

Healthy Watersheds Quarterly Progress Meeting Summary

August 12, 2021



Fish Passage

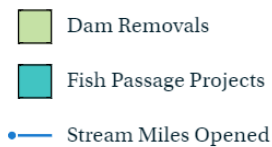
<https://www.chesapeakeprogress.com/abundant-life/fish-passage>

Goal: Continually increase access to habitat to support sustainable migratory fish populations in the Chesapeake Bay Watershed’s freshwater river and streams.

Outcome: Continually increase access to 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 an additional 132 miles every two years 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.

Progress:

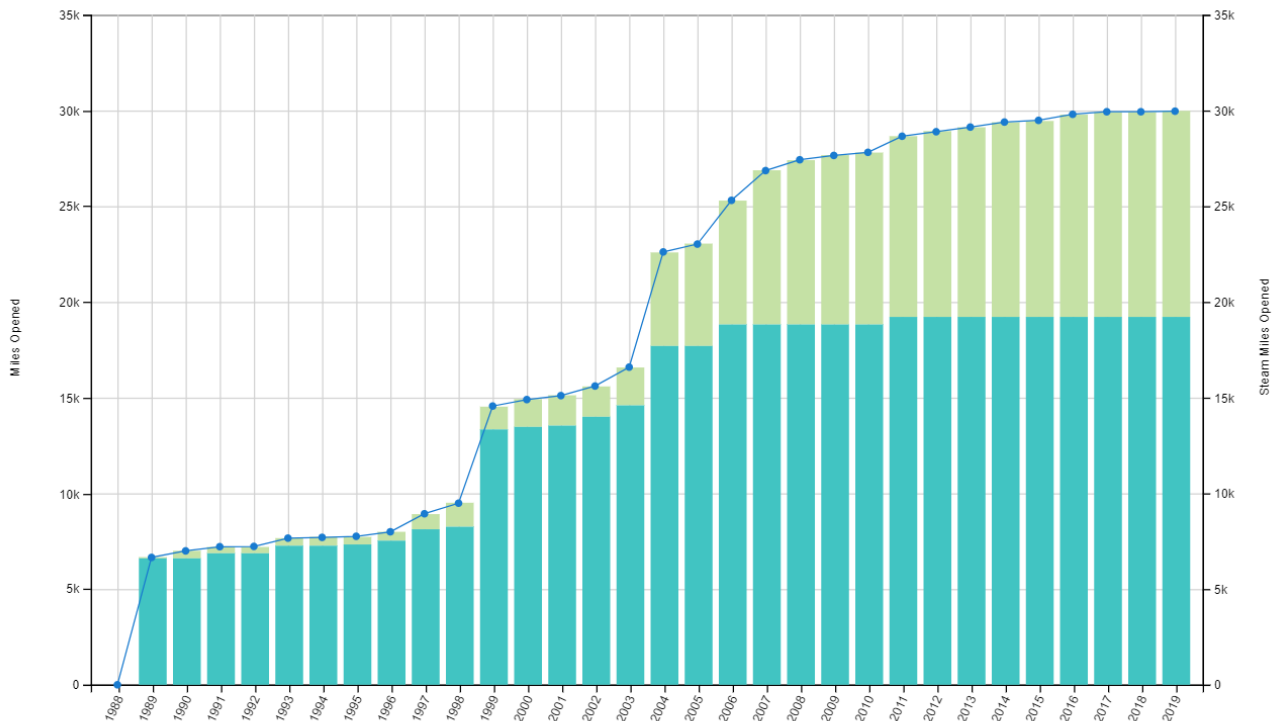
- 30,000 miles opened to target species.



Stream Miles Opened 1988-2019 (Cumulative) -

Stream Miles Opened to Fish Passage via Dam Removals and Fish Passage Projects.

[VIEW CHART](#) [VIEW TABLE](#)



Successes and Challenges

- Fish Passage -> Dam Removal/Culverts
- Interest by dam owners is still a major challenge.
- Workgroup focused on ways to incentivize dam removal projects.
- Developed “Recommendations for Aquatic Organism Passage at Maryland Road-Stream Crossings (2021)” with funding by the habitat GIT.

On the Horizon

- Dams and culverts are infrastructure! Legislation is in the works to address aging structures
- Incentive Programs – dam removal mitigation calculator; coordination with dam safety programs

We plan to

- Use infrastructure funding to expand the dam removal and culvert initiatives
- Work more with county and local governments related to road-stream crossings
- Expand the network of partners to accomplish more projects.



Protected Lands

<https://www.chesapeakeprogress.com/conserved-lands/protected-lands>

Goal: *Land Conservation*

Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state, or local level—including 225,000 acres of wetlands and 695,000 acres of forest land of highest value for maintaining water quality.

Progress:

- Actual progress towards acres protected has exceed expected.
- On track to achieve 2025 goal in 2021

Successes and Challenges:

- Actions and goals should match staff availability and resources
- Assigning a responsible part and securing funding are crucial for achieving performance targets.
- Urgent needs around the connection between public health and green space required adaptive management and the development of an *Action Plan Focusing on Public Health, Green Spaces and Equity*.
- COVID-19 demonstrated the increased demand for accessible open space for all residents.

On the Horizon:

- Fiscal: Funding opportunities have increased.
- Policy: Emerging Opportunities
 - New Federal administration’s executive orders and policies that will support our work toward the Protected Lands outcome
 - Model legislative proposal in MD General Assembly could attract increased private capital investment
 - State Heirs Property mapping and legislation
 - Outreach to land trusts and local governments to promote use of conservation BMPs
 - Chesapeake Wild Legislation – partnership and funding.
- Scientific:
 - Growing science confirmation of 30x30 and 50x50

- Public health research establishing benefits of spending time in outdoor green spaces

We plan to:

- New work to achieve goal plus social/health benefits relates to:
 - Providing green spaces in under-resourced communities of color
 - Targeting resources to conserve the habitat of imperiled species, including under the Chesapeake WILD program.
 - Providing more natural areas as part of achieving the CCP's 30x30 goal
- Focus on land conservation policies that address sea level rise/resiliency
- Prioritize public access, human health, and diversity goals that contribute to Bay restoration.
- Align the CCP Public Health/Equity Action Plan with the L&A Plan

How you can help:

- Protected Lands Outcome:
 - Previous trends lead us to believe we will reach the outcome target by 2025. The biennial update of the Protected Lands status will provide data through 2020 to confirm.
 - MB support needed to expand land conservation target in the next WA; facilitate the connection between health equity and our CBP work; and connect land conservation with wetland and forest buffer efforts.

Help Needed:

- 30x30 target outcome
 - Consider adoption in next Watershed Agreement
 - Connect land protection workgroup members to jurisdictional representatives
- Assist with facilitating a focus on health and equity to help meet multiple Watershed Agreement outcomes
 - Encourage counterparts in conservation, public health, and other agencies to prioritize investments in underserved communities.
 - The Workgroup will identify additional items from the *CCP Action Plan Focusing on Public Health, Green Spaces and Equity* with which the MB can be most helpful.
- Engage land conservation efforts to aid wetland and riparian BMPs on lands already conserved or to be conserved.
 - MB allocate additional resources to implement wetland and riparian BMPs on lands already conserved or to be conserved.



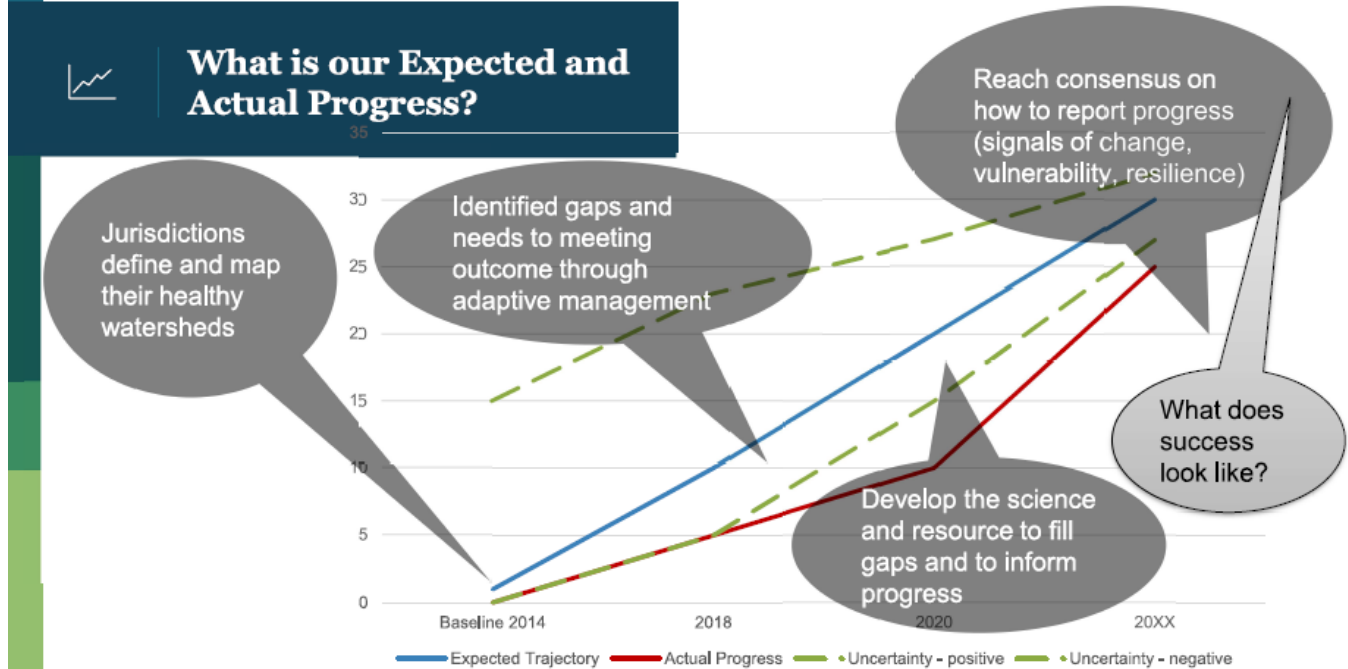
Healthy Watersheds

<https://www.chesapeakeprogress.com/clean-water/healthy-watersheds>

Goal: Sustain state-identified healthy waters and watersheds recognized for their high quality and high quality and/or high ecological value

Outcome: 100 percent of state-identified healthy waters and watersheds remain healthy.

Progress:



Accomplishments:

- Data and Tools
- Projects
- Communications

Challenges:

- Translation and communication of science for targeted audiences
- Delayed Projects
- Jurisdiction Participation
- Leadership

On the horizon:

- 30x30
- Diversity, Equity, Inclusion and Justice
 - Considerations to distribute benefits equitably and reduce disproportionate adverse environmental impacts in communities of color, low-income communities, and other underrepresented groups.
- User Experience
 - Reviewing existing research and incorporating direct feedback, focus on function and meeting end user needs.
- Climate how best to utilize climate and resiliency data within the healthy watershed framework.

Interim Indicators:

- Working to develop interim indicators until a full assessment is complete.
- Indicators to prioritize protection and measure progress.

Indicator Development:

- Once the full assessment is completed, we will need to navigate how to use the assessment to develop new indicators.

Based on what we learned, we plan to:

- Renew GIT input and advising on

- Monitoring needs
- DEIJ needs
- Climate considerations
- Indicator development
- Refine tools and communication

How you can help:

- Renewed engagement from signatory partners including a new GIT chair
- How to address 2020 MDHWA GIT funding project shortfall



Fish Habitat

<https://www.chesapeakeprogress.com/abundant-life/fish-habitat>

Goal: *Sustainable Fisheries*

Outcome: Continually improve effectiveness of fish habitat conservation and restoration efforts by identifying and characterizing critical spawning, nursery and forage areas within the Bay and tributaries for important fish and shellfish, and use existing and new tools to integrate information and conduct assessments to inform restoration and conservation efforts.

How you can help:

- Team member capacity and jurisdiction priorities may not be in alignment with achieving goal.

Progress:

- We have made progress on:
 - Integrating data and providing information.
 - Analysis and methodology for Regional Fish Habitat Assessment

Successes:

- Made strides on higher resolution regional fish habitat assessment
 - Metadata inventory
 - Evaluation of different scales and methods
 - Develop tidal analytical framework
 - Hardened shoreline GIS layers
- Living shoreline behavior change project. Toolkits for MD, VA, and DE.
- Communication
 - Watershed Educational Materials for Local Government.
 - Fisheries economic impact information to local government.

Challenges:

- This is a broad outcome with a diverse audience and diverse member expertise.
- It is a challenge to include habitat considerations in fisheries management, local planning, and WIP BMP actions. There are two main audiences that require different tools/messages for each:
 - Habitat/Lands Managers need to communicate the benefits and encourage the conservation of rural landscapes and natural shorelines. Tools could inform and guide planning and zoning as well as delineate high priority areas.
 - Fisheries Managers need tools to incorporate habitat condition into assessments management, but presently feasible in single species management.
- Team capacity and jurisdictional priorities are a limitation:
 - Team capacity does not match the breadth of the audience needs.
 - Communication actions are a challenge because that is not the expertise of team members. Rely on the CBP communications team or contractors.

- Try to narrow breadth of the outcome by setting priorities, but we have difficulty gathering input on priorities for next action plan.
- It is difficult to find team members to champion projects.



Brook Trout

<https://www.chesapeakeprogress.com/abundant-life/brook-trout>

Goal: Vital Habitats

Outcome: Restore and sustain naturally reproducing brook trout populations in Chesapeake headwater streams with an eight percent increase in occupied habitat by 2025.

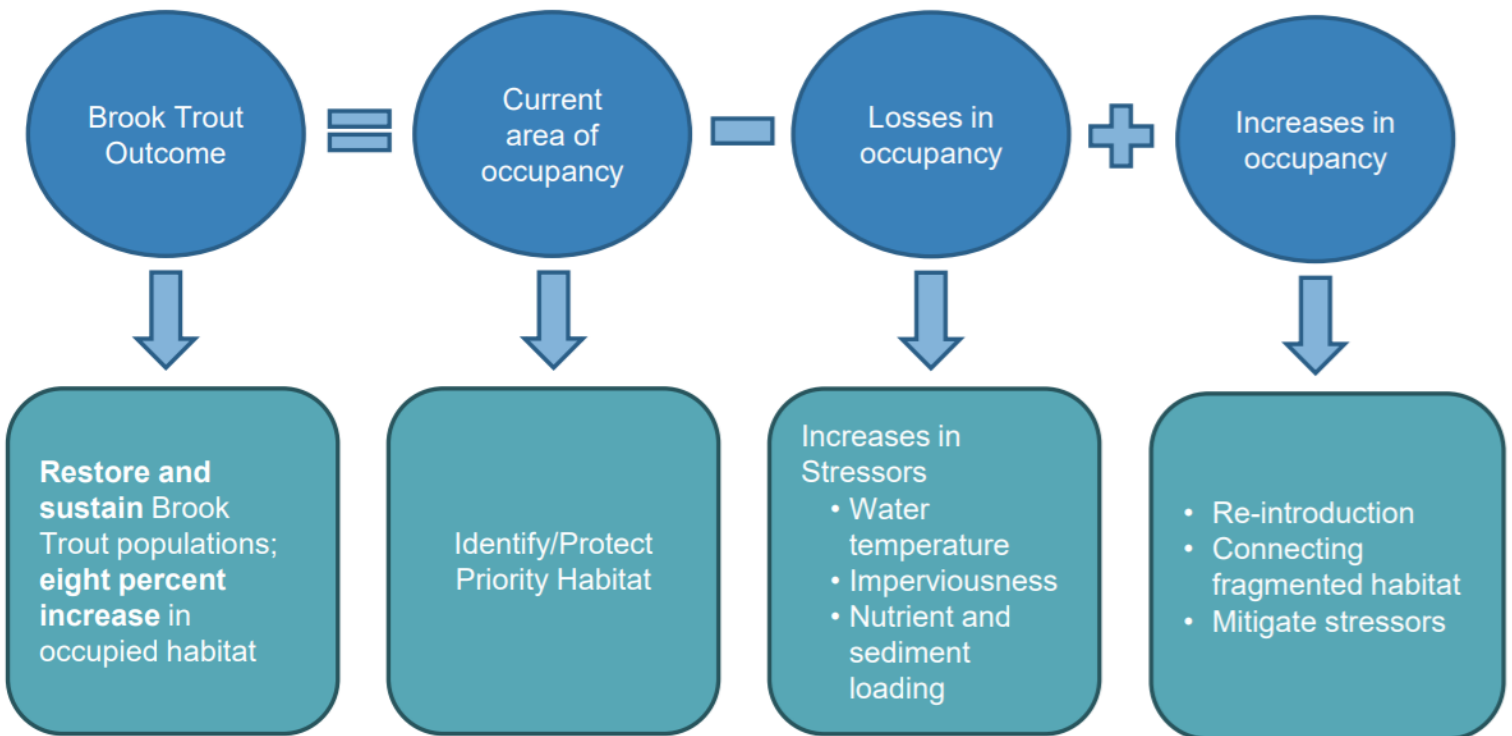
How can you help:

- Summary:
 - Not on track to achieve outcome
 - Many successes, but challenges remain
 - Need help with addressing primary barriers and coordination

Progress:

- Expected: 108 km²/year
- Actual: Unknown

What have we learned?



Successes and Challenges

- Science
 - Stream water temperature remains the best predictor of brook trout occurrence (multiple models)
 - Can't measure everywhere, so model temperature, evaluate drivers: percent forest/riparian cover, percent imperviousness/agriculture, groundwater influence

- Managers need precise information at the appropriate scale to inform decisions – generally highest resolution possible
- Successes
 - Accomplished 22 of 28 Action Items
 - Developed approach to track all watershed conservation/restoration activities
 - Brook trout genetics – publications, STAC workshop
 - Groundwater, stream temperatures – publication, new tools, collaborative projects
- Challenges
 - Some delays due to pandemic
 - STAC Genetics Workshop
 - Developing metrics to quantify conservation actions protecting current brook trout habitat
 - No capacity to implement tracking tool for summarizing all watershed restoration activities
 - Each state unique, no one-size fits all approach
 - Primary Challenge: Resources available to the BTWG and associated stakeholders are insufficient to adequately restore and sustain brook trout populations at the scale necessary to overcome the detrimental impacts to brook trout habitat across the watershed.
- **On the Horizon**

On the Horizon

- Understand management implications of new research findings:
 - Brown trout-stream temperature interactions, brown trout removal
 - Outcomes from STAC Genetics and Temperature workshops
 - Effects of climate change, groundwater, BMPs
- New legislative actions
 - America Conservation Enhancement (ACE) Act, ChesapeakeWILD
 - Reauthorization of Surface Mining Control and Reclamation Act (funds abandoned mine drainage treatment)
 - MD temperature TMDL

We plan to

- Continue to engage BTWG members to identify large-scale priority action items with greatest impact
 - 75% Riparian Forest Cover in all brook trout watersheds
 - Fencing livestock out of brook trout watersheds
 - Better private landowner engagement/incentives
 - Promote land stewardship
- Work with stakeholders to understand use and application of decision support tools, e.g., Ecosheds Integrated Catchment Explorer (ICE), MD-DNR Coldwater, Thermal Habitat
- Develop additional metrics relevant to brook trout conservation/outcome
- Find resources (GIT proposal) to fund implementation of tracking spreadsheet/tool for all partners (including NGOs) to report progress using common metrics
- Collaborate with other CBP teams (Healthy Watersheds, Fish Passage, Riparian Buffers) on connected actions, e.g., reforestation, aquatic connectivity

Help Needed

- Work with the BTWG to address disconnect between state agency responsibilities/authorities and the actions/decisions made by county/local municipality regarding planning, zoning, that directly affect brook trout habitat
- Work with principals/CBP to increase resources
 - 75% Riparian Forest Cover in all brook trout watersheds (MD - \$50M)



Stream Health

<https://www.chesapeakeprogress.com/abundant-life/stream-health>

Goal: *Stream Health*

Outcome: *Continually improve stream health and function through the watershed. Improve health and function of ten percent*

Progress:

- Insufficient data and a lack of linear improvement makes it difficult to assess progress.

Successes and Challenges

- Progress made when:
 - Engaged membership
 - Meaningful, action-oriented discussions
 - Dedicated resources (funding, personnel) to advance workplan
 - Collaboration with other GITs/Work Groups (Healthy Watersheds GIT)
- Placeholder for agency/organization participation
- Survey results if available

On the Horizon

- There are several developments underway that may influence our work including:
 - Studies exploring the effects of climate change on freshwater streams
 - Development of a temperature TMDL
 - Transfer of data analysis role from ICPRB to CBPO (in process)
 - Continued work to develop additional metrics to measure progress in improving stream health

We plan to

- Help advance Stream Health actions more fully
- Rely on Bay Program staff to update stream health metric, otherwise will not significantly impact our work plan priorities

How you can help

- Currently on track with majority of work plan
- CBP-funded studies are critical to advancing work plan goals

Help Needed:

- The workgroup has been able to secure CBP funding to support a key priority action of identifying stressors and BMPs impacting stream health
- Sustaining funding through the remaining two phases will be critical to achieving this action
- Continued support from the Management Board to support membership and GIT-based funding