

# Western Port Angeles Harbor Agreed Order

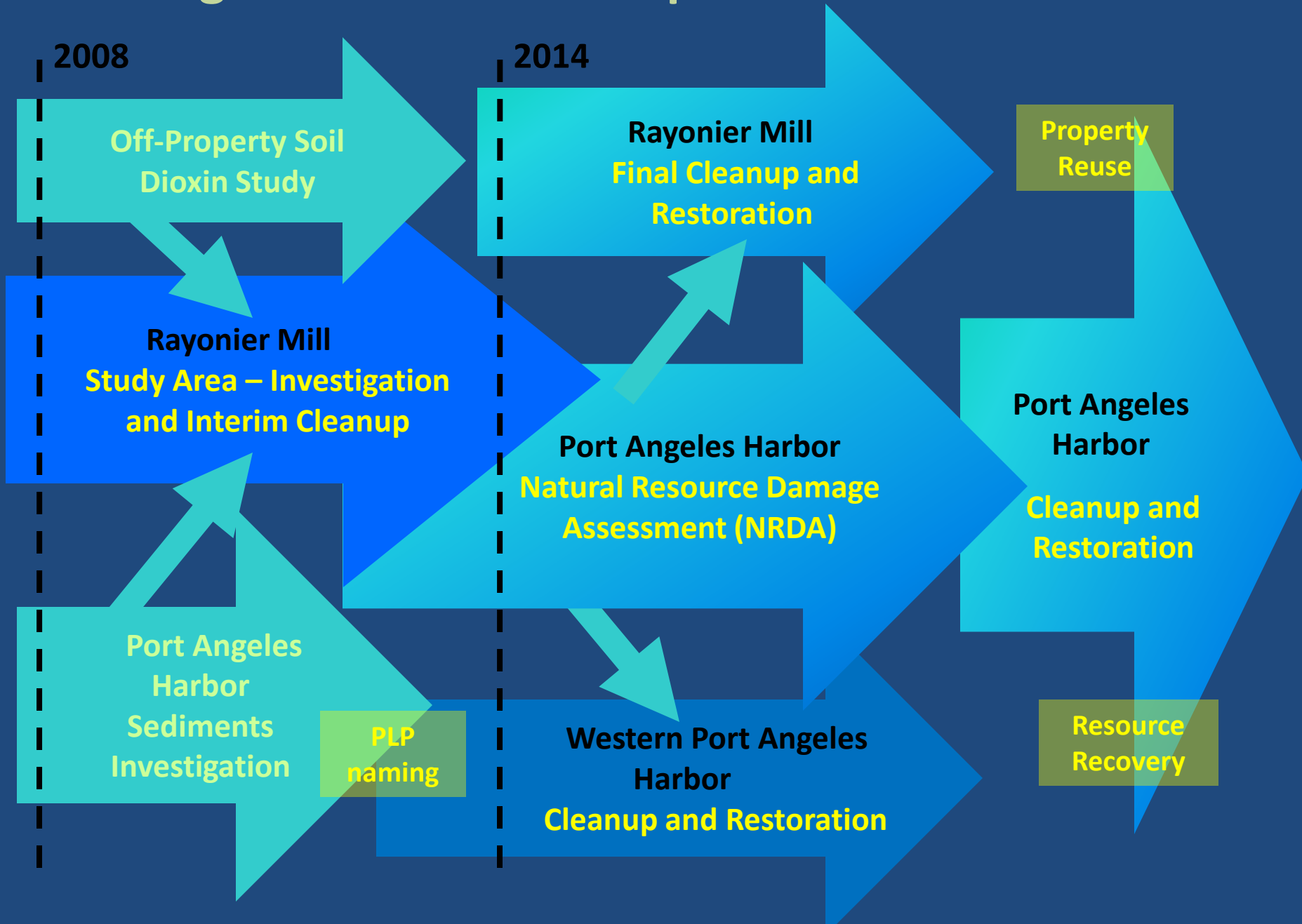


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# Presentation Overview

- Harbor background
- Responsible parties (PLPs)
- Draft Agreed Order
- Remedial Investigation/Feasibility Study (RI/FS)  
Work Plan
  - RI approach
  - FS approach
- Public comment period schedule

# Port Angeles Harbor Cleanup & Restoration Timeline



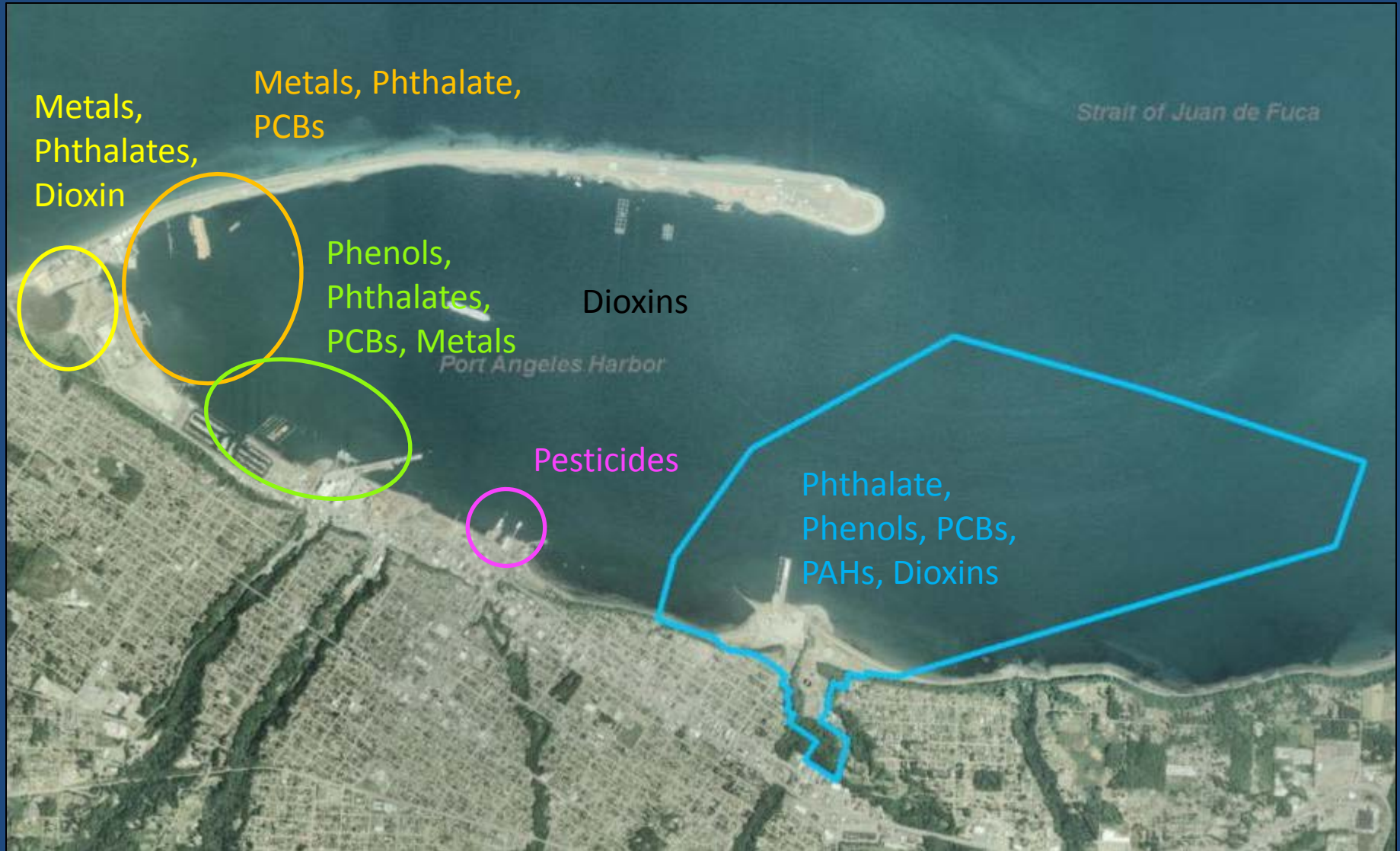
# Components of Harbor Cleanup



# Port Angeles Harbor Sediments Investigation



# Areas of Sediment Contamination



# Dioxins/Furans by Source Type

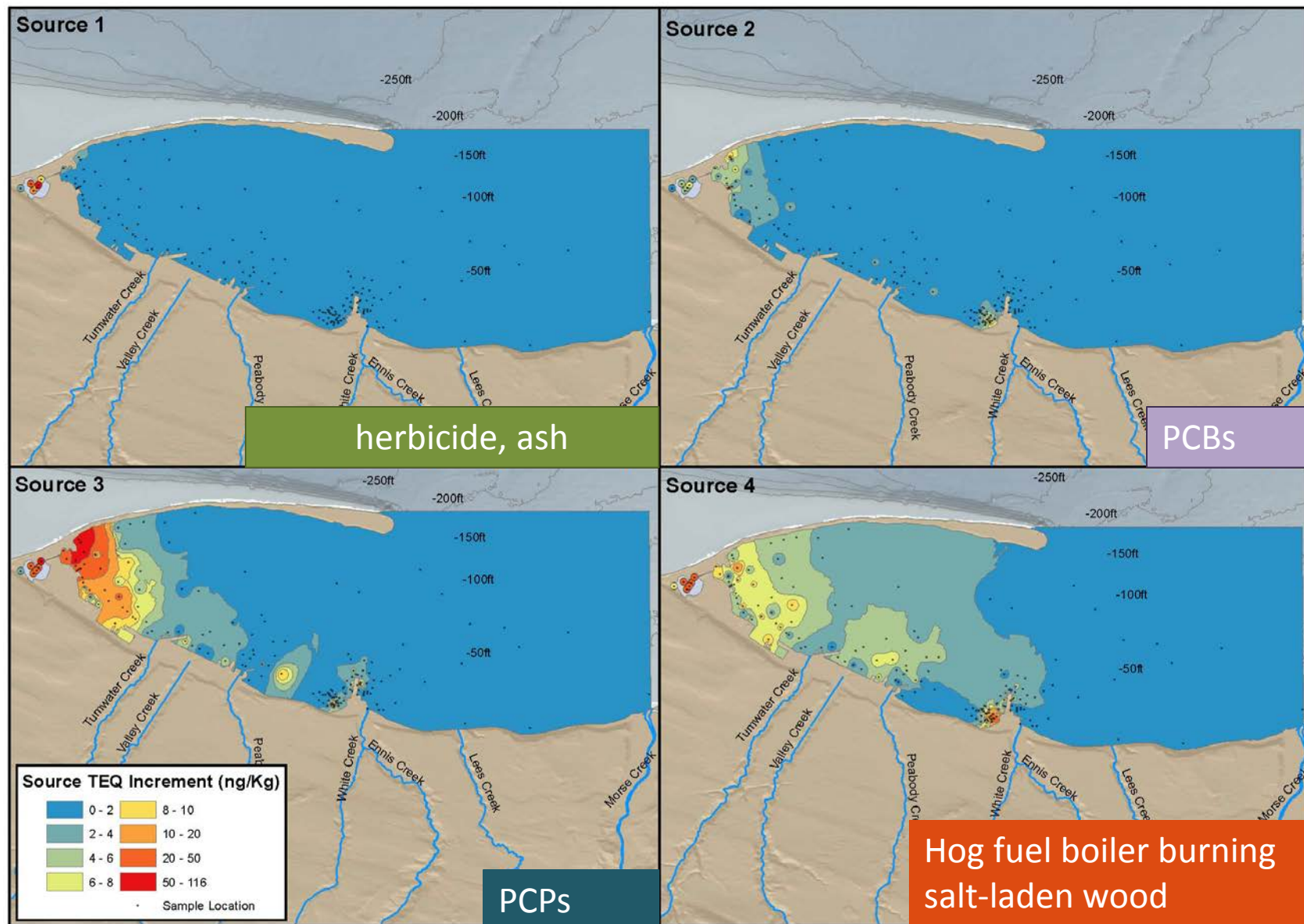


Figure 11. Interpolated TEQ Increments



# Western Port Angeles Harbor





# Western Port Angeles Harbor Site

- Separate cleanup site
- Five Potentially Liable Persons (PLPs) signing agreed order
  - Georgia Pacific
  - Nippon
  - Merrill & Ring
  - Port of Port Angeles
  - City of Port Angeles

# Agreed Order

- Requires PLPs to complete a remedial investigation (RI) and feasibility study (FS)
  - Sampling and Analysis Plan
  - Collect supplemental data
  - Supplemental data collection technical memorandum
  - Agency and public review draft RI/FS reports
- Quarterly progress reports

# Schedule

Submittal/Action	Enforceable Schedule in Agreed Order	Anticipated Date
Sampling and Analysis Plan	Due on the day the Agreed Order is final	May 2013
Fieldwork		June/July 2013
Supplemental Data Report	Due 75 days after receiving data	October 2013
Agency Review RI/FS Report	Due 180 days after receiving data	January 2014
Public Review RI/FS Report	Due 90 days after receiving Ecology's comments	June 2014
Public comment period		August/September 2014
Final RI/FS Report	Due 60 days after receiving revisions from Ecology	December 2014

# RI/FS Work Plan Overview

- Attached to agreed order
- Collaboratively developed
- Describes the investigation
- Relies on existing data with focused additional sampling
- Addresses data quality objectives
- Defines sampling needs
- Outlines contents of the RI/FS report

# RI Approach

- **Collect data to fill data gaps**
  - Develop sampling and analysis plan
  - Field work
- **Prepare RI report containing:**
  - General site information
  - Site conditions
  - Location of sediment contamination
  - Movement of sediment
  - Sediment sources
  - Human health and ecological risk
  - Preliminary cleanup levels and boundaries

# RI/FS Work Plan: Data Quality Objectives

Step 1: State the problem

Step 2: Identify the goal of the study

Step 3: Identify information needed

Step 4: Define the boundaries of the study

Step 5: Develop the analytic approach

Step 6: Specify the performance or acceptance criteria

Step 7: Develop the plan for obtaining the data

# RI Data Quality Objective #1

## Step 1: The Problem:

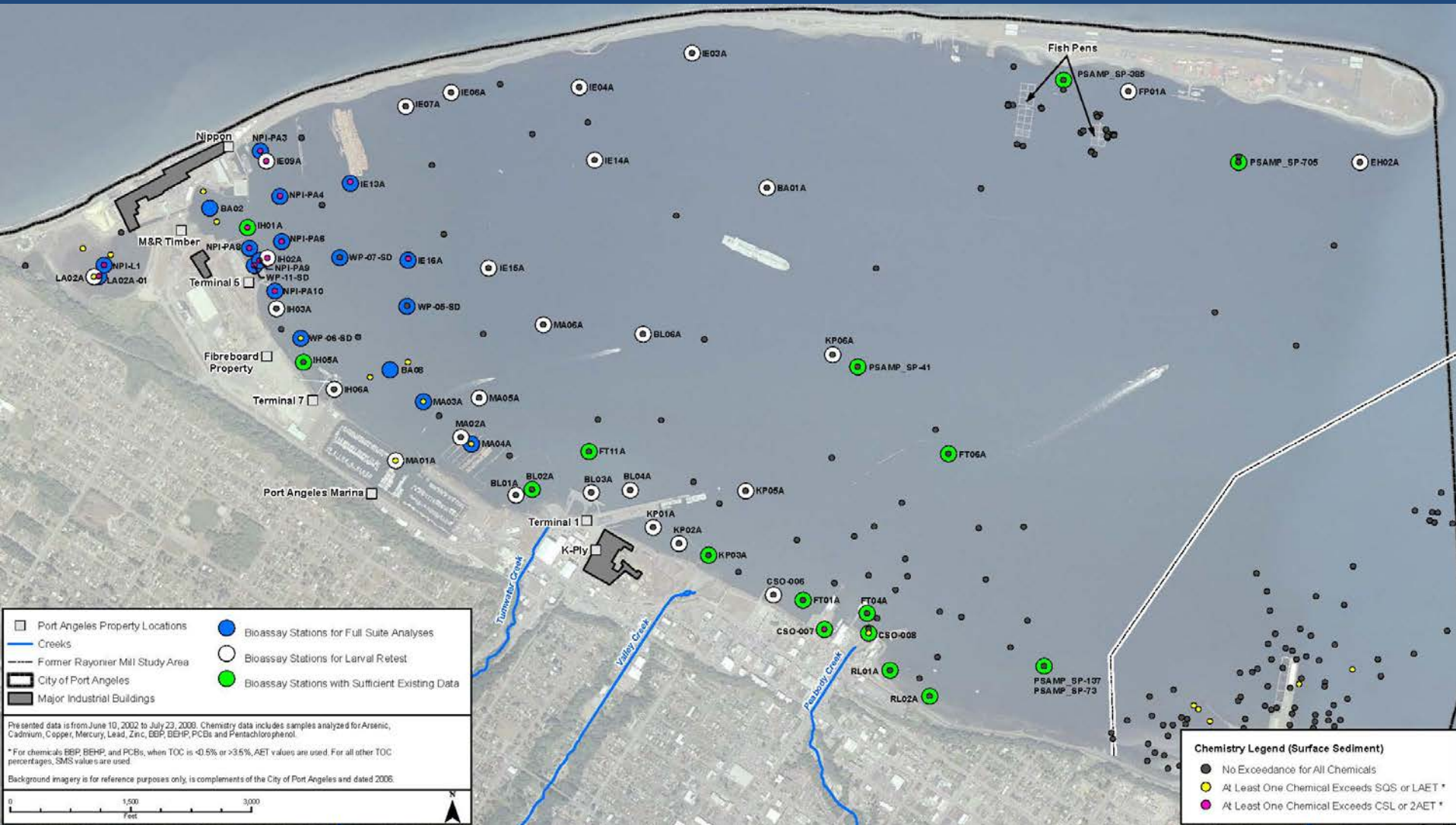
How are contaminants and wood debris affecting plants, animals, and living conditions on the harbor floor?

- Previous bioassays have possible false positives results
- Not all locations have bioassays and chemistry
- Wood debris may affect habitat

## Step 7: The Plan:

- Larval bioassay retests with resuspension method
- Collect bioassays and chemistry at stations with gaps
- Sediment Profile Imaging

# Bioassay Stations





# Sediment Profile Imaging (SPI) Locations



# RI Data Quality Objective #2

## Step 1: The Problem:

How is contamination affecting people who eat marine plants and animals from the harbor?

- A human health risk assessment has been completed.
- Is the risk higher than the risk from background levels?

## Step 7: The Plan:

- Human health risk may be reevaluated based on new data.
- Ecology will be determining regional background contaminant levels.

# RI Data Quality Objective #3

## Step 1: The Problem:

How is contamination affecting plants and animals who living in the harbor?

- An ecological risk assessment has been completed.
- Does the new data change conclusions?

## Step 7: The Plan:

- Ecological risk may be reevaluated based on new data.

# RI Data Quality Objective #4

## Step 1: The Problem:

Is anything continuing to contaminate harbor sediments?

- Ongoing sources need to be identified

## Step 7: The Plan:

- Compile new data with existing data from literature, previous sediment reports, upland reports, and Ecology's Water Quality Program
- If ongoing sources are identified, Ecology will address them separately.

# Feasibility Study Approach

- Develops and evaluates cleanup options
- Considers cost, technical feasibility, and environmental impact
- Considers multiple lines of evidence
  - Sediment and tissue chemistry
  - Bioassays
  - Habitat condition (SPI)
  - Additional lines of evidence

# FS Data Quality Objective #1

## Step 1: The Problem:

Are there areas of the harbor where contamination is more likely to affect marine plants, animals, and the people who eat them?

- Information on how contamination builds up in the tissue of living things will help focus the cleanup on high priority areas.

## Step 7: The Plan:

Collect additional lines of evidence including:

- Bioaccumulation testing
- Black carbon analysis
- Porewater using solid phase microextraction (SPME)



# Work Plan Summary

## The Work Plan:

- Defines steps for completing the RI/FS
- Builds on extensive existing data
- Identifies data needed to fill data gaps
- Includes some additional testing that may help prioritize cleanup efforts
- Includes a schedule for completing each step



# Documents for comment

- **Agreed Order**—Requires the PLPs to do:
  - A remedial investigation, which describes the nature and extent of contamination
  - A **feasibility study**, which evaluates cleanup options
  - A remedial investigation/feasibility study (RI/FS) report
- **RI/FS Work Plan**—Describes how the PLPs will investigate the site and evaluate cleanup options
- **Public Participation Plan**—Describes tools Ecology will use to inform the public about, and gather input on, the cleanup

# Public Comment Period

- Comment period March 20 – April 18
- Ecology will review and respond to comments late April – early May
- Documents will be revised if needed
- PLPs and Ecology will sign agreed order

## Next Steps

- PLPs will submit a sampling and analysis plan.
- PLPs will do sampling in summer 2013.
- PLPs will develop and submit the RI/FS report.
- A cleanup plan will be implemented under a separate legal agreement.

# Components of Harbor Cleanup



Questions ?