

# Healthy Watersheds Quarterly Progress Meeting Summary

## August 15, 2019

### Healthy Watersheds

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

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

#### Success and Challenges:

- GIT funding project that provided us with the *information* and *data* to fill the *gaps* in the management strategy
- Identified 6 *metrics* for watershed condition in that can be combined to an overall *index*
- Developed vulnerability *metrics*
- Lays the groundwork methodology to *track outcome* success
- Informs and helps to visualize a *spectrum of watershed health and vulnerability* watershed-wide

#### Help needed:

- Igniting renewed interest and engagement of HWGIT members
- Communicate and share data, maps, assessment and vulnerability information, messages, key policies, and provide planning and incentive products to stakeholders
- Improved coordination with USGS scientists, Land Use WG, Local Leadership WG, LGAC, Stream Health WG and the CBP Creative team
- Ensure that related and/or dependent cross-GIT priorities are addressed within the CBP
  - There is a continued need for a framework that improves integration among groups within the CBP in order to share our collective resources and expertise.

## Healthy Watersheds Goal Team Milestones

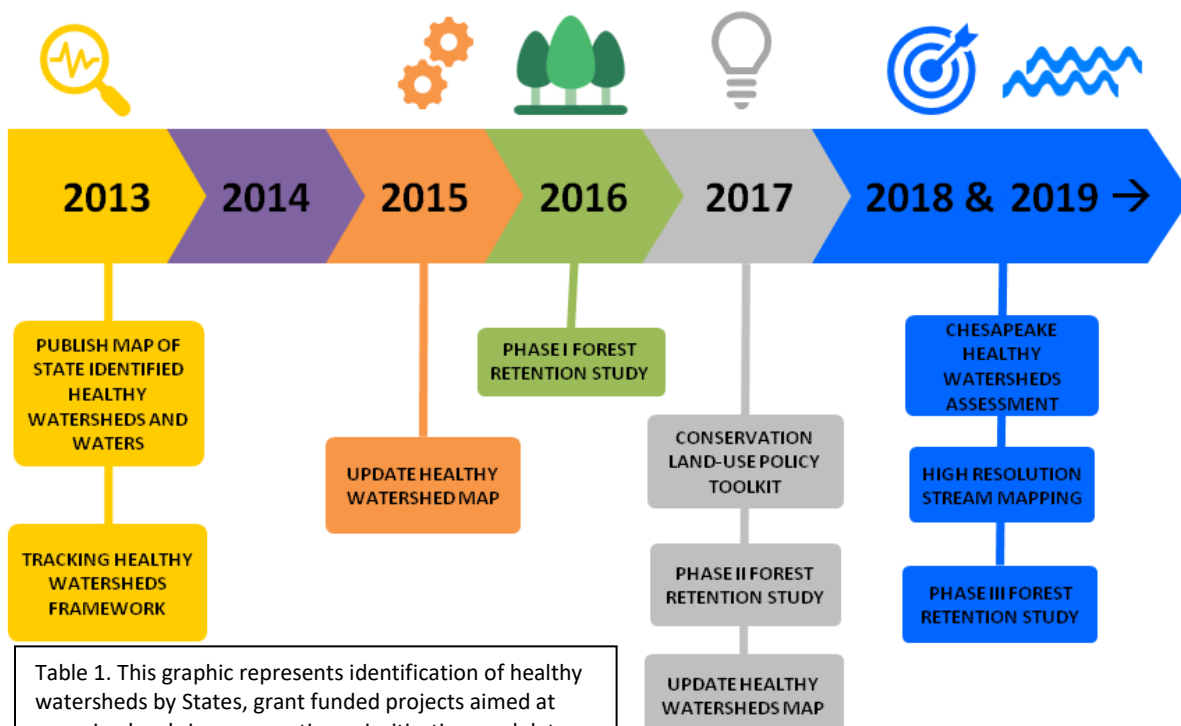


Table 1. This graphic represents identification of healthy watersheds by States, grant funded projects aimed at engaging locals in conservation prioritization, and data development that is beneficial not only to the HWGIT, but other GITs and workgroups within the program

## Protected Lands

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

**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 forestland of highest value for maintaining water quality.

### **Success and Challenges:**

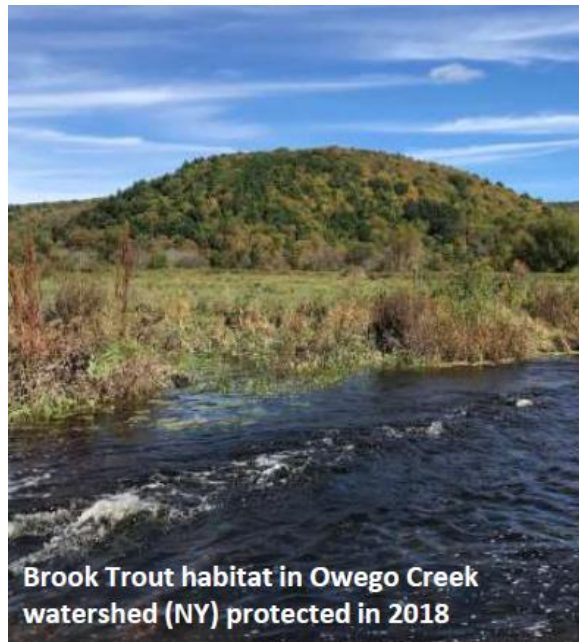
- 68% of 2 million acre goal achieved
- The work of the CBP and its members continues apace, as evidenced by the progress in land protection
- Progress is facilitated or constrained by availability of public and private sector funding sources

### **Scientific, fiscal and policy developments that will influence the next two years**

- Fiscal – legislative pressure to reallocate state and federal land protection financing
- Policy – private capital investment
  - Commercial scale solar and wind generation
  - Infrastructure project mitigation impacts
  - Land policy BMPs as part of the Phase III WIPs
- Scientific – how will key trends (climate, biodiversity, development, etc.) influence protection?

### **Management Board and Principals’ Staff Committee can help the most by:**

- Stressing the fundamental importance of land conservation to the quality of life of current and future citizens
- Strongly advocating for sustaining and growing public financing
- Funding science and research that addresses trends influencing land conservation
- Investing in collaborative initiatives designed to engage a fully representative 21<sup>st</sup> century generation of land conservationists
- Supporting continued research and development in new sources of financing for land conservation, including private capital



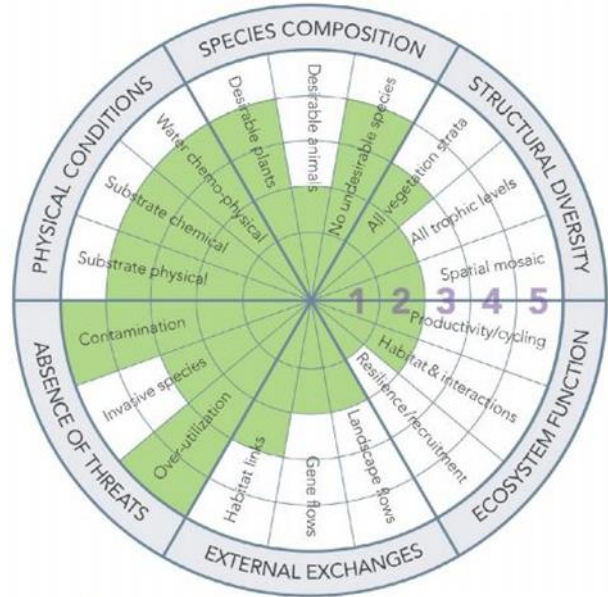
## Stream Health

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

**Outcome:** Continually improve stream health and function throughout the watershed. Improve health and function of ten percent of stream miles above the 2008 baseline for the watershed.

### Successes and Challenges:

- Access to resources – adequate sharing of knowledge and information
- Coordination with Urban Stormwater Work Group on Stream Restoration Protocols
- Chesapeake Bay Trust Restoration Research
- Maryland Water Monitoring Council
- Mid-Atlantic Stream Restoration Conference
- Progress in permitting of stream corridor restoration projects
- Need to address functional lift beyond nutrients and sediment
- Local impairments and TMDLs



Society of Ecological Restoration; Recovery Wheel

### On the horizon

- Consider options for changing outcome:
  - From “improve health and function in 10% of stream miles...”
  - To “improve stream health and function in 10% of the Chesapeake Bay watershed.”
- Stream corridor restoration:
  - Advancements and lessons learned
  - Need to disseminate information through training
  - Synthesize the science and identify gaps to improve biological and functional lift
  - Other stressors
- Increase collaboration with “sister” workgroups, such as the Toxics Workgroup for joint work efforts
- Seek funding sources to support work
- Refocus workgroup (regular meeting schedule, staff liaison)

### Help needed:

- Support for BIBI Data call for 2012-2017
- Evaluate options and make recommendations for revising the outcome
- UMCES intern support for stressor white paper
- Data analyst support on stream health and functional lift
- Ensure active participation from all jurisdictions
  - Integrate participation on the SHWG as part of job performance
- Limit and simplify workgroup reporting to focus on implementing logic and action plan

## Brook Trout

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

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

### Success and Challenges:

- Great successes, but scientific and programmatic challenges remain.
- Full implementation of work plan actions hampered by limited resources, personnel
- Most successful actions are those most closely aligned with state/federal agencies, NGOs program priorities
- Not on the track to achieve outcome.
- Limited success with cross-GIT collaboration
- Need to develop additional metrics to quantify conservation actions



### Science Successes and Challenges

- Stream water temperature remains the best predictor of brook trout occurrence (multiple models)
- Can't measure everywhere, so model temperature, evaluate drivers: % Forest/riparian cover, % imperviousness/agriculture, groundwater upwelling
- Managers need information at decision-relevant scales, generally highest resolution possible

### On the Horizon:

- New research findings related to genetics, restoration methodologies, impacts of climate, and land-use change.
- Results of new fine-scaled fish habitat assessment
- Activities related to healthy watersheds, fish passage, aquatic connectivity efforts

### Based on what we learned, we plan to:

- Continue to engage workgroup members to identify priority action items
- Develop additional metrics related to conservation/protection of existing high-quality habitat
- Continue to address science needs related to climate impacts, genetics, habitat assessment
- Develop tracking spreadsheet/tool for all partners to report progress using common metrics

### Help needed:

- CBPO/other staff support to help develop communication/outreach plan, identify key decision-makers
  - *If we can't get the best available science to the right decision makers, then our ability to increase brook trout habitat and occupancy is limited.*
- Help to increase funding for both monitoring and travel support within the agencies represented on the workgroup:
  - Estimated \$15-20,000 per year to hire additional temporary field staff to help with monitoring
  - Estimated \$1,000 per year for agency members to travel to stand-alone workgroup meetings
  - *These actions would demonstrate the commitment the members agencies have to the outcome*
- CBP staff support to help develop and maintain tracking spreadsheet/tool
  - *Need a single location to store and collate all brook trout data to adequately track progress towards outcome*

## Fish Habitat

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

**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.

### **Achievements and future direction:**

- Completed STAC workshop to identify stressors of fish habitat (helped identify next steps)
- Assessment efforts ongoing with metadata inventory
- Coordination with other fish habitat assessments
- Six NOAA funded fish habitat focused studies
- Completed the shoreline condition threshold study
- Greater focus on communications moving forward
- Fish Habitat is impacted by the many of the other Agreement outcomes

### **Challenges**

- Action 3.1 (overlay assessment datasets in geospatial context to prioritize habitat areas) is a long term goal - still building datasets
- Challenge to include fish habitat considerations in fisheries management, local planning, and WIP BMPs
- Don't have metrics or indicators to evaluate progress
  - Regional assessment could serve as baseline for fish habitat condition to recommend habitat conservation and/or restoration targets
  - Priority stressors, like hardened shorelines, could be monitored overtime



### **On the horizon**

- Metadata inventory and analysis to inform regional assessment
- Conduct pilot assessments
- Develop a communications strategy for stakeholder engagement
  - Message focused on priority stressors: impervious surfaces, shoreline hardening, loss of buffers
- Communicate local level economic impacts of fisheries
- Consider metrics to monitor progress
- Use datasets to prioritize habitat areas & co-benefits

### **Help needed:**

- WIP Engagement
  - Last SRS review, we asked for improved use of BMPs beneficial to fish habitat in WIPs
  - We need MB support in evaluating what changed as a result of previous ask
  - Identifying clear engagement opportunities including:
    - Timelines and key points of contact
    - Overlay fish habitat priorities with water quality priorities to target WIP BMPs

- Identify points of contact from state agencies that can engage with trusted messengers on the ground to deliver fish habitat messages at strategic times
- Setting Shoreline Hardening Limits
  - Use shoreline threshold results to recommend shoreline hardening limits and provide guidance to planning and policy
  - How can we start to move from research to application in preventing further shoreline hardening (a priority stressor for fish habitat)?

## Fish Passage

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

**Outcome:** Continually increase available habitat to support sustainable migratory fish populations in Chesapeake Bay freshwater rivers and streams. By 2025, restore historical fish migratory routes by opening 1,000 additional stream miles, with restoration success 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.

### Successes and Challenges:

- Functional, highly efficient workgroup
- Presence/absence of target species being complete at removal
- Interest by dam owners is still a major challenge
- Incentives for removal are needed to gain interest in dam removal - mitigation credit one option; coordination with dam safety offices
- Little work to date on road-stream crossings
- There are over 165,000 road-stream crossing in the Chesapeake Bay. Road –stream crossings need to be addressed and represent a scale much larger in number than dam removals. A different approach is needed

### Progress towards the outcome

- By 2016, the fish passage outcome, opening 1000 miles by 2025, was exceeded. More than 1200 stream miles have been opened for river herring, shad, American eel and brook trout.
- Since the mileage outcome was set in 2014, 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.
- Because this outcome’s mileage target was set under a previous method of calculation, it is too low and an unfit benchmark against which to measure current progress.
- Our partners will continue to open stream miles to access by migratory fish at the same rate (132 miles every two years).



### On the horizon

- Given the focus on increasing storm events and higher river flows, addressing fish passage at road-stream crossings at the same time is a common-sense approach.
- Guidance being developed for fish passage at road-stream crossing with possible funding from GIT if selected.

- U.S. Army Corps of Engineers recently released guidance on mitigation crediting for dam removals and other river obstructions. State of Maryland developing draft mitigation calculator

**Workgroup plans to:**

- Investigate and incorporate into the two-year logic and action plan opportunities to restore fish passage through the retrofitting or removal of culverts

**Help needed:**

- Bring awareness to dam safety programs that dam removal is a viable option to consider along with the usual “repair or replace” options under dam safety regulations and planning.
- PA – excellent job! Model coordination
- MD – stalled with new leadership pending at DNR and MDE. Need renewed emphasis on these talks.
- VA – staff from dam safety to attend VA Fish Passage Task Force Meetings

**Healthy Watersheds cohort common requests:**

- Increased collaboration between “sister” outcomes to help with awareness, timing and capacity
- Outcome connection to local leadership engagement