

Table 5. Data Use Objectives for Pre-Remedial Design Investigation Studies

Portland Harbor Pre-Remedial Design Investigation Work Plan
Portland, OR

Proposed Scope Item	Purpose	Data Use Objective (DUO)										
		CSM	Update SWAC (site and 9 segment)	Update Baseline Conditions	Recovery Changes Since RI/FS	Model Calibration	Active Footprint/ RAL	Remedial Technology	Recontamination Potential	Support Allocation	Current Risk Update	Institutional Controls
Pre-Design Field Investigation Studies												
Site-wide bathymetry survey	footprint	X			X	X	X	X		X		
Surface sediment sampling	recovery/bkgrd	X	X	X	X	X	X	X		X	X	X
Fish tissue sampling	recovery/bkgrd	X		X	X	X					X	X
Surface water sampling	recovery/bkgrd	X		X	X	X					X	
Sediment cores	footprint	X			X		X	X		X		X
Fish acoustic tracking study	fish home range	X				X					X	X
Camera survey of anglers	risk/IC	X									X	X
Porewater sampling	bkgrd	X					X	X		X	X	X
Technical Analyses / Reporting												
Evaluate current conditions	footprint	X	X	X	X	X	X	X		X	X	X
Evaluate recovery changes	recovery	X		X								
Evaluate upstream levels	recovery	X			X				X		X	
Refine active footprint	footprint	X	X				X	X		X		X
Evaluate fish home ranges and scale of SWAC estimate	fish home range	X	X			X					X	X
Refine human health consumption risks with current conditions	recovery/risk	X			X	X	X			X	X	X
Data Interpretation Report	all	X	X		X	X	X	X		X	X	X

Abbreviations:

IC - insitutional controls; bkgrd - background; CSM - conceptual site model; SWAC - surface weighted average concentration

Table 8. Data Interpretation and Analysis Plan
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 Portland, OR

Data Utilization	Description
Current Conditions and Sediment SWACs for baseline dataset	Generate summary tables and maps with the new 2018 data and re-baseline the river for sediment, SMB fish tissue, and surface water for focused COCs. Generate sediment SWACs on a site-wide and segment-wide scale using Thiessen Polygons for the 580-sample plan, and the statistical mean for both the unbiased 345 and 580 sample plans.
Concentration Changes Over Time	Provide plots(s) of the tissue data over time. Provide surface water data with simple data plots of baseline and previous applicable surface water data. Compare the new 2018 data to the 2004 dataset for sediment, tissue (2002, 2007 and 2012), and surface water media and empirically evaluate changes since the RI: (1) The new sediment SWAC and arithmetic mean of unbiased dataset will be compared to the 2004 data at site-wide and segment-wide scales to look for differences in the last 14 years. (2) Datasets will also be compared to the Downtown/Upstream Area (are the two populations different, how different, and is site recontamination expected?). (3) 87 surface sediment locations will be re-occupied from 2004, and these two populations will be compared for changes. <i>Note: The data permits statistical comparisons at the site-wide, segment-wide, or RM-scales.</i>
Alt F Mod Active SMA Footprint (1)	Confirm the active remedial footprint using new data collected during the PDI. SMA delineation activity to evaluate these data, bathymetry, and applicable historical data will be run through the ROD decision tree to support allocation. Run the new 2018 surface sediment data and bathymetry data through the ROD decision tree to refine the active remedy footprint. The 2018 core data will be combined with RI/FS subsurface coring data to update the conceptual site model understanding of subsurface contamination, collectively these data will also run through the ROD decision tree to refine the active remedy footprint and dredge volume estimate. Changes in sediment elevation will be a modifying factor for volume estimates to inform the 30% design estimates.
Downtown/Upstream Baseline	Report data separately to EPA by reach (Downtown / Upstream Reach). Evaluate current upriver conditions by SWAC and summary distribution statistics for other media, for future long-term comparative analysis with Site. Generate tables, maps, and summary statistics for all new 2018 data (sediment, SMB tissue, surface water, and sediment traps) as 2018 baseline conditions. These data may be compared to new site data, and qualitatively compared to older downtown/upstream data to evaluate changes and provide a first look at what may be achievable at the site for focused COCs.
Background Porewater	Provide porewater data to EPA, provide sufficient data to derive porewater background for metals using the passive porewater samples from the upriver reach or other appropriate background areas (see EPA March 13, 2017 framework).
Fish Tracking and Camera Survey Results	Provide fish tracking data to be presented as a tabular spreadsheet deliverable that includes location, tag IDs, and time stamps for each of the tagged fish. Data processing for data report limited to tabular and graphical outputs showing locations/tag IDs of fish movement (e.g. heat maps). Evaluate the fish tracking results to evaluate the home range of SMB. Maps, home range estimates, and summary tables will be generated. <i>Note: results may inform the fish tissue sampling program and the appropriate scale for calculating baseline conditions with respect to fish.</i> Camera data will be processed and provided with all Personal Identification Information (PII) removed.

Notes:

(1) Pre Design Core data collection will have limitations for characterizing final SMA footprint delineation. Accordingly, any final decision on the SMA footprint will be pending full remedial design and confirmation sampling results obtained during remedy implementation.

Abbreviations:

COCs - chemicals of concern; RI/FS - remedial investigation/feasibility study; RAO - remedial action objective; ROD - Record of Decision; SWAC - surface weighted average concentrations; SMB - small mouth bass