

# **West Oakland Bay Shelton Harbor Restoration & Conservation**

Scott Steltzner

Squaxin Island Tribe









GoldSavory Creek

SteelBent Creek

Acme Steel  
Mill

Acme Steel  
Mill







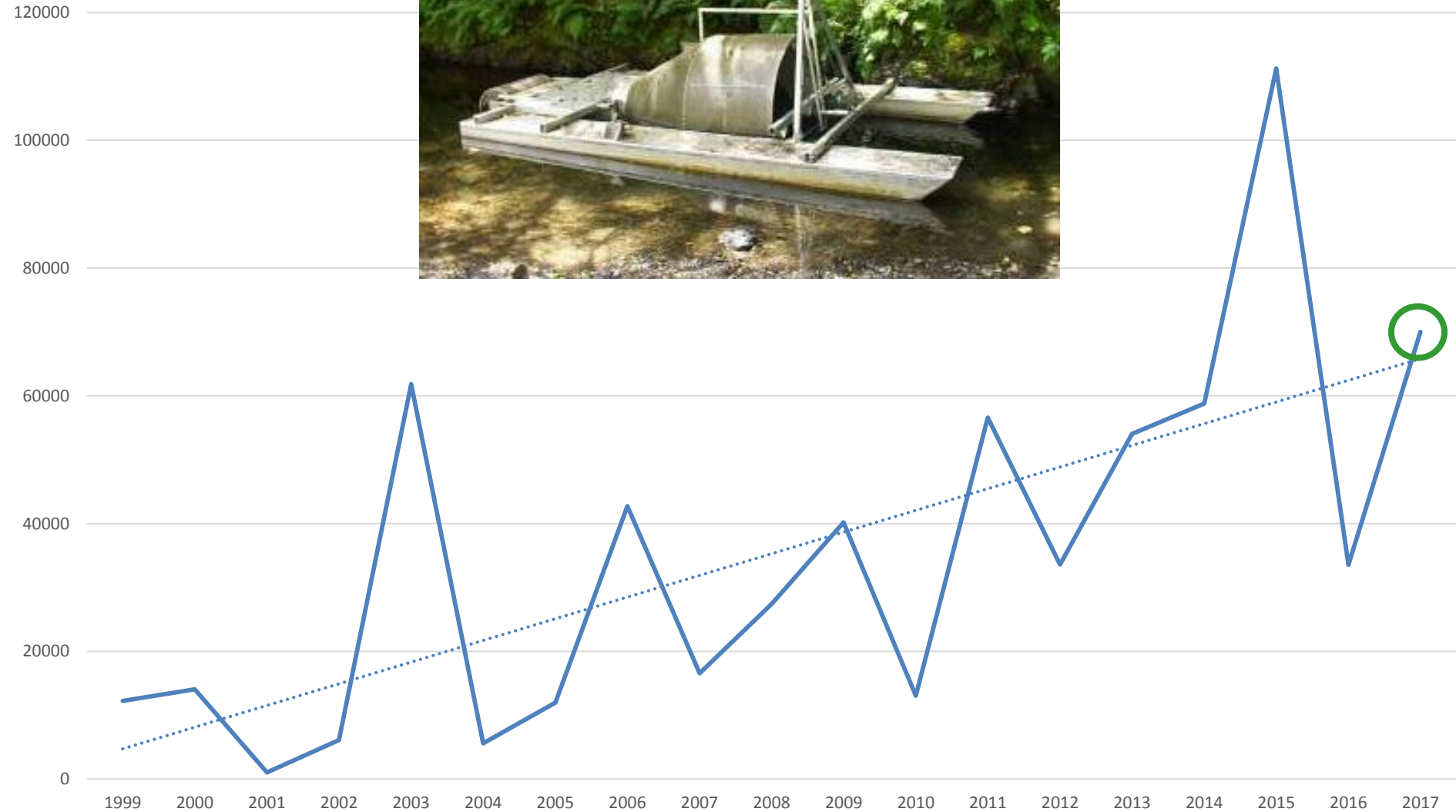




# 2000 Dam Removal

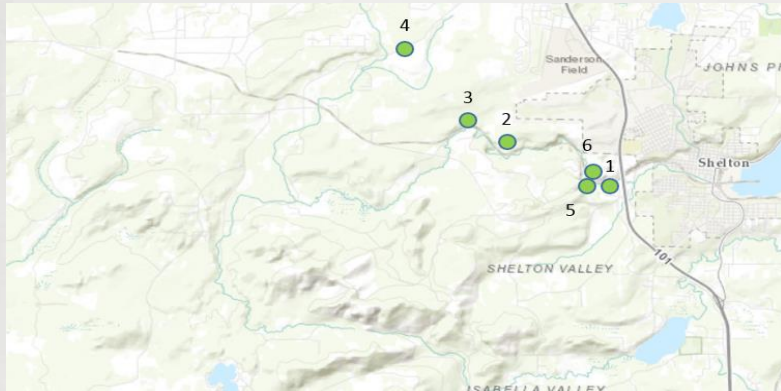


# Goldsborough Creek Coho Smolts



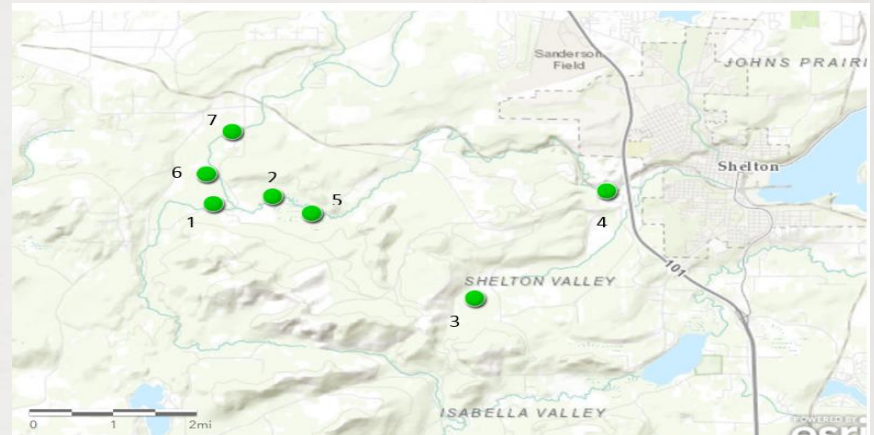
# Focus on Goldsborough 2005

Project partners agreed to focus restoration and conservation actions (not exclusively) in the Goldsborough watersheds



## Restoration focused on anadromous reaches

1. 2001 Goldsborough Dam removal- 25 miles plus extensive wetlands
2. 2013 Midway creek 1 culvert- 0.6 miles plus wetlands
3. 2016 Likes Creek 5 culverts- 1 mile plus wetlands
4. 2010 riparian planting- 43 acres
5. 2016 off channel reconnection- 7 acres
6. 2014 install 180' crib wall, LWD and create high flow channel



## Conservation focuses on preserving land adjacent to streams

1. 2005 Pannell- 18.71 acres
2. 2008 Rose- 40.19 acres
3. 2009 Olli- 58.28 acres
4. 2010 Hilburn- 10.06 acres
5. 2012 Granquist- 30.91 acres
6. 2013 North Fork Preserve- 147.14 acres
7. 2015 Rose II- 19.10 acres



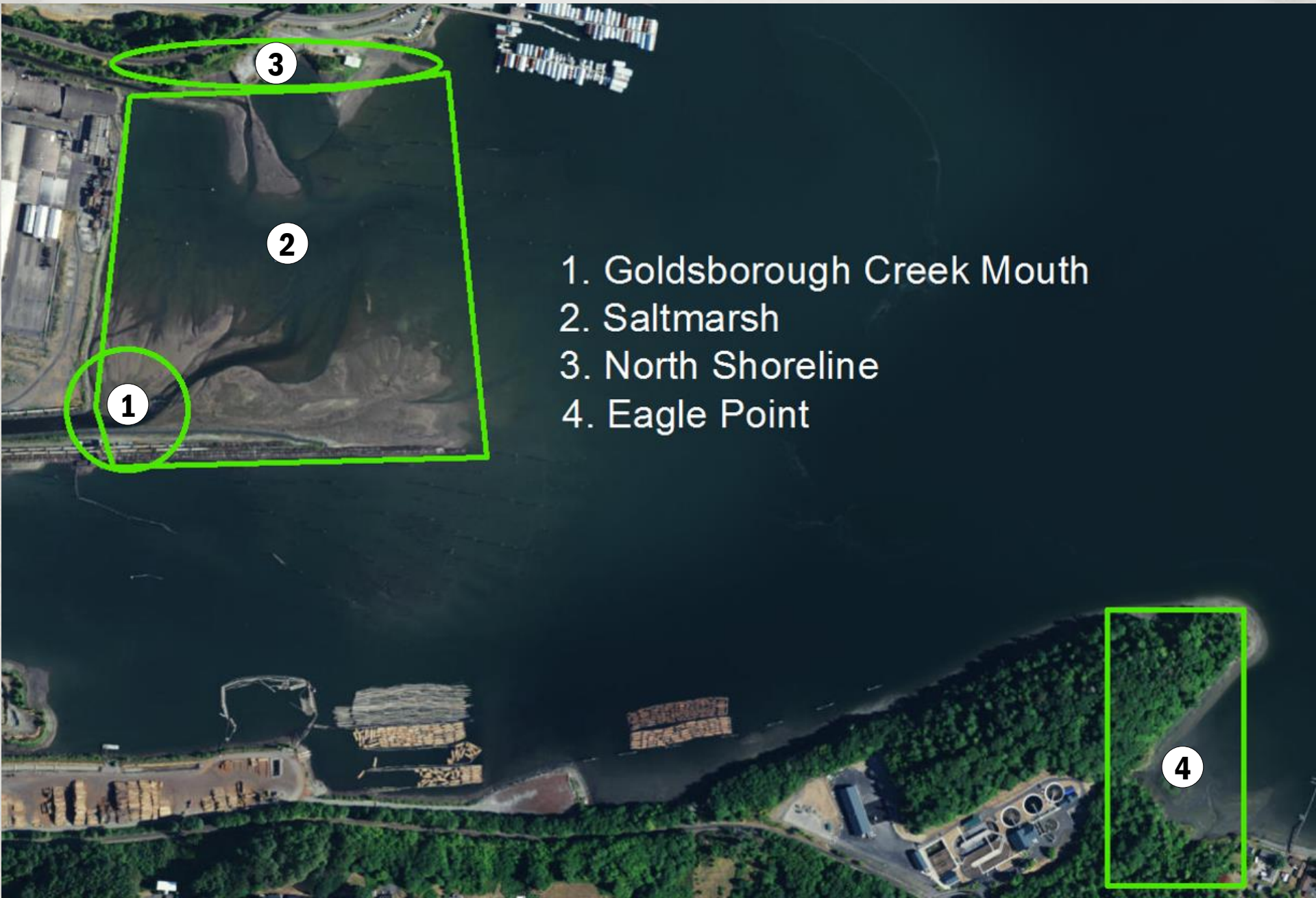
# Focus on Oakland Bay 2005

Project partners agreed to focus restoration and conservation actions in the Oakland Bay watershed.

Conserved-  
260 acres– 4.5 miles shorelines

Restored-  
riparian planting and dike removal, boat launch removal  
States first certified “Clean Marina”





1. Goldsborough Creek Mouth
2. Saltmarsh
3. North Shoreline
4. Eagle Point



# Eagle Point January 2017



# Eagle Point January 2017

Conserve:

2 acres wetlands

4 acres tidelands

8 acres riparian

1/3 mile of shoreline





# Eagle Point January 2017

Passive Park

Trails

Overlook

Beach access

Kayak launch

Cost estimate-  
\$265,000

Cost actual-  
\$152,000



# Log Jams November 2017

Alternative 2 chosen

9 log jams

Cost estimate  
\$235,000

Cost Actual  
\$175,000





# Log Jams November 2017



# Log Jams November 2017





# Log Jams November 2017



# Log Jams November 2017

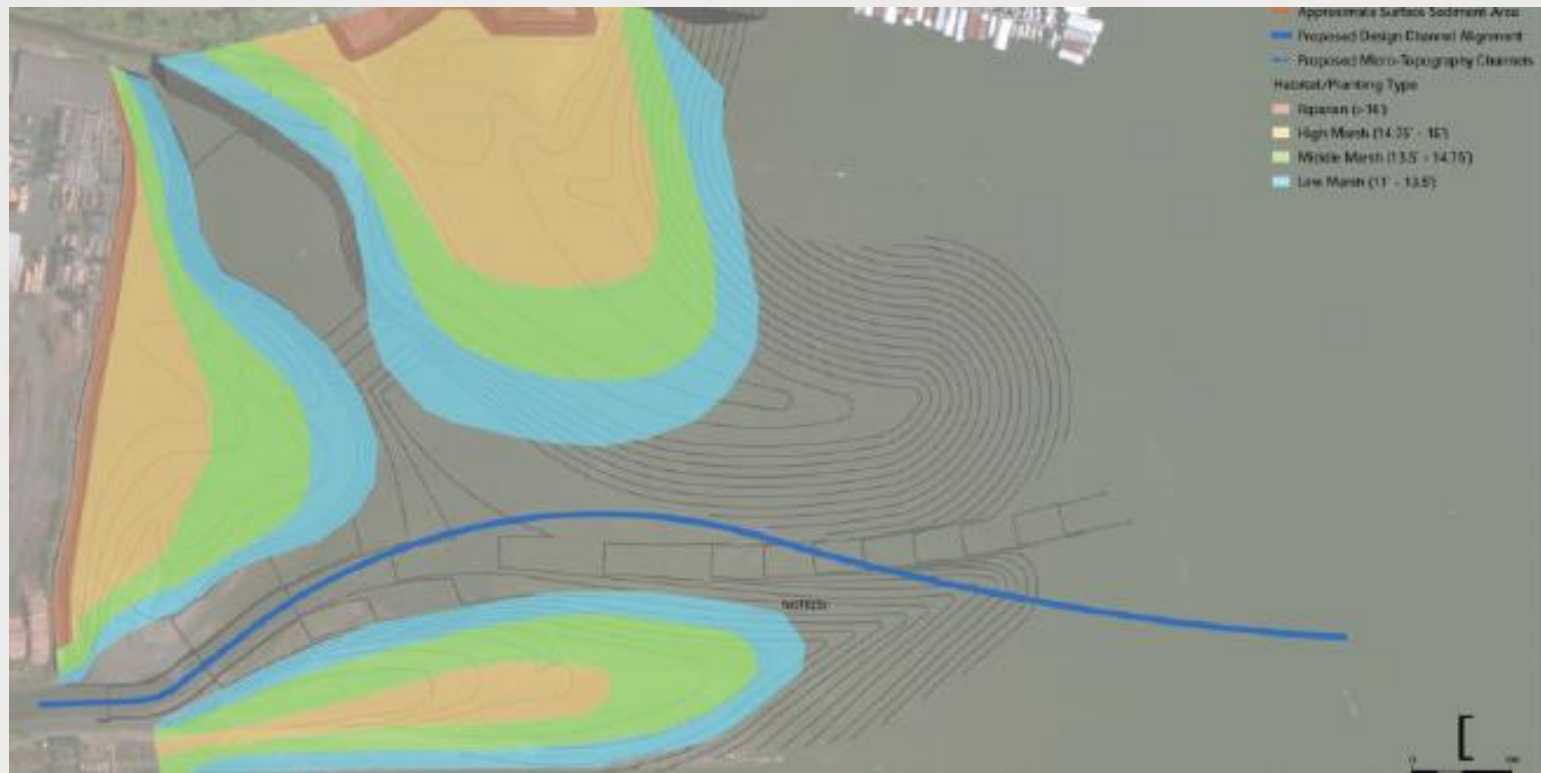




# Log Jams November 2017



# West Saltmarsh 2018





# Reference Estuaries



# Estuaries

## Puget Sound Action Agenda



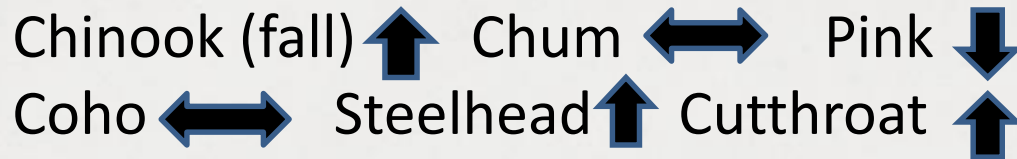
- 3/4 of tidal wetlands in river deltas have been lost
- Estuaries provide important feeding and resting habitat for young salmon, migratory birds, and many other species
- Young salmon that spend time in delta estuaries grow faster and are more likely to survive their ocean migration.



# Scientific

- Important for smoltification- transition to salt

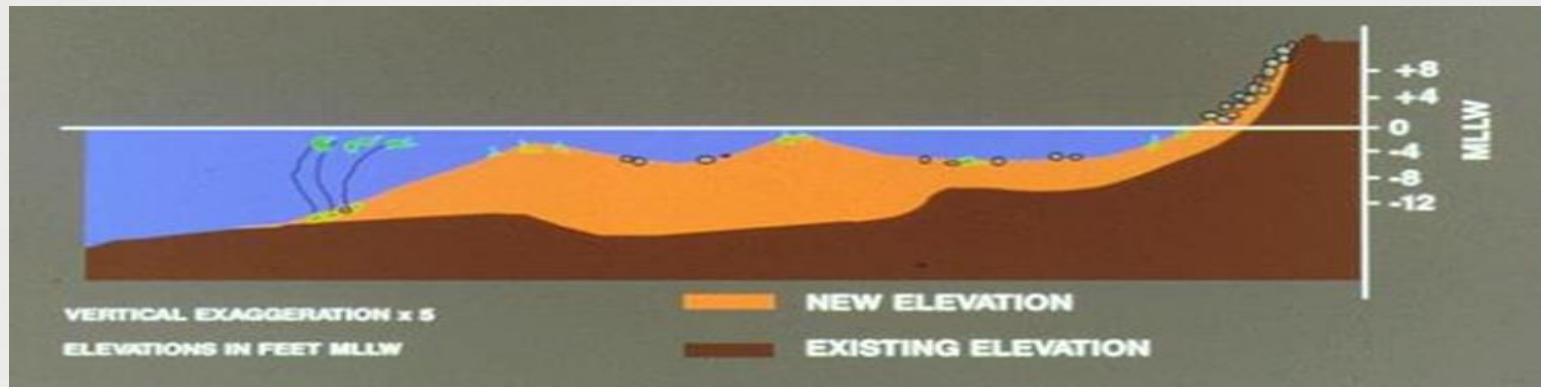
- Species dependent



- Juvenile salmon can spend days to months rearing and feeding
- Nisqually estuary restoration found that the only adults to return were those that reared in the estuary
- Age 0 coho fry rearing in estuaries >2% survival

# Feasibility

Objective = provide desired elevation to support natural saltmarsh





# Impressive Numbers

Creosote Pilings Removed – 811

Overwater structure removed- 18,200 s.f. (1/2 an acre)

Bulkheads removed- 1/2 mile

Dikes removed-1/4 mile

Salt marsh created- 47 acres

Wood added- 9 ELJ's

Marine shoreline protected- 0.83 miles

Marine riparian planted-1/2 mile

Riparian protected- 14 acres

Estuary conserved- 59 acres

# Scary Numbers

## Fill

South Lobe 64,931 CY

West lobe 151,941 CY

North lobe 297,416 CY

## Cost

South Lobe \$1,339,123

West lobe \$2,135,505

North lobe \$4,256,417

## Funding to date

Salmon Recovery Funding Board- \$1,600,000

National Coastal Wetlands- \$1,000,000

National Estuary Program- \$ 82,000

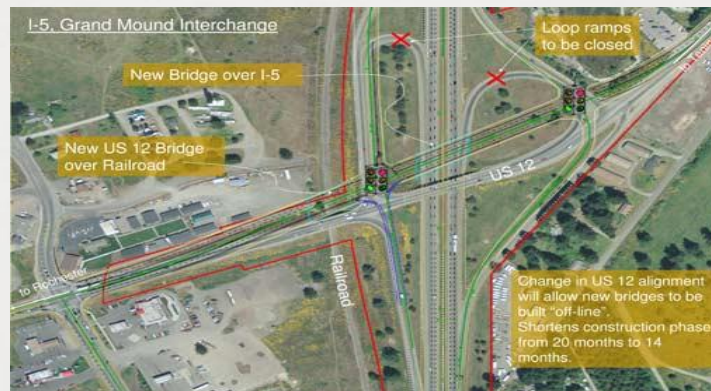
National Fish & Wildlife- \$50,000

Local Partners- \$110,000



# Reality Check

WSDOT Rebuild I5 Interchange in Grand Mound for Future Growth - \$26,6370,000



WSDOT Add Fiber Optic Cable Along for SR 510/512 for ? - \$1,475,000

## How You Benefit



### Relieves Congestion

WSDOT is expanding its electronic infrastructure that supports "smart highway" devices such as variable-message signs, ramp meters and closed-circuit TV cameras. All these devices help WSDOT manage traffic flow and communicate real-time traffic conditions to the public and media.

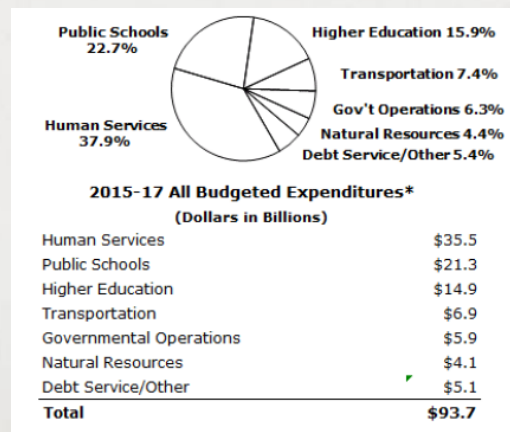
This project was preparatory to larger projects coming in the future in which crews will install the actual communication devices.

# Reality Check

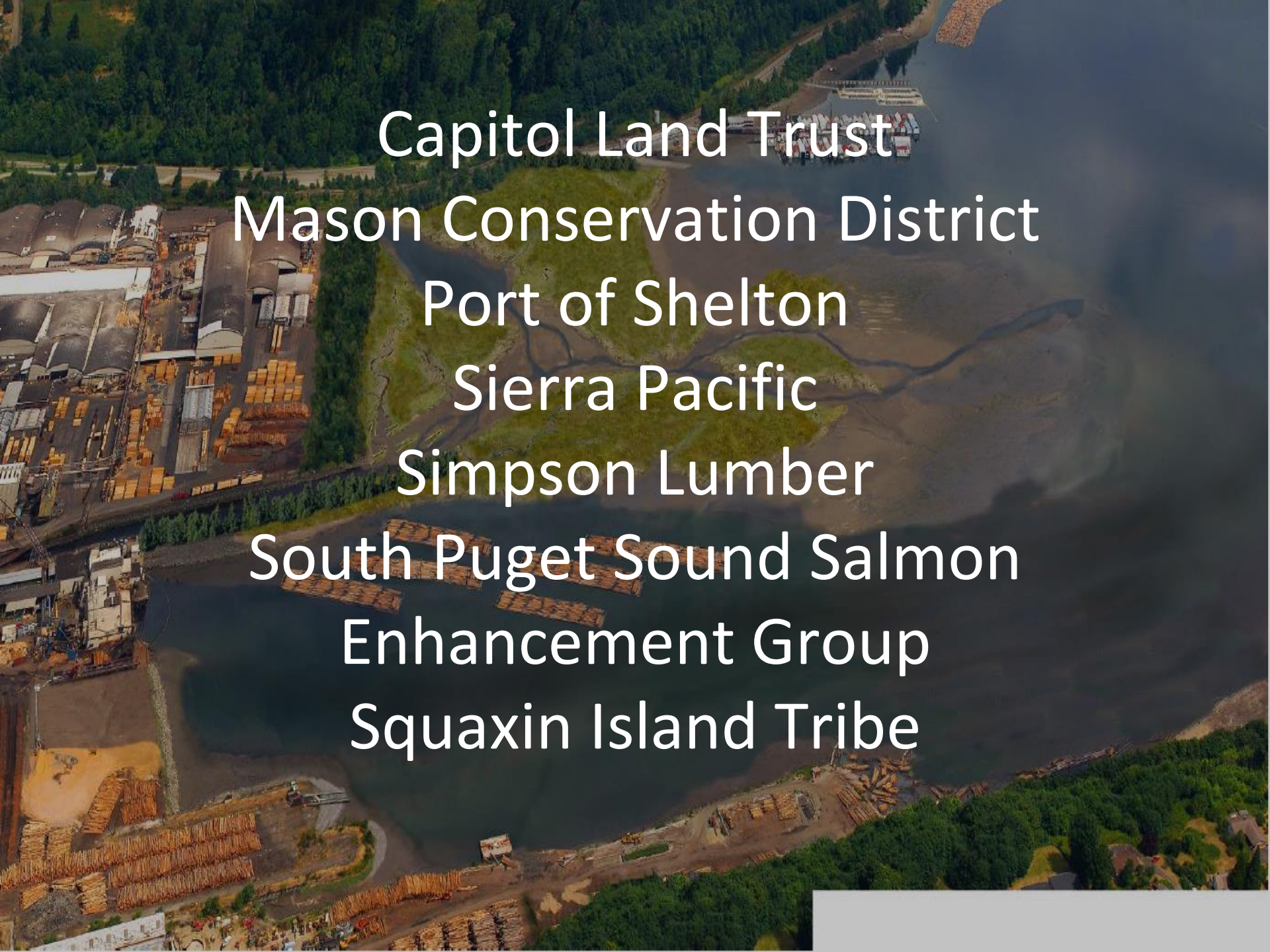
Chehalis Western Trail Pacific Avenue Bridge Lacey- \$2.6 million



State Spends Approximately 2% of the Budget on Recovery and Conservation





An aerial photograph showing a wide river with a large industrial lumber yard on the left bank. The yard is filled with stacks of cut lumber and several large, dark-roofed buildings. The river flows from the top right towards the bottom left. In the background, there are dense green forests. The text is overlaid in the center of the image.

Capitol Land Trust  
Mason Conservation District  
Port of Shelton  
Sierra Pacific  
Simpson Lumber  
South Puget Sound Salmon  
Enhancement Group  
Squaxin Island Tribe



An aerial photograph of Shelton Harbor, showing a mix of industrial and natural features. On the left, there are large industrial buildings with curved roofs and extensive stacks of lumber. A river or stream flows into the harbor from the top left, passing through a green, marshy area. In the upper right, a marina is filled with numerous small boats. The harbor water is dark, and there are several large rafts of lumber floating in it. The surrounding landscape includes dense green forests and some residential areas visible in the bottom right corner.

<http://sheltonharbor.org/>

<http://www.squaxin-nr.org/>



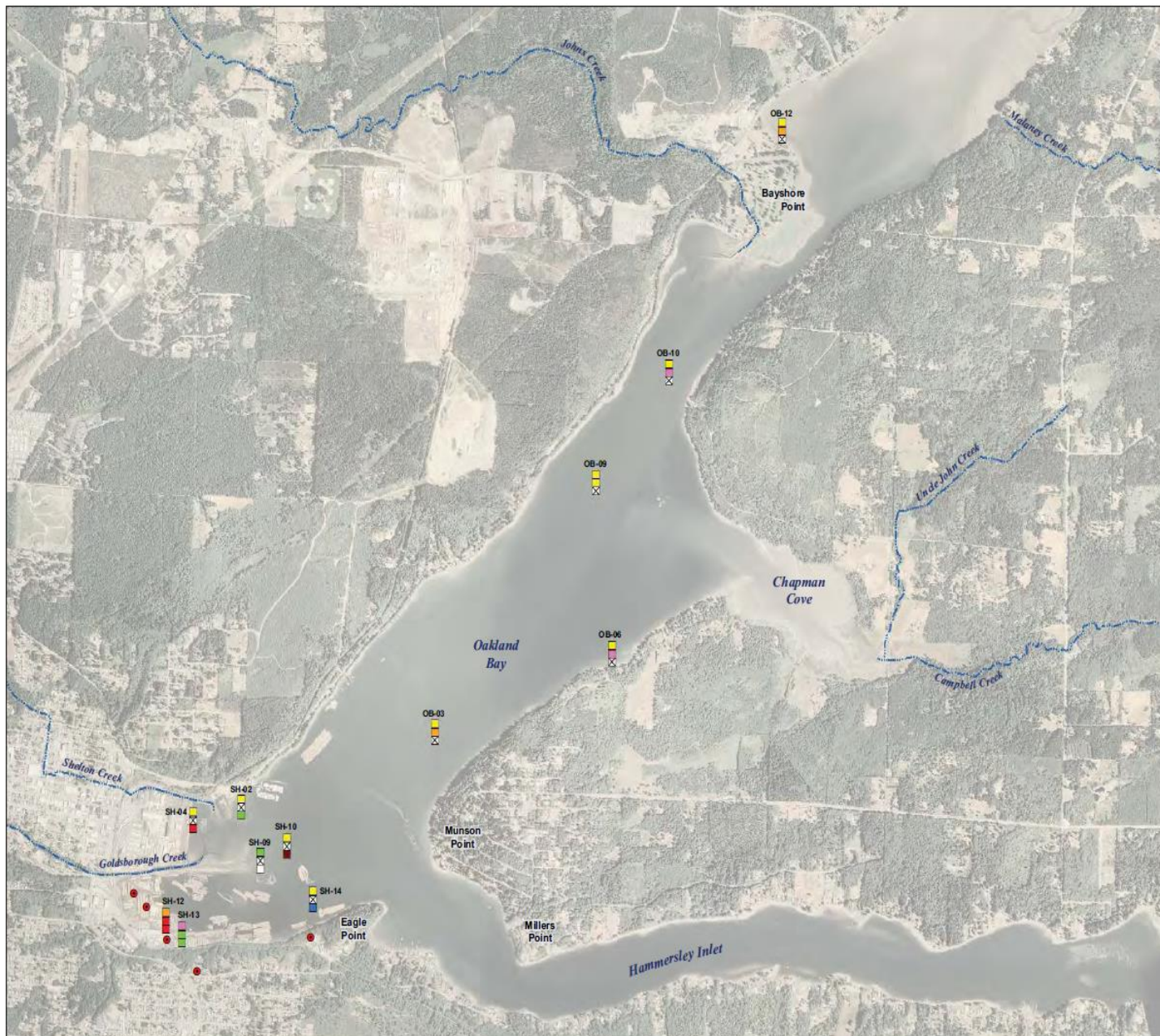


Figure 5-11.  
Surface and subsurface collocated  
sample dioxin distribution, across  
the Oakland Bay study area.

#### Legend

● Historic emission stack

Dioxin (TEQ) (ng/kg)

□ < 4

■ 4 to 10

■ 10 to 20

■ 20 to 60

■ 60 to 100

■ 100 to 200

■ 200 to 400

■ > 400

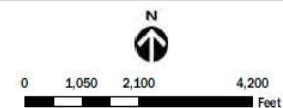
⊗ No data

Collected Sample Depth

Surface sample  
(top 0.3 feet)

1-2 feet

2-3 feet



**HERRERA**  
ENVIRONMENTAL CONSULTANTS

Aerial: USDA, 2006

Prepared By: GSC/rst  
Project: 10/Project/0601/0601/Project/0601/figure 05-11-07.mxd



# Dioxin Results

## Surface samples

