target is to restore 1,100 km² of new habitat occupied only by wild brook trout by 2025, which represents an 8% increase of the current 13,500 km² of occupied brook trout only habitat.

- b. What is your anticipated deadline? What is your anticipated trajectory?

Our anticipated deadline is 2025. We have no identified anticipated trajectory as work on our key actions has just begun in the last year and monitoring and reporting metrics are still being developed to track progress.

- c. What actual progress has been made thus far?

Our outcome indicator is a presence/absence census completed only every five years, the last time in 2015, so we are not sure as to how many square kilometers of newly occupied habitat have been established since we began work on our work plan action items. On the work plan itself, the Brook Trout Action Team has completed 9 out of 13 key actions identified to overcome specific barriers to progress towards the outcome.

- d. What could explain any existing gap(s) between your actual progress and anticipated trajectory?

Gaps between our actual progress and anticipated trajectory can be attributed to

- Essentially only working one year on the actions identified by our work plan
- Still developing reporting metrics with state agencies
- Restoration/conservation efforts at local levels are constrained by available resources and lack a systematic monitoring and reporting system

Are we doing what we said we would do?

(2) Which of your management actions have been the most critical to your progress thus far? Why? Indicate which influencing factors these actions were meant to manage.

The management actions most critical to our progress thus far are

- Identify and Communicate Priority Focal Areas for Brook Trout Conservation - integrating the best available science into decision support tools and prioritizing “best of the best” areas within each state for both conservation and restoration is critical to guiding restoration decisions. Identifying prioritization areas allows for a greater likelihood of achieving habitat restoration/protection, including cross-GIT benefit focus, and a more likely allocation of funding to our partners’ conservation and restoration efforts.
- Consider Climate Change and Emerging Stressors in Determining Restoration Priorities – identifying and mitigating specific stressors such as high stream temperature, acid mine drainage, and invasive species creates better brook trout habitat.
- These management actions are meant to manage the following influencing factors: Protection of current area of occupancy (from detrimental changes in land use and water use practices), Refinement and coordination of use of decision support tools (ability to focus on geography and environmental stressors), Coordination with restoration groups to target opportunities to increase habitat and presence, Communication of brook trout issues with policy makers, and high stream temperatures.

- (3) Which of your management actions will be the most critical to your progress in the future? Why? What barriers must be removed—and how, and by whom—to allow these actions to be taken? Indicate which influencing factors these actions will be meant to manage.

The management actions most critical to our future progress include identifying key decision-makers at federal, state, and local levels in order to engage and educate them on brook trout issues, better coordination between decision support tool and on-the-ground practitioner use, promoting stronger engagement and participation among partners, monitoring restoration progress/success, and better cross-GIT resource coordination. A barrier/gap at the Chesapeake Bay Program level must be removed or bridged in order to ensure better cross-GIT resource coordination. In order to remove the barrier regarding our engagement with decision-makers, we need help from CBP partners engaged in local leadership. We can achieve better coordination between decision support tool and on-the-ground practitioner use with funding and technical support that would allow us to educate on the tools. The influencing factors these actions will be meant to manage include Communication of brook trout issues with policy makers, Coordination with restoration groups to target opportunities to increase habitat and presence, Refinement and coordination of use of decision support tools (ability to focus on geography and environmental stressors), and Monitoring.

Are our actions having the expected effect?

- (4) What scientific, fiscal or policy-related developments or lessons learned have changed your logic or assumptions (e.g., your recommended measure of progress; the factors you believe influence your ability to succeed; or the management actions you recommend taking) about your Outcome?

A policy related issue includes being unable to quantify and articulate the non-TMDL benefits of brook trout restoration in a way that motivates partners to action without a clearly defined TMDL linkage. In general, the unique challenges we experience based on using the “volunteer” approach when it comes to team membership. These issues lead us to believe we need to take a

stronger stance on the issue of membership and contributions. The trouble we have connecting the drivers/stressors affecting co-benefits based on science to conservation/restoration actions that benefit multiple outcomes emphasizes to us the need to make it a point to focus on cross-GIT/outcome collaboration as a management approach. Issues we are having recognizing state-specific needs and applying broad-based knowledge to local-level restoration projects reiterates the need for us to focus on decision support tool refinement and the need for training on these tools.

- (5) What would you recommend changing about your management approach? What new content will you include in your updated work plan?

We recommend adding an emphasized cross-GIT collaboration effort to our management approach. Our new work plan will include collaboration with specific CBP outcomes (e.g. Forest Buffer, Fish Passage) in order to address specific environmental stressors identified as influencing factors in the brook trout management strategy, an emphasis on expanding our partnership with on-ground restoration groups, an emphasis on expanding invasive species monitoring and research, specific actions to address public engagement/restoration/conservation of brook trout habitat as noted in our management strategy, specific actions to communicate decision support tool use to practitioners including informational workshops, and an emphasis on expanding our communications with federal, state, and local decision-makers on brook trout issues.

- (6) What opportunities exist to collaborate across GITs? Can we target conservation or restoration work to yield co-benefits that would address multiple factors or support multiple actions across outcomes?

We plan to work with the Healthy Watersheds GIT to connect our “best of the best” brook trout habitat patches with the healthy watersheds map in order to tell a story of brook trout conservation to local leaders. We can also work to coordinate with the Protected Lands, Fish Passage, Stream Health, and Forest Buffer Work Groups/Action Teams to tie their progress to progress made on some of our environmental stressor related actions and to guide conservation and restoration opportunities that would yield many cross-outcome benefits.

How should we adapt?

- (7) What is needed from the Management Board to continue or accelerate your progress? Multiple asks of the Management Board should be prioritized where possible.
1. We ask that the management board help us incentivize or prioritize engagement for action team members of relevant state agencies. For instance, a specific action item that better aligns their brook trout related performance plan elements with the brook trout work plan.
 2. We ask that the management board provide advice/guidance on communication and outreach to key decision-makers at federal, state, and local levels to educate and engage in solutions regarding brook trout issues. For example, engaging with state DOT's to expand brook trout habitat by using culverts designed to enhance fish passage when replacing old culverts or including brook trout specific restoration actions as co-benefit opportunities in the Phase III WIPs.

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3. We ask that the management board provide support for cross-GIT collaboration.