



Agenda



1. Intro: Overview of ShoreRivers **(IH)**
 - Organizational history, mission, values and shared philosophies
 - Riverkeepers grassroots approach, citizens engagement & on the ground restoration
2. Connecting the Eastern Shore landuse and demographics to our philosophies **(MP)**
 - Choptank River as an example
3. Uniqueness of the watersheds on the Eastern Shore - what we're known for and why we're working to address the challenges we are:
 - Agriculture: majority is row-crop and CAFOs, closely connected communities, CWA does not apply so different approaches are needed, "70% of TN in our rivers comes from groundwater." **(IH)**
 - USGS Greensboro long-term monitoring station and its value to the Bay Program re: determining the effectiveness of agricultural pollution reduction strategies **(MP)**
 - Long-term data shows the Choptank is the only tributary in the bay's long-term monitoring station that still shows increasing loads of nutrients and sediments (show USGS chart) **(MP)**
 - Fisheries and aquatic habitat: **(MP)**
 - Oyster restoration, wild harvest and aquaculture
 - SAV protection and restoration
 - Impacts from Conowingo Dam in the upper parts of the region **(IH)**
 - Dispersed population and the need for wide-spread community engagement **(IH)**
 - DEIJ statement and examples of work.
 - Lack of public access (maps and statistics)
4. Opportunities - takeaways - the big ask:
 - engaging smaller landowners/farmers and the need to diversify farming operations **(MP)**
 - Financial support for soil health practices - this is a Farm Bill year and we need to increase funding and assistance for these programs. **(MP)**
 - Ag industry educational pipeline **(IH)**



A Presentation to the Chesapeake Bay Program's Citizens Advisory Committee

February 23, 2023



Isabel Hardesty, Executive Director

Matt Pluta, Director of Riverkeeper Programs and
Choptank Riverkeeper



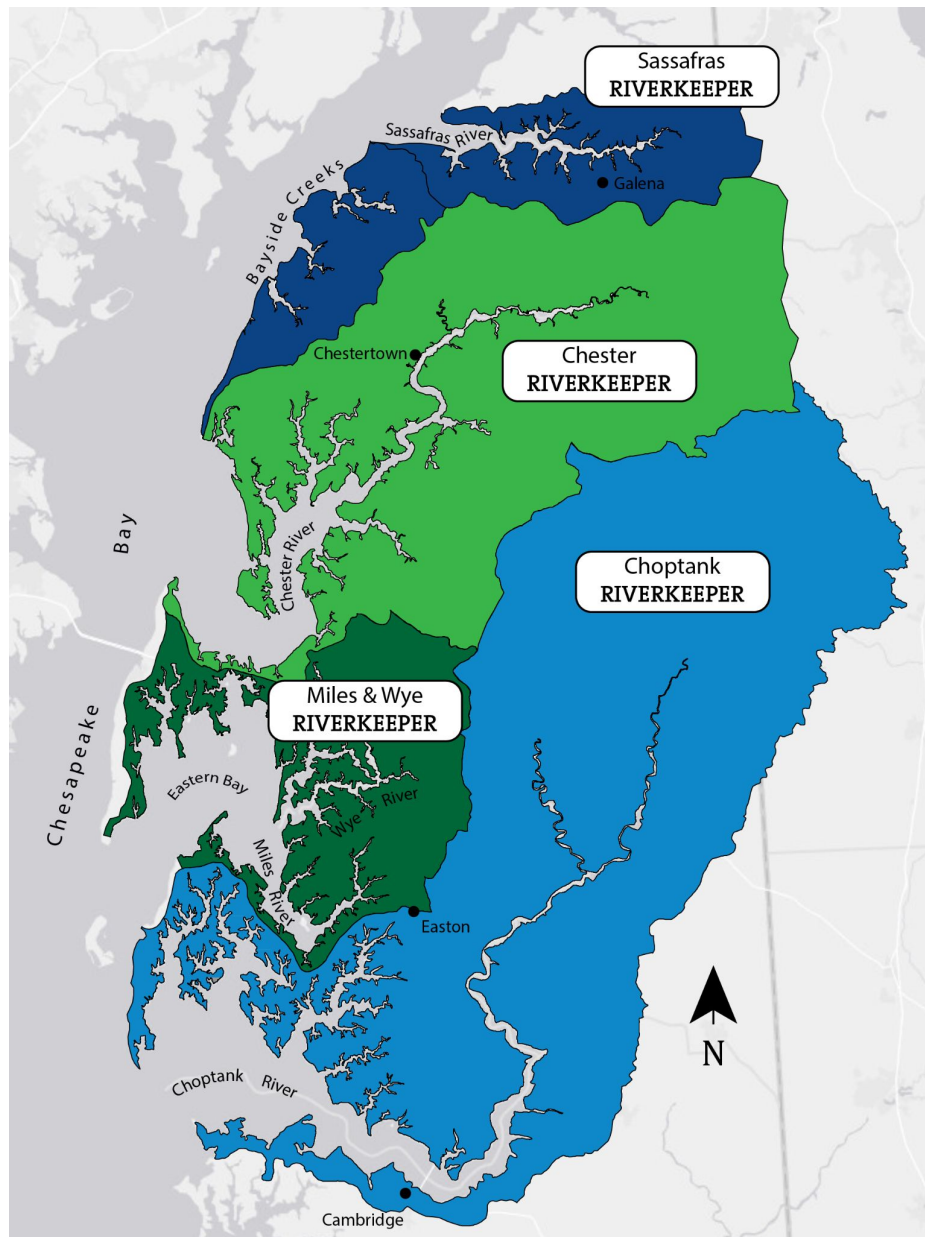
Agenda

1. Overview of ShoreRivers
2. How demographics & landuse drive our philosophies
3. Uniqueness of the Eastern Shore: challenges and opportunities
4. Action items for the CAC





Overview of ShoreRivers



SHORE RIVERS

Protect and restore Eastern Shore
waterways through
science-based
advocacy, restoration, and education.



Overview of ShoreRivers



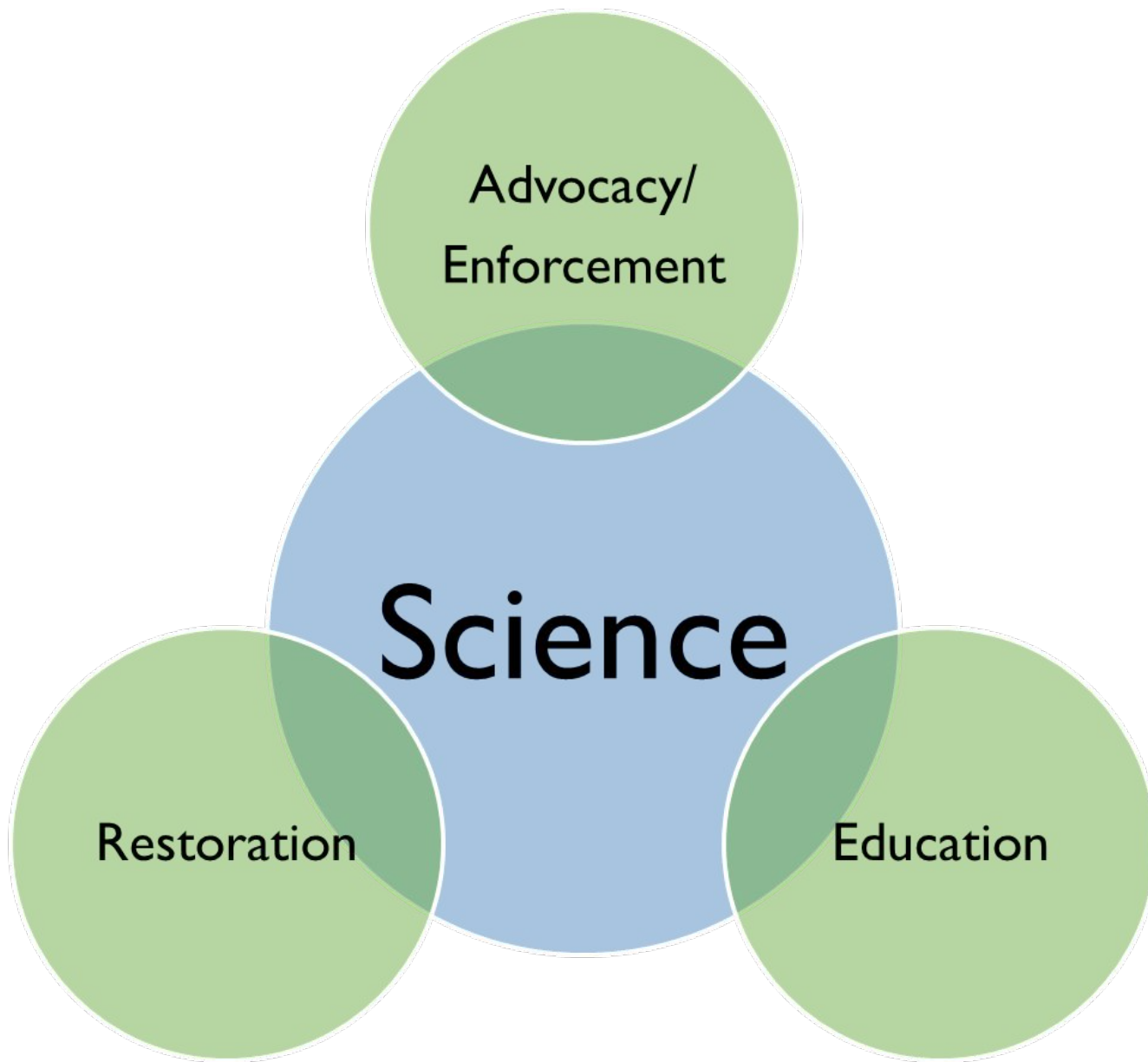
29 Employees

3 offices on the Eastern Shore

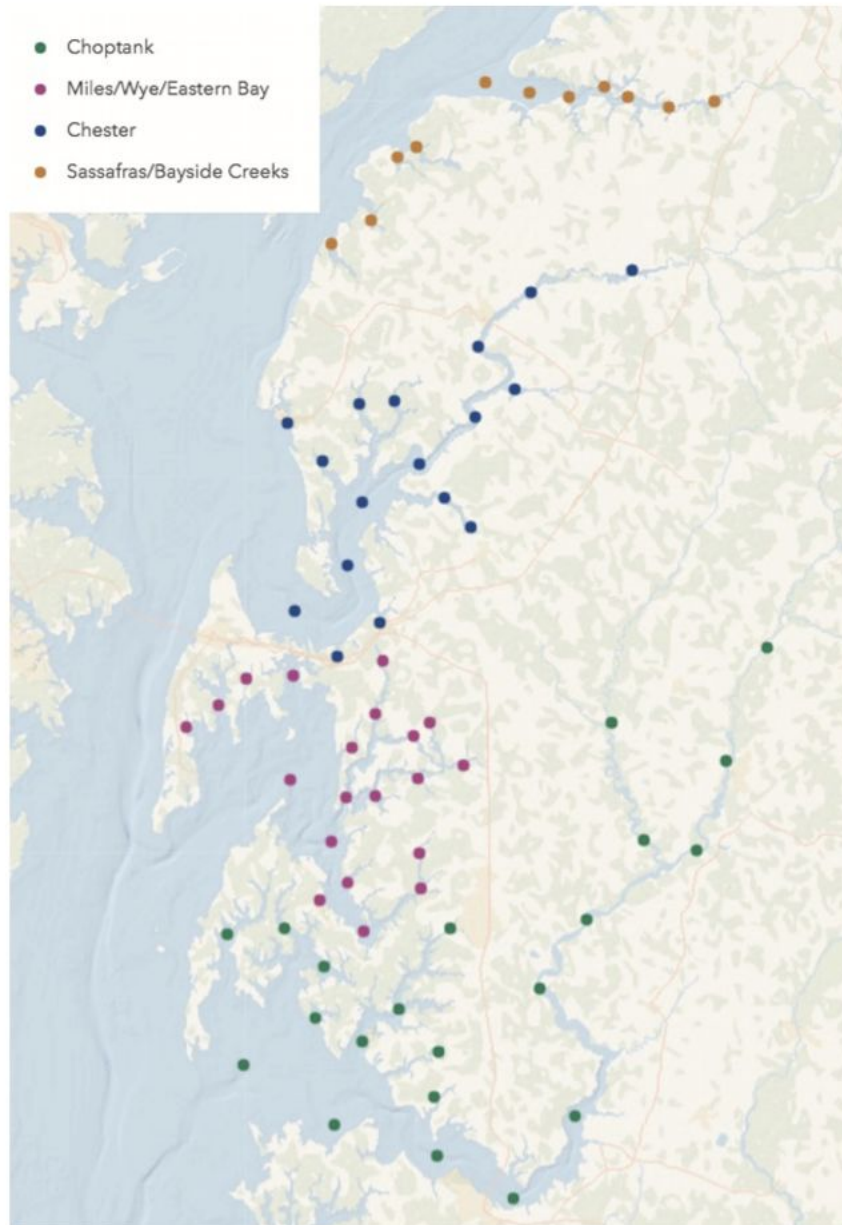
Agriculture, Outreach, Education, Riverkeeper Departments



Overview of ShoreRivers



Overview of ShoreRivers: WQ



ShoreRivers SwimTester Sites 2021 Sample Sites





Overview of ShoreRivers: Advocacy



Advocacy, Policy, & Enforcement

Agriculture

Oysters and fisheries management

SAV protection

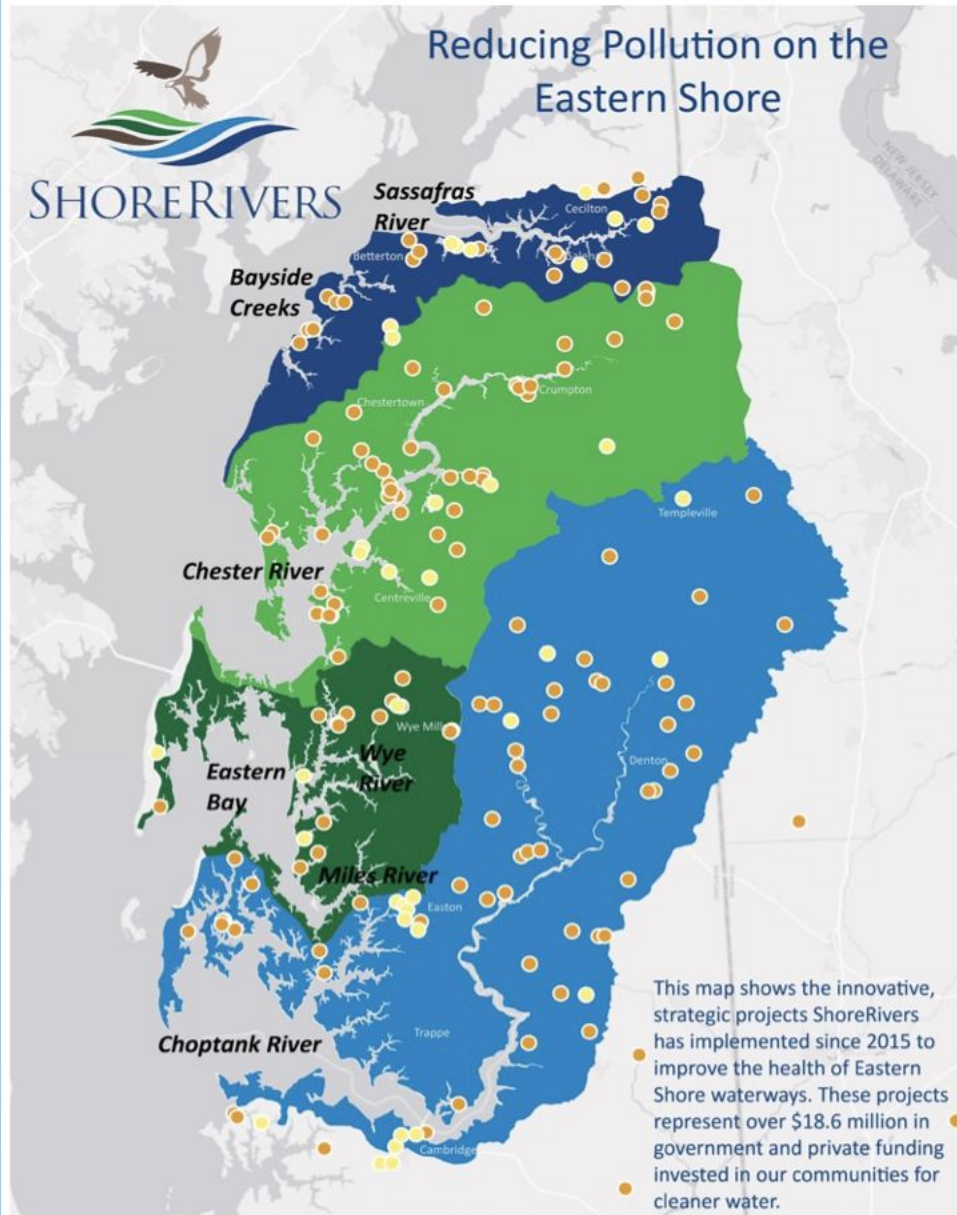
Environmental Enforcement

Conowingo Dam

Septic Systems



Overview of ShoreRivers: Restoration



Pollution Reduced Every Year				
Project Location	No. of Projects	Nitrogen	Phosphorus	Sediment
● Farmland	173	134,507 lbs	15,263 lbs	4,601 tons
● Non Farmland	58	10,438 lbs	1,025 lbs	294 tons
Total	231	144,945 lbs	16,350 lbs	4,895 tons





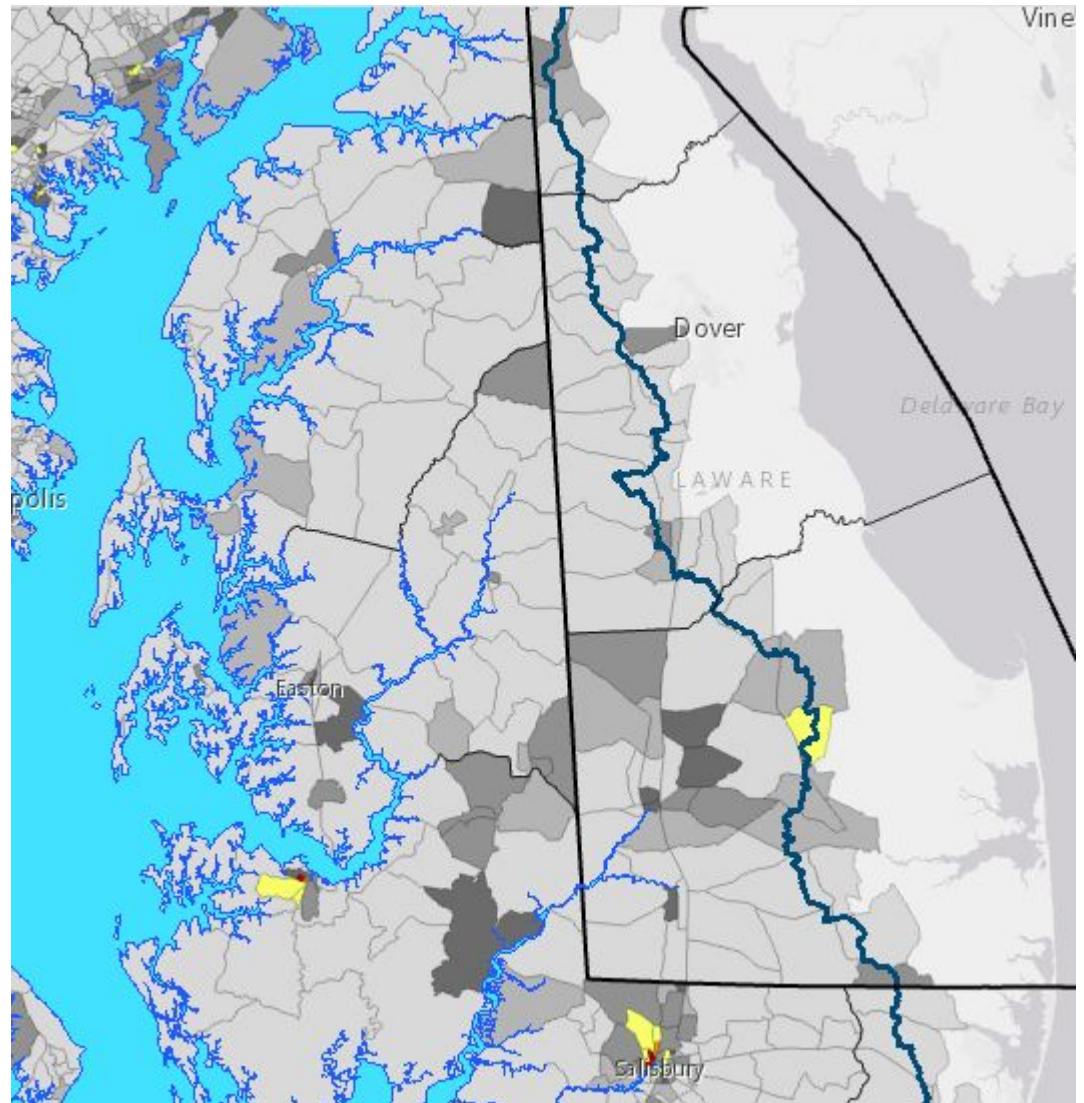
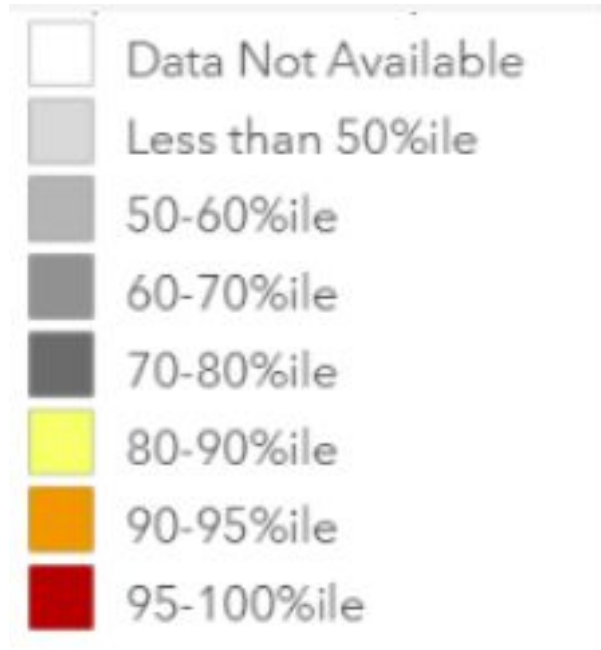
Overview of ShoreRivers: Education





Eastern Shore Landuse and Demographics

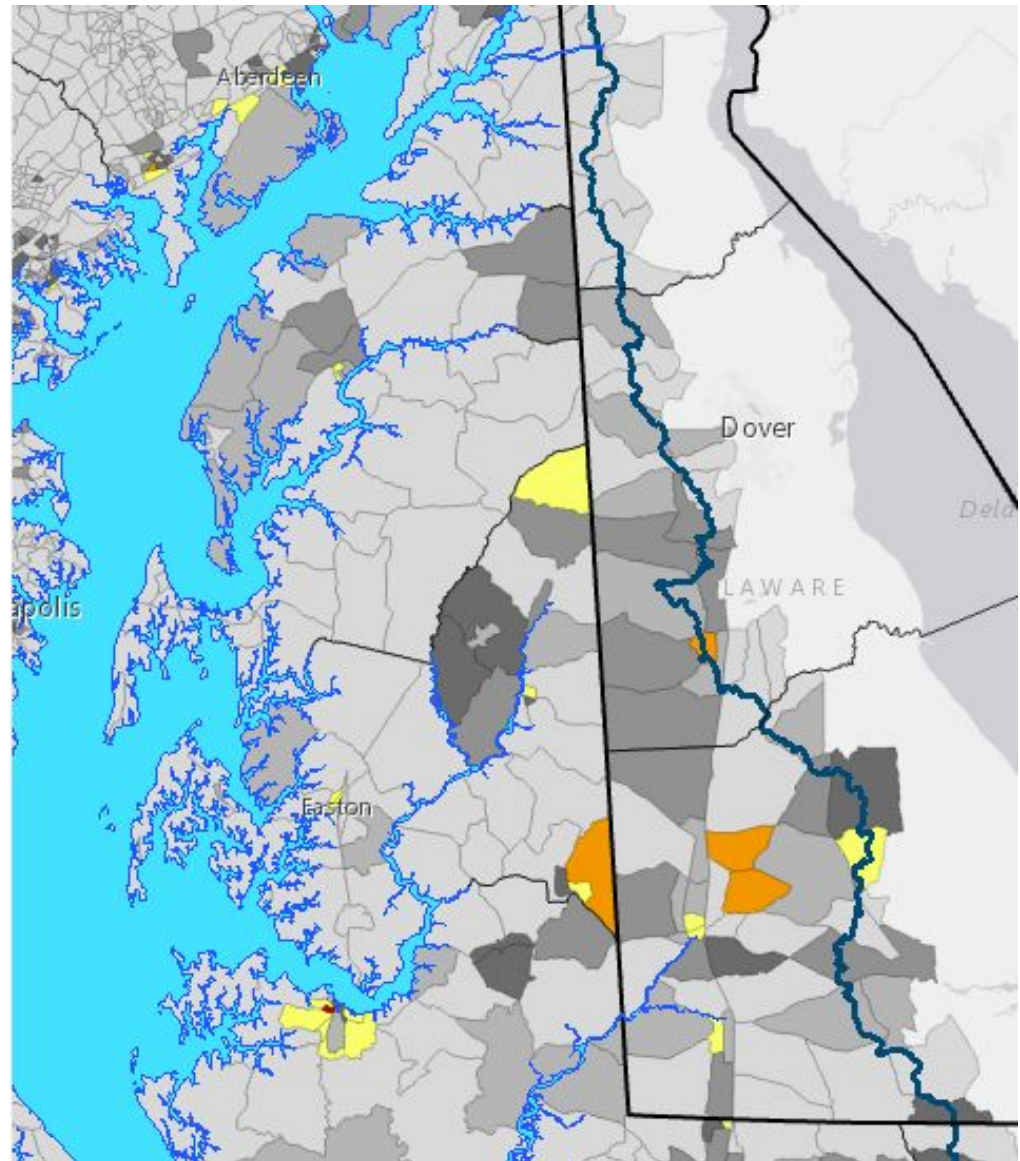
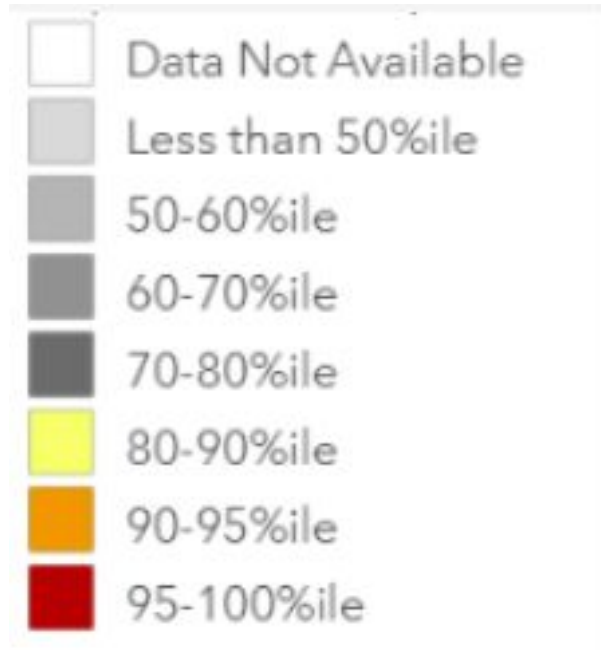
People of Color





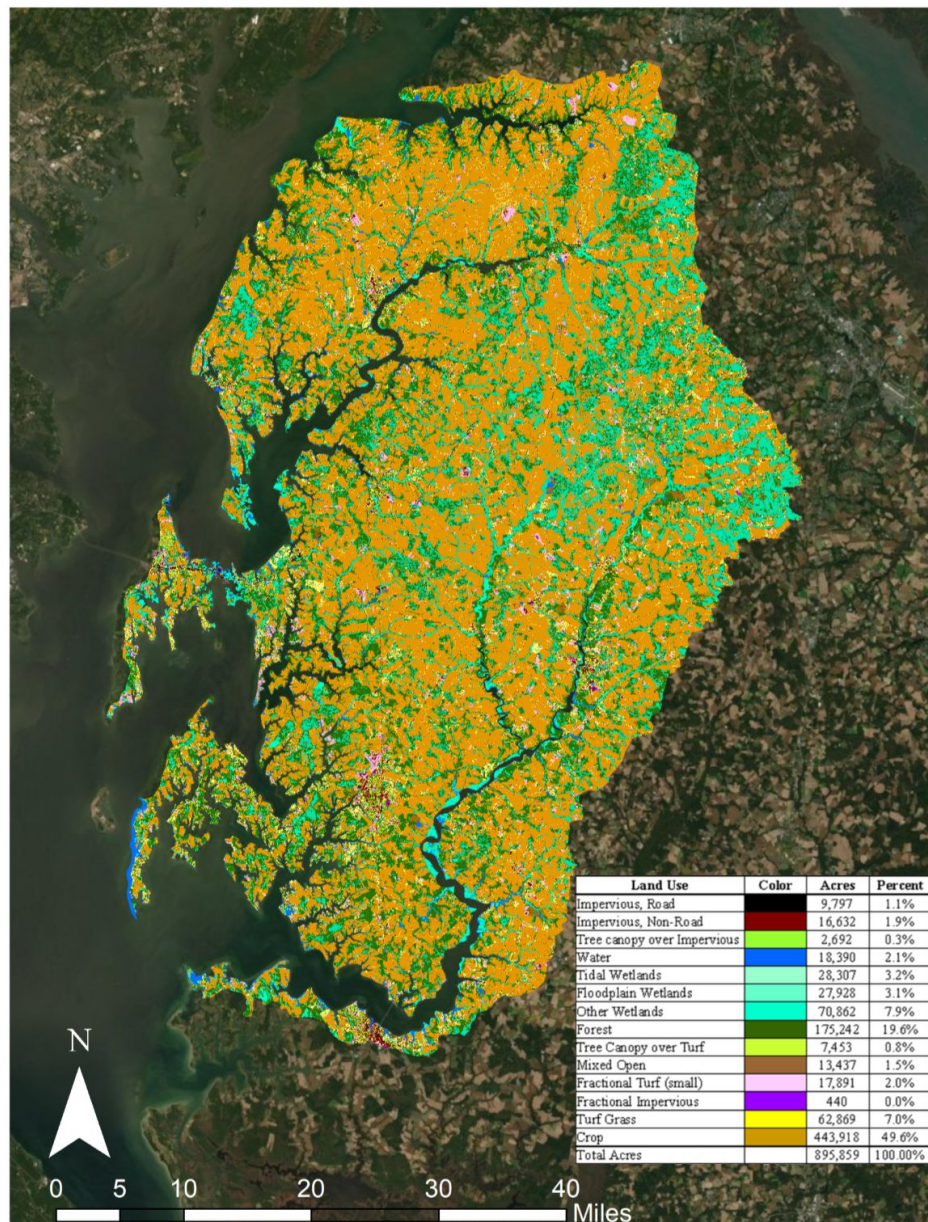
Eastern Shore Landuse and Demographics

Low Income





Eastern Shore Landuse and Demographics



Land Use Data From Chesapeake Conservancy

The dominant landuse on the Eastern Shore consists primarily of **row-crop agriculture** that produces grain for the **poultry industry**.

Forest cover remains present where farming is not feasible, however, the **increasing development pressures** threatens the remaining tree cover.

Land Use	Color	Acres	Percent
Impervious, Road		9,797	1.1%
Impervious, Non-Road		16,632	1.9%
Tree canopy over Impervious		2,692	0.3%
Water		18,390	2.1%
Tidal Wetlands		28,307	3.2%
Floodplain Wetlands		27,928	3.1%
Other Wetlands		70,862	7.9%
Forest		175,242	19.6%
Tree Canopy over Turf		7,453	0.8%
Mixed Open		13,437	1.5%
Fractional Turf (small)		17,891	2.0%
Fractional Impervious		440	0.0%
Turf Grass		62,869	7.0%
Crop		443,918	49.6%
Total Acres		895,859	100.00%



Uniqueness of the Eastern Shore

Some examples:

1. Agricultural landscape
2. Fisheries and aquatic habitat
3. Impacts from the Conowingo Dam
4. Community engagement





Agricultural landscape



Industrial-scale **row crop farming** that produces grain for the poultry industry.

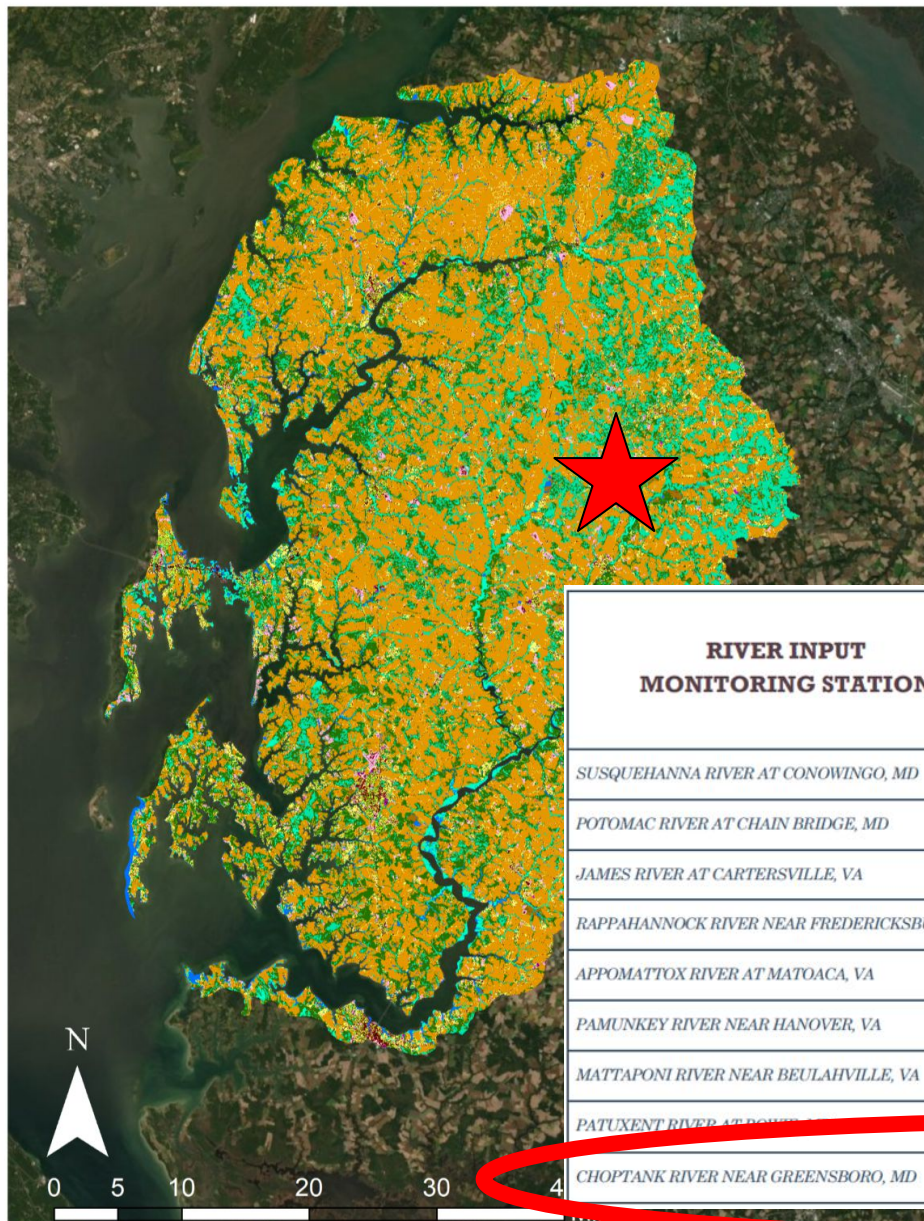


Poultry operations that create externalities in the form of manure and ammonia.



Nutrient management challenges stemming from the use of **sludge material**.

Agricultural landscape

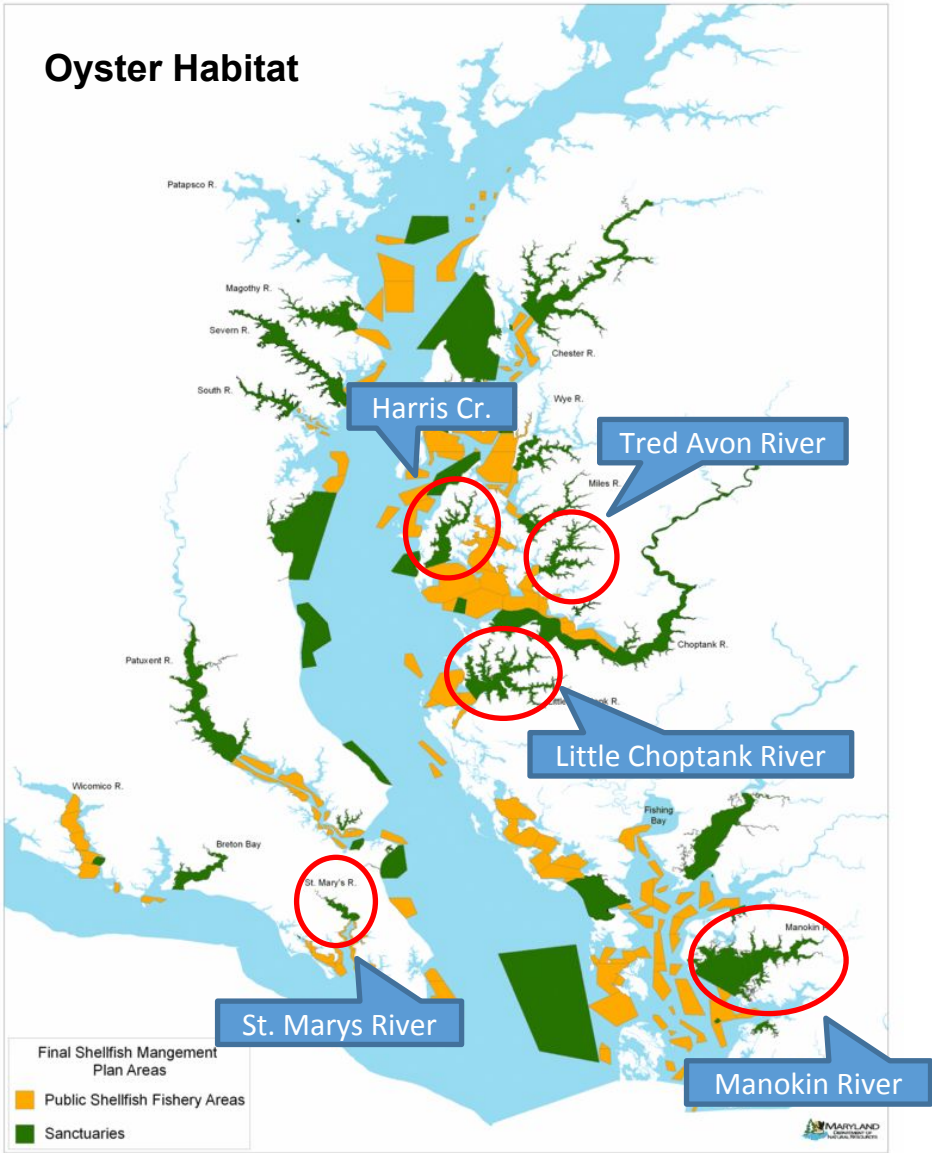


The agricultural sector's challenges with meeting nutrient reduction goals under the Bay TMDL are defined by the water quality data from the Eastern Shore.

RIVER INPUT MONITORING STATION	TOTAL NITROGEN LOAD		TOTAL PHOSPHORUS LOAD		SUSPENDED- SEDIMENT LOAD	
	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term
SUSQUEHANNA RIVER AT CONOWINGO, MD	Improving	Improving	Improving	Improving	Degrading	Improving
POTOMAC RIVER AT CHAIN BRIDGE, MD	Improving	Improving	Improving	No Trend	Improving	No Trend
JAMES RIVER AT CARTERSVILLE, VA	Improving	Improving	Improving	Improving	Degrading	Improving
RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA	Improving	Degrading	Degrading	No Trend	Degrading	Degrading
APPOMATTOX RIVER AT MATOACA, VA	Degrading	Degrading	Degrading	Degrading	Degrading	Degrading
PAMUNKEY RIVER NEAR HANOVER, VA	No Trend	Degrading	Degrading	Improving	Degrading	Improving
MATTAPONI RIVER NEAR BEULAHVILLE, VA	Improving	Degrading	No Trend	Degrading	No Trend	Degrading
PATUXENT RIVER AT POWERSVILLE, MD	Improving	Improving	Improving	Improving	Improving	Improving
CHOPTANK RIVER NEAR GREENSBORO, MD	Degrading	Degrading	Degrading	Degrading	Improving	Degrading

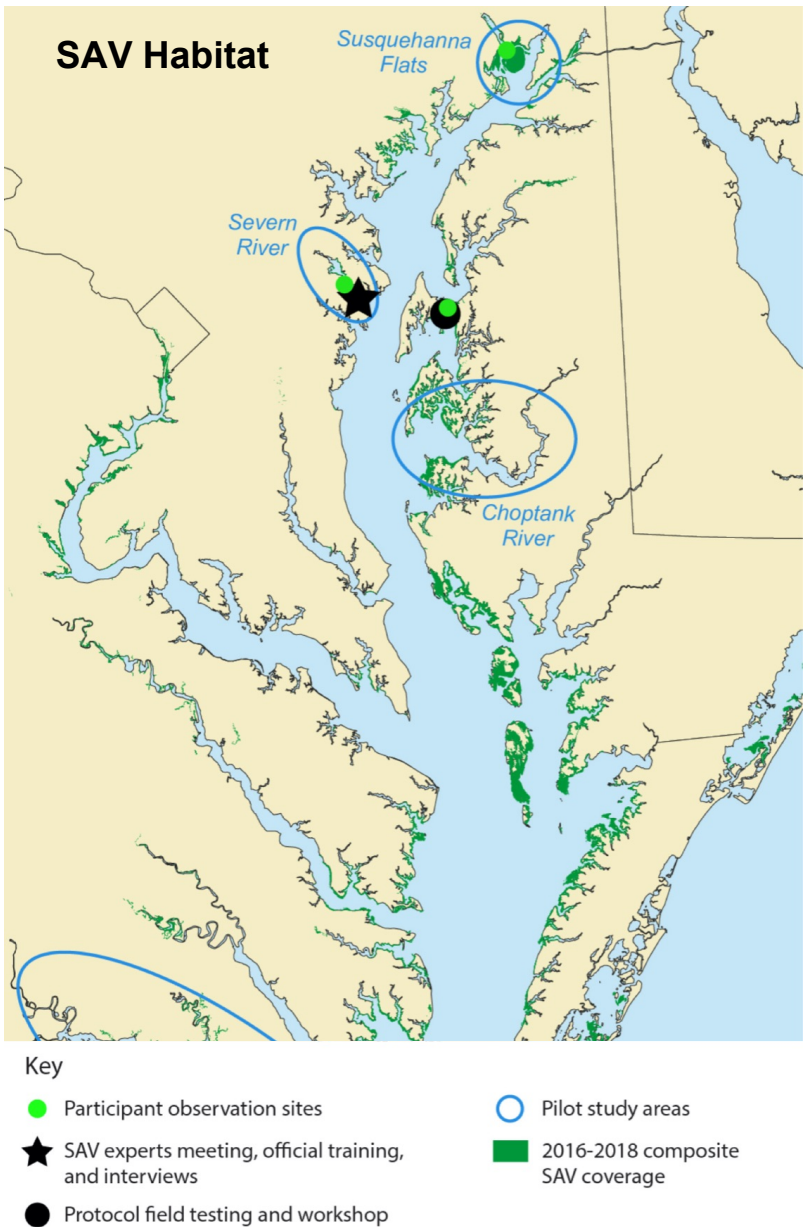
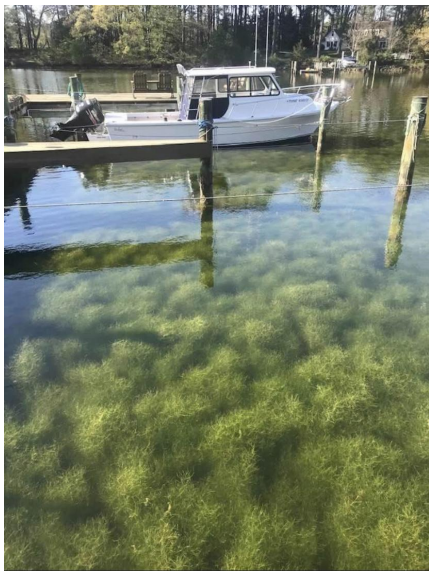


Fisheries and Aquatic Habitat





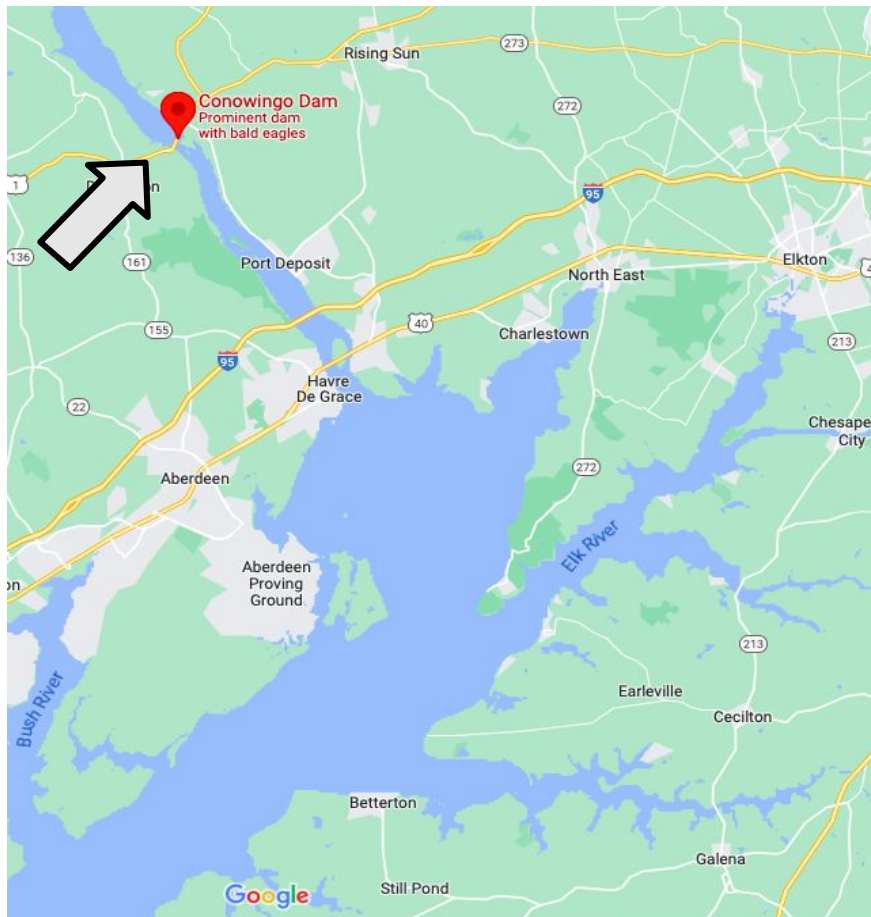
Fisheries and Aquatic Habitat





Impacts from the Conowingo Dam

Nutrients, sediments, trash, and debris buildup behind the dam are negatively impacting downstream **fisheries, habitat, recreation, and the health of the rivers** on the Eastern Shore



A **Water Quality Certification** that adequately protects the Chesapeake Bay over the next 50 years is necessary.

The operators of Conowingo Dam must contribute to the **Conowingo Watershed Implementation and Financing Plan**



Community Engagement: DEIJ

STATEMENT OF INCLUSION

ShoreRivers believes that diversity, equity, inclusion, and justice in our staff, board, supporters, and programs are critical to achieving our mission of clean water. We believe that **access** to waterways fuels environmental stewardship; **inclusion** of diverse communities is essential to long term success; and **diverse representation** in our membership, staff, and board makes us stronger.



Community Engagement: DEIJ

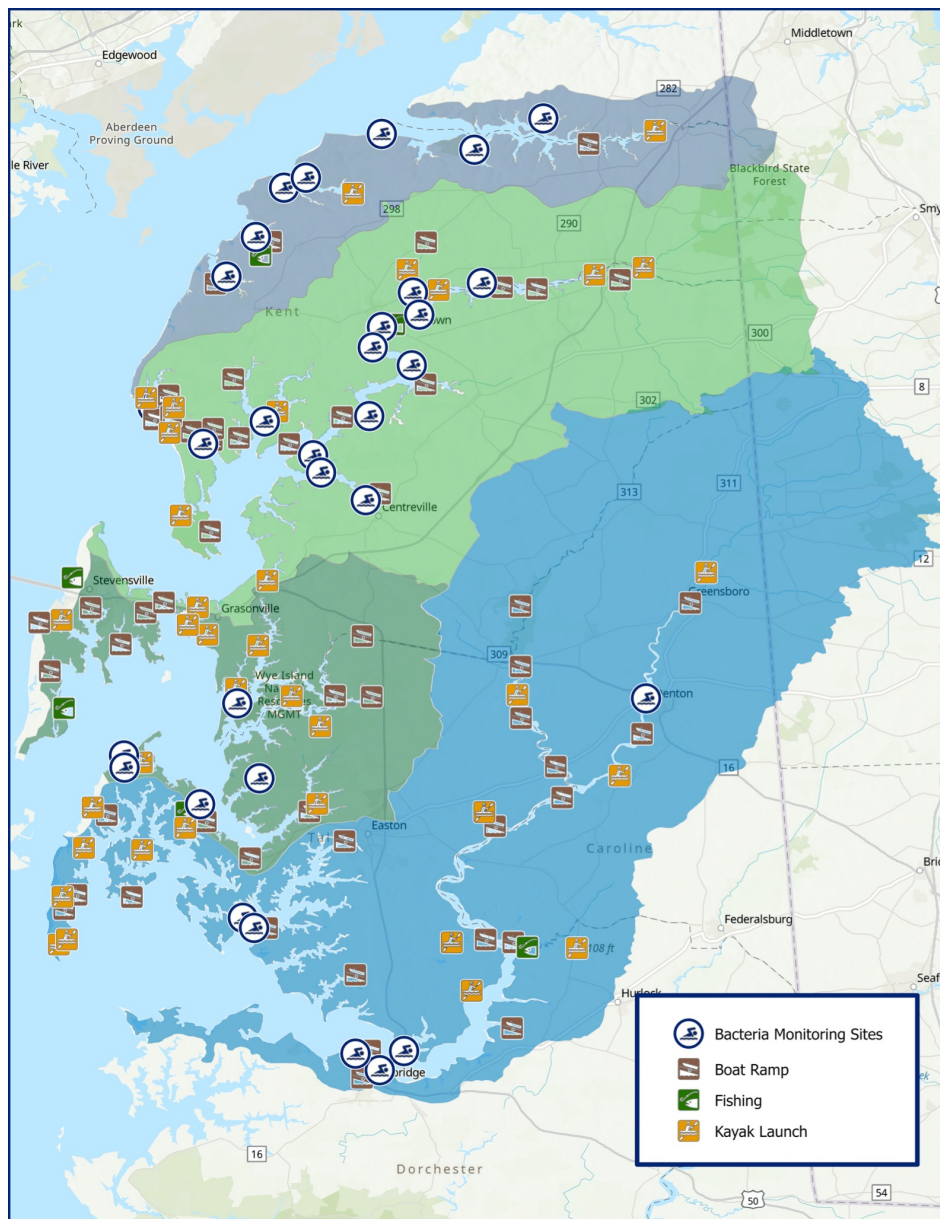




Community Engagement: DEIJ



Community Engagement: Public Access



ShoreRivers believes that **access** to rivers and streams fuels environmental stewardship.

At ShoreRivers, *access* is:

Physical: access to our waterways via public landings and beaches.

Informational: access to information about potential health risks, beach closures, and access points. Access to the ShoreRivers bacteria monitoring program, pumpout boat, and No Discharge Zones.

Regulatory: local laws and regulations support public access to waterways.

On average, the Eastern Shore rivers have **one access point for every 10 miles of shoreline.**



Action Items for the CAC



1. Diversify farming practices and operations

- Incentivize local markets
- Increase opportunities for small-scale farmers



2. Increase incentives and technical assistance for soil health practices

- Funding increases through the Farm Bill
- Create opportunities for more localized and diversified assistance
- Pay for performance of BMPs

3. Create an education pipeline for the farming industry

- New and enhanced curriculum for community colleges and universities in rural areas
- Prioritize nutrient management and water quality best management practices



Action Items for the CAC



4. Increase public access in rural areas

- Chesapeake National Recreation Area designation with a focus on the Eastern Shore
- Transitional land and areas impacted by sea level rise



5. Conowingo and the next 50 years

- A 401 Water Quality Certification that adequately address water quality challenges
- Sufficient funding for the CWIP that includes significant contributions from the operator



Thank You!



SHORE RIVERS

Working to achieve healthy waterways
across Maryland's Eastern Shore

Isabel Hardesty, Executive Director

Matt Pluta, Director of Riverkeeper Programs