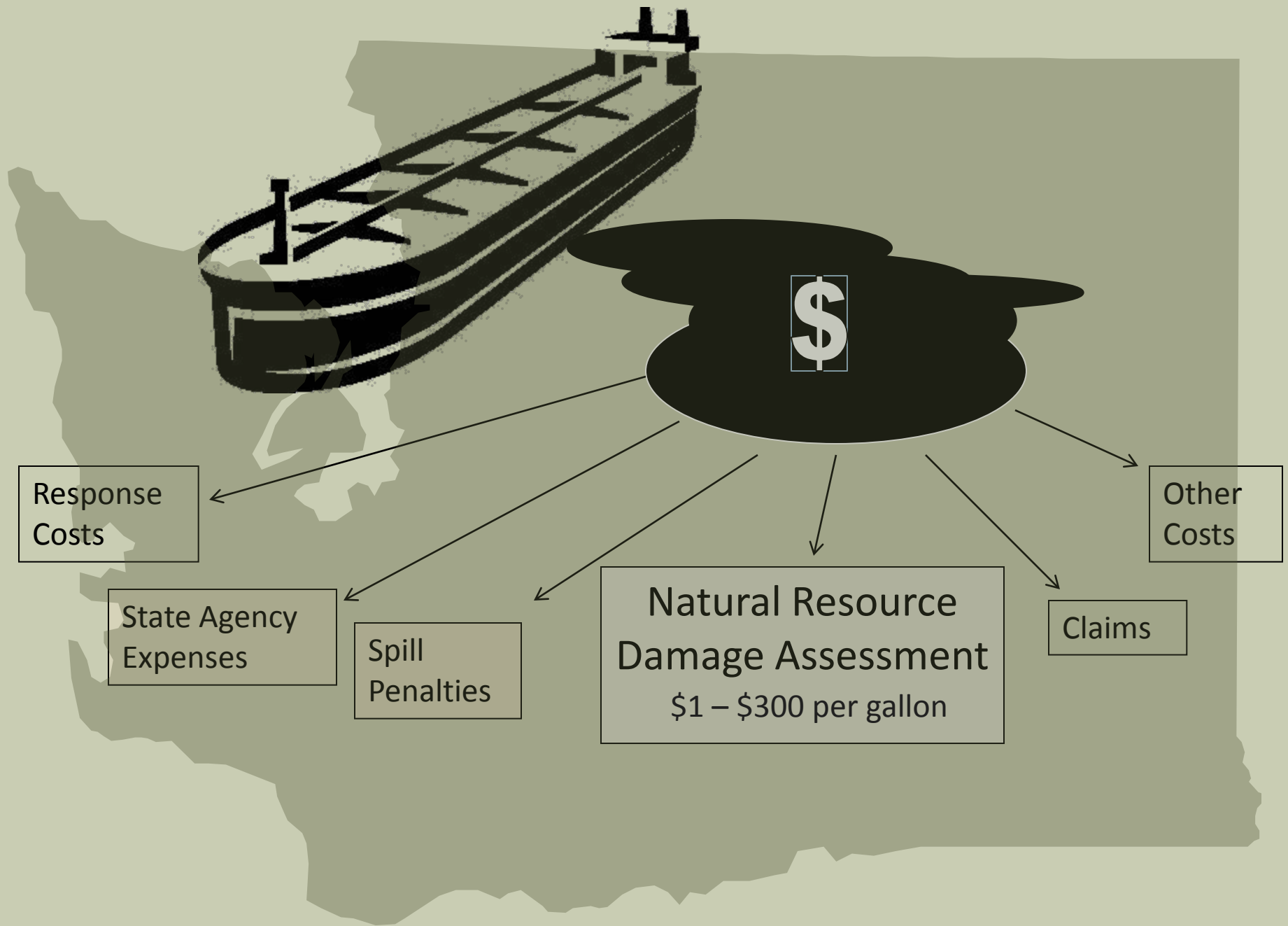


# Washington State Natural Resources Damage Assessment

---

Introduction to Washington State's  
NRDA Program

Presented by David Byers  
Response Manager  
Dept. of Ecology



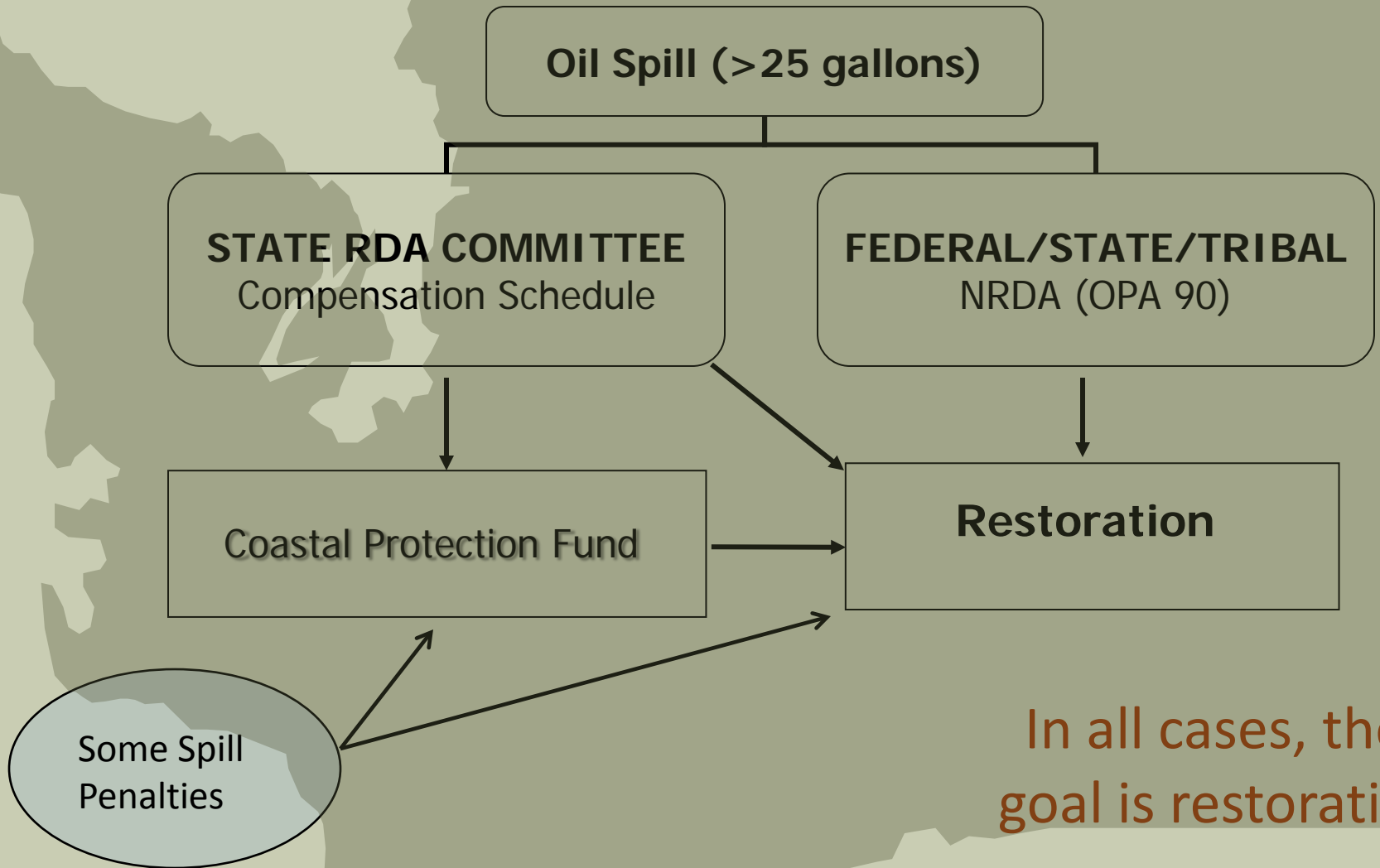
# Why a State NRDA Process?

---

- **Most Spills are Small**
- Small Spills Cause Resource Injury
- Arco Anchorage 1985
  - 239,000 gallons ANS crude
  - 4,000 oiled birds
  - 12,468 lbs shellfish
  - \$250,000 to assess injury
  - \$32,930.03 damages



# NRDA Process Choices



In all cases, the  
goal is restoration

# Wa NRDA Authorities

---

- Authority Exists in State Statute
  - Water Pollution Control Act (RCW 90.48)
  - Oil and Hazardous Substances Spill Prevention and Response Act (RCW 90.56)
  - Assessment is Specified in Statute
    - \$1-100 (spill < 1,000 gallons)
    - \$3-300 (spills 1,000 gallons and more)

# NRDA Rule – WAC 173-183

---

Applicability: All oil spills into waters of the state

Purpose: Provide a simple method to assess damages to public resources.

Participants: Resource Damage Assessment (RDA) Committee

Process: Compensation Schedule

## RDA Committee

Ecology

Fish and Wildlife

Natural Resources

Health

Archeology and Historic Preservation

Parks and Recreation

As Necessary:

- Responsible Party
- Federal Gov.
- Local Gov.
- Tribes

# NRDA Rule – WAC 173-183

---

- Vulnerability of Receiving Environment
  - Spill location
  - Season
  - Threatened or Endangered species
- Oil type
  - Acute Toxicity
  - Mechanical Injury
  - Persistence
- Formula (Schedules)
  - Marine, Columbia River Estuary, Freshwater, Wetland
- Recovery Credit

# Receiving Environment Vulnerability

Spill Vulnerability Score (SVS) = Habitat + bird + mammal + fish + shellfish + salmon + recreation

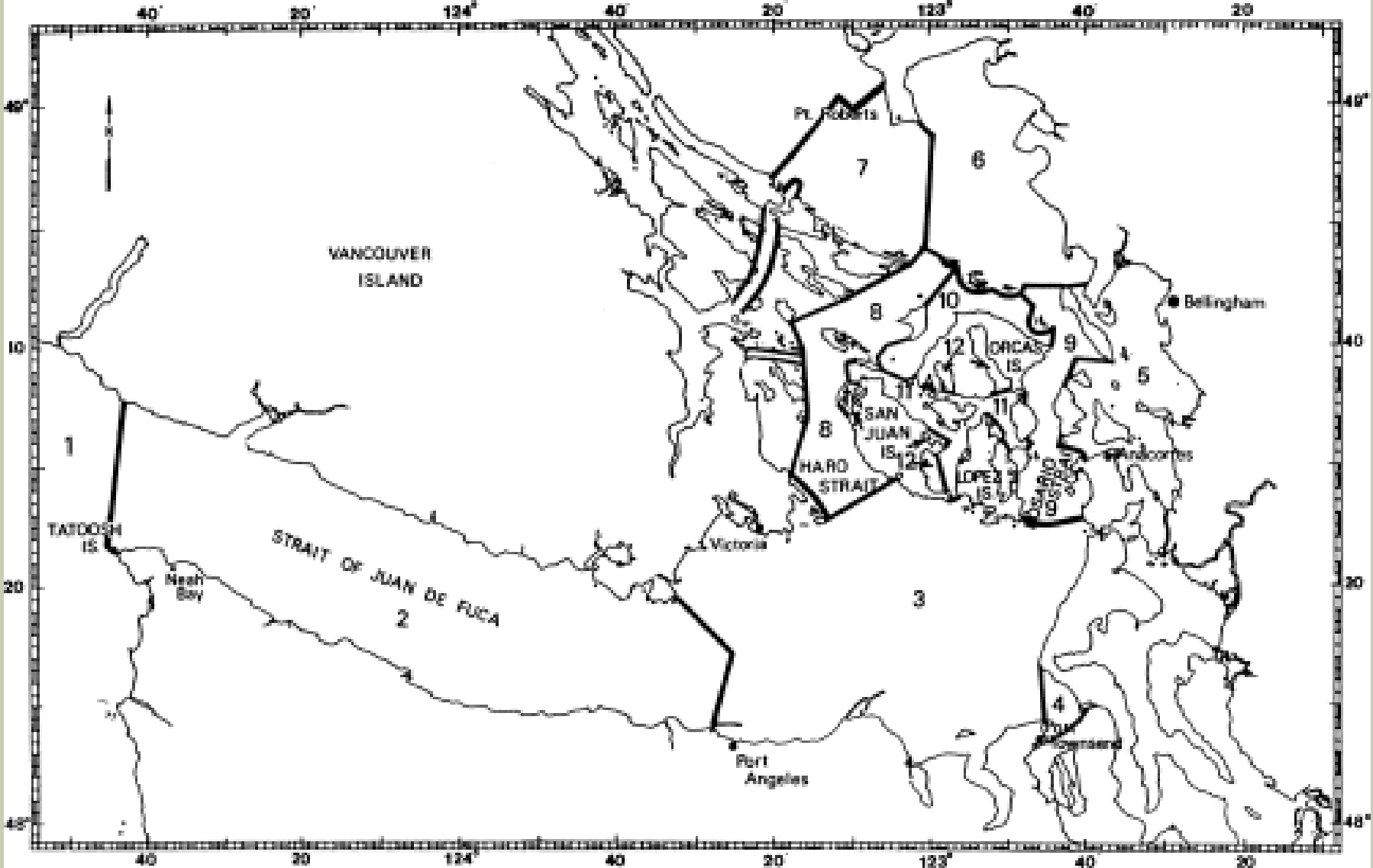
HABITAT TYPE	HABITAT VULNERABILITY (hv)		
	ACUTE	MECH	PERS
<b>MARINE INTERTIDAL</b>			
Exposed and semiexposed rocky shores	3.7	4.3	3.1
Sand-scoured rocky shores	3.3	3.8	2.7
Protected rocky shores	3.0	3.5	3.0
Semiexposed cobble and mixed-coarse beaches	3.2	3.2	3.2
Semiexposed gravel beaches	3.2	1.4	2.0
Exposed sandy beaches	2.9	1.3	1.8
Semiprotected mixed-fine beaches	3.2	2.6	3.7
Protected mud flats	3.8	2.7	4.3

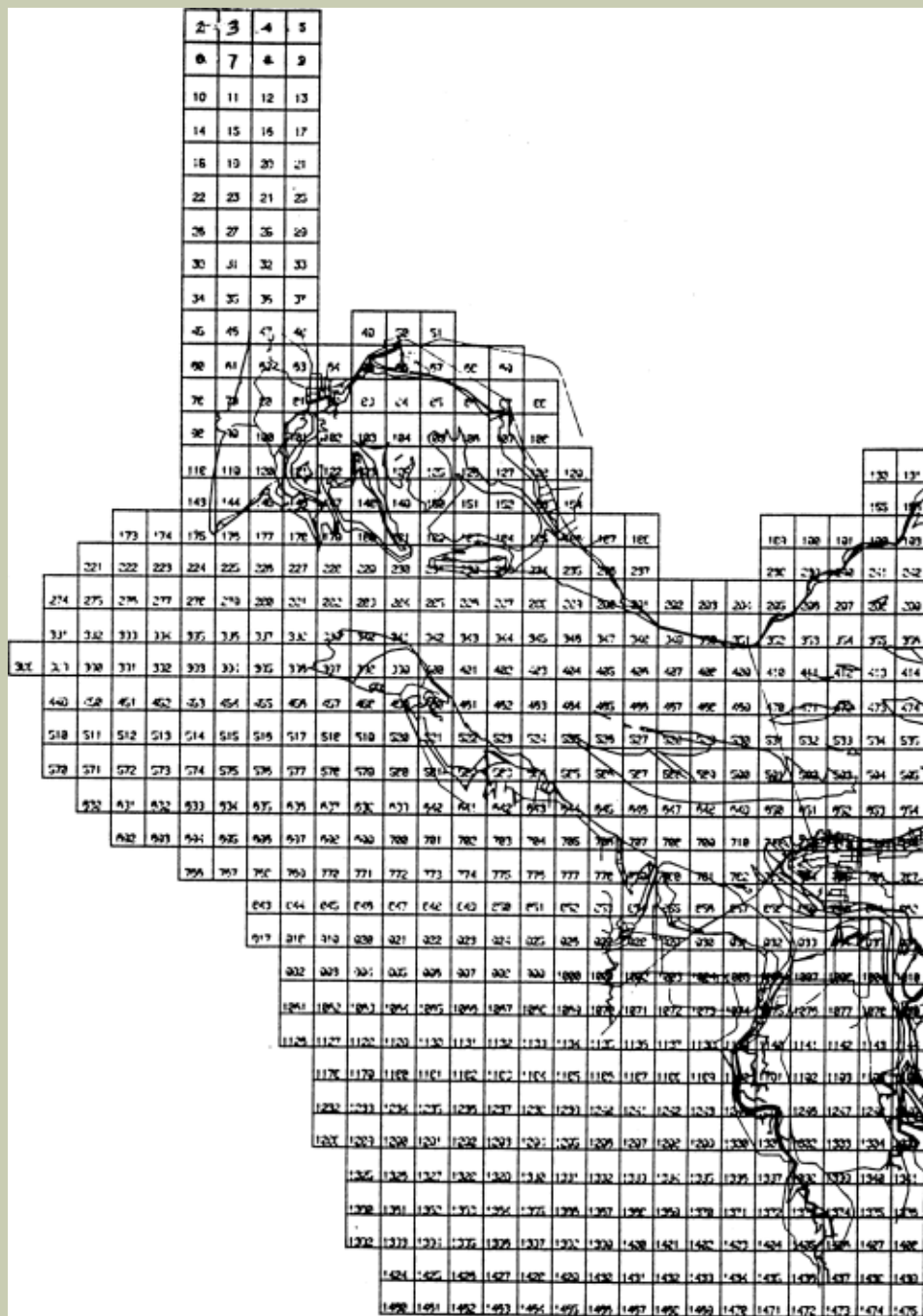
MARINE BIRD SUBREGION		S	S	F	W
		P	U	A	I
101	NORTHERN OUTER COAST	5	5	5	5
102	KALALOCH	5	5	5	5
103	QUINAULT	5	5	5	5
104	COPALIS BEACH	5	5	5	5
105	GRAYS HARBOR	5	5	5	5
106	TWIN HARBORS BEACH	5	5	5	5
107	WILLAPA BAY	5	5	5	5
108	LONG BEACH	5	5	5	5
109	INNER SHELF	4	2	5	5
110	OUTER SHELF	4	1	1	1
111	SHELF EDGE	5	1	1	1
112	CONTINENTAL SLOPE	2	1	1	1

MARINE FISHERIES SUBREGION		SEASON			
		SP	SU	FA	WI
101	NORTHERN OUTER COAST	5	3	3	5
102	KALALOCH	5	3	3	5
103	QUINAULT	5	3	3	5
104	COPALIS BEACH	5	3	3	5
105	GRAYS HARBOR	5	5	5	5
106	TWIN HARBORS BEACH	5	3	3	4
107	WILLAPA BAY	5	5	5	5
108	LONG BEACH	5	3	3	4
109	INNER SHELF	5	3	3	4

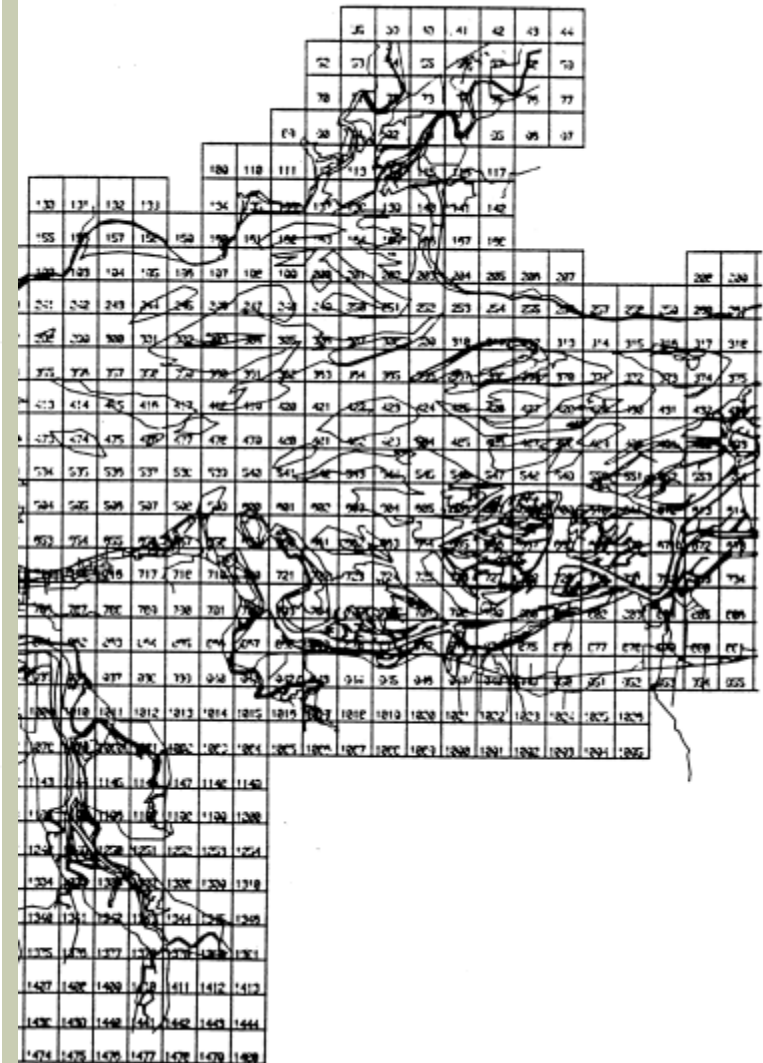


## Northern Puget Sound, Strait of Juan de Fuca and Outer Coast Compensation Schedule Regions





## Columbia River Estuary Grid-Cell Identification Reference Map



# Oil Type

---

Oil Class	Acute Toxicity	Mechanical Injury	Persistence
ANS Crude Oil	0.9	3.6	5
Bunker C	2.3	5.0	5
No. 2 Fuel Oil	2.3	3.2	2
Gasoline	5.0	1.0	1
Kerosene	1.4	2.4	1
Kerosene-type Jet Fuel	1.4	2.4	1

# Formula

Damages (\$) =

$$x * [(OIL_{AT} * SVS_{ATj} * \text{gallons spilled}) + (OIL_{MI} * SVS_{MIj} * \text{gallons spilled}) + (OIL_{PER} * SVS_{PERj} * \text{gallons spilled})]$$

Acute effects

Mech Injury  
effects

Persistence  
Effects

x = multiplier of 0.208 for spills less than 1,000 gallons in volume to adjust the damages calculated to the \$1-100 per gallon range.

x = multiplier of 0.624 for spills of 1,000 gallons or more in volume to adjust the damages calculated to the \$3-300 per gallon range.



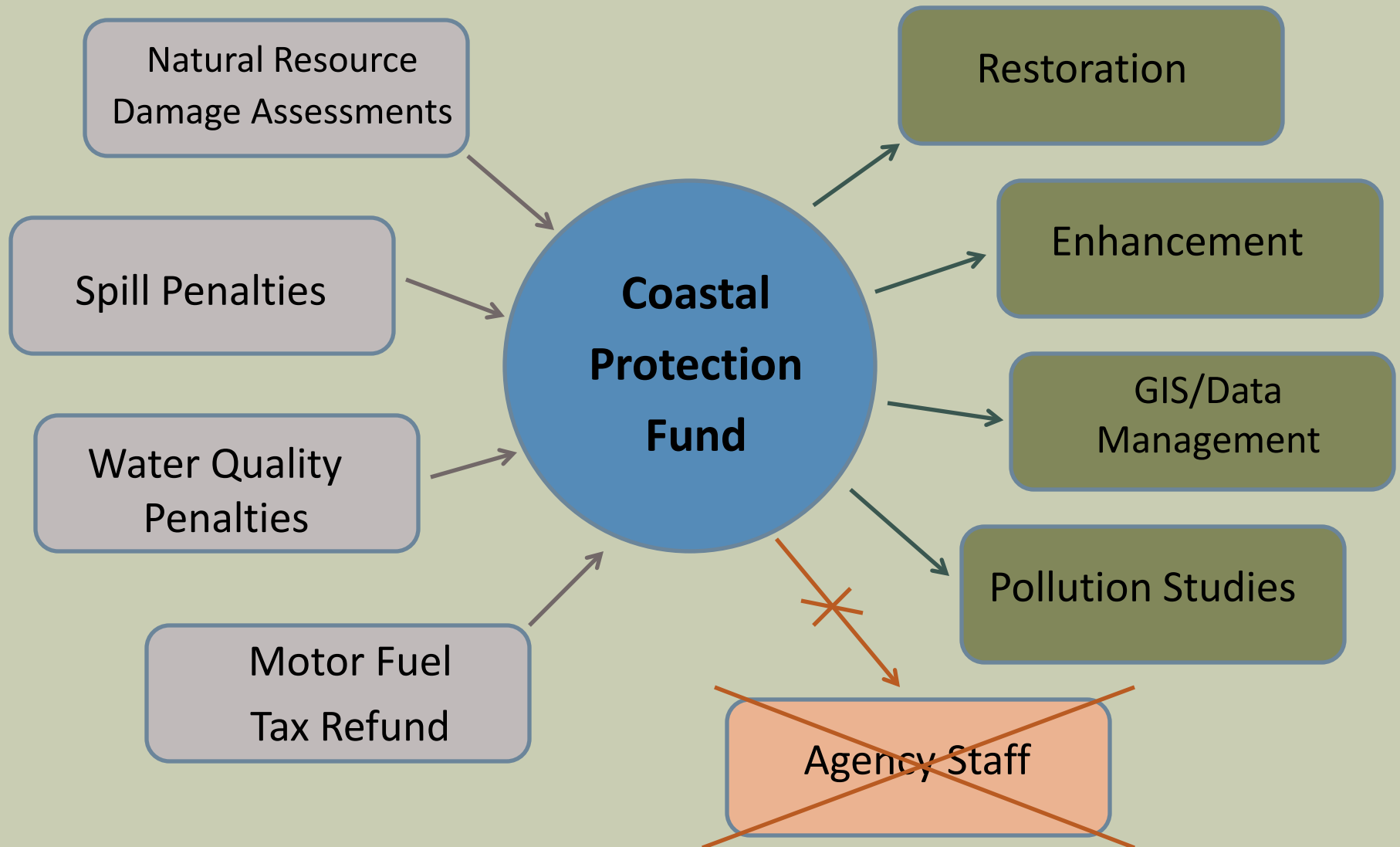
# Recovery Credit

---

- To encourage prompt recovery of oil from the water
- Damages are reduced based on oil recovery during the first 24 or 48 hours
  - No credit for acute toxicity
  - Persistent or non-persistent oil
  - Effective containment
  - No shoreline contact
  - Demonstrated oil recovery with waste tracking

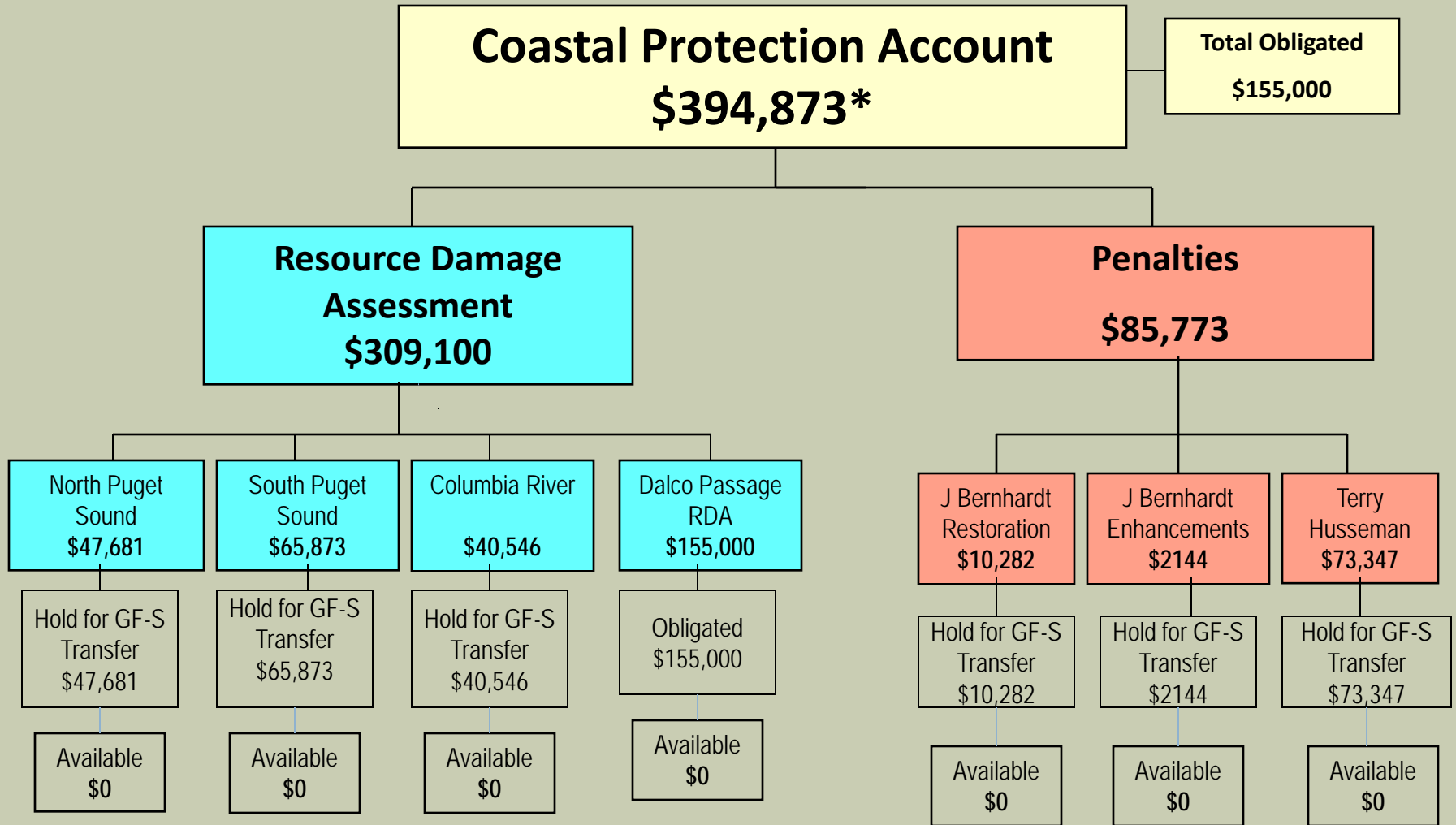
# Coastal Protection Account Revenue/Uses

---



# COASTAL PROTECTION ACCOUNT

Sub-Account Balances as of 12/31/2012



\*Cash Balance as of 12/31/2012 less encumbrances.

\$500,000 will be transferred to the General Fund-State (GF-S) on 6/30/13

(Sufficient appropriation authority may not exist to spend available funds.)

# Wa NRDA Statistics

---

- WA NRDA or Direct Restoration Examples
  - Tenyo Maru: 354,800 gallons bunker = \$5.2 M
  - Olympic Pipeline: 277,000 gallons gasoline  $\approx$  \$12 M
  - Polar Texas: 7,200 gallon crude oil spill = \$487,300
  - Puget Sound Energy: 18,200 gallon diesel spill = \$512,857
  - Foss Barge: 4,637 gallon IFO spill = \$338,281
  - Petit Oil: 3,646 gallon diesel spill = \$106,737
- 416 Compensation Schedule Cases (since 1992)
  - Average Assessment = \$5,500 (\$25 to \$350,000)
  - 1992 – 2008: Average \$/gal = \$14
  - 2009 – 2012: Average \$/gal = \$22
  - 2013 Forward: Average \$/gal = ???



# Collection of Time Sensitive and Perishable (Ephemeral) Data

---

- Collection of time sensitive and perishable data is critical in the initial days of a spill.
- Need plans to facilitate initial sampling and assessment activities.
- Need sampling equipment



# Ephemeral Data Collection Plans

## EPHEMERAL DATA COLLECTION PLAN NAVAL MAGAZINE INDIAN ISLAND

Sub-Regions 0312, 0401, 0402, 0403, 0404, and 0405  
February 2008



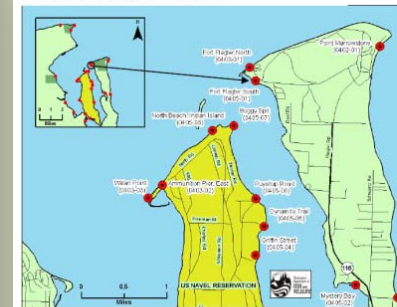
Navy Region Northwest  
Naval Magazine Indian Island

Washington Department of Fish and Wildlife  
Washington Department of Ecology



Figure 6. Area in vicinity of northern part of Indian Island including sites: Ammunition Pier, East Wall Pier, Crane Point, Coffin Street, Dynamite Trail, Poyah Spit, and North Beach, Indian Island.

### Fort Flagler, South (040501) Site Sample Plan



Directions: From Port Hadlock, take Highway 116 (also known as Flagler Road) across Indian Island to Macrowstone Island. Continue to follow the road to Fort Flagler State Park at north end of island. After you enter the park, take the first left that leads through the park's check-in station to the lower campground, boat ramp and parking area for the beach. This sample site is northwest of the boat ramp.

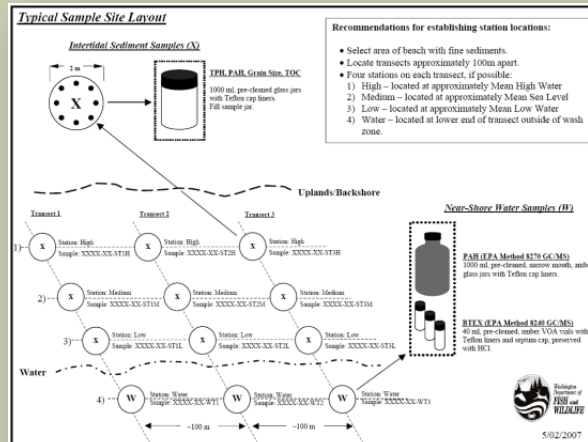
Aerial (Looking West)



Site Photo (Looking South)



Site Photo (Looking North)



# Sampling Kit Caches

**Fort Flagler, South (040501) Site Sample Log**

Incident Name:		Fort Flagler, South				
Sample Code	GPS Position (WGS-1984 only)		WPT ID	Date (mm-dd-yy)	Time (0000)	
	Latitude (dd.dddddd)	Longitude (ddd.ddddddd)				
Sediment						
0405 01 ST1H						
0405 01 ST1M						
0405 01 ST1L						
0405 01 ST2H						
0405 01 ST2M						
0405 01 ST2L						
0405 01 ST3H						
0405 01 ST3M						
0405 01 ST3L						
Water						
0405 01 WT1						
0405 01 WT2						
0405 01 WT3						
Tissue						
0405 01 TT1						
0405 01 TT2						
0405 01 TT3						

Team Leader/Affiliation/ Contact/Phone number:

Recommendations: Suggest establishing transect T1 adjacent to footpath from parking lot with Transects T2 and T3 ~100m apart moving northwest.

Comments:





# Staffing, Training, Drilling

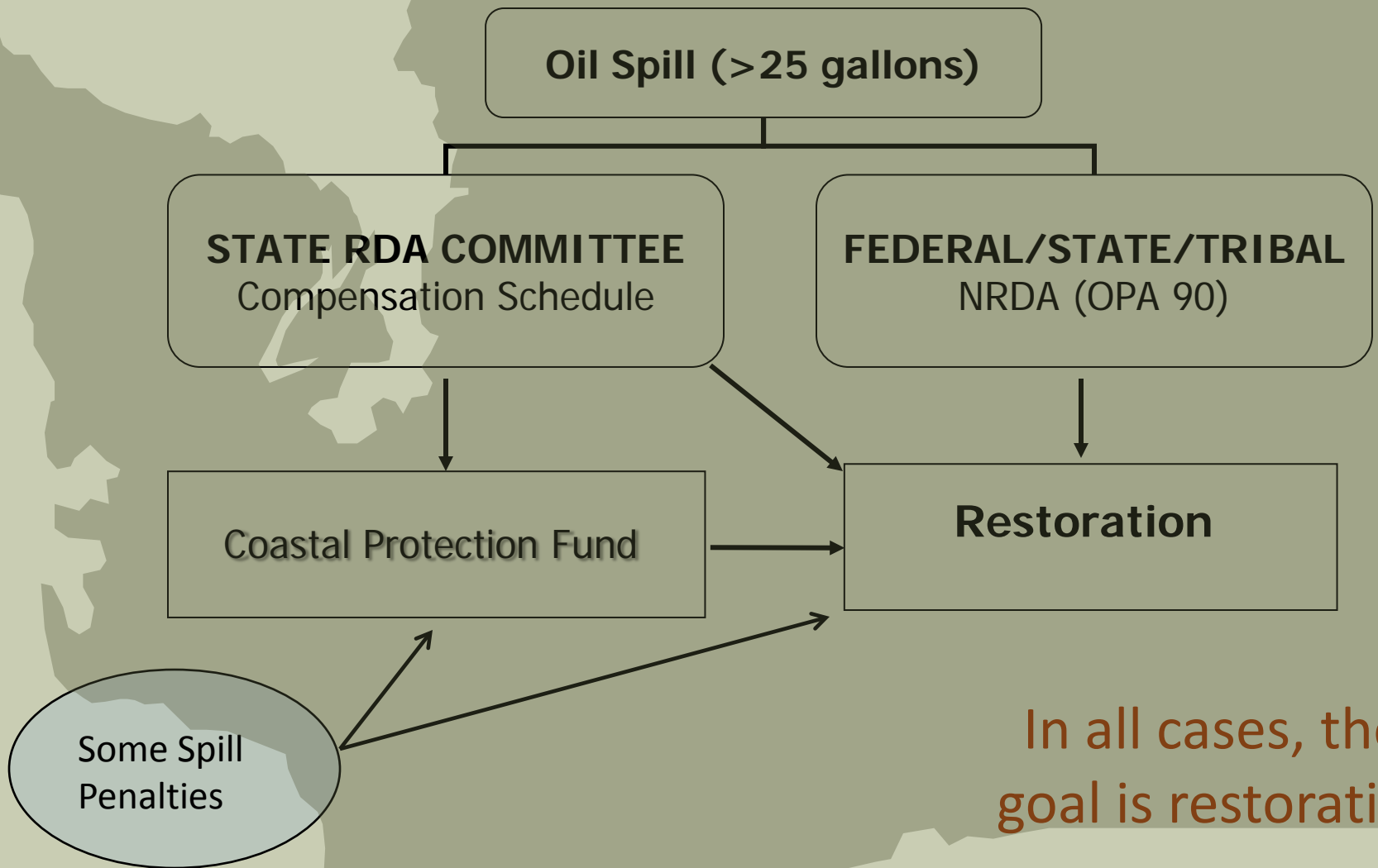
---

- Need Specialized Resource Teams to collect scientifically defensible data
- Safety: Field Crews need HAWOPER Training
- Evidence Collection

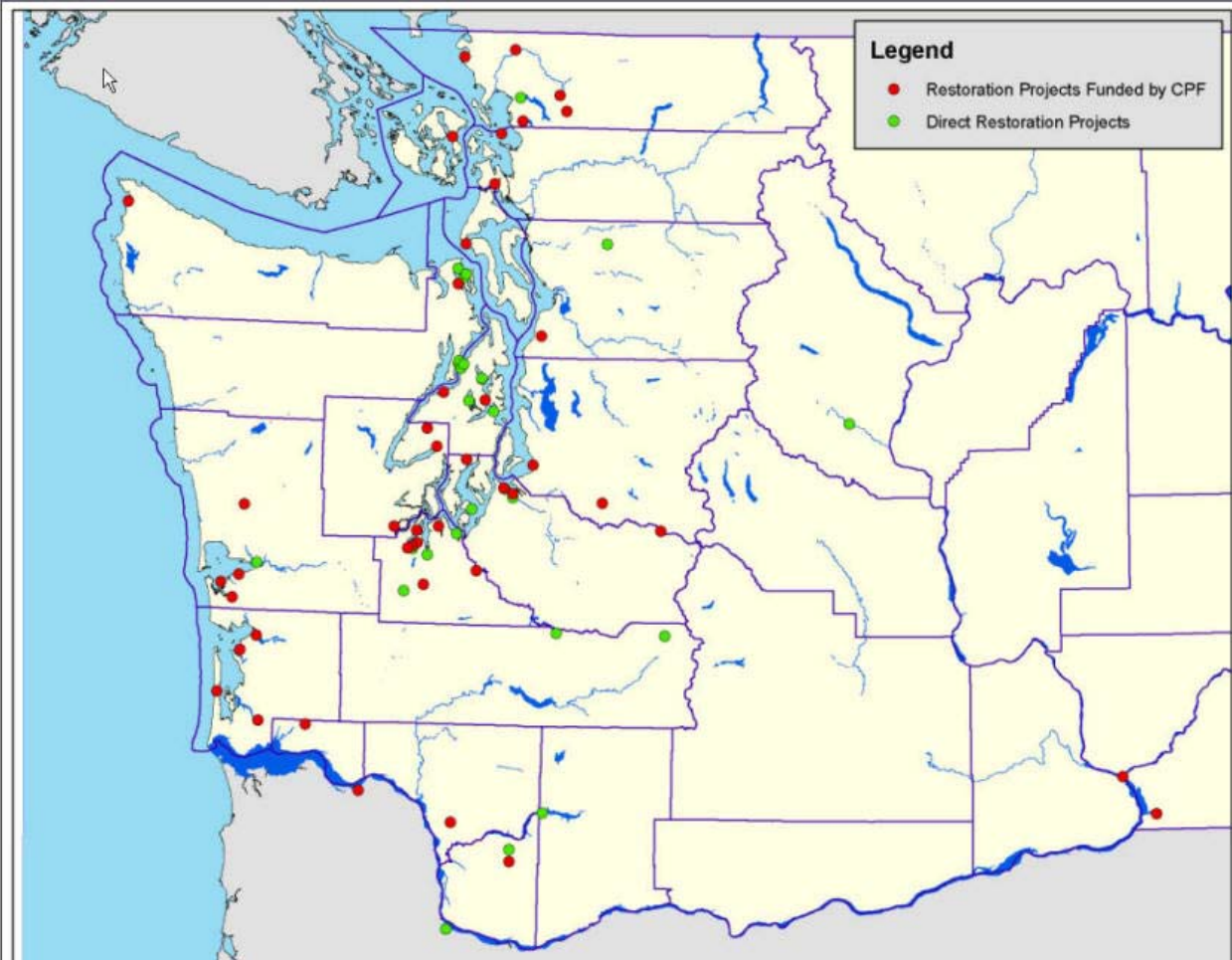


NRDA Sampling Team

# Restoration Pathways



In all cases, the  
goal is restoration

Approval/Completion Date	Project Completion Date	Project Name	Account/ Sub-Account	Recipient	Amount Funded From CPF	Restoration Project Description
7/1/11	In Progress	Invasive Weed Management at Beacon Rock State Park	JB-Restoration	WA State parks and Recreation Commission	\$6,240	Funding for management of Indigobush and Knotweed at the Beacon Rock State park on the Columbia River.
3/1/11	In Progress	Sunset Bluff Acquisition and Restoration	JB-Restoration	Mason County Parks & Trails	\$31,000 (total project cost \$1,356,000)	Partial funding for acquisition, protection, and restoration of 36.3 acres of shoreline in Oakland Bay near Shelton.
2/1/11	2/3/12	Damon Point Restoration	JB-Restoration	WA Department of Natural Resources	\$25,000 (total project cost \$138,335)	Partial funding to remove about 160 creosote treated pilings and debris from Damon Point in Grays Harbor.
2/1/11	In Progress	Smugglers Cove Forage Fish Habitat Restoration	JB-Restoration	Friends of the San Juans	\$17,583 (total project cost \$107,583)	Partial funding to provide fine-grained sediment nourishment along about 430 feet of beach in Smugglers Cove on Shaw Island to improve forage fish spawning habitat.
6/1/10	11/22/11	Yesler Creek Headwaters Reforestation	JB-Restoration	Magnuson	\$6,500	Funding for invasive plant removal, mulching, and replanting
3/1/10	In progress	East March's Point Groin Removal	JB-Restoration			
3/1/10	7/2/12	Allison Springs Estuary Restoration	JB-Restoration			
3/1/09	9/29/11	Woodard Creek Restoration	RDA- Columbi River/ Outer Coast			
1/1/09	8/10/09	Chimacum Creek Habitat Improvements	RDA-South Pu Sound/ Hood Canal			
1/1/09	11/29/10	Shoal Bay Lagoon Restoration	RDA-North Pu Sound/ Strait Juan de Fuca			
12/1/08	6/14/10	Tarboo Creek Property Acquisition	RDA-South Pu Sound/ Hood Canal			
12/1/08	6/2/11	Maury Island Shoreline Revegetation	RDA-South Pu Sound/ Hood Canal			
11/1/08	In progress	Bottle Beach Native Plant Maintenance	RDA- Columbi River/ Outer Coast			
11/1/08	9/2/10	Derelict Fishing Gear Removal	RDA-North Pu Sound/ Strait Juan de Fuca			



# Doe-Kag-Wats Restoration



# NRDA Settlement 350 Tons of Creosote Treated Wood Removed

---



Shellfish Seeding





# Penalty - Isolated Estuary Reconnected



**Northwest Indian Fisheries Commission**

*Serving the Treaty Tribes of Western Washington*



[Home](#) [Member Tribes »](#) [About Us »](#) [Publications »](#) [Employment](#) [Contact](#) [Sections »](#)

## Historic Indianola Estuary Open to Tidal Flow Once Again

Nov 16th, 2010 • Category: [News Releases](#)

A small estuary at the Indianola Waterfront Preserve in Kitsap County, blocked for more than 40 years, has been reopened to juvenile fish this fall—part of a broader effort to restore resources damaged by a 2003 oil spill at Point Wells in Snohomish County.

Kitsap County Public Works has replaced a fish-blocking 18-inch pipe under Chief Sealth Drive with a 16-foot-wide by 8-foot-tall culvert. County public works also has removed fill material at the site to widen the estuary from 30 to 150 feet. The project is supported by the Suquamish Tribe and several state and federal natural resource agencies.

Restoring the small or "pocket" estuary at the Indianola Waterfront Preserve will provide juvenile Puget Sound chinook, coho and chum salmon a refuge area for resting, eating and hiding from predators. Puget Sound chinook salmon are listed as "threatened" under the federal Endangered Species Act.

The Indianola Waterfront Preserve is owned by Kitsap County and protected with a conservation easement held by Great Peninsula Land Trust.

The estuary preserve was filled with dredge spoils and the small culvert was installed in 1968. The adjacent Indianola spit was developed for housing and the inner bay was



This 16-foot-wide bridge replaced the restricted flow to this historic

### RELATED STORIES

[Proposed Restoration Efforts for Doe-Kag-Wats](#)



# PSE Diesel Spill NRDA Settlement

---





# Fish Acclimation Ponds Penalty Settlement

---



# Issues/Challenges

---

- Investigation/Volume Determination
- Rule writing effort/updates
- Is 25 gallons the right limit for pursuing NRDA?
- Coastal Protection Fund sweeping
- Some spillers express “penalized twice” perspective
- Strict liability – No fault determination
- Guidance isn’t enforceable
- Recovery credit waste tracking effort vs. payback
- \$300 potential will lead to new dynamic
- Defense agencies “sovereign immunity”
- Need to update spill vulnerability scores