

Update: Pre-Remedial Design Investigation and Baseline Sampling

**Sean Sheldrake, U.S. EPA Region 10
Nicki Pozos, Pre-Remedial Design Group**



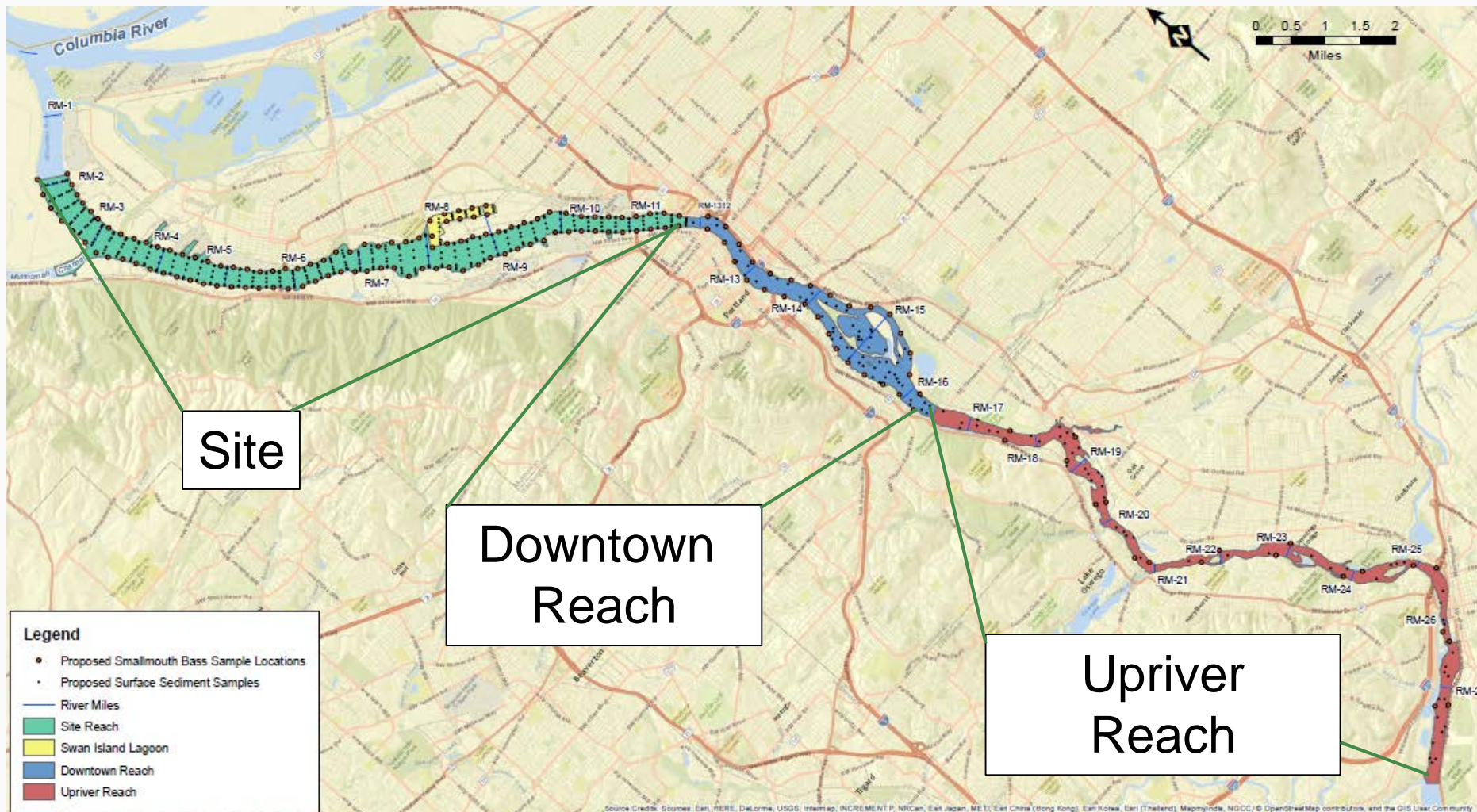
April 17, 2019

What is the Pre-Remedial Design Project?

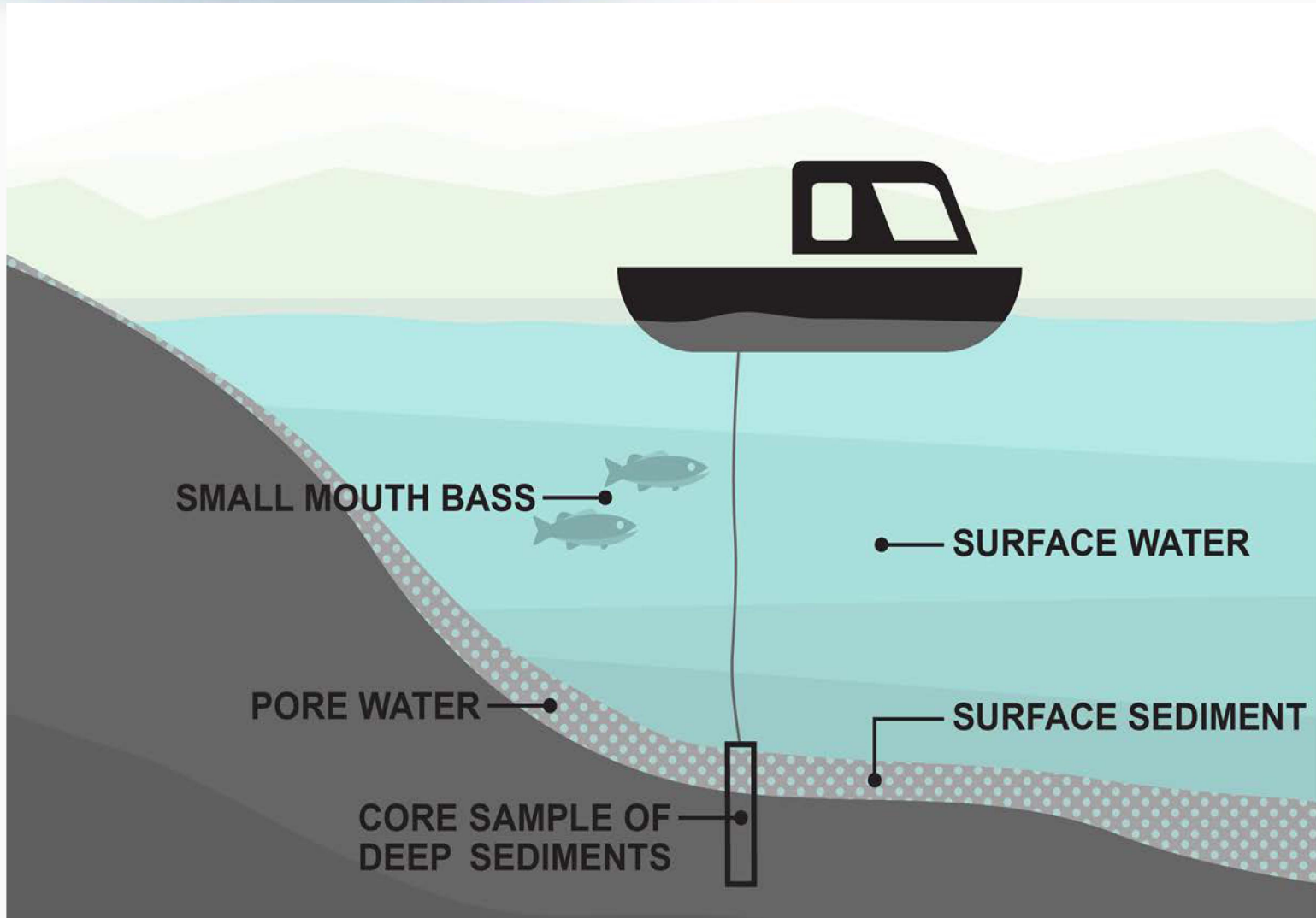


- Agreement was signed between EPA and four Potentially Responsible Parties (PRPs) on 12/19/2017
 - Arkema Inc.
 - Evraz Inc. NA
 - The Marine Group LLC
 - Schnitzer Steel Industries, Inc.
- Purpose of the study is to collect needed scientific data identified in EPA's Record of Decision (ROD) to update site-wide conditions
- Collected data can be used to support future remediation design

Sampling Area



Types of Samples Collected



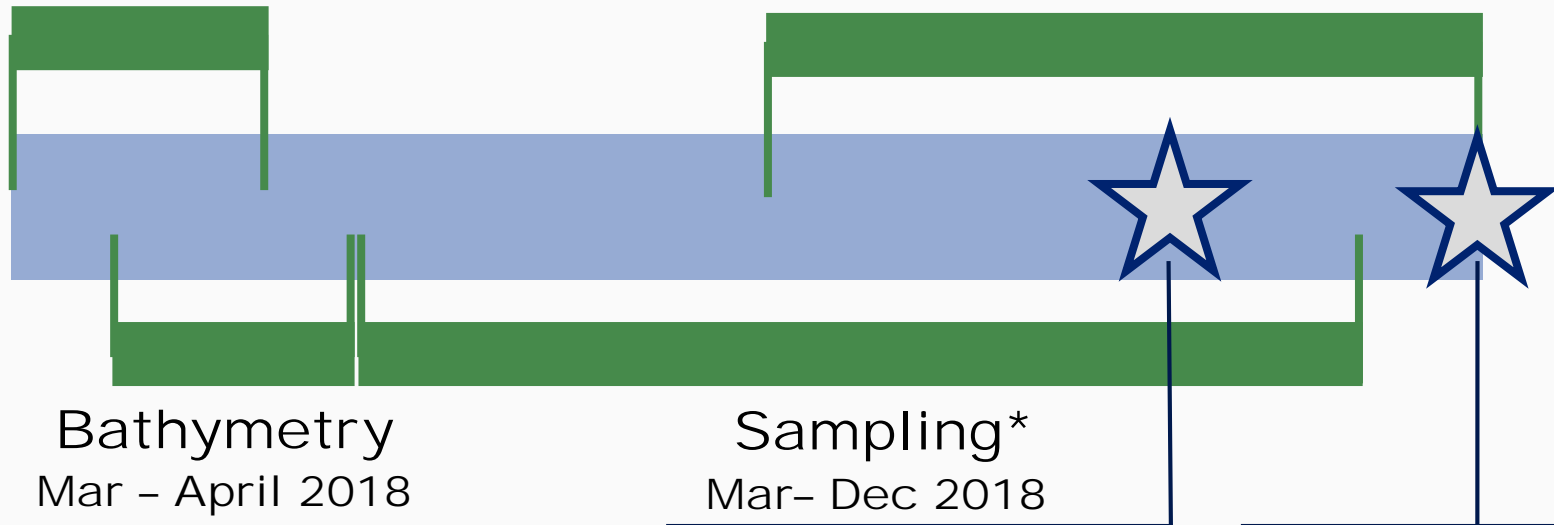
Source: Produced for Pre-RD Project

Project Schedule



Project
Initiation
Jan – Mar 2018

Data Validation &
Reporting
Jun 2018 – April 2019



Bathymetry
Mar – April 2018

Sampling*
Mar– Dec 2018

Pre-RD Group
Footprint Report
*(Surface sediment
and bathymetry)*
Draft – Jan 7, 2019
Revised – April 2019

Pre-RD Group
Evaluation Report
(All data)
Draft – May 9, 2019
Final – Sept 2019

Sampling Activities



Sediment Core Sampling



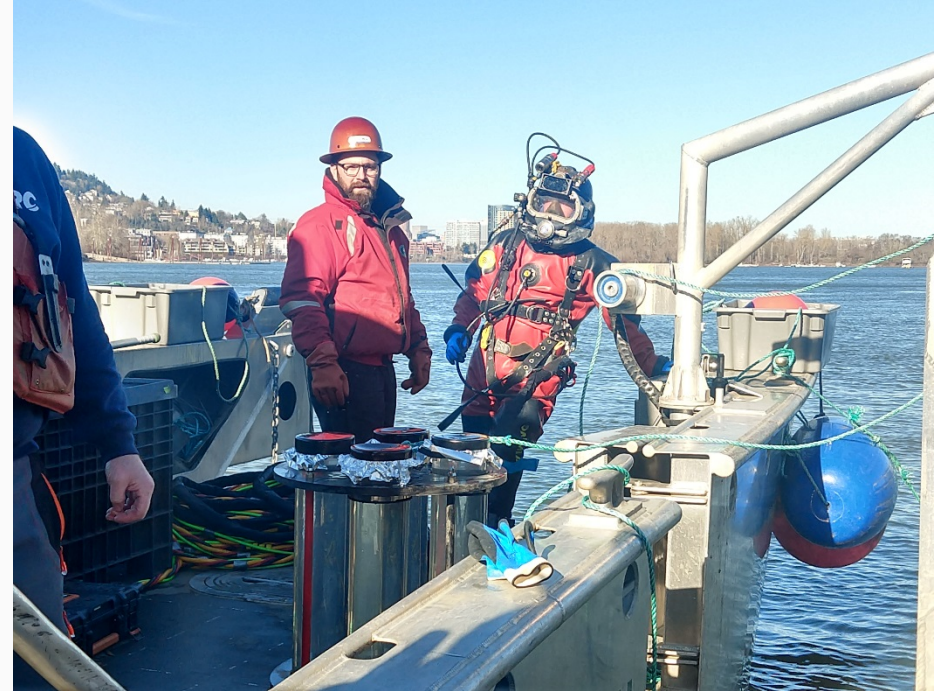
Surface Water Sampling



Sampling Activities



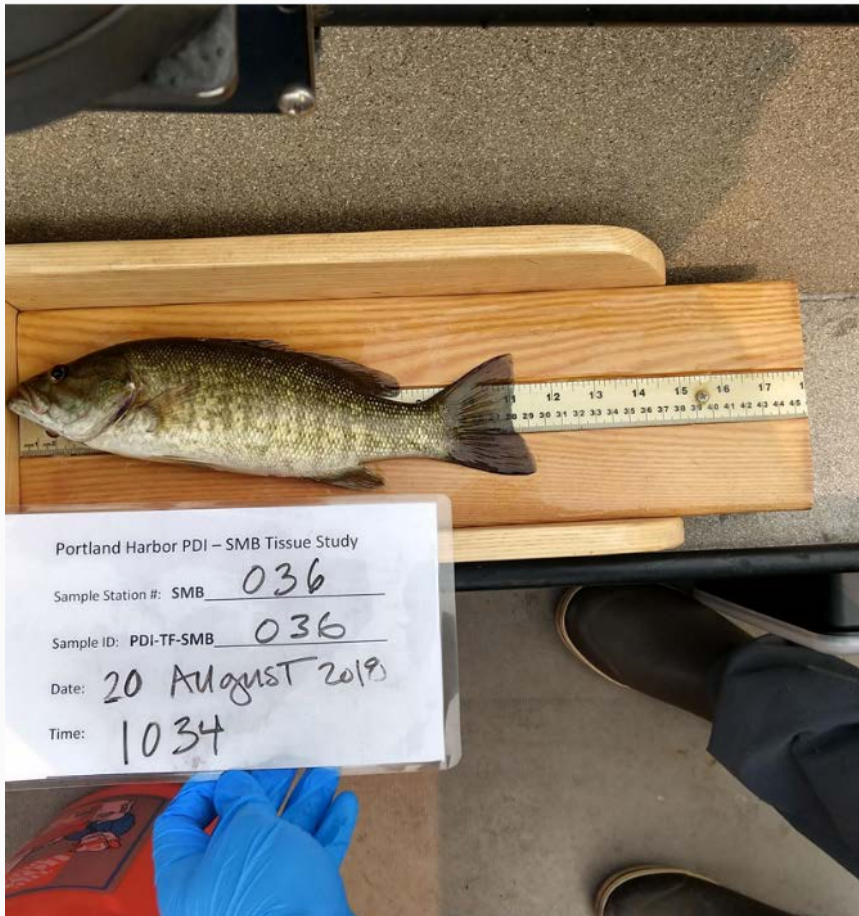
Sediment Trap
Installation



Sampling Activities



Fish Tissue Sampling

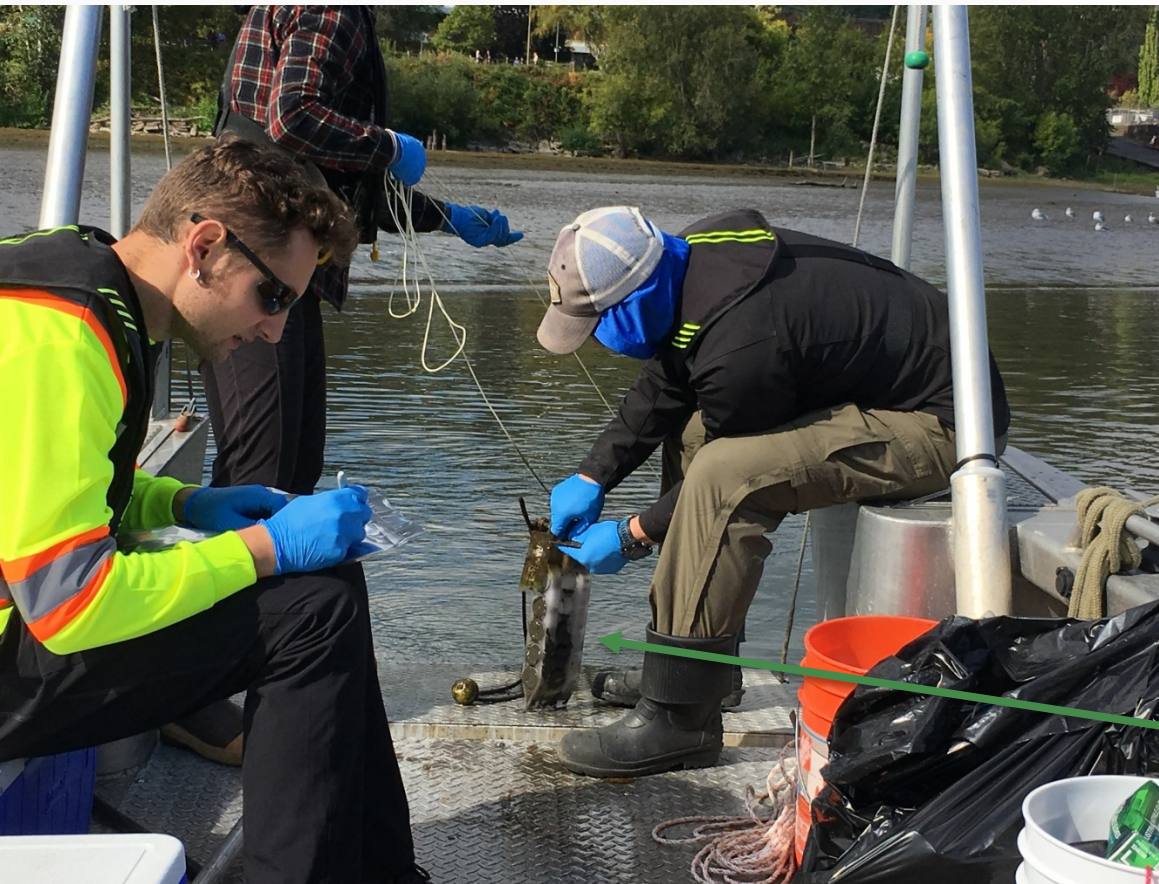


Fish Tracking

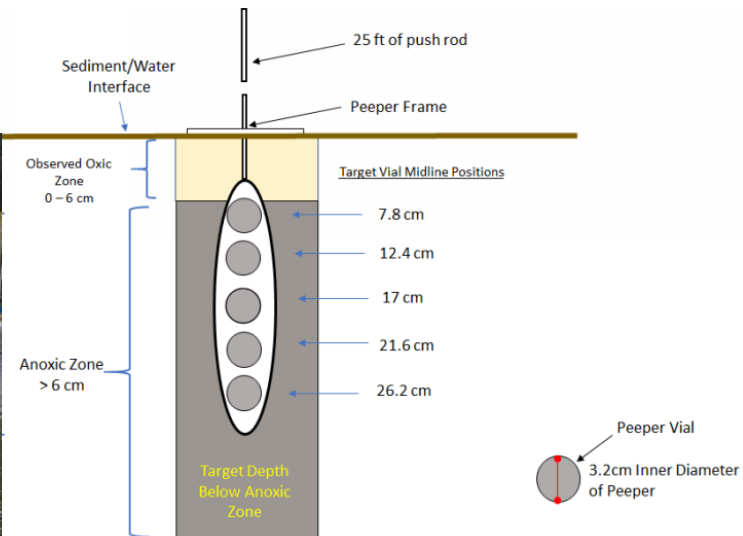
Sampling Activities



Porewater Peeper Retrieval



Peeper Design



Preliminary Results

- Data Quality
- Bathymetry
- Surface Sediments

Footprint Report

Data Quality



- The Pre-RD Project has a rigorous quality program with a high level of EPA oversight
- Field sampling and analyses were performed according to EPA-approved methods
- EPA and Pre-RD still working through data quality review and resolution
- In limited cases data may be “qualified” (flagged) if there are deviations
- Once EPA review and approval is complete, data can be relied upon for current and future evaluations

Video




Prior Portland Harbor Bathymetric Survey

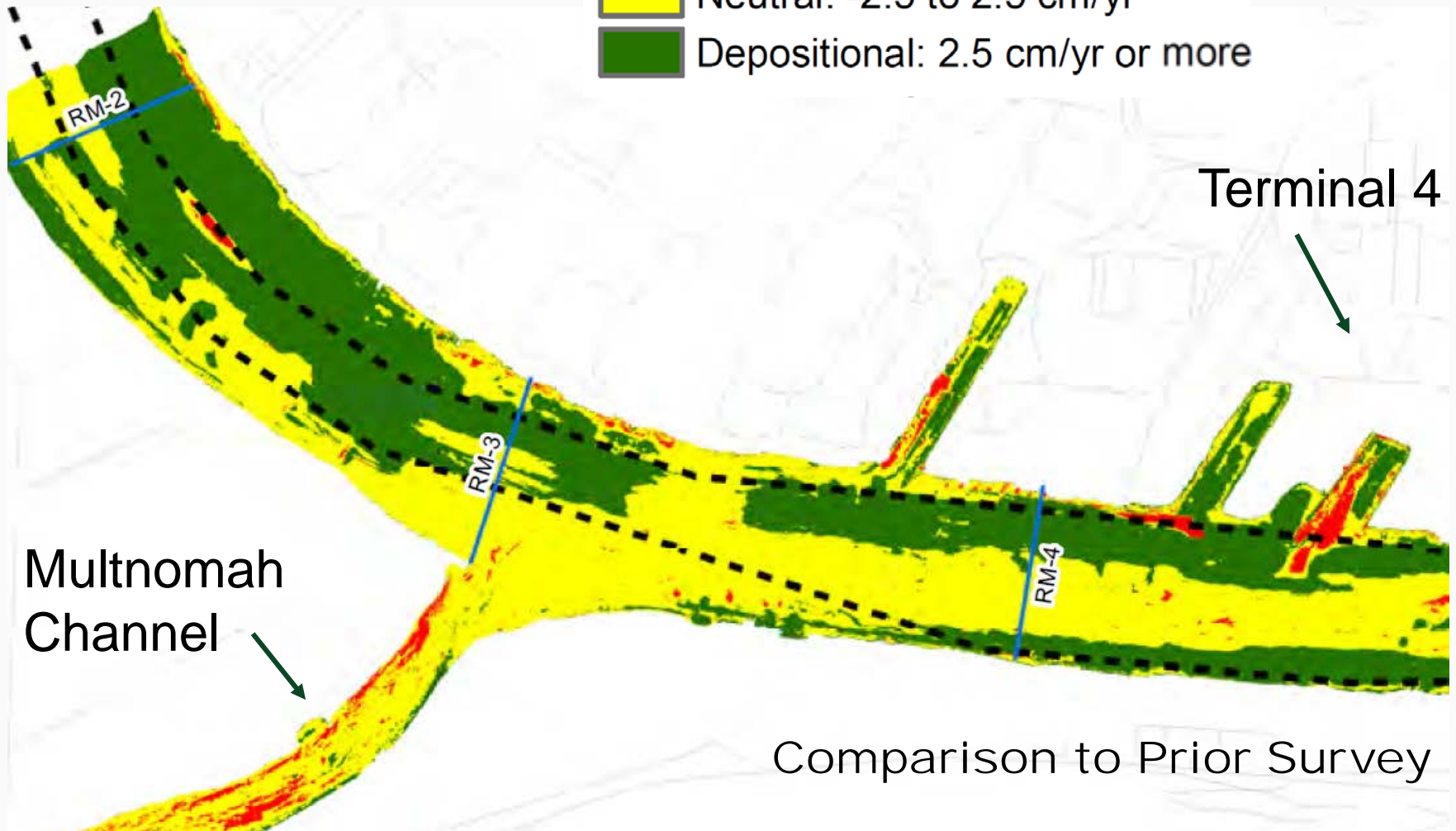
Link: <https://youtu.be/sbnZ2oKz608>

Source: U.S. EPA

Bathymetry



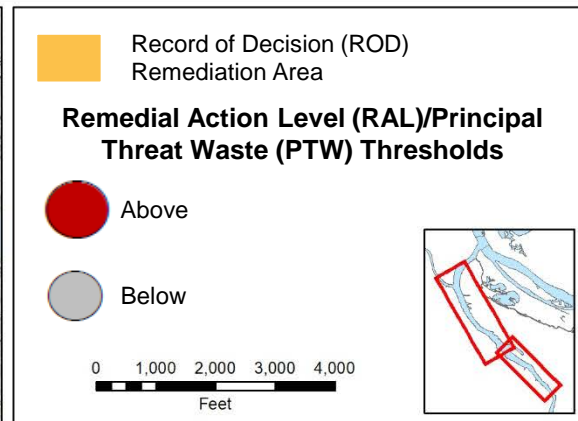
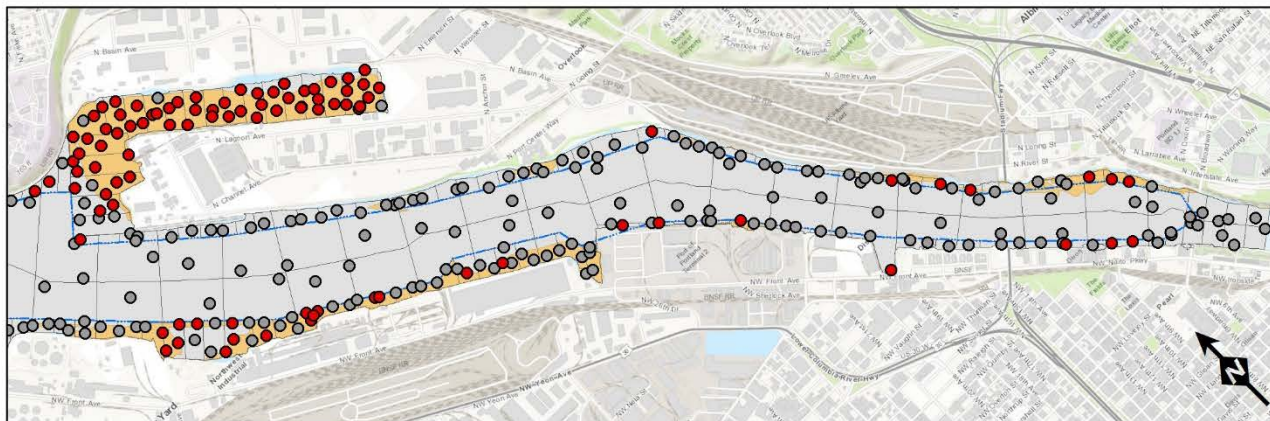
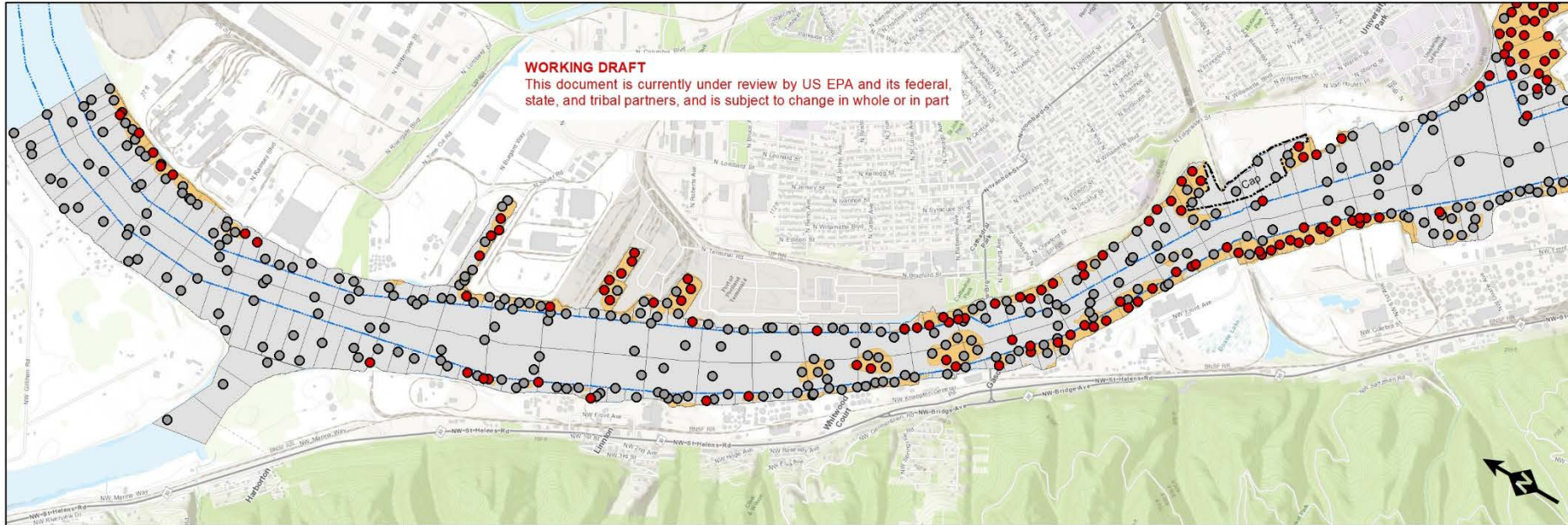
-  Erosional: -2.5 cm/yr or more
-  Neutral: -2.5 to 2.5 cm/yr
-  Depositional: 2.5 cm/yr or more



- Deposition and erosion vary across the site
- The site is net depositional, with more areas under deposition than scour
- Areas with deposition and erosion are similar to those in previous surveys
- Most of the deposition is in areas identified for Monitored Natural Recovery (MNR) in the Record of Decision (ROD)

Surface Sediment

(Preliminary Results)



Sources: Sample Data Points and Grid: 2018 Pre-RD Group PDI data; Basemap: ESRI, Remediation Area: EPA Record of Decision, 2017

Surface Sediment Sample Locations above RALs (2018)

Surface Sediment Summary

(all samples, preliminary results)



655 total samples

Focused Contaminant of Concern (COC)	Number of Samples Above Remedial Action Level (out of 655 total)	Percent of Samples Above Remedial Action Level
Total PCBs	100	15%
Total PAHs	19	3%
DDx	18	3%
2,3,7,8-TCDD	83	13%
1,2,3,7,8-PeCDD	102	16%
2,3,4,7,8-PeCDF	5	1%

PCB – Polychlorinated biphenyl; **PAH** – polycyclic aromatic hydrocarbon; **DDx** – dichlorodiphenyltrichloroethane and its derivatives; **TCDD** – tetrachlorodibenzo-p-dioxin; **PeCDD** – pentachlorodibenzo-p-dioxin; **PeCDF** – pentachlorodibenzofuran

- EPA provided comments on the Pre-RD Group's Draft Footprint Report (bathymetry and surface sediment data) on February 20, 2019
 - Pre-RD Group submitted revised version on April 8, 2019
- Pre-RD Group's Draft Evaluation Report (all results) due May 9, 2019

Questions?



- **Sean Sheldrake**, EPA Remedial Project Manager
 - E-mail: sheldrake.sean@epa.gov
 - Phone: 206-553-1220
- **Laura Knudsen**, EPA Community Involvement Coordinator
 - E-mail: knudsen.laura@epa.gov
 - Phone: 206-553-1838