Strategic Plan for Lowering Anacostia Sewage, Sediments, and Hazards

"SPLASH"

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Group 4
April 8th 2026

AGENDA

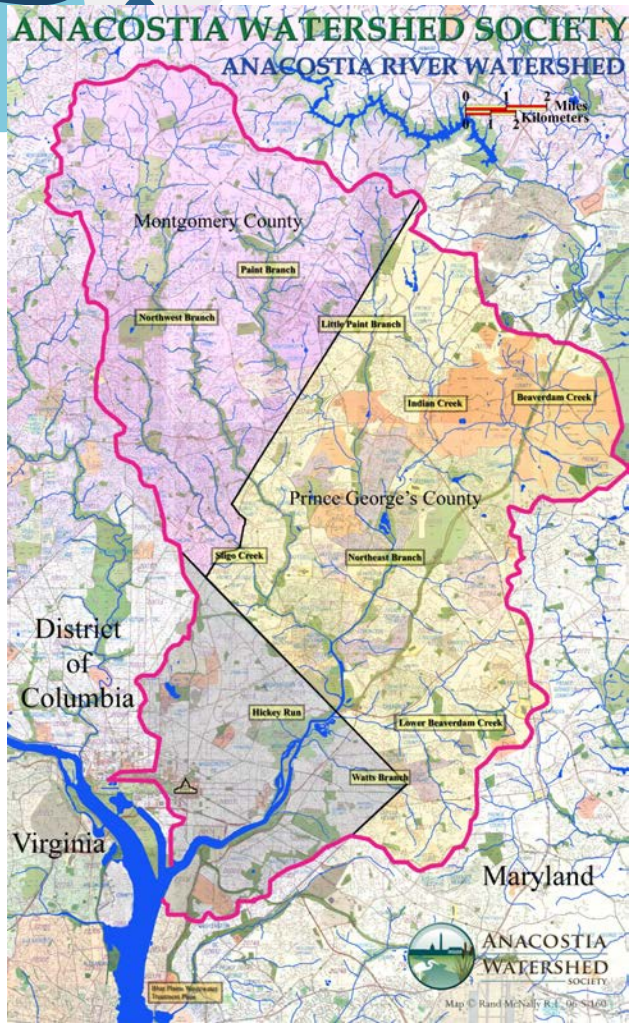
1. Mission
2. Background
3. History
4. Governance
5. GIS Mapping
6. Problems
7. Goals
8. Economics & Investments
9. Conclusions

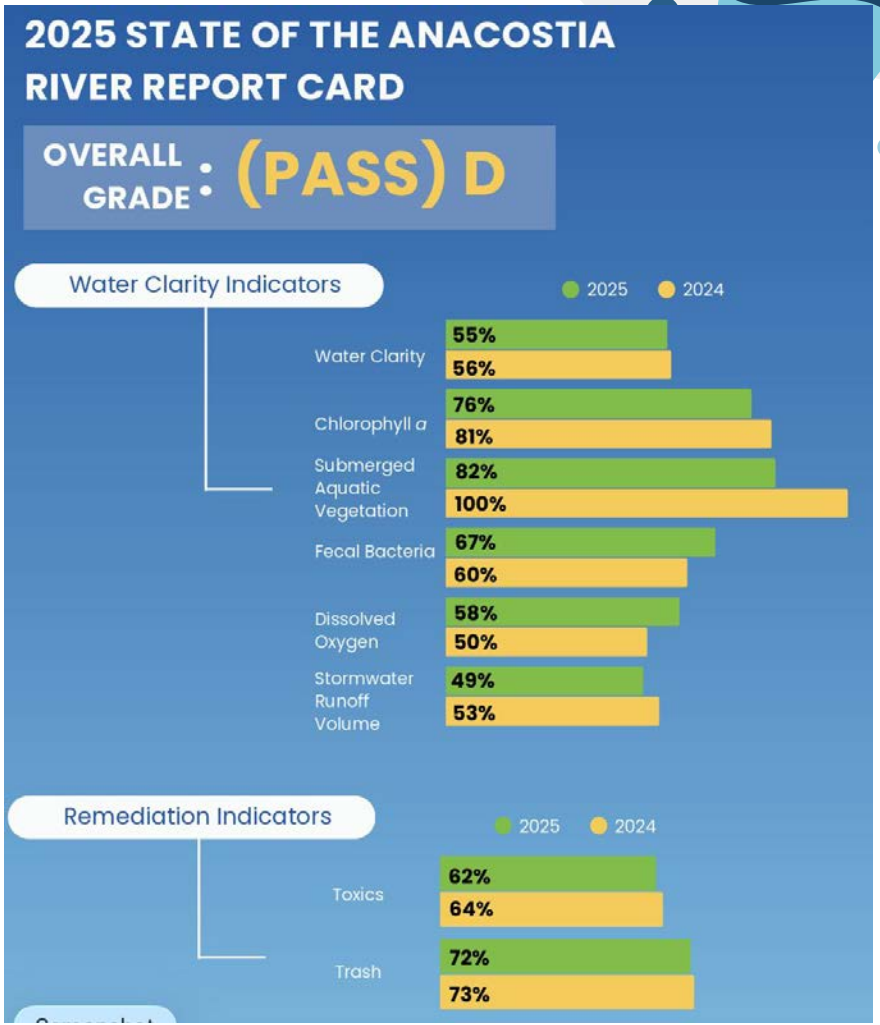
MISSION

The mission of the SPLASH initiative is to analyze the human and industrial impact on the Anacostia River and develop strategies to address the discovered issues

BACKGROUND

- Located in Maryland and Washington DC, eventually emptying into the Potomac River
- Has a long history of industrialization and manufacturing, leading to heavy pollution
- Lost over 6,500 acres of wetland and 70% of its forest cover
- Net area of 176 sq. miles
- Supplies drinking water to the Eastern half of Washington DC,
  - Over 800,000 permanent residents
  - 43 species of fish
  - 200 species of birds


ANACOSTIA WATERSHED SOCIETY
ANACOSTIA RIVER WATERSHED
Miles
Kilometers
Montgomery County
Paint Branch
Northwest Branch
Little Paint Branch
Indian Creek
Beaverdam Creek
Prince George's County
Sligo Creek
Northeast Branch
District of Columbia
Hickey Run
Lower Beaverdam Creek
Watts Branch
Virginia
Maryland
ANACOSTIA WATERSHED SOCIETY


2025 STATE OF THE ANACOSTIA RIVER REPORT CARD
OVERALL GRADE: (PASS) D
Water Clarity Indicators
2025
2024
Water Clarity
55%
56%
Chlorophyll a
76%
81%
Submerged Aquatic Vegetation
82%
100%
Fecal Bacteria
67%
60%
Dissolved Oxygen
58%
50%
Stormwater Runoff Volume
49%
53%
Remediation Indicators
2025
2024
Toxics
62%
64%
Trash
72%
73%

HISTORY

- Settled by the Nacotchtank people, renamed the Anacostine by European settlers
- First recorded by Capt. John Smith in 1608, believing it to be a tributary of the Potomac
- Washington City Canal operated from 1815-1850, providing a connection from DC to the Chesapeake and Ohio Canal
  - Fell into disuse around the turn of the century, later filled in
  - Provided a initial source of pollution
- Pollution spiked during the Civil War
  - Trees were levelled to build forts
  - All waste went into the river
- Anacostia Water Society (AWS) sued the DC Water Authority over sewage and runoff issues in 2010

GOVERNANCE

- The Anacostia Watershed Restoration Partnership (AWRP) - 2006
  - Metropolitan Washington Council of Governments (COG) hosts steering, management, and community advisory committees
  - Live dashboard
- The Anacostia Accord - 2016
  - “Celebrate Progress, Increase Collaboration, Inspire Community”
  - DC, Montgomery, and Prince George’s counties, MD

Anacostia River Accord

Celebrate Progress • Increase Collaboration • Inspire Community

As elected officials in the Washington Metropolitan Area and as stewards of the Anacostia River Watershed, we recognize that the Anacostia River provides vital environmental, economic, and social benefits to the citizens within our communities. We also recognize that the presence of trash in the Anacostia and its tributaries diminishes these benefits. Trash in the Anacostia must be removed and ultimately controlled at its source to make the Anacostia cleaner and safer.

Since the Potomac River Watershed Trash Treaty was signed in March 2005, we have made much progress toward the goal of a Trash Free Potomac Watershed. The Anacostia was the first interstate river in the nation to be assigned a trash limit under the Clean Water Act. The District of Columbia, Montgomery County, and Prince George's County have all been working to implement programs to achieve a clean Anacostia River aimed at reducing trash at its source. We have passed laws banning polystyrene, a material that comprises much of the litter found in our waterways. We have encouraged our residents to use re-usable shopping bags to reduce plastic bags in our communities and waterways. We have installed innovative technologies to help capture and remove litter from our waterways. We have conducted programs to raise public awareness of trash and litter issues. We have strong recycling programs.

Despite our progress, we still have much to accomplish to achieve our vision of a trash free Anacostia. We have a responsibility to ensure that the Anacostia, and all our waterways, are not polluted by any material that renders them unsightly, creates a nuisance, or impairs any designated use.

In order to fulfill this objective, the District of Columbia, Montgomery County, and Prince George's County pledge to continue to work as partners to clean up the Anacostia River. We will work together to advance local and regional trash reduction strategies. We also pledge to work in close collaboration with regional leaders, businesses, government agencies, nonprofits, communities, and the public to develop innovative solutions and achieve our goal of a trash free Anacostia River. This work will be done through programs that reduce litter at its source, promote green infrastructure implementation, educate our residents about the dangers of litter, and vigorous enforcement of anti-trash measures. The jurisdictions will continue working together to evaluate trash reduction measures and actions.

We, the elected officials of the Anacostia River Watershed, sign this agreement on this the Thirteenth Day of October in the year Two Thousand and Sixteen.

FOUNDING SIGNERS:

ISIAH LEGGETT
County Executive, Montgomery County

RUSHERN L. BAKER III
County Executive, Prince George's County

MURIEL BOWSER
Mayor, District of Columbia

- Anacostia Watershed Society (Conservation + Outreach) - 1989
  - Small-scale conservation projects
  - Public education programs
- Anacostia Riverkeeper (Outreach + Watchdog Advocacy) - 2008
  - Part of the Waterkeeper Alliance

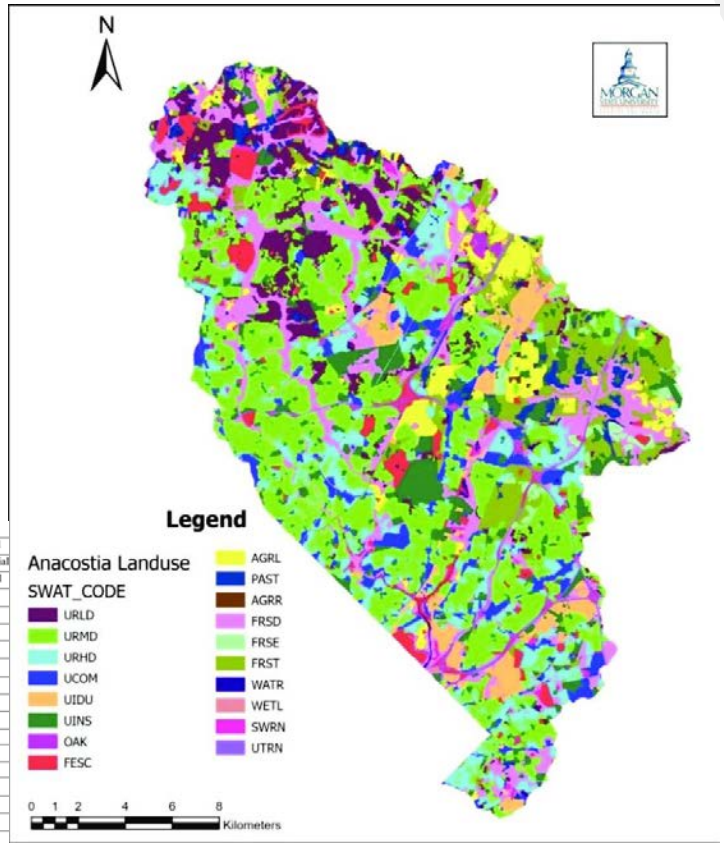
ANACOSTIA WATERSHED SOCIETY

PROTECT | RESTORE | CONNECT
DC | MD

GIS MAPPING

- Streamstats statistics
  - Basin Area - 174 mi^2 (subbasin)
  - 35.5% Impervious cover (high)
    - (Stream degradation occurs beyond 10-20%)
  - 19.4% forest cover (low)
    - (Reflects Huge habitat loss)
- Land use map shows high Urban Development

LU - Code	SWAT Code	Description
11	URLD	Low-density residential
12	URMD	Medium-density residential
13	URHD	High-density residential
14	UCOM	Commercial
15	UIDU	Industrial
16	UINS	Institutional
17	OAK	Extractive
18	FESC	Open urban land
21	AGRL	Cropland
22	PAST	Pasture
25	AGRR	Row Crops
41	FRSD	Deciduous forest
42	FRSE	Evergreen forest
43	FRST	Mixed Forest
50	WATR	Water
60	WETL	Wetlands
73	SWRN	Bare ground
80	UTRN	Transportation



PROBLEMS

- Toxic Pollution from Industrial and Agricultural sites
  - PCB's, PAH's, Heavy metals, Doxins, Pesticides, and other volatile organic compounds (VOC's)
- Combined Sewer outflows (CSO's)
  - Both stormwater and sewage drain into the anacostia during heavy rainfall events
- Habitat loss due to urbanization
  - The Anacostia has lost 70% of its forest cover
  - Causes various issues due to runoff and decreased biodiversity

GOALS

1 - Reduce Toxic pollution

2 - Reduce CSO pollutants

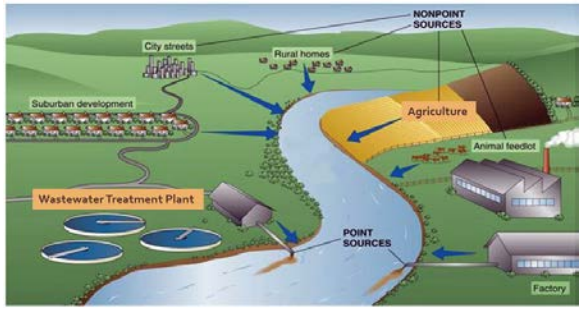
3 - Manage Habitat loss

GOAL 1 - Reduce Toxic Pollution

Objective: Reduce the toxic pollution in the Anacostia by 50% over the course of the plan

Past actions:

- Direct water treatment
- Lawsuits against the federal government
- CSO mitigation (next slide)



Recommended actions:

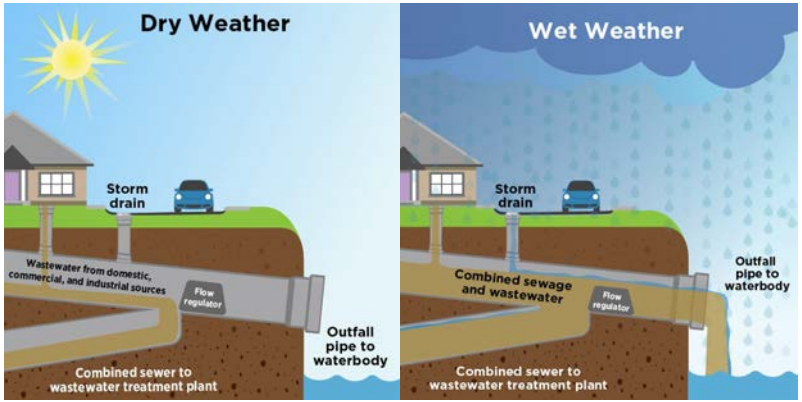
- Regulatory focus on diffuse contamination upstream
- New federal legislation to make provisions for PFAS and other forever chemicals
- Expand buffers, wetlands, and other natural water filtration methods
    - Bioremediation stimulates natural microbes that break down PCBs and PAHs
- Promoting sustainable agriculture (upstream)

GOAL 2 - Reduce CSO Pollutants

Objective: Reduce the harmful bacteria resulting from CSO by 75%

Past actions:

- Restoring dilapidated sewage systems



Recommended actions:

- Integrated planning
  - Smart sewers
  - Developing green and grey infrastructure
- Real-time notification systems
- Advanced warning system

GOAL 3 - Manage Habitat Loss

Losing habitats increases water velocity, water temperature, and susceptibility to drought

Targeted actions:

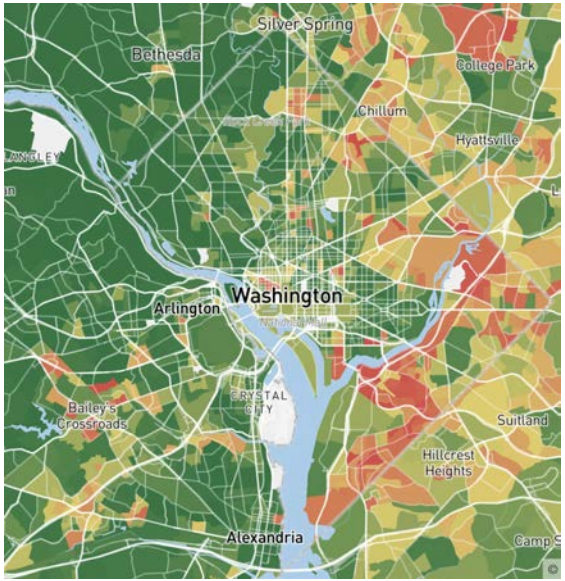
- Add buffer zones to the river shoreline
- Remove non-essential dams
- Restore rivers with the EPA and Fish & Wildlife Services

Measurable success:

- Restore 200–500 acres of wetlands
- Increase riparian buffer coverage by 30%
- Achieve continuous habitat corridors along major tributaries within 15–20 years

ECONOMICS & INVESTMENTS

1. Mussel Restoration (AWS)
    - NFWS $33,000 grant in 2018
    - DC DOEE $400,000 grant in 2019 for continuation
2. DC Clean Rivers Project
    - Anacostia River Tunnel completed 2023
    - $580 m / $2.99 b Clean Rivers Project
    - 98% reduction of CSOs
3. Wetland Restoration
    - DC DOEE projects (>57 acres)
    - AWS projects (>12 acres)
    - Riparian Meadow Restoration



Every dollar invested in the Anacostia returns $6 to the community

enjoytheanacostia.org

CONCLUSIONS

- The Anacostia is an important river with a long history of pollution and exploitation
- Urban/rural watersheds are uniquely susceptible to toxic contamination due to “compounding effect” and require even better coordination to manage
- Replacing CSO system is effective for reducing bacterial contamination, but not the only source
- Managing habitat loss, especially in developing urban areas, is key to repairing watershed health
- Live dashboard hosted by the COG is a great resource for residents and NGOs

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