Public Community Meeting on the Anacostia River

with a special presentation on the

Anacostia River Sediment Project

April 24, 2018

@doee_dc

Agenda

7:00	Registration and Open House (Tables)
7:10	Welcome (Director Tommy Wells, District Department of Energy & Environment - DOEE)
7:15	Meeting Goals (Pastor Kitchen, Zion Baptist of Eastland Gardens)
7:20	Description of Tables (Jim Foster, AWS)
7:25	The Anacostia River: Past and Present (Richard Jackson, Deputy Director, DOEE)
7:45	Anacostia River Sediment Project (ARSP) Risk Assessments (June Mire, Tetra Tech on behalf of DOEE)
8:00	ARSP Schedule and How To Comment on ARSP Documents (Gretchen Mikeska, Anacostia Coordinator, DOEE)
8:10	Q & A (Justin Lini, ANC7D07)
8:30	Open House (Tables)
9:00	Adjourn (Pastor Kitchen, Zion Baptist of Eastland Gardens)

Tweeting?

#AnacostiaRiver

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#ARSP0418

Goals

- Learn about the Anacostia River Sediment Project (ARSP)
- Provide Public Comments to recently released ARSP Reports
- Discover recreational opportunities along the Anacostia River

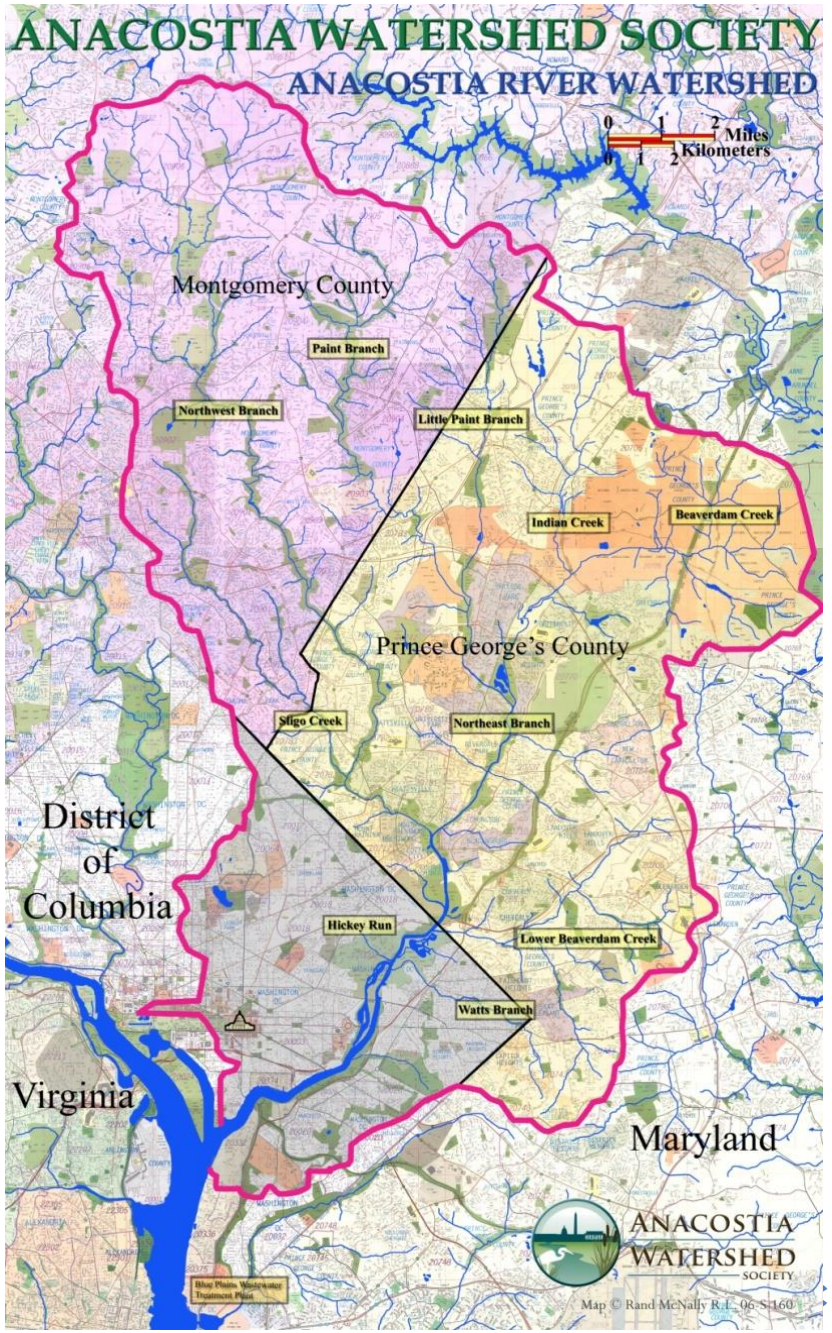
Tables

- Alice Ferguson Foundation: Trash in the Anacostia Watershed
- Anacostia Park and Community Collaborative and Anacostia Waterfront Trust: Year of the Anacostia
- Anacostia Riverkeeper
- Anacostia Watershed Restoration Partnership (MWCOG)
- Anacostia Watershed Society
- DOEE: Anacostia River Sediment Project and Anacostia River Use Survey
- DC Water: Anacostia River Tunnel and Green Infrastructure Projects
- National Park Service: 100 year Anniversary of Anacostia Park

What are the current river conditions?

Anacostia River Watershed

The Anacostia watershed encompasses over 175 mi² within suburban Maryland and DC.



History

Native Americans

- Anacostia watershed was a thriving center of Native American culture (Nacotchtanks) in the early 1600s.

Agriculture

- Development of agriculture in 1680 was the first major change to come to the River. Tobacco became profitable. Nacotchtanks were expelled from the area.

Port of Bladensburg

- Primary seaport for Washington was located in Bladensburg due to its deep natural channel.

Deep channel

- The deep channel and James Bay was one of the main reasons the site was chosen for the Nation's capitol.

Sedimentation

- Due to agriculture, sediments entered the river and filled in the natural channel.

Sewage and runoff

- By 1865, gutters and sewers moved waste and street runoff directly to streams and rivers.

Decades of River Pollution

- Bacteria
- Trash
- Sediment
- Sewage

Why did this happen?

Past Waste Disposal Practices

- Industrial Direct Discharges
- Storm Sewers/Combined Sewers
- Agricultural Chemical Use
- Landfills
- Illegal Dumping

Anacostia Unique Challenges

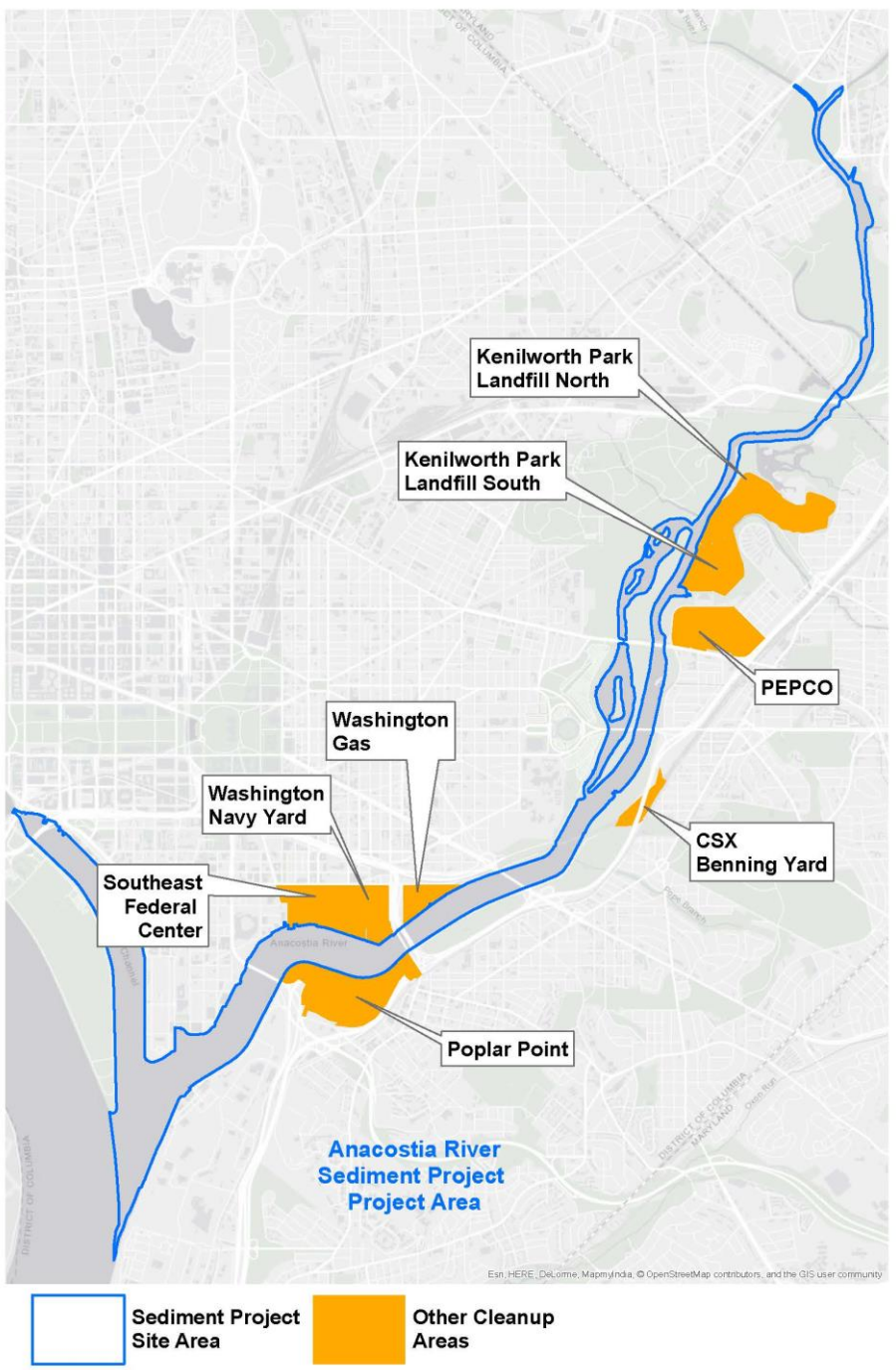
- Urban River - What is Background?
- Remediation Goals - What is Clean?
- Small Watershed - Not Enough Water
- Potential for Recontamination
- Multiple Consent Orders
- National Park Requirements
- Limited Space for Handling Dredge Spoils

What are we doing now?

Anacostia River Sediment Project (ARSP)

ARSP Project Study Area

- Tidal Anacostia River *(9 miles)*
- Kingman Lake *(1.8 miles)*
- Washington Channel *(0.2 miles)*
- 14 Potential Environmental Cleanup Sites



Remedial Investigation Objectives

- **Determine extent:**
  Determine extent of contamination (surface water, sediment, biota)
- **Characterize risks**:
  Characterize site to evaluate human health and ecological risks
- **Assess clean up options:**
  Utilize data to support a Feasibility Study that assesses clean up options
- **Support other studies:**
  Provide information to support a Natural Resources Damage Assessment

Sources of Contamination: **Past Waste Disposal Practices**

- Industrial Direct Discharges
- Storm Sewers (MS4s)
- Combined Sewer Overflows
- Agricultural Chemical Use
- Landfills
- Illegal Dumping
- Contaminated Groundwater

Sources of Contamination: Ongoing Sources

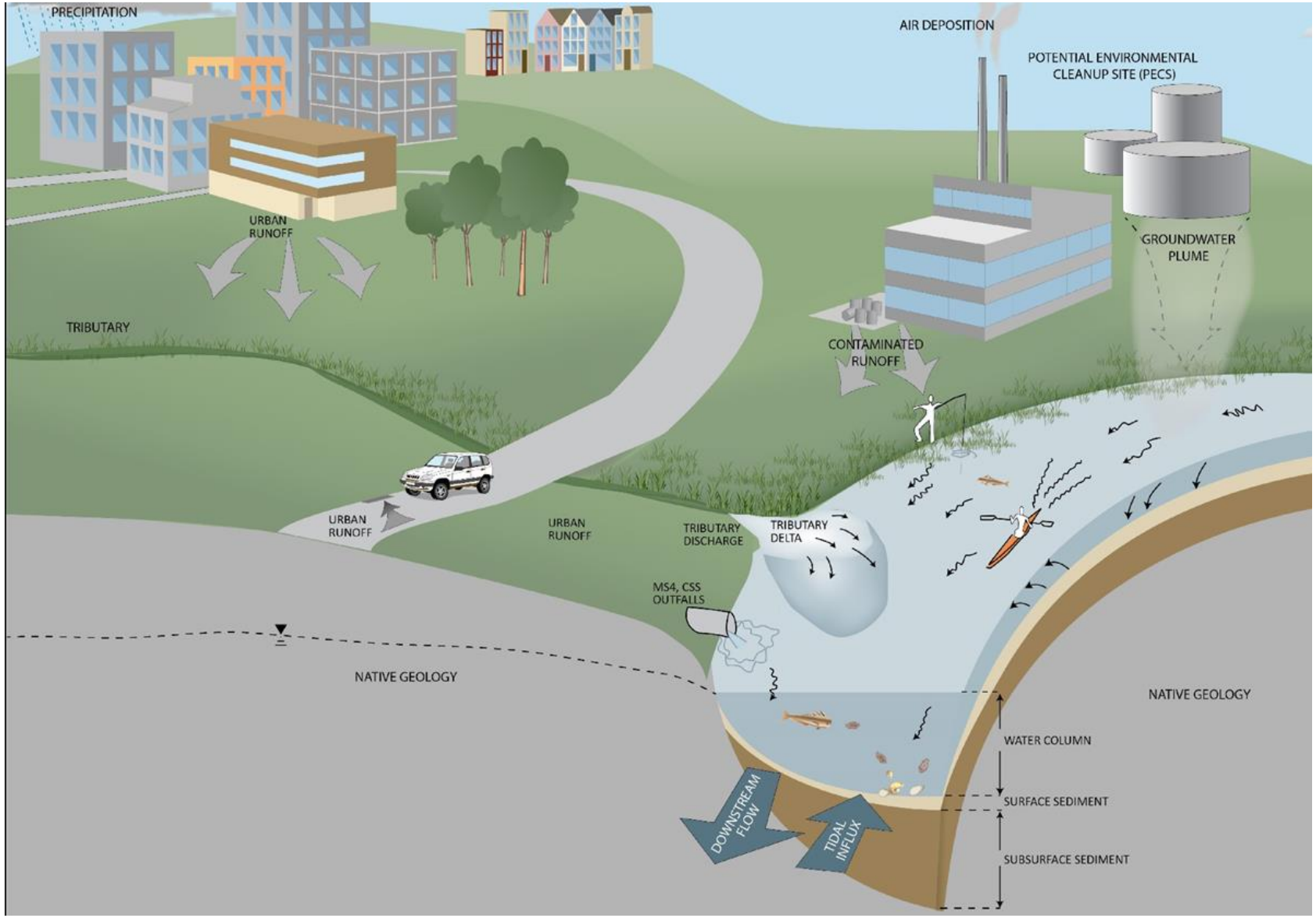
- Storm Sewers (MS4s)
- Upstream Contamination from Tributaries*
- Contaminated Groundwater*
- 14 Potential Environmental Cleanup Sites*
- Combined Sewer Overflows**
- Agricultural and Urban Runoff

** Studies ongoing*

***DC Water's Anacostia River Tunnel online March 2018*

Potential Risk to People

Conceptual Site Model (Diagram)



Sediment Transport Symbols

Deposition

Resuspension

Suspended transport


Human Health Risk
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Human Health Risk

- **Chemicals of Concern**
  Polychlorinated Biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), dioxin, pesticides, and metals

- **Media of Concern**
  Surface sediment, surface water, fish tissue

- **Receptors**
  Waders, swimmers, anglers, shoreline workers

- **Potential avenues for exposure**
  Incidental ingestion of and dermal contact with sediment and surface water, eating (fish)

Anacostia River – Site Features and Human Health Exposure Areas

Legend

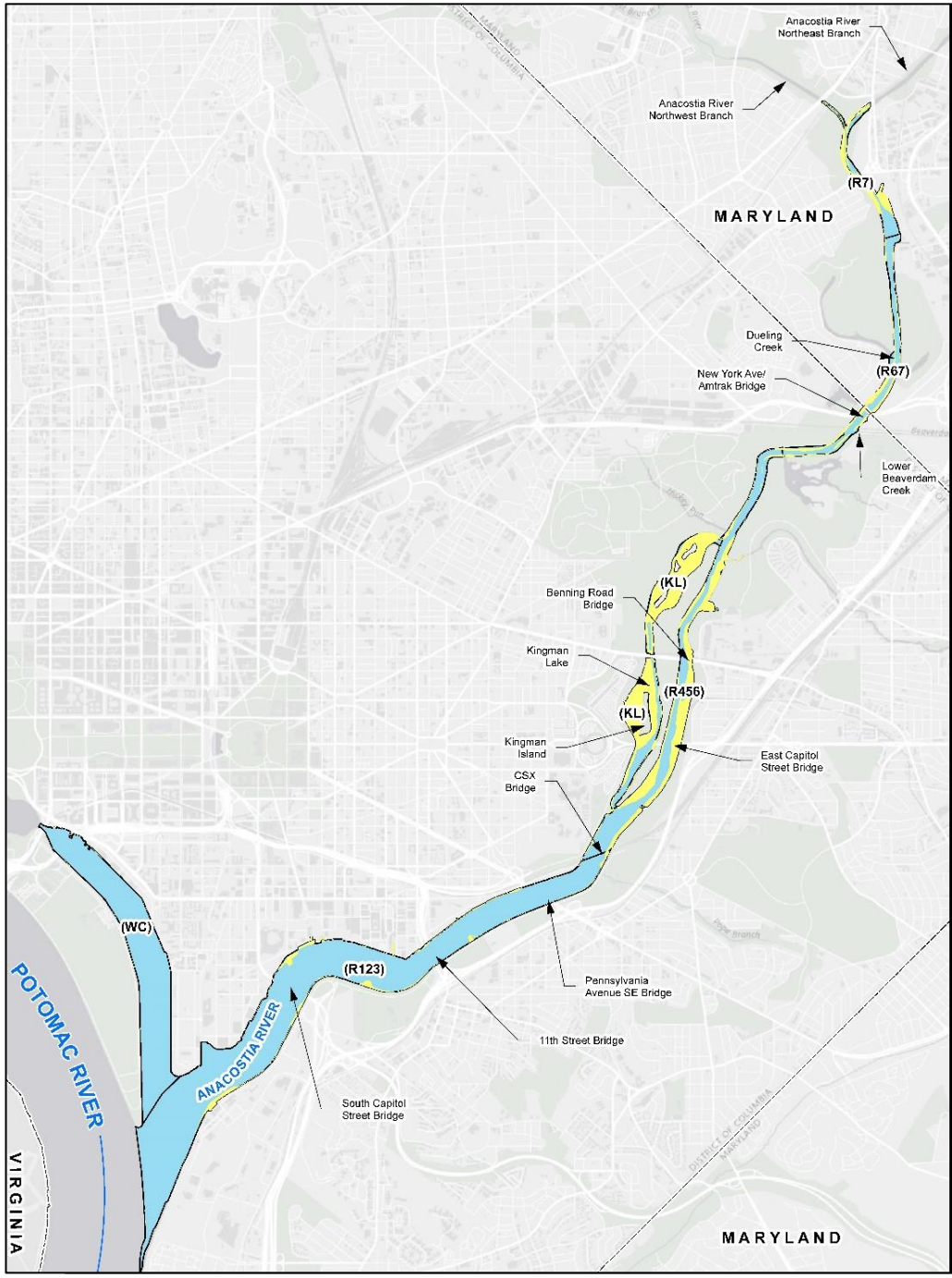
- FRINGE SEDIMENT - LOW TIDE MINUS ONE FOOT
- RIVER REACH
- WASHINGTON DC BOUNDARY

Legend

- CLEANUP SITE BOUNDARY (LAND BASED PORTION)
- SEDIMENT STUDY AREA
- WASHINGTON DC BOUNDARY

RIVER REACH

- (WC) - WASHINGTON CHANNEL
- (R123) - CSX BRIDGE TO MOUTH OF RIVER
- (R456) - NASH RUN TO CSX BRIDGE
- (R67) - BLADENSBURG MARINA TO NASH RUN
- (R7) - UPPER TIDAL LIMIT TO BLADENSBURG MARINA
- (KL) - KINGMAN LAKE



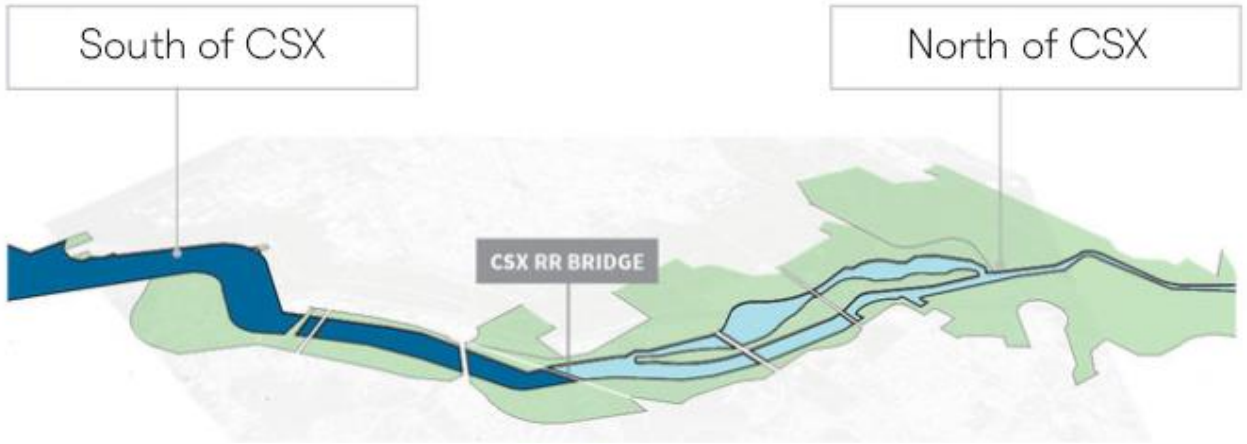
Human Health Risk Results

Sediment

- Risk from PCBs, dioxin, PAHs, and metals to waders, swimmers, anglers, and shoreline workers in the majority of the river except as noted below
- Risk less than 1 in 1 million in Washington Channel and the Anacostia River north of Bladensburg Waterfront Park

Surface Water

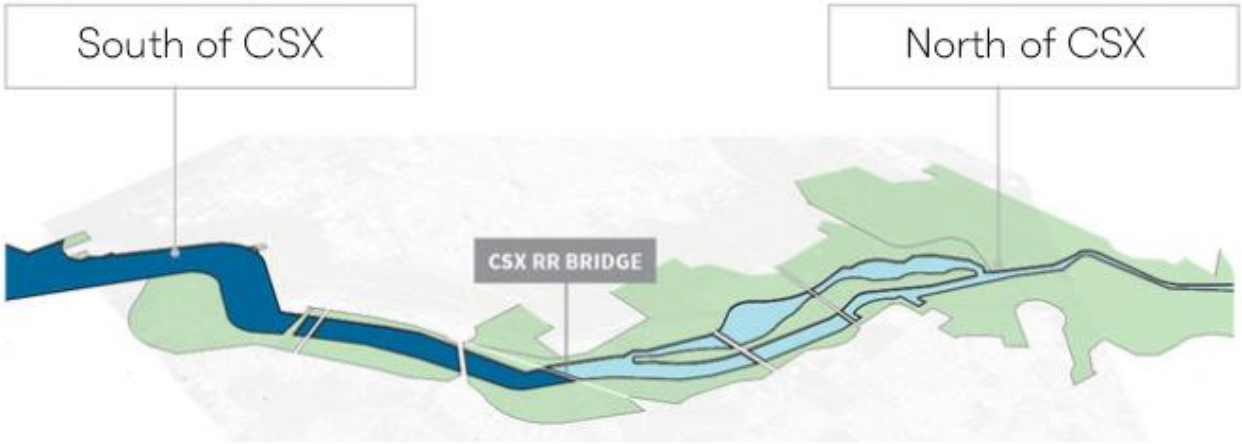
- No significant risk to swimmers anywhere in the river, except the Anacostia River north of Bladensburg Waterfront Park for PAHs



Human Health Risk Results

Fish

- Risk to anglers in the Anacostia River is greatest downstream of the CSX Bridge and in the Washington Channel.
- Risk to anglers from PCBs and metals in fish throughout the Anacostia River but is greatest below the CSX Bridge.
- Risk to anglers in the Potomac River is approximately twice the risk in the Anacostia River downstream of the CSX Bridge.



Chemicals that are of Concern for People

Polychlorinated Biphenyls and Dioxins	Exposure
Total PCB Congeners	Fish Ingestion
Dioxin-like PCBs	Fish Ingestion Sediment Contact
Dioxins	Sediment Contact
Semivolatile Organic Compounds	
Benzo(a)pyrene	Sediment Contact
Benzo(a)pyrene Equivalent (BaPE)	Sediment Contact
Dibenzo(a,h)anthracene	Surface Water
Metals	
Arsenic	Fish Ingestion
Mercury	Fish Ingestion

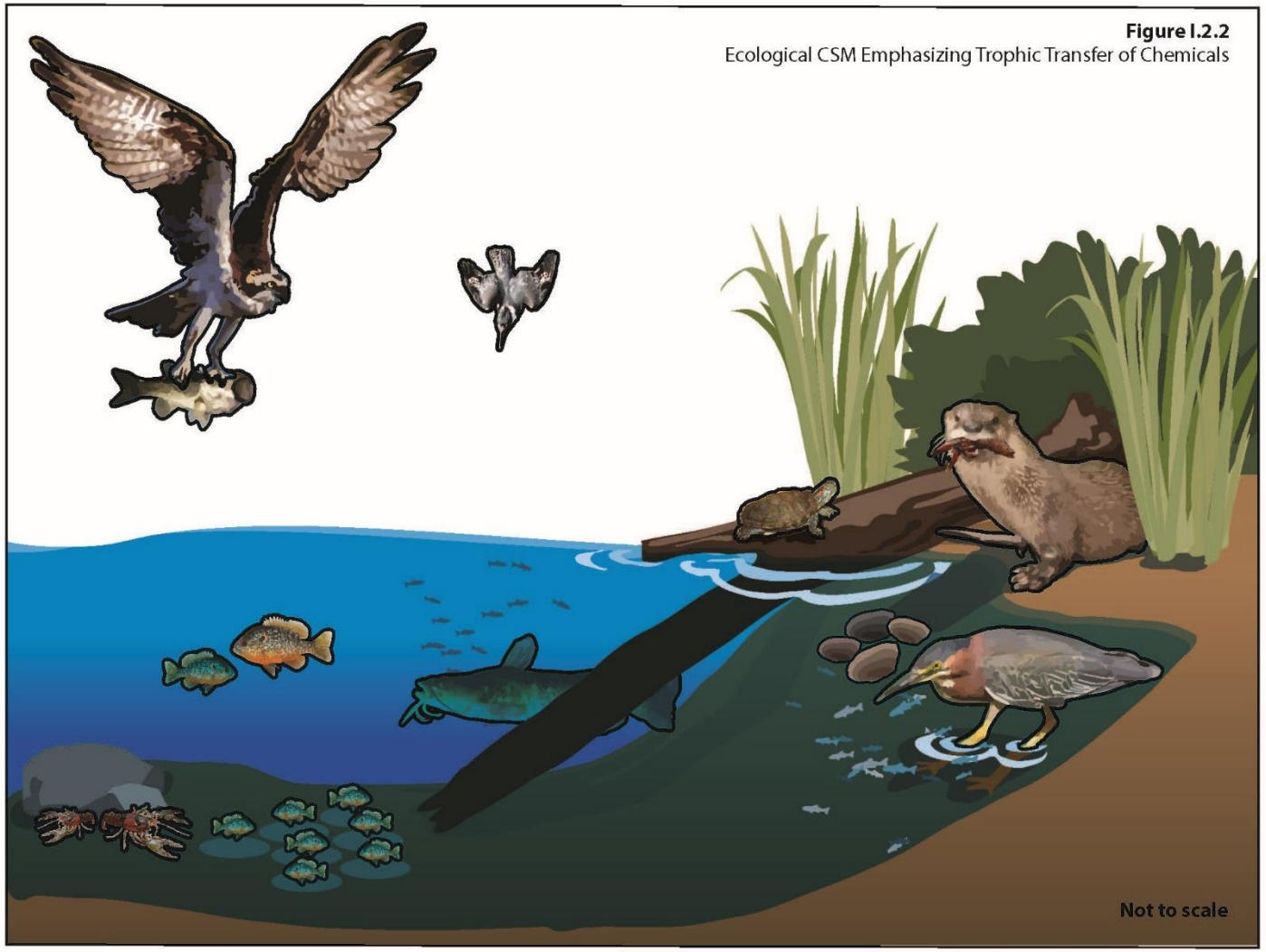
Pesticides	Exposure
4,4'-DDD	Fish ingestion
4,4'-DDE	Fish ingestion
Aldrin	Fish ingestion
Alpha-BHC	Fish ingestion
Chlordane	Fish ingestion
Dieldrin	Fish ingestion
Heptachlor Epoxide	Fish ingestion

Ecological Risk

Ecological Risk

- **Chemicals of Concern**
  PCBs, Dioxins, and Chlordane (pesticide)
- **Conceptual Site Model - Food Web**
- **Data Evaluated in the Ecological Risk Assessment (ERA)**
  - Surface Sediment
  - Surface Water
  - Pore Water
  - Fish, Snail, Clam, Crayfish, and Turtle Tissue
  - Laboratory Toxicity Tests

Ecological Conceptual Site Model



Benthic invertebrates in the sediment are not shown.

Ecological Risk Results

Birds and Mammals

- Little or no risk

Benthic Invertebrates (snails, clams, crayfish)

- Uptake of chemicals into animal tissues but no clear evidence of harm
- Toxic effects of sediment in laboratory studies were not linked to specific chemicals

Fish

- Little difference in fish tissue concentrations between non-tidal Anacostia background and tidal Anacostia Study Area
- Toxic effects in larval fish were observed in 5 of 31 samples (Reach 123, Reach 456 and Kingman Lake)

Chemicals of Concern Summary

	Human Health Risk	Ecological Risk
Polychlorinated Biphenyls and Dioxins	✓	✓
Organic Hydrocarbon Compounds (PAHs)	✓	
Legacy Pesticides	✓	✓
Metals (Arsenic and Mercury)	✓	

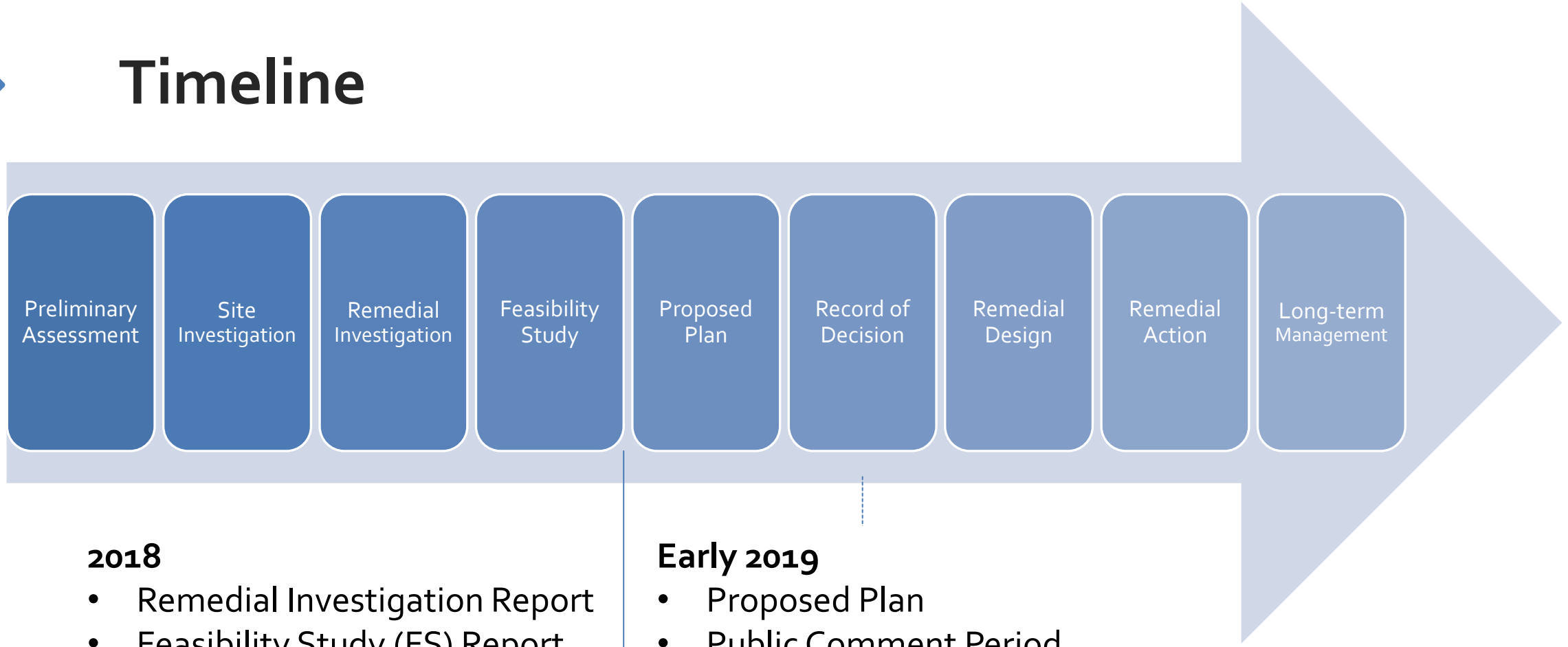
Summary of Receptors and Associated Risks

	No unacceptable risk
	Within target risk range
	Unacceptable risk

Reach	ERA		HHRA								
	Benthic Invertebrate Survival, Growth, and Reproduction	Larval Fish Survival and Growth	Current Adult Recreationalist Angler	Future Adult Recreationalist Angler	Current & Future Child & Adolescent Recreationalist Angler	Current Child Subsistence Angler	Current Adolescent Subsistence Angler	Current Adult Subsistence Angler	Future Child Subsistence Angler	Future Adolescent Subsistence Angler	Future Adult Subsistence Angler
Washington Channel (EU-1)											
Reach 123 (EU-2)											
Reach 456 (EU-3)											
Reach 67 (EU-4)											
Reach 7 (EU-5)											
Kingman Lake (EU-6)											
Background - Potomac River											

What's next?

Timeline



2018

- Remedial Investigation Report
- Feasibility Study (FS) Report
  Draft FS (August 2018)
  Final FS (December 2018)
- Public Comment Periods

Early 2019

- Proposed Plan
- Public Comment Period

Late 2019 (December 31, 2019)

- Record of Decision

Anacostia Goals: Fishable/Swimmable/Boatable!

Public Comment Period: Now through May 14, 2018

ARSP documents now open for Public Comment:

- Remedial Investigation Report
- Human Health Risk Assessment
- Ecological Risk Assessment

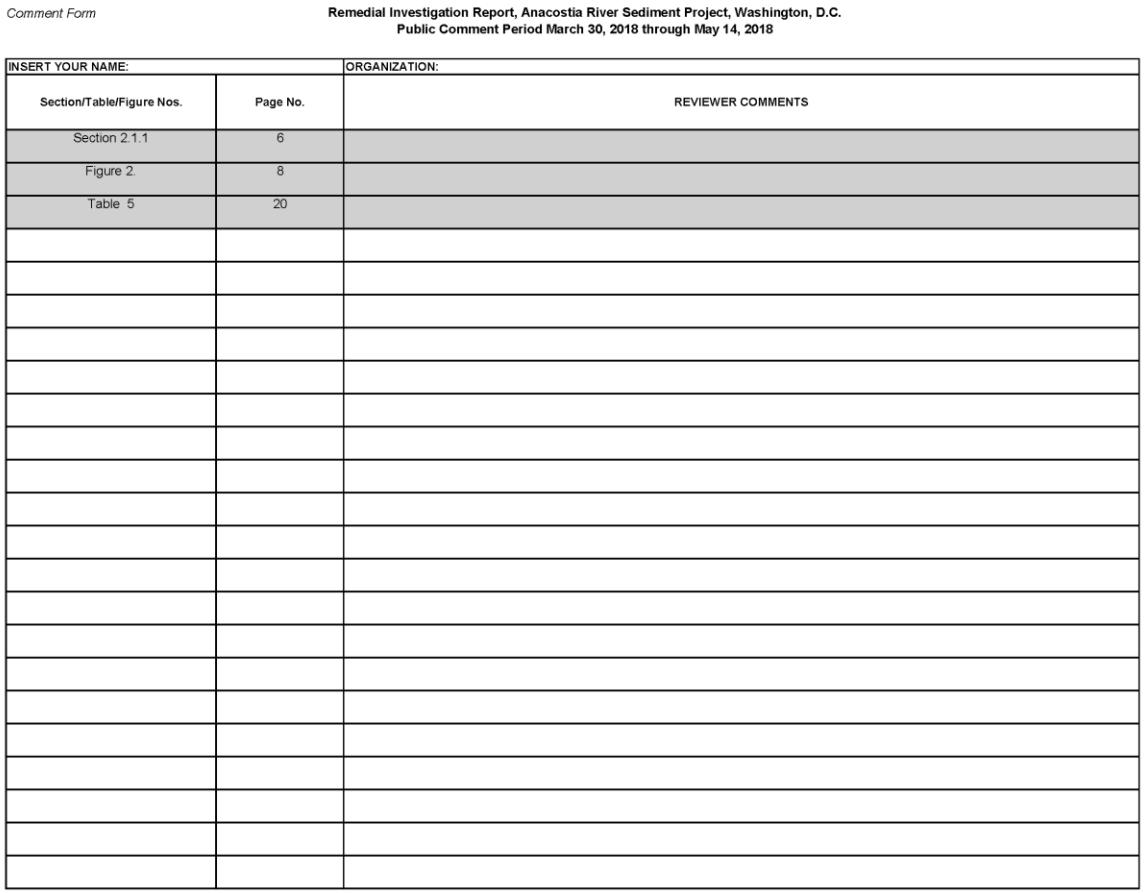
How to Review the ARSP Documents:

- **Download** from the Department's website, at www.doee.dc.gov/Anacostiasediment
- **Email** a request to DOEE.sedimentproject@dc.gov
- **Review the report in person** at DOEE or select DC Libraries (Rosedale, Francis A. Gregory)

How to Comment

Comments should be clearly marked "Anacostia Draft Remedial Investigation Report Comments"

- **Download Comment Form** from the Department's website, at www.doee.dc.gov/Anacostiasediment or pick-up comment at DOEE or library
- Email DOEE.sedimentproject@dc.gov, or mail or hand deliver comment form to DOEE
- Provide comments tonight or at libraries (comment form may be given to a library representative)



Comment Form

Remedial Investigation Report, Anacostia River Sediment Project, Washington, D.C.
Public Comment Period March 30, 2018 through May 14, 2018

INSERT YOUR NAME:		ORGANIZATION:
Section/Table/Figure Nos.	Page No.	REVIEWER COMMENTS
Section 2.1.1	6	
Figure 2	8	
Table 5	20	

Thanks to the planning team:

Brent Bolin, Clean Water Action
Susie Cambria, Volunteer Consultant
Jim Foster, Anacostia Watershed Society
Erin Garnaas-Holmes, Urban Waters Partnership/Anacostia Waterfront Trust
Pastor Keith Kitchen, Zion Baptist Church
Malusi Kitchen
Justin Lini, ANC 7D07 Commissioner

And all our Tablers: Alice Ferguson Foundation, Anacostia Park & Community Collaborative, Anacostia Watershed Society, Anacostia Watershed Restoration Partnership, Anacostia Riverkeeper, DC Water, National Park Service


Questions?
DEPARTMENT
OF ENERGY &
ENVIRONMENT