

A Tale of Two Rivers

Potomac and Rio Grande

Nancy Stoner & Miguel Flores



POTOMAC RIVERKEEPER® NETWORK



WATERKEEPER® ALLIANCE



The Potomac River

380 Miles

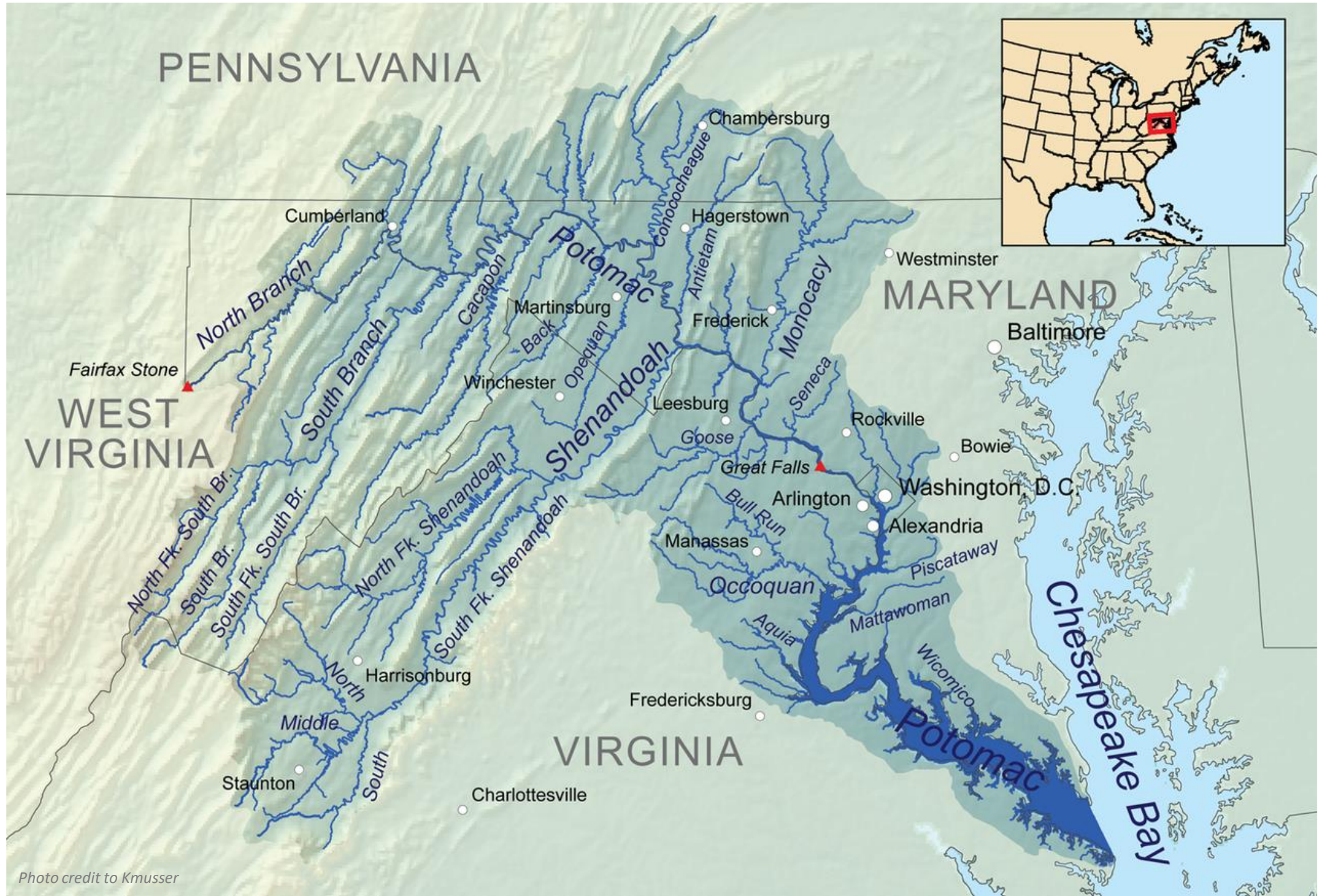
14670 sq. mile
watershed

“American
Heritage River”

Covers 4 states
and the District
of Columbia



Beautiful Potomac by Kristen Suhr



Pollution in the Potomac: A Brief History

Early 20th century – swimming beaches along Potomac

1950's-70's - untreated sewage, dead fish, trash, & massive algae outbreaks

1965 - the Potomac River declared a “National Disgrace”

1971 - DC Swim ban put into effect

1972 - the Clean Water Act passed, paving the way for restoration



Tidal basin swimming beach, 1922



Raw Sewage flowing into the Potomac River in Georgetown, 1973.

Clean Water Act

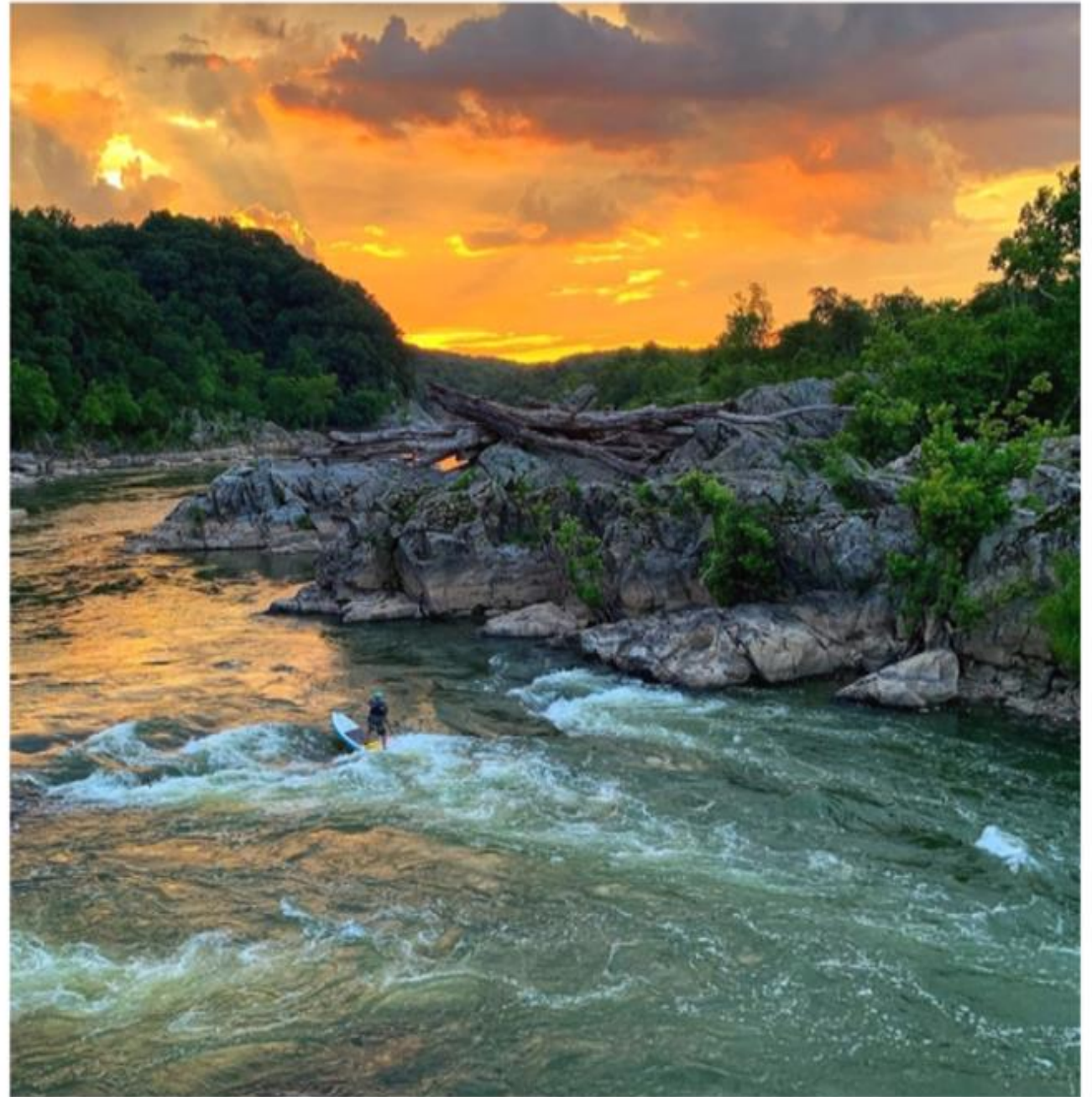
Implementation cleans up Potomac River

Construction Grants Program

NPDES industrial discharge
program

Stormwater program

Chesapeake Bay program



Potomac Gorge by Kaitlin Peterson

About The Potomac Riverkeeper Network:

Our Mission:

Protect the public's right to Clean water in the Potomac, Shenandoah, and their tributaries



Potomac Riverkeeper: A Brief History

2000 – Potomac Riverkeeper founded to create stronger advocacy for clean water

2015 – Potomac Riverkeeper Network formed

2019 – Potomac Riverkeeper Network adopts a strategic plan committing to pursue justice, equity, diversity and inclusion in its staff, board, and program



Our Approach

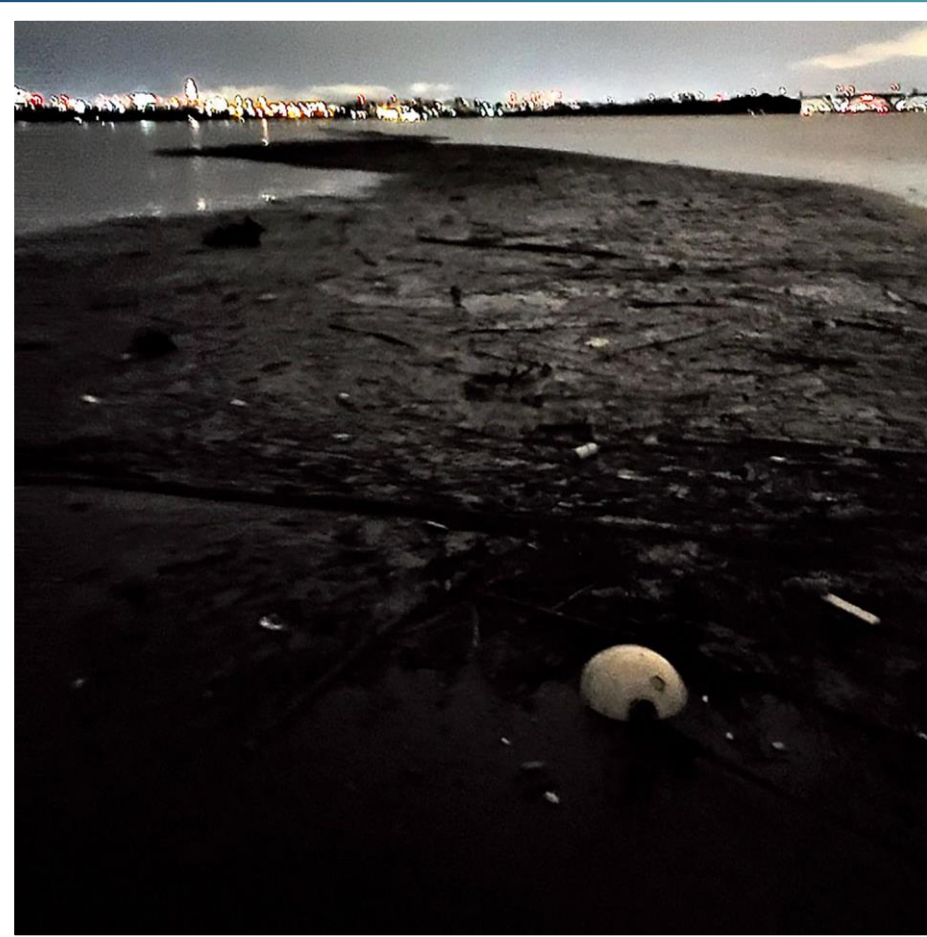
- Riverkeepers on the water and in our communities
- Voice of the river
 - Eyes and ears of the river
 - Identify and stop pollution
 - Develop cases and enforce environmental laws
 - Advocate for more protective laws
 - Use community science to gather data
 - Identify problems and solutions



Pollution in the Potomac: Stormwater & CSO's

Combined Sewer Overflows (CSO's)
discharge raw sewage
into the river

Stormwater runoff
flows untreated from
pavement into the
river



*CSO discharge - Photo by Dean Naujoks,
Potomac Riverkeeper*



Dean investigating stormwater discharge on I-66

Pollution in the Potomac: Stormwater & CSO's

Stormwater

- Regulated under federal Clean Water Act since 1987
- Very difficult to control, much less eliminate

Combined sewer overflows

- Sewer systems that overflow when it rains
- Found in Alexandria and DC
- Legacy pollution issues from infrastructure built 100 years or more ago
- CSOs can be drastically reduced with modern infrastructure investments



PRKN's Swimmable Potomac Campaign

Goal:

Potomac River to be safe for swimming

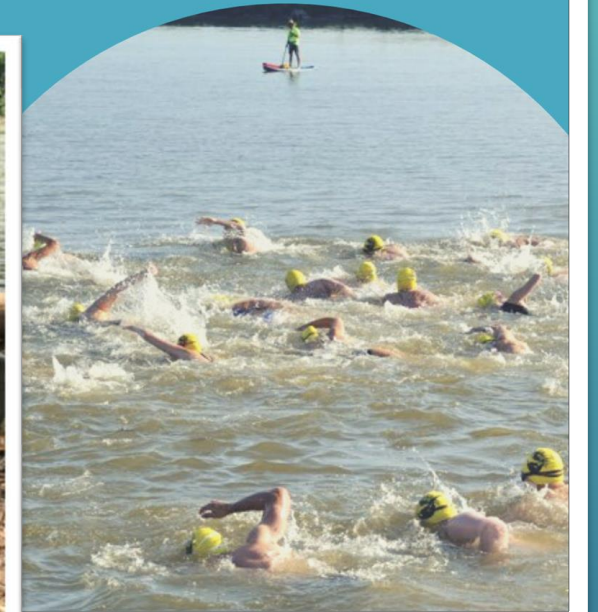
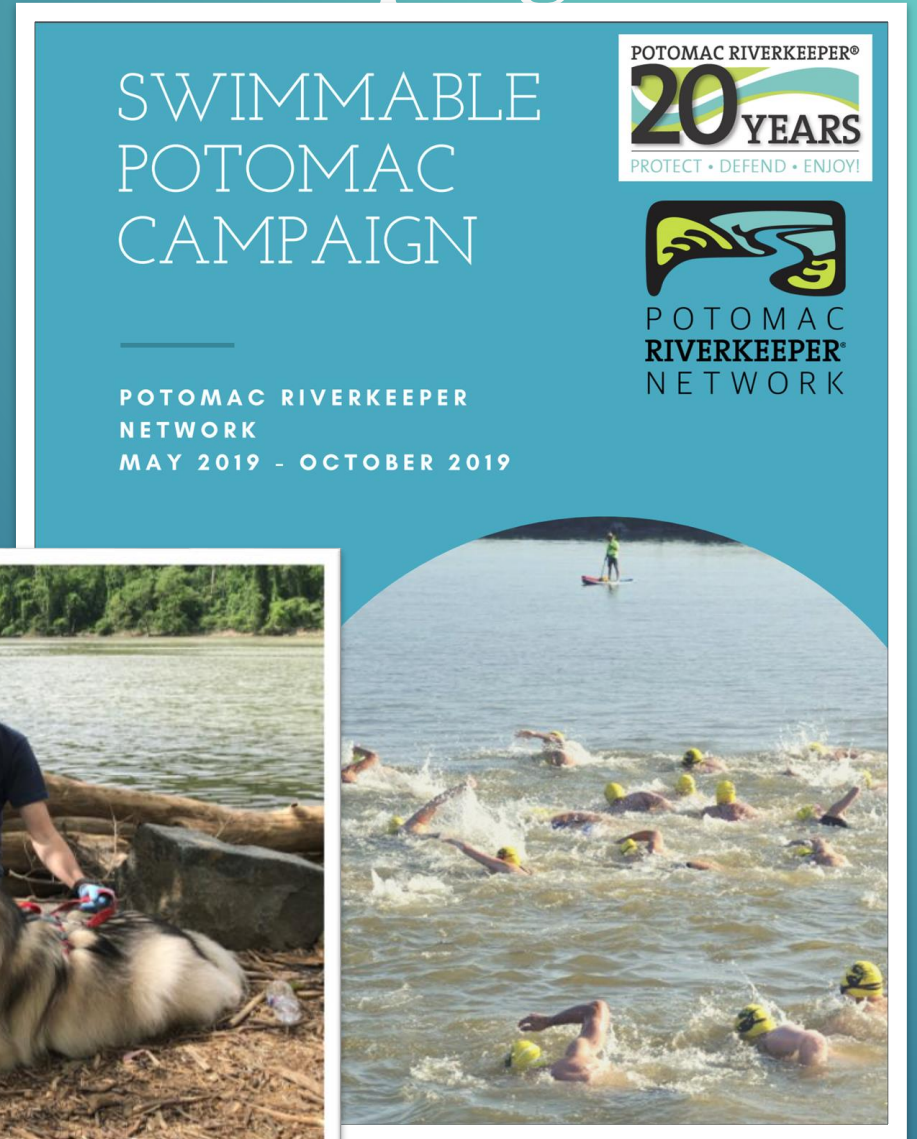
Strategy:

Water quality monitoring

- Volunteer community scientists
- Swim Guide
- Annual analysis and report

Advocacy

- To lift the swim ban in DC
- To support cost-effective investments that will improve water quality in DC and Alexandria





50 Million Mussel Project



Benefits of Mussels in the Potomac River

Mussels feed on organic matter suspended in the water column, essentially removing potentially harmful algae, bacteria and chemical compounds.

Mussels can filter up to **15 GALLONS** of water per day.



Mussels filter out pollutants **BEFORE** they reach the Chesapeake Bay.

Our Work

In 2019 we installed a mussel nursery adjacent to our floating lab, MV Sea Dog at National Harbor.



Our goal is to reintroduce **50,000,000** mussels in the Potomac River by 2030.

Did You know?



Freshwater mussels like Eastern Lamps, and Alewife floaters are among **16 SPECIES** native to the Potomac River and its Maryland tributaries, and once existed in the millions, similar to the oyster populations in the Chesapeake Bay.



Don't forget to follow us on social media!

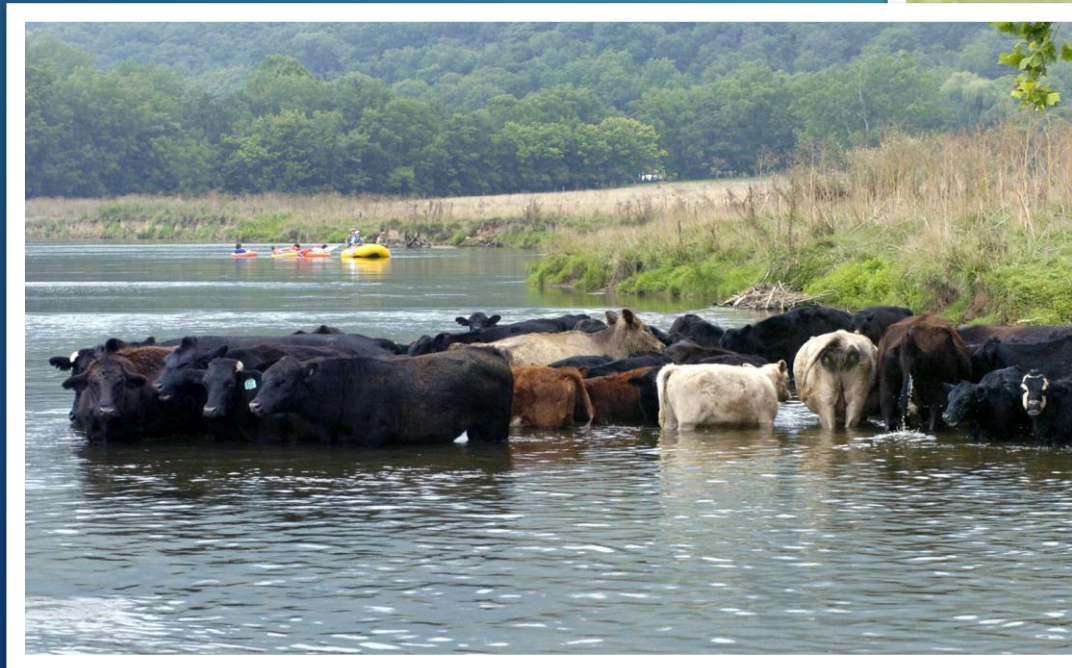
Visit our website at www.prknetwork.org for more info on this project and our other work.

Pollution in the Potomac: Agriculture

Fecal contamination of the river from animal manure leads to algal outbreaks and public health risks

Again, exacerbated by climate change-driven extreme storm events & rising temperatures

Biggest Problem in the Shenandoah



Pollution in the Potomac: Agriculture



Photo by Alan Lehman

Federal Clean Water Act generally treats as nonpoint (no discharge permit required)

State programs help to fill in gaps

- Poultry permitting
- Agricultural Stewardship Act

Cost share funding for best management practices

Respect the Shenandoah Campaign

Goal:

Eliminate nuisance algal outbreaks in the Shenandoah

Strategy:

- Public engagement
- Better controls on poultry and cattle manure
- New water quality standard for algae




Pollution in the Potomac: Coal Ash



Dominion Power Plant Ash Ponds at Possum Point

- Historically, toxic coal ash was dumped in unlined pits and allowed to contaminate both surface and groundwater
- Controls on these wastes were strengthened by Obama EPA and recently weakened by Trump EPA
- While the federal government has waffled, PRKN has worked with VA and MD to put controls in place to protect the rivers


Pollution in the Potomac: PFAS



UPPER POTOMAC
RIVERKEEPER

How are we exposed to PFAS chemicals?

- Drinking water – EPA guidance level for public systems
- Food products – milk, beef, seafood, vegetables
- Packaging of food products
- Cookware
- Household dust
- Direct exposure – AFFF



PFAS

Fire fighting foams
Pesticides and herbicides
Fast food packaging
Personal care products
Paints
Photographic processes
Stain resistant products
Mist suppressant in metal plating industry
Aviation hydraulic fluids
Non-stick cookware
Floor polishes
Mining and oil well surfactants

source: Australian Department of Defence

- PFAS is not yet regulated at the federal level and the states in our watershed have not yet set regulatory standards
- PFAS levels have been found to be high in Martinsburg, WV, and in the St. Mary's River in MD
- PRKN did its own study in Antietam Creek and found high levels in the water and fish

Pollution in the Potomac: Toxins

Our strategy

Assess the extent and sources of toxic pollution

Hold Polluters Accountable:

- Strengthen and then enforce source control and clean up requirements
- Undertake Compliance Sweeps, Tiered Letters, & Litigation



Dean investigating Morgantown Power Plant by Boat

A River on the Rebound

Due to PRKN's work and those of many allies, things have improved since the 1950's & 60's.

Many places along the river are safe for contact and recreation, and wildlife is thriving.

However, we still have a long way to go.

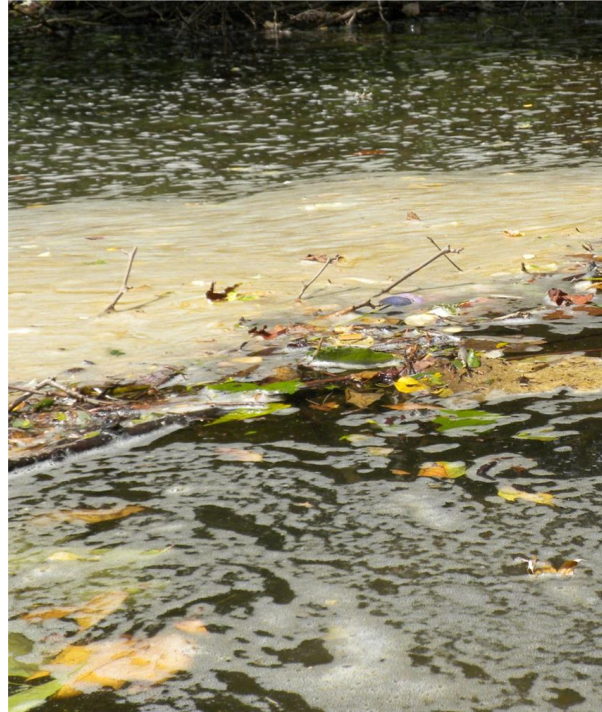
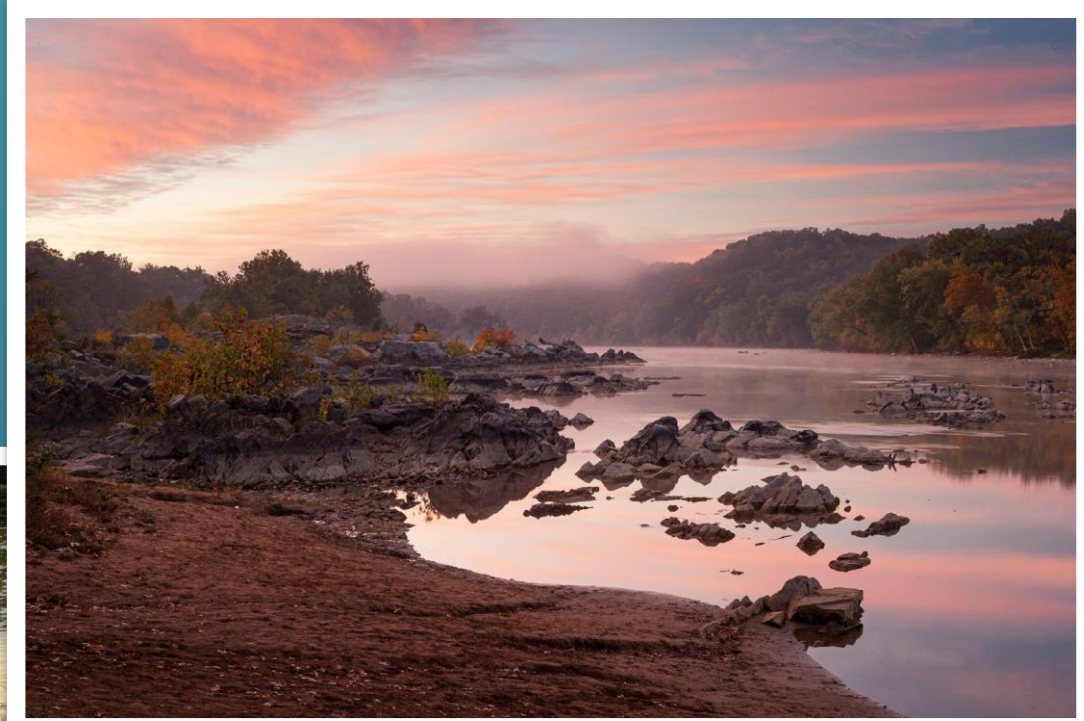


Photo Courtesy Roy Sewell

Get Involved!

Attend an Event:

RiverPalooza

- Tubing, fishing, rafting, kayaking and more

RioPalooza

¡Acompáñanos!

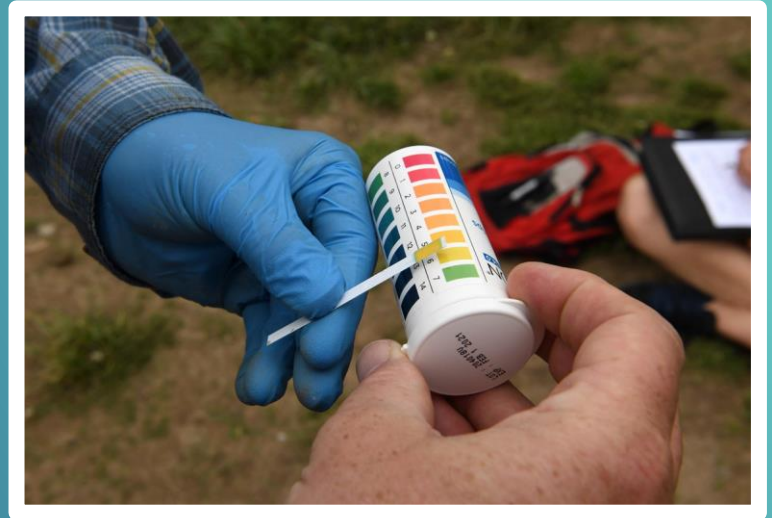
- Dual language
- Fishing, tubing, snorkeling, games
- Performance by Latin Grammy winning artist, Mr. G



Get Involved!

Volunteer:

Water Quality Monitoring
Stream Clean up
Rapid response





The Potomac Watershed: *It is worth saving*



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Photo Credit to Robin Kent