



**Chesapeake Bay Program**  
*Science. Restoration. Partnership.*

February 22, 2024

# B25 Healthy Watersheds

## **Stakeholders Committee**



# Vanguard Idea

Integrate a more holistic and community-engaged approach to improving and maintaining watershed health as a foundational goal of the partnership

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# Recommendations

- 1. Data, Tools and Monitoring – Characterize Watershed Health**
- 2. Planning – Green Infrastructure at multiple scales**
- 3. Community Engagement – Capacity for coordinators**
- 4. Watershed Actions – Accelerate and elevate**
  - Land Conservation
  - Stewardship
  - Restoration
- 5. Accountability – Outcomes vs. Outputs**

Integrate Habitat, Climate and DEIJ into above recommendations.

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# Data, Tools and Monitoring

## CHWA

- Stream Health
- Landscape Integrity

### Watershed Health Metrics

#### Landscape Condition

% Tree Cover in Riparian 2017/18 Catchment	99.96%
% Tree Cover in Riparian 2017/18 Watershed	99.96%
Housing Unit Density 2020 Catchment (units/ha, km)	0
Housing Unit Density 2020 Watershed (units/ha, km)	0
Population Density 2020 Catchment (people/ha, km)	<0.01
Population Density 2020 Watershed (people/ha, km)	0
% Extractive 2017/18 Catchment	0.00%
% Extractive 2017/18 Watershed	0.00%
% Forested Extent Loss to Development 2001-2013 Catchment	0.00%
% Forested Extent Loss to Development 2001-2013 Watershed	0.00%
% Impervious Cover 2017/18 Catchment	0.10%
% Impervious Cover 2017/18 Watershed	0.10%
% Natural Land in Riparian 2017/18 Catchment	100.00%
% Natural Land in Riparian 2017/18 Watershed	100.00%
% Protected Lands Catchment	100.00%
% Protected Lands Watershed	100.00%
% Agriculture 2017/18 Catchment	0.00%
% Agriculture 2017/18 Watershed	0.00%

#### Geomorphology

Streambed Fine Sediment and Sand Cover Catchment	3.19
Streambed Particle Size D50 Catchment	85
Streambank Sediment Flux Catchment (kg/ha m-1 yr-1)	<0.01
Streambank Lateral Erosion Catchment (kg/ha m-1 yr-1)	<0.01
Streambank Fine Sediment Flux Catchment (kg/ha m-1 yr-1)	<0.01
Streambank Erosion Change Catchment (kg/ha m-1 yr-1)	<0.01
Road Density Riparian Catchment (m/ha, km)	<0.01
Road Density Riparian Watershed (m/ha, km)	<0.01
Road Density Watershed (m/ha, km)	<0.01
Road Density Riparian Watershed (m/ha, km)	<0.01

#### Habitat

Nature's Network Connectivity Catchment	99.00%
Fish Habitat Condition Index (Catchment)	5
Fish Habitat Condition Index Cumulative	4
Fish Habitat Condition Index Network (Watershed)	4
% Tree Cover with Unmanaged Understory 2017/18 Catchment	92.00%
% Tree Cover with Unmanaged Understory 2017/18 Watershed	92.00%

#### Hydrology

% Tree Canopy with Managed Understory 2017/18 Catchment	0.00%
% Tree Canopy with Managed Understory 2017/18 Watershed	0.00%
% Non-forested Wetlands 2017/18 Catchment (m/ha, km)	0.00%
% Non-forested Wetlands 2017/18 Watershed (m/ha, km)	0
Road Stream Crossing Density Watershed (m/ha, km)	0
FlowAlteration	0

#### Water Quality

% Impaired Stream Catchment	0.00%
Incremental suspended sediment load from streambank erosion (kilograms/yr)	28.88
Incremental total nitrogen load from manure applications (kg/yr)	0
Incremental total nitrogen load from fertilizer applications (kg/yr)	0.54
Incremental total nitrogen load from septic system effluent (kg/yr)	8.81
Incremental total nitrogen load from wastewater treatment facility point sources (kg/yr)	0
Incremental total phosphorus load from manure applications (kg/yr)	0

### Watershed Vulnerability Metrics

#### Land Use Change

Housing Unit Density Change Catchment	0
Housing Unit Density Change Watershed	0
% Non-forested Wetland Conversion to Development 2013-18 Catchment	0.00%
% Non-forested Wetland Conversion to Development 2013-18 Watershed	0.00%
% Forest Harvesting 2013-18 Catchment	0.00%
% Forest Harvesting 2013-18 Watershed	0.00%
% Change in Impervious Cover 2013-18 Catchment	0.00%
% Change in Impervious Cover 2013-18 Watershed	0.00%
% Change in Forested Extent 2013-18 Catchment	0.03%
% Change in Forested Extent 2013-18 Watershed	0.03%
% Impervious Projected to 2055 Catchment	0.00%

#### Wildfire

% Wetland Urban Interface Catchment	0.00%
% Wetland Urban Interface Watershed	0.00%

#### Climate Change

Probability of Brook Trout (current)	100
Probability of Brook Trout (2-degree Celsius increase)	100
Probability of Brook Trout (4-degree Celsius increase)	99
Probability of Brook Trout (6-degree Celsius increase)	97
Climate Stress Catchment	95
% Resilient Lands Catchment	91.00%

#### Water Use

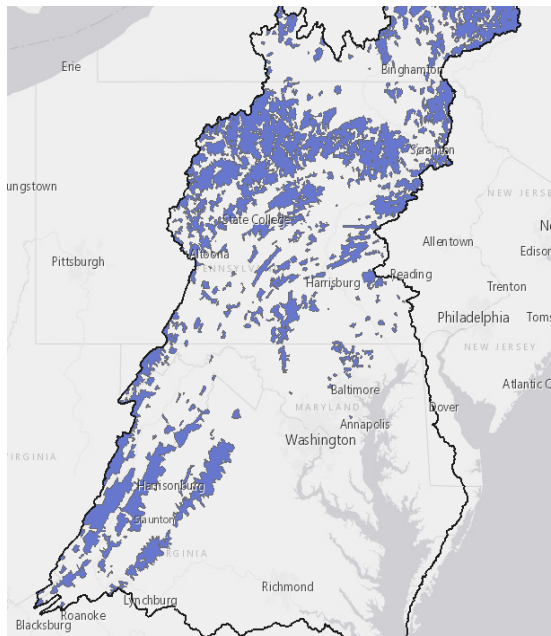
Domestic Water Use	2.42
Industrial Water Use	1.68
Agriculture Water Use	0.05

<https://gis.chesapeakebay.net/chwa/?page=Overall>

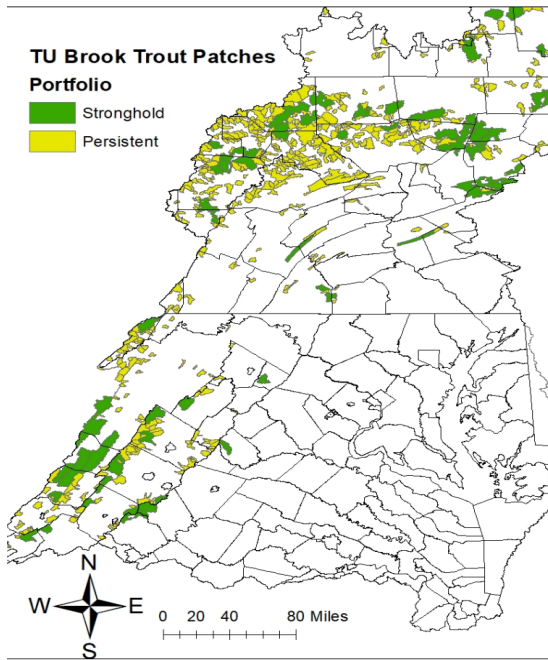
# Integration



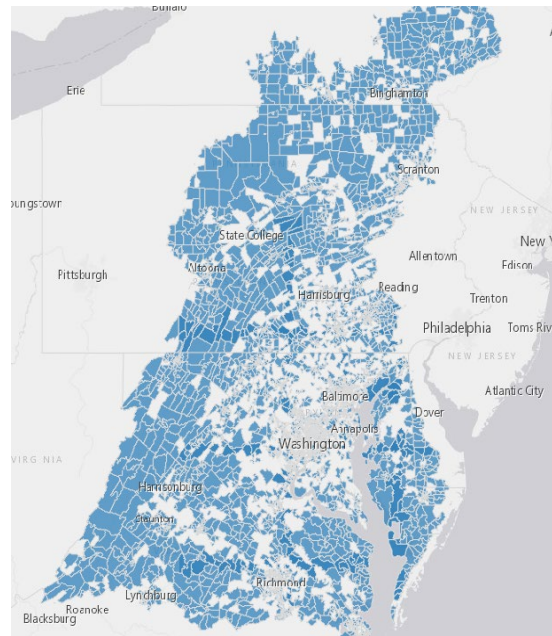
Brook Trout



Habitat



Climate



EJ

# Credits

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# Thank you!

Any questions? Jeff Lerner, HWGIT chair  
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