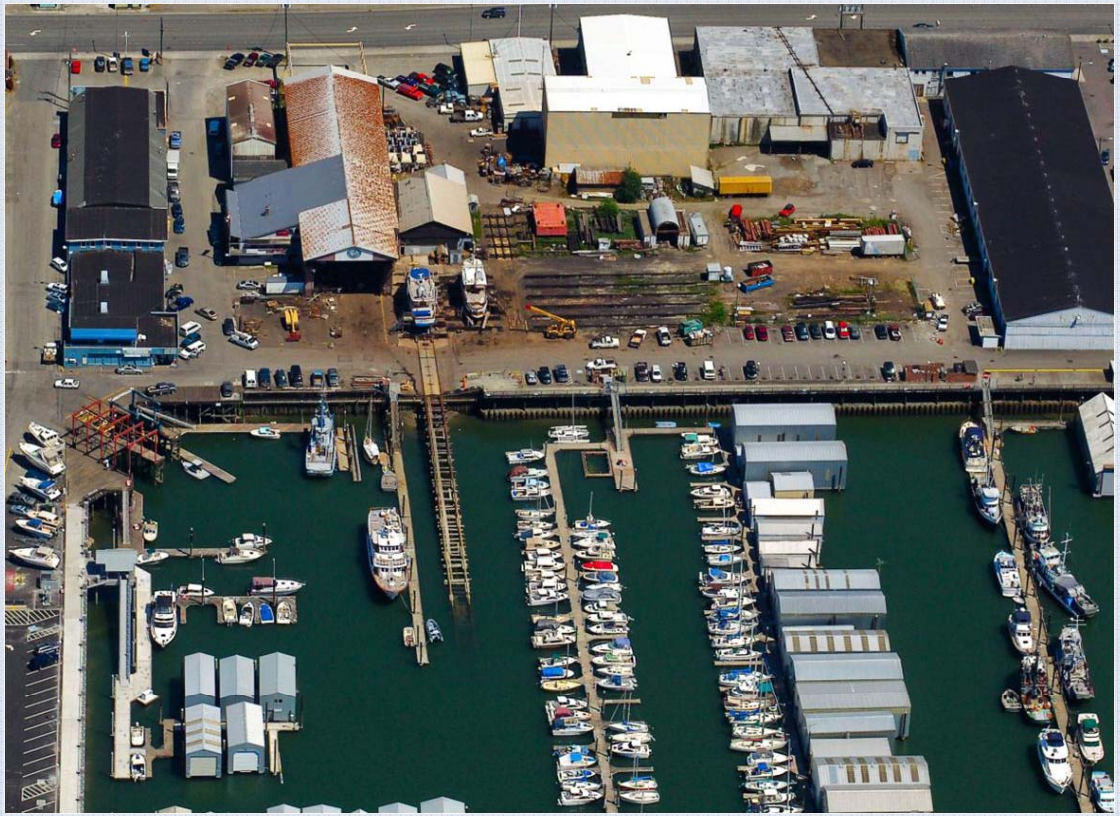
WASHINGTON STATE
Department of Ecology



Everett Shipyard and Port Gardner Cleanup Community Meeting

February 16, 2011

Tonight's Agenda

Pat Serie, EnviroIssues, Facilitator

6:30	Welcome and overview	*Barry Rogowski, Ecology*
6:45	Everett Baywide Projects	*Andy Kallus, Ecology*
7:00	Everett Shipyard, Inc. Site	*Andy Kallus, Ecology*
7:15	Question and answer period	*Pat Serie, EnviroIssues*
8:20	Open house – visit stations and ask questions, provide input	

The Puget Sound Initiative (PSI)

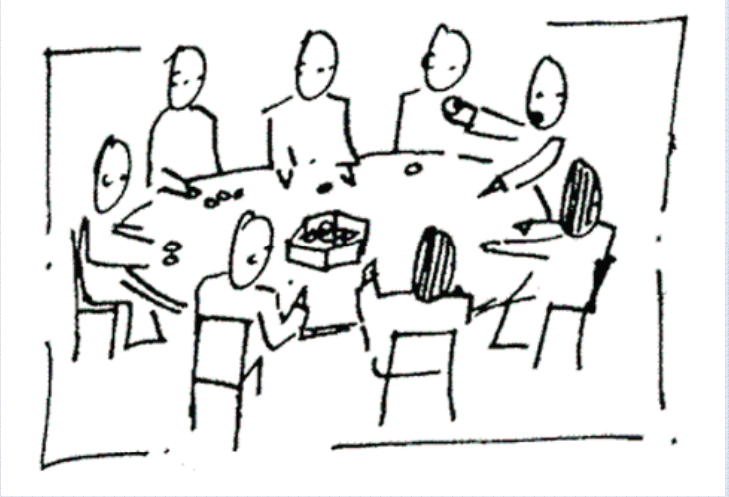
Some background….

- Began in 2005 and 2006
- Includes a lot of people, organizations and governments
- Cleanup Program focuses on contaminated site cleanup
- 2020 goal to have most work done

The Puget Sound Initiative (PSI)

- Geographic approach, where appropriate
- Leadership from the state
- Overlap phases of cleanup
- Analyzing aquatic impacts and integrating habitat restoration into cleanup, when possible
- Leveraging financial resources
- Working with stakeholders and tribes early
- Fully engage the public

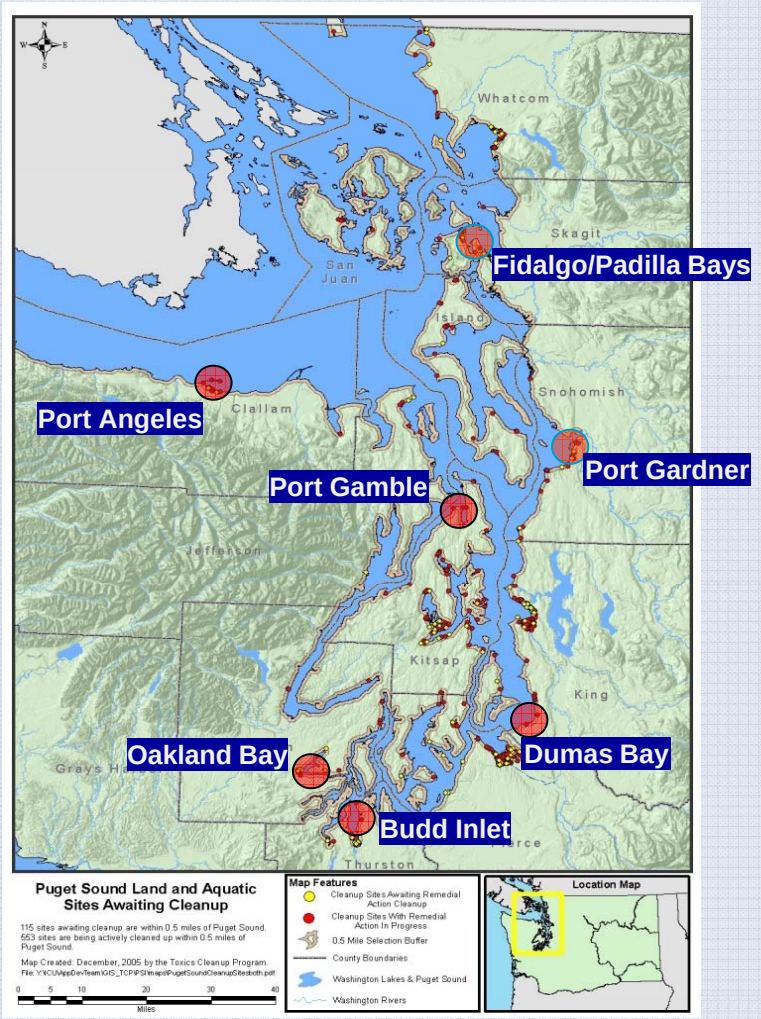
Operating Principles



The Puget Sound Initiative (PSI)

Seven PSI Priority Bays

- Critical habitat exists
- Baywide studies have been conducted at six bays
- Upland sources and sediment impacts are being addressed at all of the bays
- Investigation and cleanup under PSI has begun at over 30 sites within the priority bays



Port Gardner – one of the PSI Bays

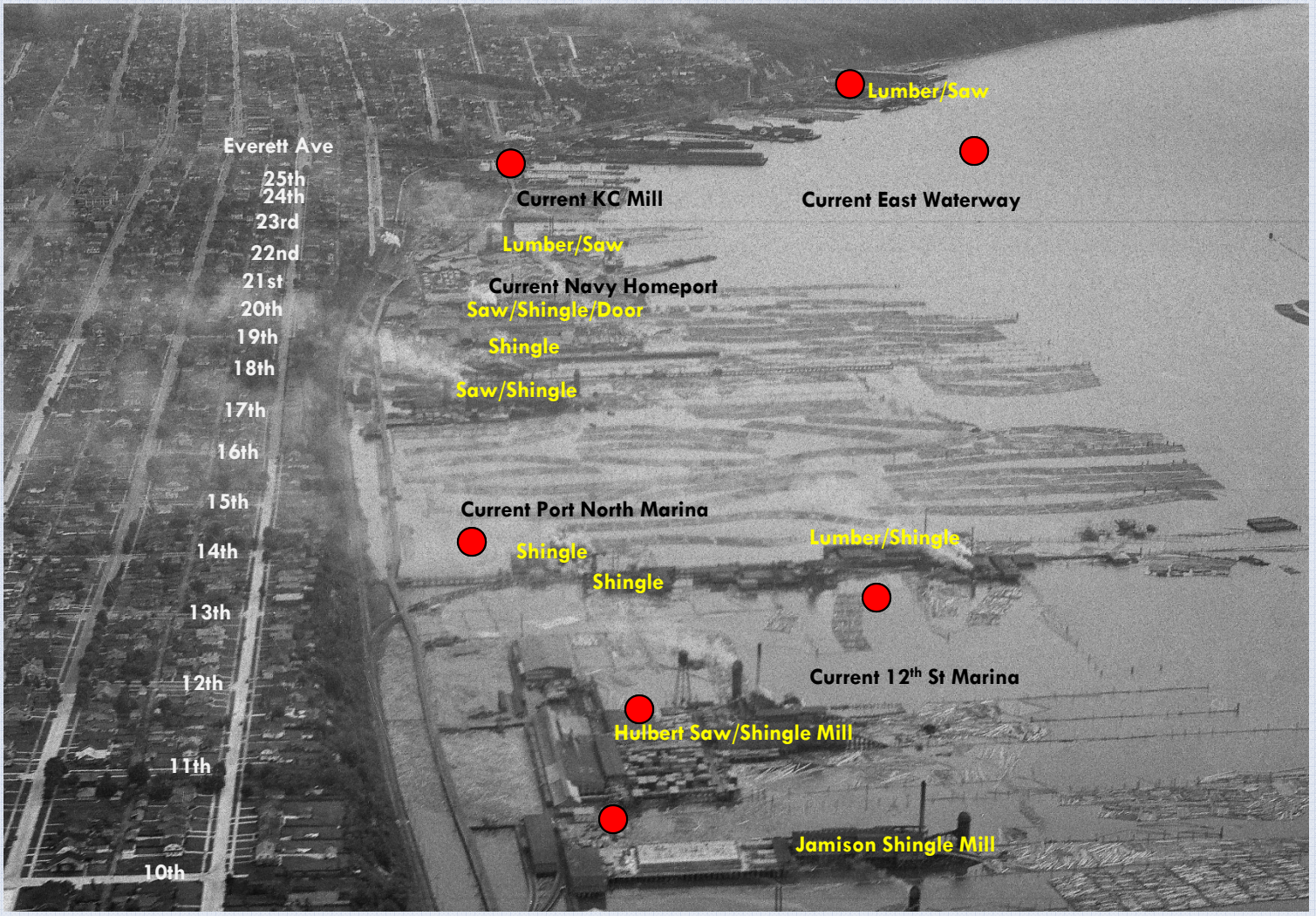
Port Gardner PSI Sites include:

- Jeld-Wen
- Bay Wood Products
- Everett Shipyard
- West End
- Ameron/Hulbert
- TC Systems Inc
- ExxonMobil ADC
- Mill A
- East Waterway
- Everett Smelter (Lowland Area)

Port Gardner PSI Sites

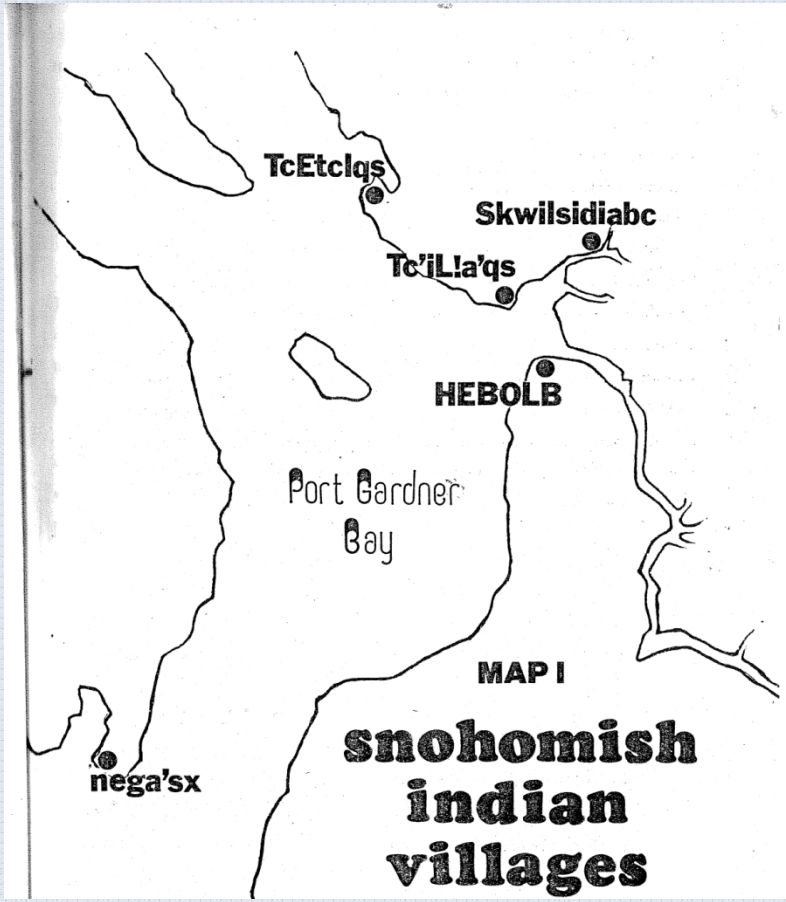
Historical Everett 1928

● *PSI Site*



Port Gardner PSI Sites

Working with Tribes



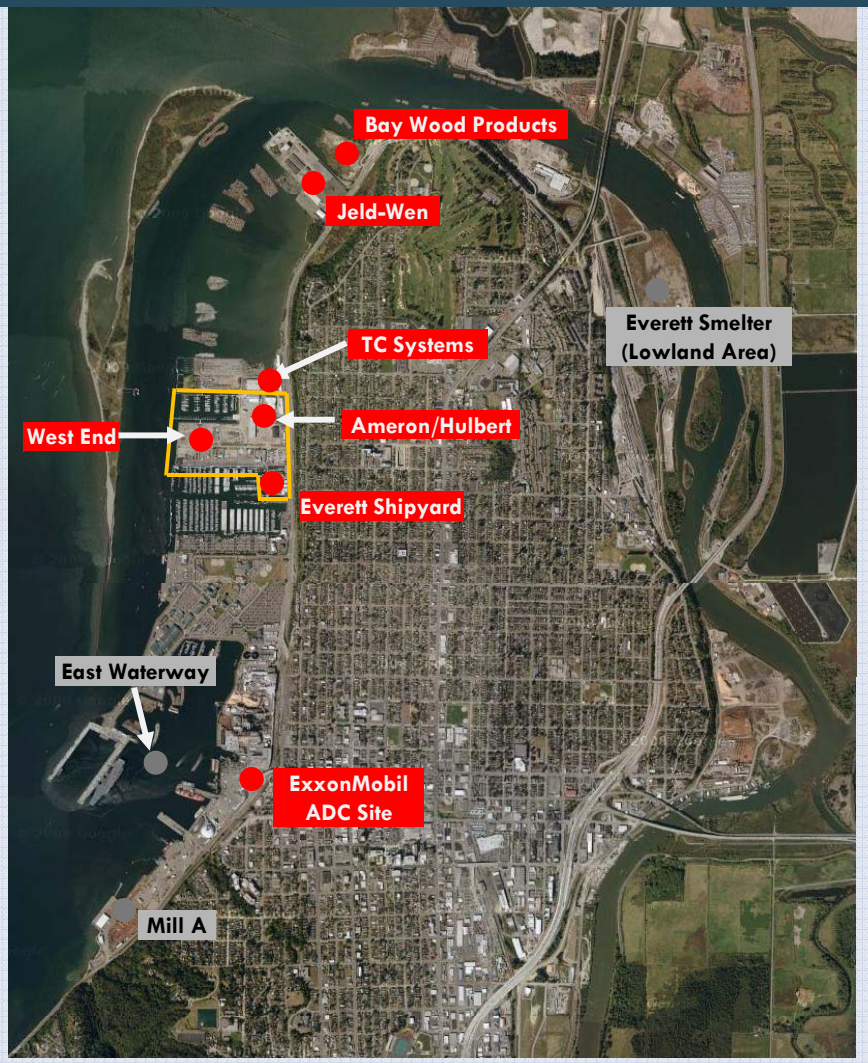
Mother of chief William Shelton, who was born at Hibulb, 1905

Photo by Norman Edson, Courtesy Everett Public Library (Image No. 070)

Port Gardner PSI Sites

Site Status

- **Agreed Orders** – Complete at 7 sites
  - Jeld-Wen – 2008
  - Everett Shipyard – 2008
  - West End – 2008
  - Bay Wood – 2008
  - Ameron/Hulbert – 2009
  - ExxonMobil ADC – 2010
  - TC Systems – 2010



Port Gardner PSI Sites

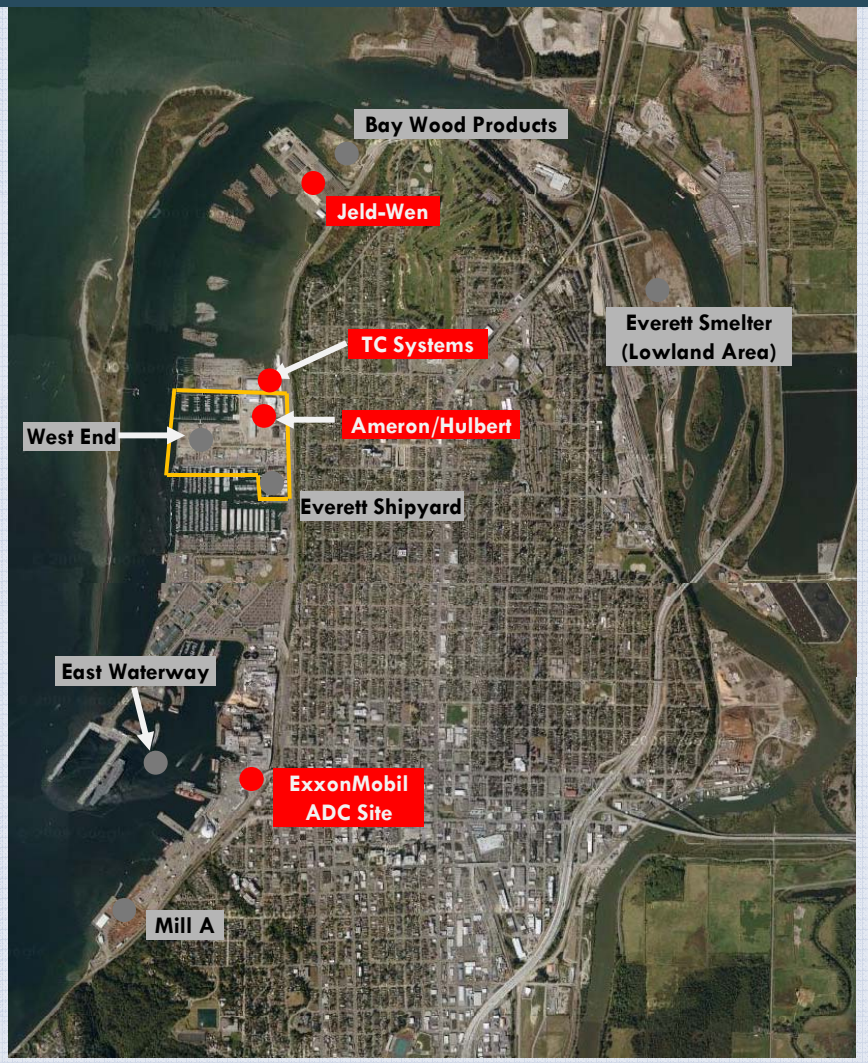
Site Status

- **RI/FS investigations**
  - **RI/FS reports** – Three public comment periods in early to mid 2011
  - **Draft CAP/Consent Decree** – Three public comment periods in mid to late 2011

Port Gardner PSI Sites

Site Status

- **RI investigations** – In progress at 4 sites



Port Gardner PSI Sites

Site Status

- **Mill A** – Begin formal process in Spring 2011
- **East Waterway** – Begin formal process in late 2011
- **Everett Smelter (Lowland)** – Identifying data gaps and developing work plans – managed by Ecology's Northwest Regional Office

Port Gardner PSI Sites

General Site Characteristics

- **Sources**
  - USTs/ASTs
  - Maritime activities
  - Milling
  - Manufacturing
  - Petroleum storage
  - Pulp and paper
  - Metal finishing
  - Smelting
  - Log storage
  - Pole treating, creosote timbers

- **Site Media** – Soil, groundwater, marine sediment

- **Contaminants** – Metals, PAHs, petroleum, solvents, PCBs, dioxins, tributyltin

Port Gardner PSI Sites

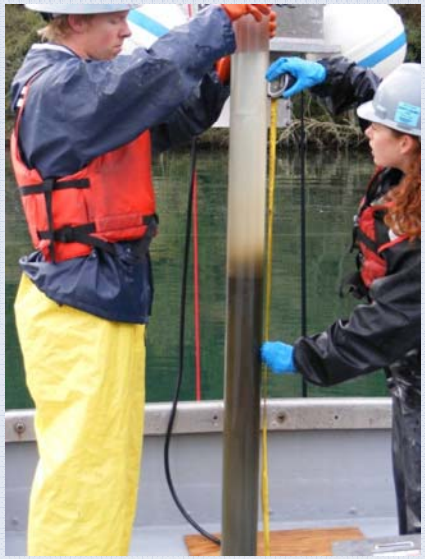
2008 Baywide Study

- Wide Coverage
- Four Focus Areas

Port Gardner PSI Sites

2008 Baywide Study

- 82 sampling locations
- General condition of the sediments
- Distribution of wood waste



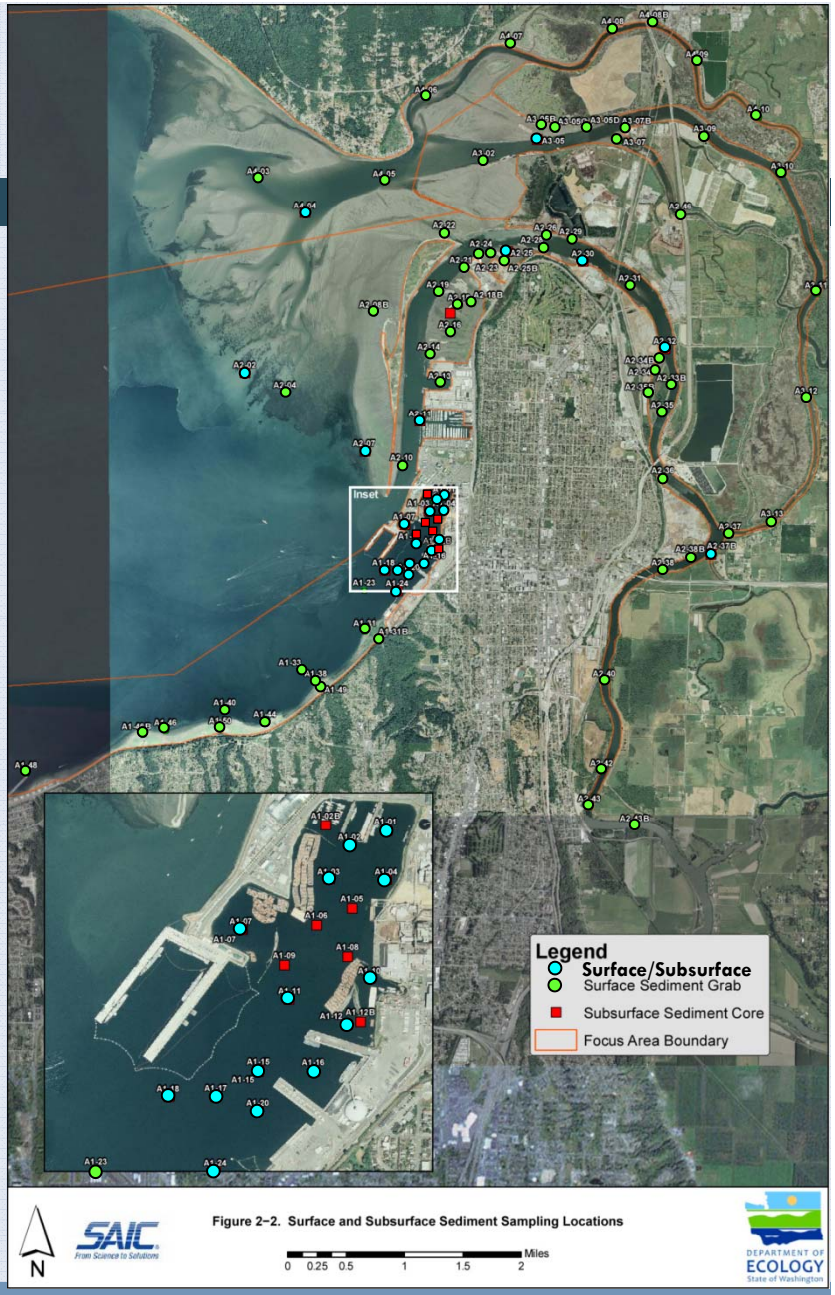
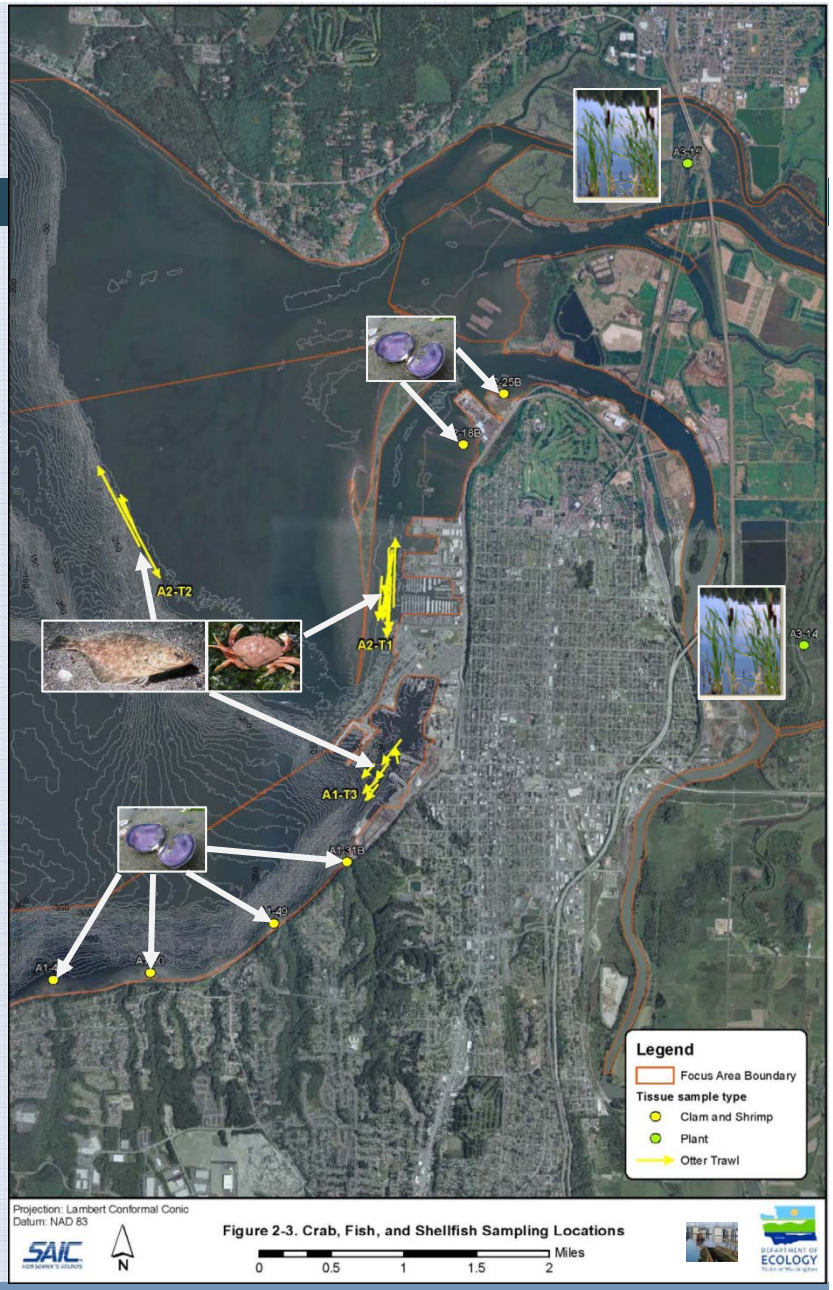


Figure 2-2. Surface and Subsurface Sediment Sampling Locations

Port Gardner PSI Sites

2008 Baywide Study

- Identify concentrations of chemicals in tissue (fish, shellfish, plant)



Port Gardner PSI Sites

2008 Baywide Study Results

- **East Waterway/Mill A sediments are the most impacted**
  - Biological toxicity and chemical exceedances
  - Higher levels of Dioxins/Furans
  - Highest wood debris accumulations
- **Maulsby Mudflats and Sloughs**
  - Biological toxicity
  - Lower levels of Dioxin/Furans
- **Tissue**
  - **Metals** – Arsenic, copper, and zinc had the highest concentrations
  - **PCBs** – Non-detect in the tissue meat; detected in the fatty material (i.e., hepatopancreas)
  - **Dioxin/Furans** – Detected in the tissue meat; high concentrations in the fatty material
- **Department of Health** is working on a health consult

Everett Shipyard Site – 2006 Aerial Photo

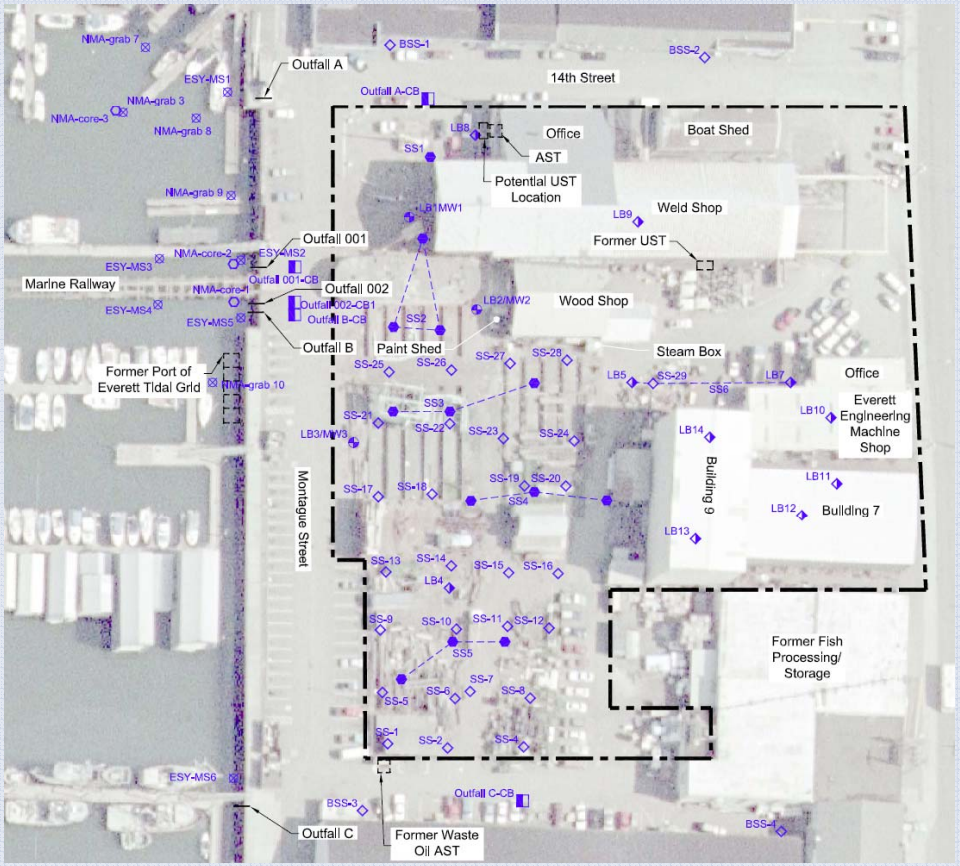
Primary Contaminant Sources

- **Sand Blast Grit and Paint Chips** – Runoff (storm drain; overland flow; particulates in air)
- **Underground and Above-ground Storage Tanks** – Containing petroleum (oil, diesel, gasoline)
- **General Chemical Use** – Use of paints, solvents, cutting oils, glues, hydraulic oil, creosote, rust preventers, and antifreeze
- **Net Dipping Operation**
- **Former Boat washing/maintenance** by Port customers over the travel lift area and at the former tidal grid

Early Sampling Investigations

Previous Sampling

- 1987 Ecology Soil Sampling
- 2003/2004 Port Phase II Investigation
- 2007 Everett Shipyard, Inc. Supplemental Site Characterization



Remedial Investigation (RI) – 2008 to 2010

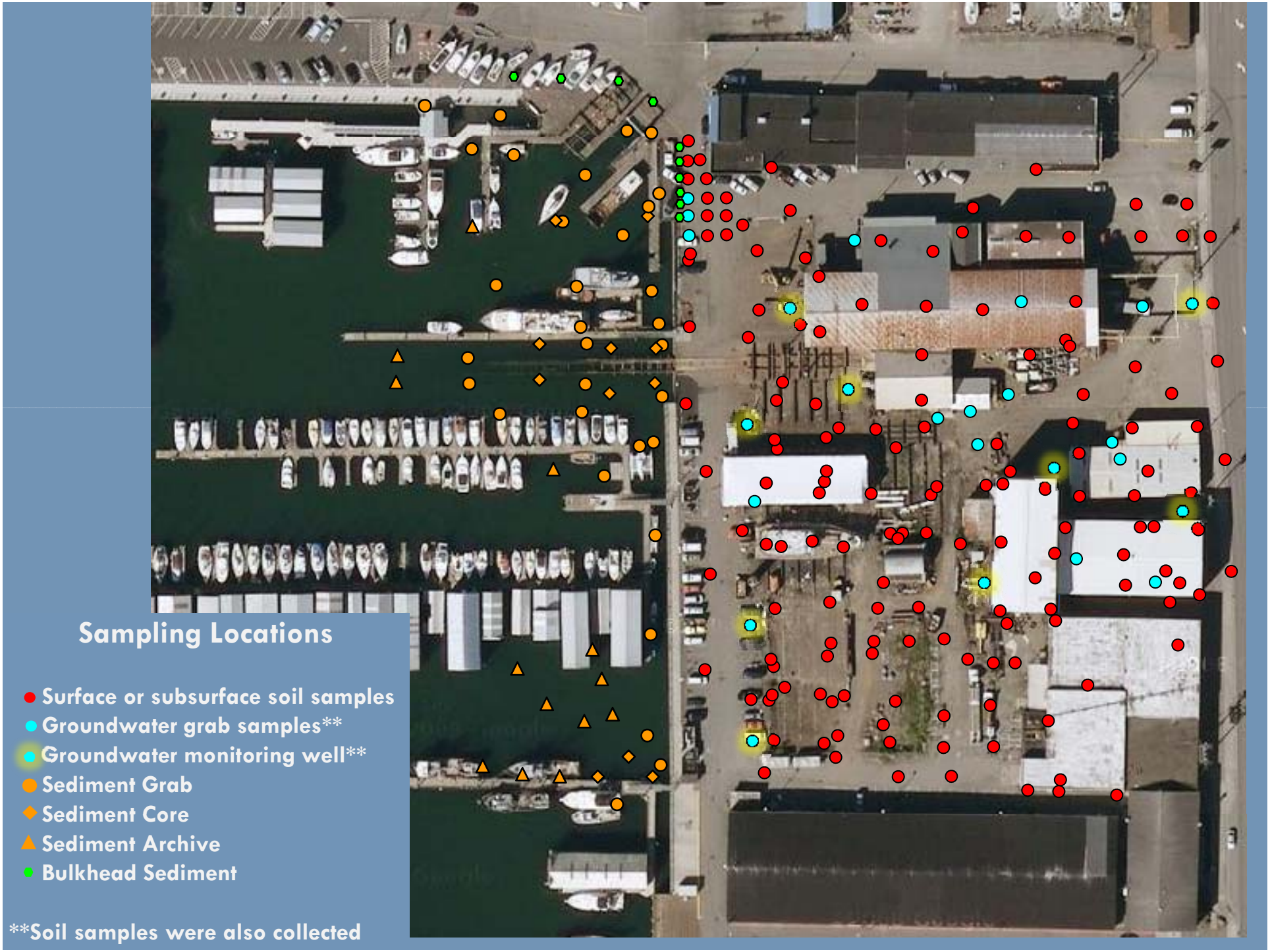
Purpose: Identify the nature and extent of contamination and threat to human health and the environment.

RI Sampling (3 Phases)

- **Soil Sampling (>100 locations)**
- **Groundwater Sampling (19 locations)**
- **Sediment Sampling (>50 locations)**
- **Analyses for:**
  - Metals and Organotins
  - Polychlorinated biphenyls (PCB)
  - Total petroleum hydrocarbon (TPH)
  - Semi volatile organic compounds (SVOC)
  - Volatile organic compounds (VOC)

Other Activities

- **Geophysical Survey**
- **Catch Basin Investigation**


Sampling Locations
Surface or subsurface soil samples
Groundwater grab samples**
Groundwater monitoring well**
Sediment Grab
Sediment Core
Sediment Archive
Bulkhead Sediment
**Soil samples were also collected

Remedial Investigation Results

- **Soil results**
  - Metals and PAHs found widely
  - TPH and PCBs found in some locations
  - TPH found near travel lift bulkhead
  - PCBs found in the vicinity of the Everett Engineering Building 9
  - Mostly surface contamination (0 to 3 feet)
- **Groundwater results**
  - Dissolved arsenic exceeded its cleanup level at two locations
  - Dissolved nickel and zinc exceeded cleanup levels in only one location
  - Diesel Range Petroleum exceeded at one location near the travel haul out area

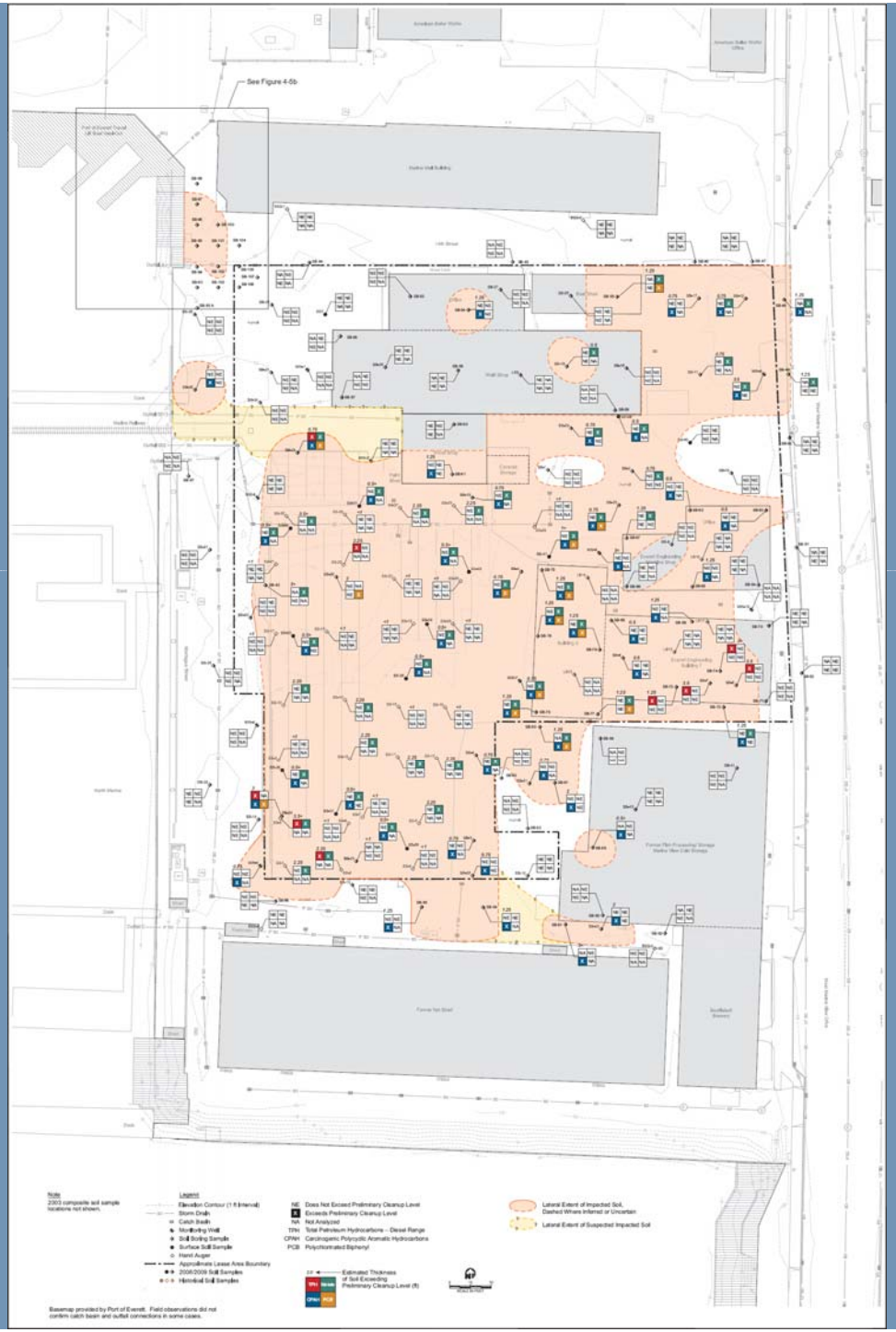
Remedial Investigation Results (cont'd)

- **Sediment results**

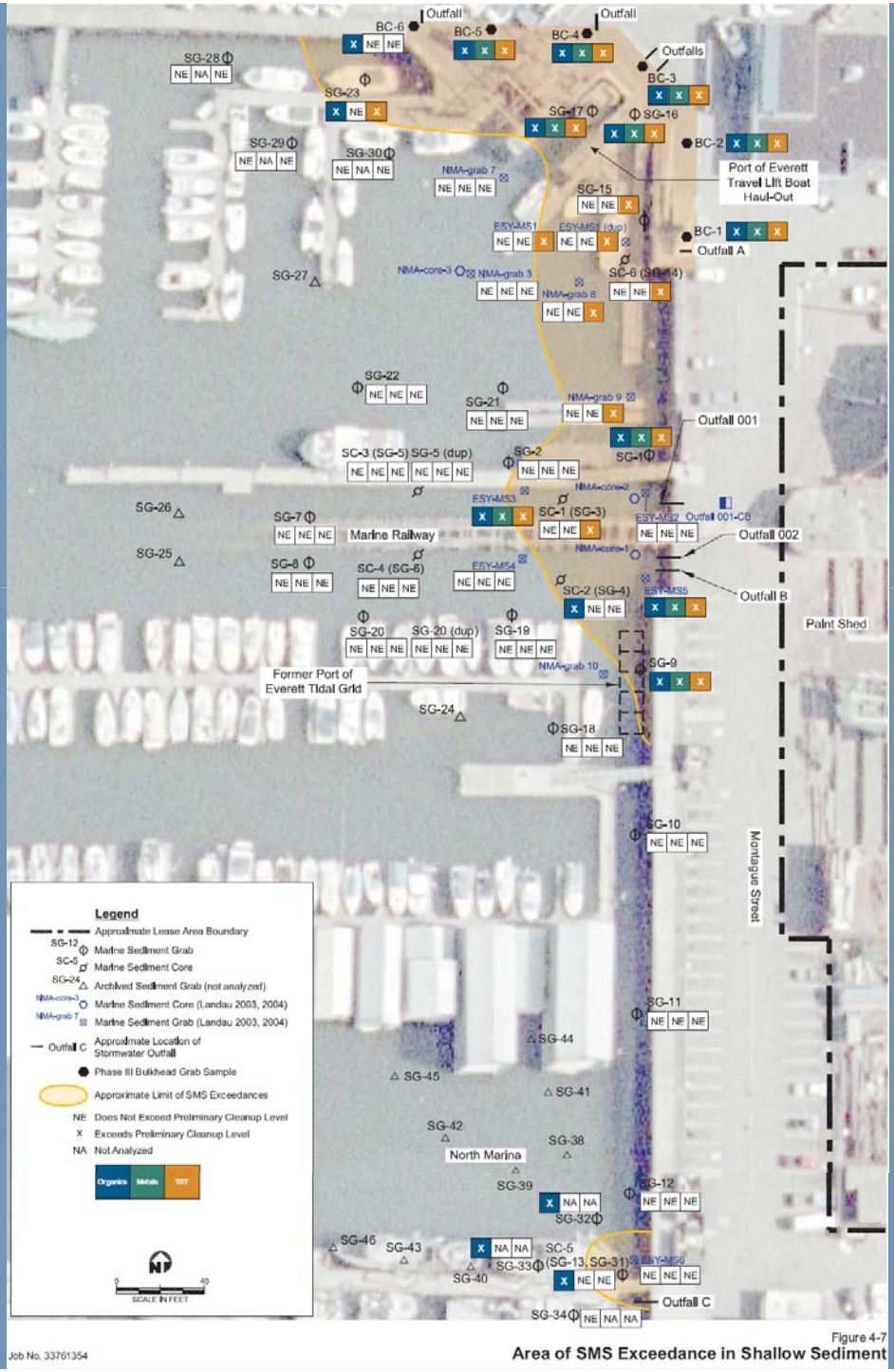
  Exceedances include:
  - SVOCs
  - Metals including arsenic, copper, lead, mercury, silver and zinc
  - Tributyltin
  - PCBs
  - One bioassay failure

Found the presence of petroleum in the bulkhead sediments

Extent of Soil Contamination (2.7 acres)



Extent of Sediment Contamination (0.6 acre)



Contaminants and Risk

- **Upland soil contaminants:**
  - Are a risk to people through direct contact and inhalation (e.g., windblown dust)
  - May be transported to Puget Sound via stormwater runoff and as windblown dust
- **Groundwater contaminants:**
  - Arsenic and petroleum contamination may flow to the adjacent Puget Sound posing a risk to marine life
  - Exposure to contaminants in shallow groundwater during construction activities may be a concern
  - Groundwater at the Site is not potable
- **Sediment contaminants:**
  - Are at concentrations that pose risk to marine life

Feasibility Study (FS)

The purpose of the FS is to evaluate potential cleanup action alternatives and recommend a preferred cleanup action.

*Based on the results of the RI, four cleanup action alternatives were identified and evaluated for the **upland portion** of the Site: 1.8 to 5.4 Million*

- **Alternative 1**
  - Targeted excavation (1,300 cubic yards)
  - Engineered-cap
- **Alternative 2**
  - Excavation (9,400 cubic yards)
  - Engineered-cap
- **Alternative 3**
  - Building demolition
  - Mass excavation (18,800 cubic yards)
- **Alternative 4**
  - Limited building demolition
  - Bulk excavation (14,800 cubic yards)
  - Engineered-cap

All alternatives include off-site disposal of contaminated soil, institutional controls and long-term monitoring. All are subject to a Soil/Groundwater Management Plan

Feasibility Study (FS) (cont'd)

*Based on the results of the RI, two cleanup action alternatives were identified and evaluated for the **in-water portion** of the Site: 2 Million for both*

- **Alternative 1**
  - Targeted dredging
  - Containment
- **Alternative 2**
  - Mass dredging

Preferred Alternatives – Upland portion

The FS identifies Alternative 4 as the preferred alternative for the upland portion of the Site (3.8 Million)

- **Limited building demolition**
  - Remove two buildings under which high levels of PCBs and petroleum impacted soil were found
- **Bulk excavation (14,800 cubic yards)**
  - Excavate all impacted soil close to Puget Sound and in areas with the highest contaminant concentrations
- **Engineered-cap**
  - Install an engineered cap on remaining soils containing concentrations of hazardous substances above cleanup levels
  - Implement a Soil/Groundwater Management Plan if the CAP is compromised and/or the remaining buildings are demolished (anticipated for 2012)
- **Other**
  - Dispose of contaminated soil off-site
  - Clean out the stormwater system and modify, as needed
  - Conduct groundwater monitoring and institutional controls

Upland

Proposed Cleanup Action

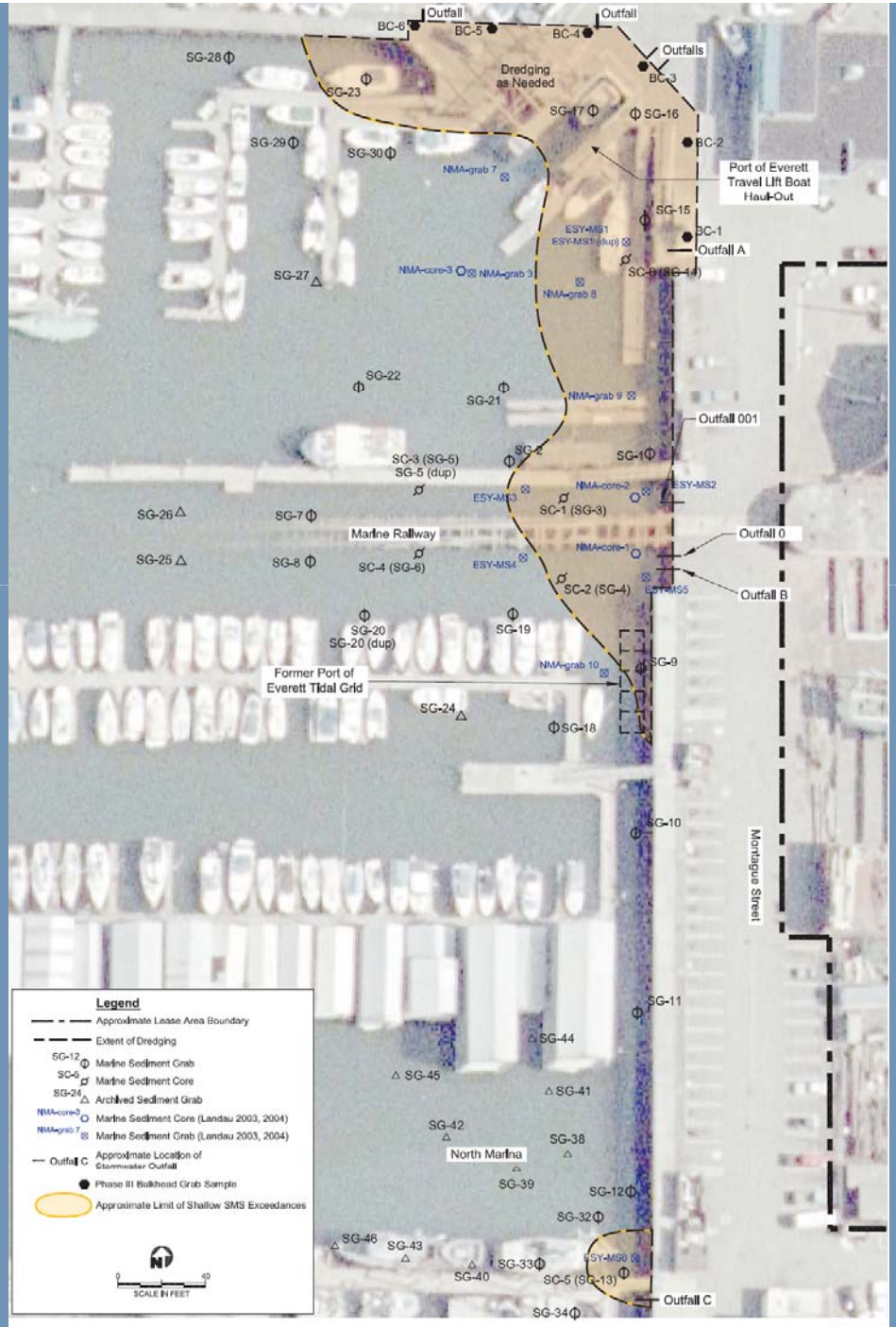
Preferred Alternatives – In-water portion

The FS identifies Alternative 2 as the preferred alternative for the in-water portion of the Site. It is the most permanent alternative and would remove all of the impacted sediments.

- **Mass dredging**
  - Remove all sediment exceeding cleanup levels with clamshell, environmental bucket or fixed-arm dredging
  - Remove the marine railway and sediments beneath the railway
  - Replace sediment removed from between the bulkheads with clean fill to stabilize the bulkheads
  - Open-water disposal or dewater sediments and off-site disposal
  - Compliance sampling and confirmation sampling to document removal of all dredged materials

In-Water

Proposed Cleanup Action



Job No. 33761354

Figure 9-7
Marine Sediment Alternative 2 - Mass Dredging

Everett Shipyard Site Schedule

Everett Shipyard, Inc. Site		Date
Agreed Order		Apr. 2008
RI/FS Report Public Comment (Site Investigation Results)		Feb. 2011
Draft CAP/CD Public Comment (Cleanup Action Plan)		August 2011
Environmental Permitting		July 2011 to June 2012
Finalize Remedial Design	Upland	Mar. 2012
	In-water	July 2012
Cleanup Construction	Upland	May 2012
	In-water	Sept. 2012

Port of Everett Redevelopment

Why is the Everett Shipyard Site important?

*The Port of Everett is redeveloping the waterfront as part of the **Port Gardner Wharf Project**. Future uses may include: commercial, residential, recreation, and marina related use.*

Upland Plans

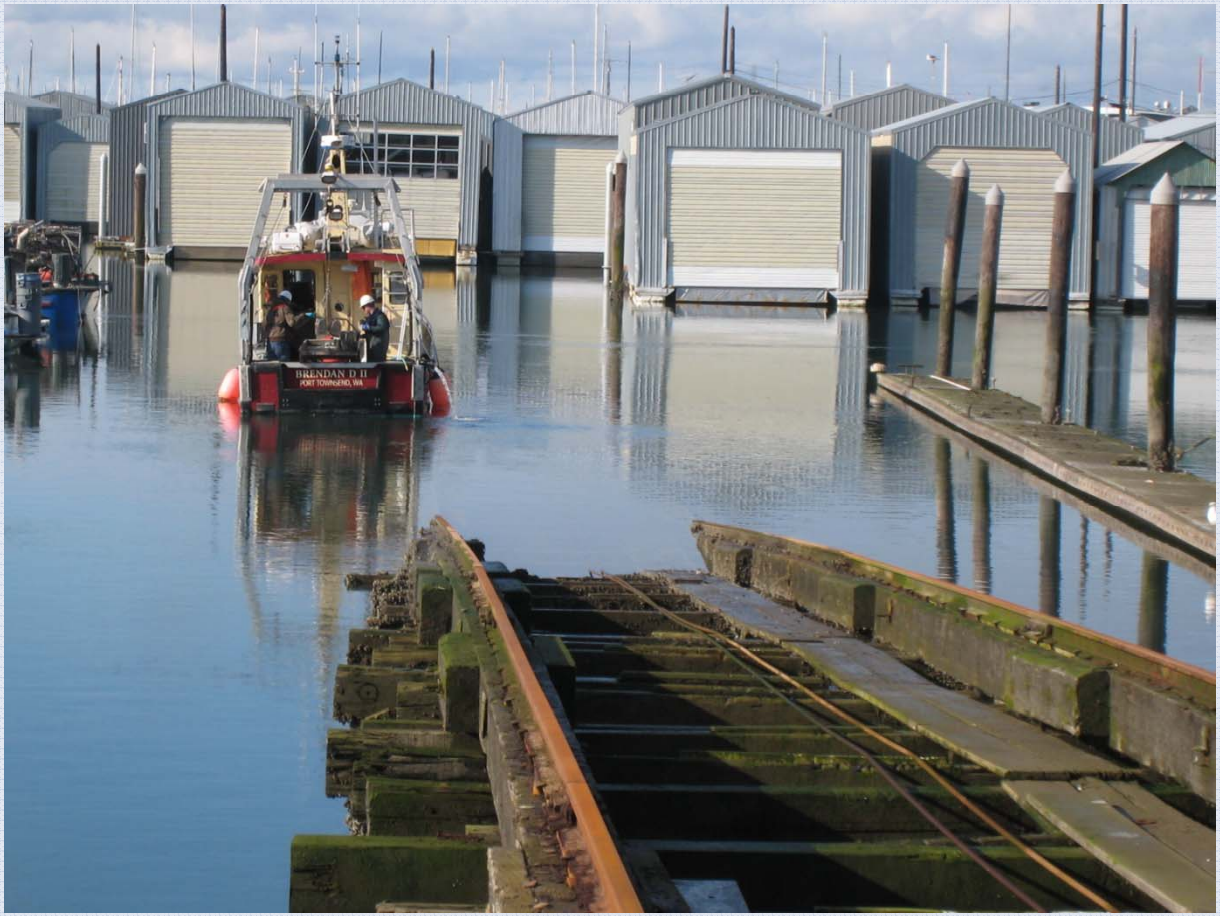
- Demolish all on-site buildings*
- Upgrade stormwater system to a "state of the art" filter system
- Redevelop in accordance with current zoning

In-water Plans

- Remove marine railway
- Construct a public esplanade adjacent to the water
- Continue marina operations

*New infrastructure will be constructed, including roadways and utilities.

QUESTIONS?



YOUR INPUT IS VALUABLE

- ✓ ***Fill out a comment form tonight***
- ✓ ***Visit Ecology's Toxics Cleanup Website at:***
  www.ecy.wa.gov/programs/tcp/sites/psi/everett/psi_everett.html
- ✓ ***Review the Everett Shipyard Site documents at the Everett Public Library***
- ✓ ***Send your comments to:***

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  Toxics Cleanup Program
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  Olympia, WA 98504-7600
  E-mail: *hpar461@ecy.wa.gov*