

# Anacostia River Sediment Project Status Post ROD Plan

September 9, 2021

## **Baseline and Performance Work Plan**

- **Work plan for Kingman Lake, Washington Channel and Main Stem OU - in internal review**
- **Transmit to interagency for review and comments – September/October 2021**
- **Receive comments and address comments- November/December 2021**
- **Final work plan-January 2022**
- **Field mobilization- upon work plan approval**
- **Schedule dependent on resolving permitting requirement**

## Pre-design Investigation Work Plan

- **Work plan for Kingman Lake and Washington Channel OU  
PDI is in interagency review for receiving comments-  
September 2021**
- **Receive comments and address comments-  
September/October 2021**
- **Final work plan-October 2021**
- **Field mobilization- upon work plan approval**
- **Main Stem OU is in development**
- **Schedule dependent on resolving permitting requirement**



# Phase II Tributary Study

## Goals

1. Measure present-day sediment-bound contaminant concentrations during storms and low-flow at 5 tributaries: NEB, NWB, Watts Branch, Hickey Run, and Nash Run (1 storm and 1 low-flow each) and Lower Beaverdam Creek (3 storms and 1 low-flow)
2. Sample Lower Anacostia (LA) at Buzzard Point – 3 storms and 1 low-flow – contaminant concentrations and determine cross-channel variability in flow and suspended sediment
3. Hydrodynamic study – measure velocity and shear stress at bed-water interface in various areas of the LA during storm flow. Collect and age-date sediment prior/post erosional episodes to determine sediment age

Notes: pandemic, dry spell, algal abundance

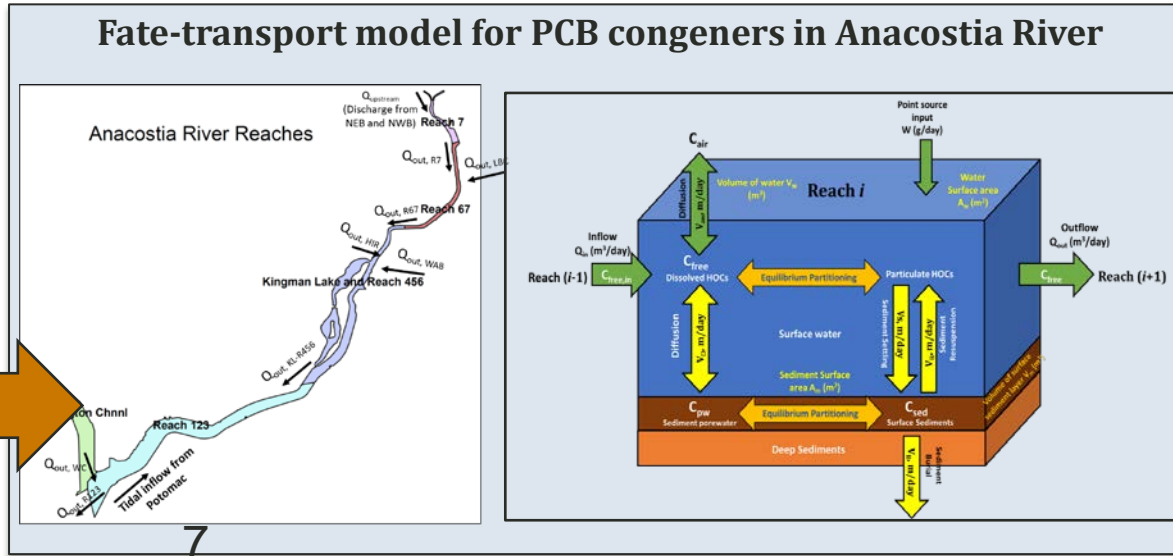
# Phase II Tributary Study progress to date

1. Developed new sample handling and analytic methods to reduce interferences and LDLs
2. Sampled all tributaries for storms and obtained most low-flow samples; Sampled 1 low-flow and 1 storm (Ida) at Buzzard Point.
3. Obtained information on cross-channel conditions (flow and turbidity), evaluated suitability of USGS gage station. Gage upgraded with a new ADVN to improve resolution and discharge calibration
4. Collected vertical velocity distribution in areas near Buzzard Point and near Poplar Point.
5. Collect remaining 2 low-flow samples by October 1
6. Resume deploying hydrodynamic equipment ( over 2-week intervals) during fall and early winter storms. Move upstream to Kingman Lake area.
7. Collect remaining 2 storm samples on LA during major storm events in October/November
8. Target of December 2021 for obtaining all chemical data

## Passive Sampler and Mussels

- ✓ **Final Work plan- September 2021**
- **Field Activities- start second week of September 2021**
- **Deploy passive samplers- September 2021**
- **Retrieve samplers- November 2021**
- **Laboratory analysis- November –January 2022**
- **Data validation**
- **Data presentation**
- **Interim report**

# Linking PCB fate and transport in Anacostia River to bioaccumulation in the food-web



**Model outputs**

- PCB concentration in surface water
- PCB concentration in surface sediments

**Model validation against measured data and ARSP Surface Water total PCB**

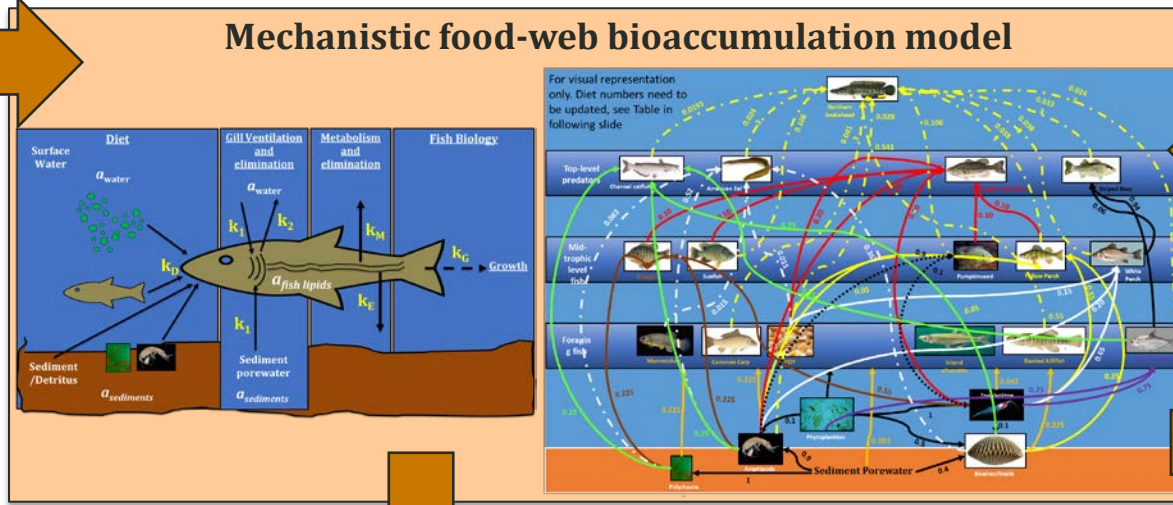
**Evaluating effect of remediation strategies on surface water and sediment concentrations**

- Impact of reduction in inputs from LBC
- Impact of remediation of Early Action Areas (EAAs)

**Evaluating effect of remediation strategies on PCB concentrations in fish**

**Model Inputs**

- Inputs from RI, FS, IROD, ARSP Surface Water Model, and passive sampler study by Ghosh et al. (2020)



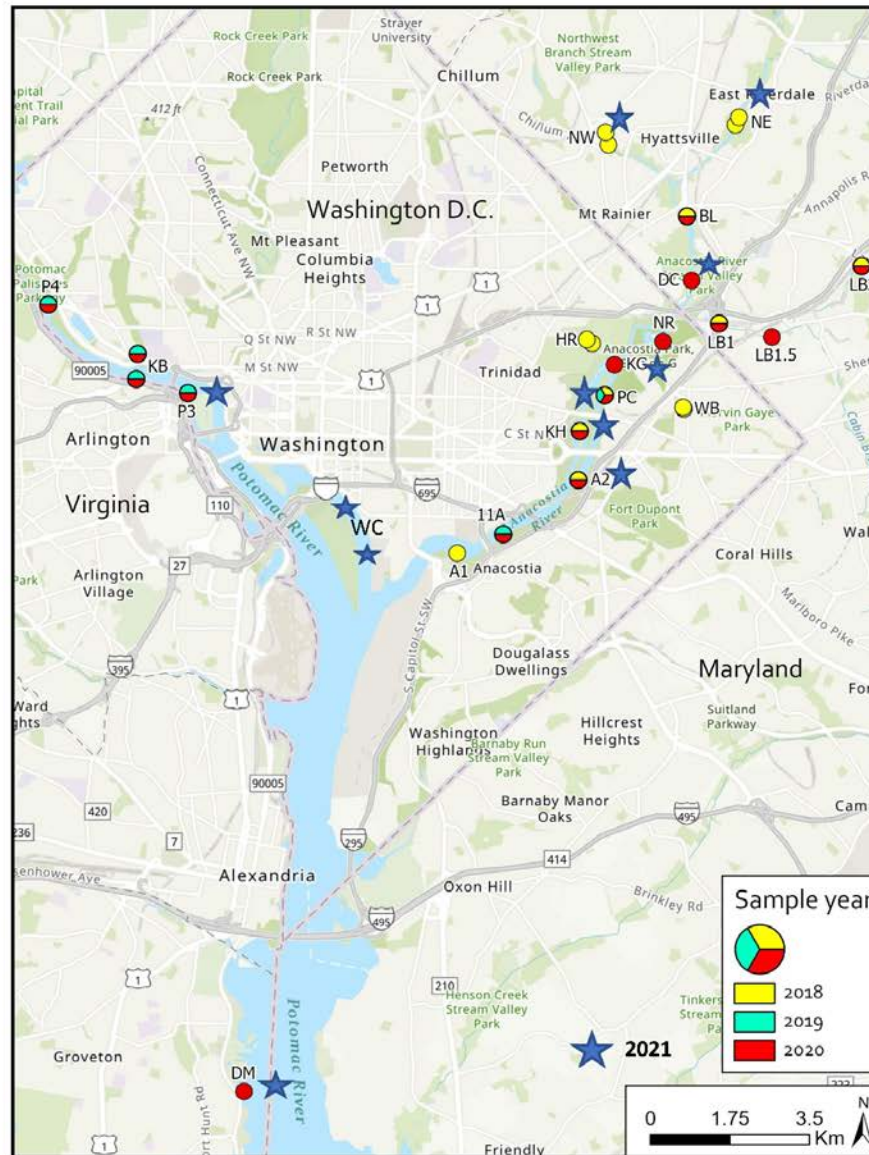
**Model validation against measured data**

# Linking Food Web Model and Fate and Transport Model

- ✓ Final Work plan – March 2021
- ✓ Data Inputs - RI, FS, IROD, ARSP Surface Water Model, and passive sampler study by Ghosh et al. (2020)
- ✓ Model outputs - PCB concentration in surface water and surface sediments
- ✓ Model validation - against measured data and ARSP model total PCB
- Evaluating effect of remediation strategies on surface water and sediment concentrations
- Evaluating effect of remediation strategies on PCB concentrations in fish
- Draft model for internal presentation- September 2021
- Draft report in preparation for internal review and comments – October 2021



USFWS MUMMICHOG AND BANDED KILLIFISH SAMPLING: 2018-2020 (n=217 samples (131 BK, 86 MC), and PROPOSED SAMPLING FOR 2021 (N=90)



## Current Status:

- Completed 2020 Fish sampling (120 samples)
- Analytical results received in July 2021
- Data validation complete
- Review data for reporting
- Perform statistical analysis to confirm number of fish samples required for 2021.
- Draft report by end of September 2021
- Through 2018-2020 there were 225 collections with a total of 1510 individual fish.

## Beneficial Use Guidance

- ✓ **DOEE sent draft Beneficial Use guidance for interagency review and comments**
- ✓ **Received 141 comments, generated response to comments - August 2021**
- **Receive feed back and response - September 2021**
- **Prepare draft final guidance - October 2021**
- **Review and Discussions- November 2021**
- **Final guidance – November/December 2021**

## Next Steps

- **PDI Work plan in review**
- **Planning for PDI sampling in fall 2021**
- **Washington Channel PDI sampling to coincide with Kingman Lake**
- **Main Stem PDI work plan is in development**
- **Make effort to coordinate Baseline sampling with PDI sampling to save costs**

# Questions?