Quarterly Progress Meeting: Fish Passage

Step 1: Summarize your outcome.

Outcome:

Continually increase habitat to support sustainable migratory fish populations in the Chesapeake Bay watershed's freshwater rivers and streams. By 2025, restore historical fish migration routes by opening 1,000 additional stream miles to fish passage. Restoration success will be indicated by the consistent presence of alewife, blueback herring, American shad, hickory shad, American eel and brook trout, to be monitored in accordance with available agency resources and collaboratively developed methods.

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 and GIT4).

Participating Partners:

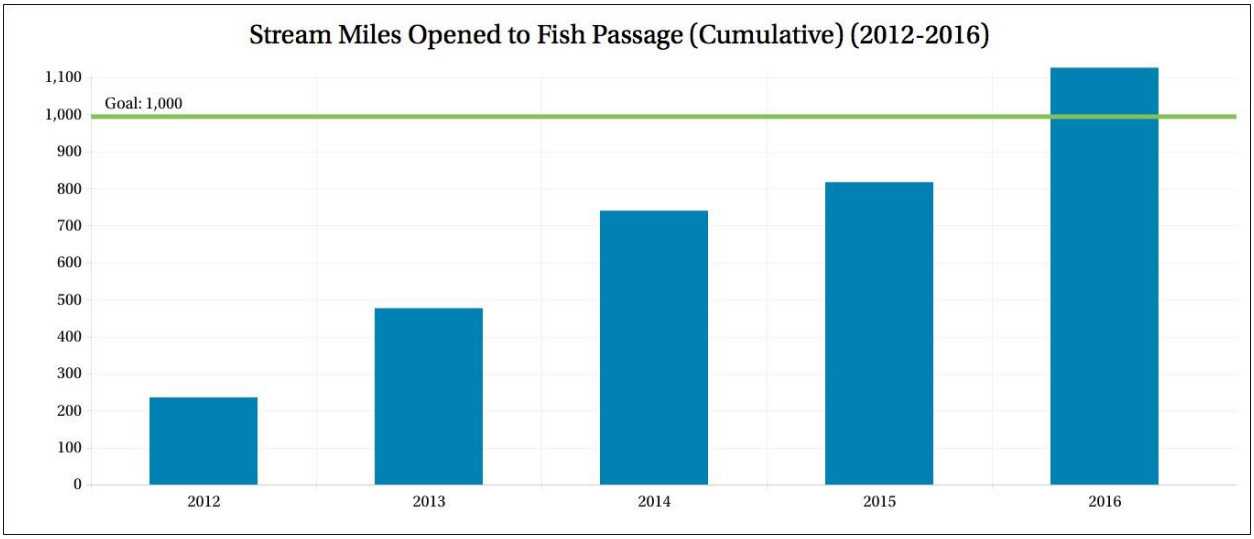
Participating partners include:

- Maryland Department of Natural Resources *(State of Maryland)*
- University of Maryland Center for Environmental Science *(State of Maryland)*
- Pennsylvania Fish and Boat Commission *(Commonwealth of Pennsylvania)*
- Virginia Department of Game and Inland Fisheries *(Commonwealth of Virginia)*
- National Oceanic and Atmospheric Administration
- Natural Resources Conservation Service *(U.S. Department of Agriculture)*
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- American Rivers
- Chesapeake Bay Trust
- National Fish and Wildlife Foundation
- The Nature Conservancy
- Smithsonian Environmental Research Center

Progress:

Progress toward this outcome is measured against a 2011 baseline of 2,510 stream miles open to the migration of fish. Between 2012 and 2016, 1,126 additional miles were opened to fish passage, surpassing the 1,000-mile goal.

Of the miles opened to fish passage between 2012 and 2016, about half (or 565 miles) are located in Virginia and about 48 percent (or 538 miles) are located in Pennsylvania. The remaining 22.6 miles are located in Maryland.



Since this outcome's mileage target was set in 2014—to mimic the fish passage goal stated in Chesapeake Bay Executive Order 13508 of 2010—experts have developed a more accurate method of calculating the stream miles opened to fish passage following the removal of a dam or other barrier. This method uses the Chesapeake Fish Passage Prioritization to map and count the available upstream miles located between a removed blockage and the waterway's headwaters or the next blockage that is in place. The prioritization tool is also used to assess potential projects.

Because this outcome's mileage target was set under a previous method of calculation, it is an unfit benchmark against which to measure progress. While much of the "low-hanging fruit" with regards to dam removal has been picked, our partners will continue to open stream miles to access by migratory fish. Opportunities to restore fish passage through the retrofitting or removal of culverts—in addition to the removal of dams—are also being investigated.

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.)?
        i. The FPWG's Outcome is to open 1000 additional stream miles for anadromous fish and other target fish species. This goal represents additional habitat and

spawning area for native fish species who have been restricted by blockages such as dams and roads.

b. What is your anticipated deadline? What is your anticipated trajectory?
    i. The target date to complete this outcome is 2025. The goal has been met.
c. What actual progress has been made thus far?
    i. From 2012-2016, 1126 stream miles have been opened. It should be noted that based on recommendations from fish passage experts, the calculation for stream miles has changed since the outcome was set, leading to projects typically earning more miles than previously would have been measured. This method is more fully described on Chesapeake Progress. The workgroup is committed to continue to pursue fish passage projects to further surpass the goal and improve ecological conditions.
d. What could explain any existing gap(s) between your actual progress and anticipated trajectory?
    i. N/A

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.
    a. Continuing dam removal activities has been most critical to the progress thus far. The "low-hanging fruit" of potential dam removal projects have mostly been completed. This accounts for the rapid completion of the goal. Moving forward, projects may be more difficult without changes in regulations such as dam safety or a larger focus on other passage activities such as culvert retrofits.

(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.
    a. Coordinating with dam safety offices is an important task for future progress. The level of involvement needed differs by state, but dam safety offers another venue for willing landowners of dam removal. Enforcement of the dam safety regulations can lead to more removals.
    b. Pursuing incentive programs for dam removal may also improve landowner willingness to remove dams. State legislation and funding must be allocated for this to take place. Along with dam safety regulations, these allow for a "carrot & stick" approach in some cases.

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. As described above, scientific developments led to a change in the mileage calculation method.

(5) What would you recommend changing about your management approach? What new content will you include in your updated work plan?
    a. The Workgroup explored an increase to the mileage goal based on the new calculation methods but have not pursued. Many actions in the existing workplan will be reiterated or updated in the new workplan.

(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?
    a. Opportunities for collaboration exist with the Stream Health, Brook Trout, Forage Fish, Fish Habitat, WIPs, Water Quality Standards Attainment and Monitoring, Healthy Waters, and Toxics Workgroup.

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.
    a. Dam removal incentive programs such as tax deductions for dam owners that opt to remove dams that produce significant ecological benefits
    b. State dam safety offices to consider ecological harm/impacts due to dam failure in addition to public safety concerns; better coordination within state agencies to encourage removals when appropriate