

Briefing on the Lower Duwamish Superfund Site



The Duwamish River

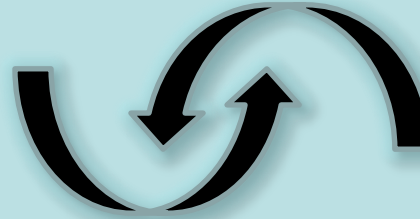


Active Industrial and Commercial Corridor with Two Residential Community Neighbors



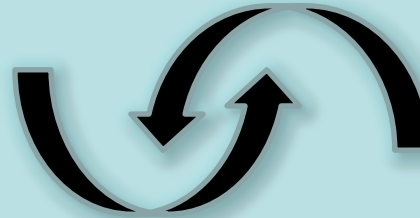
Who is Involved So Far?

Regulatory
Agencies

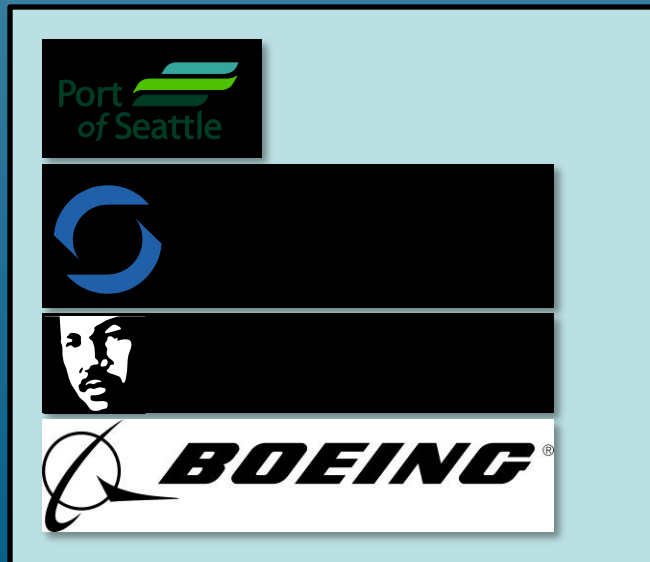


Who is LDWVG?

Regulatory Agencies

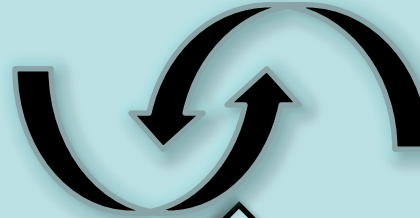


Lower Duwamish Waterway Group

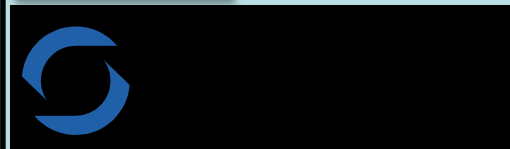


Roles and Responsibilities

Regulatory Agencies

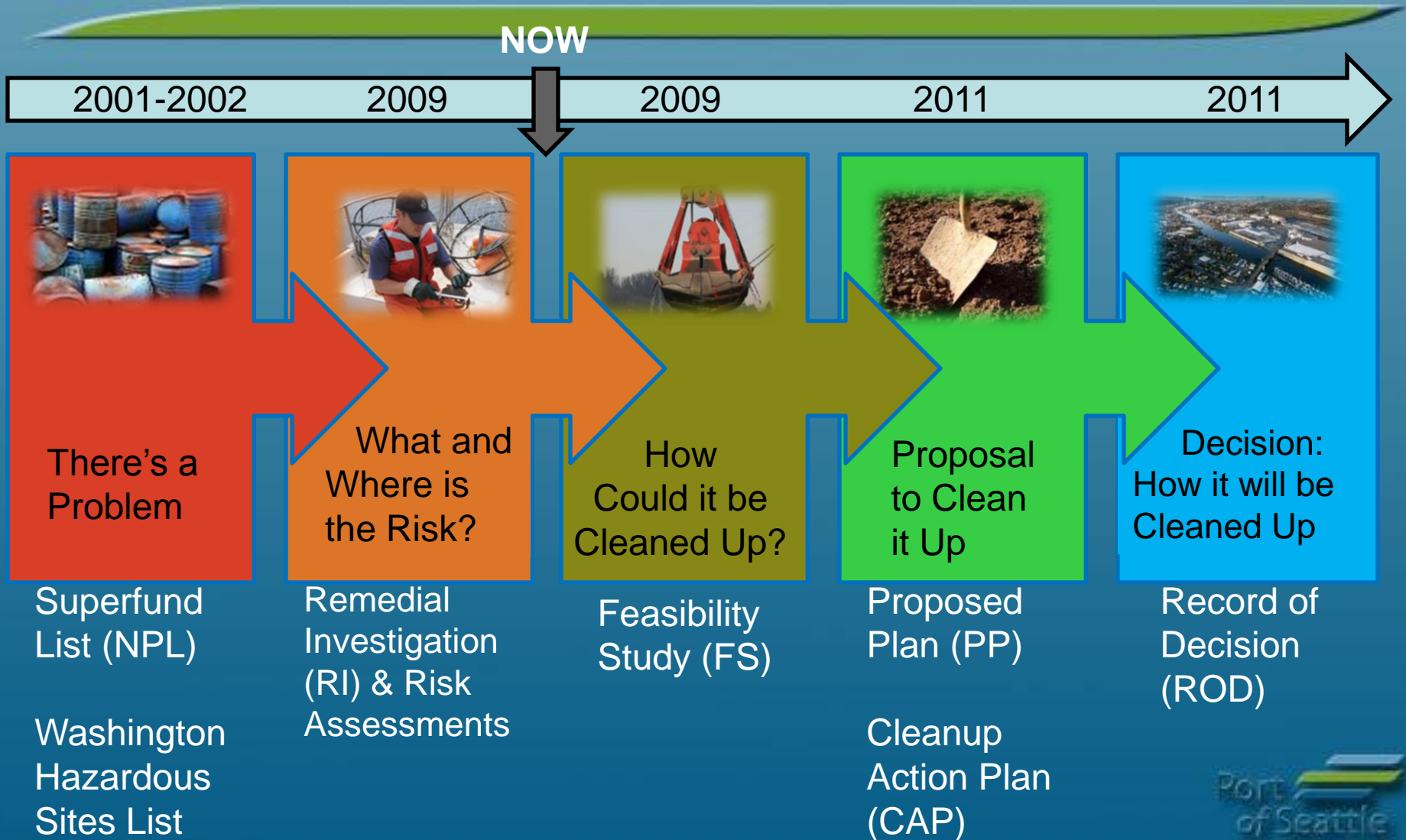


Lower Duwamish Waterway Group



- Sampling
- Studies
- Plans
- Analyses

Key Milestones



Post-Decision Steps



Negotiate
& Fund
Cleanup
Agreement



Design the
Remedy



Continue
Upland
Source
Control



Construct
the Remedy



Long-Term
Monitoring

Ecology and EPA Active in Lower Duwamish

- Ecology has primary responsibility for controlling pollution from upland sources under the Model Toxics Control Act
- EPA has primary responsibility for in-water cleanup under Superfund or CERCLA and other authorities
- There is some overlap.

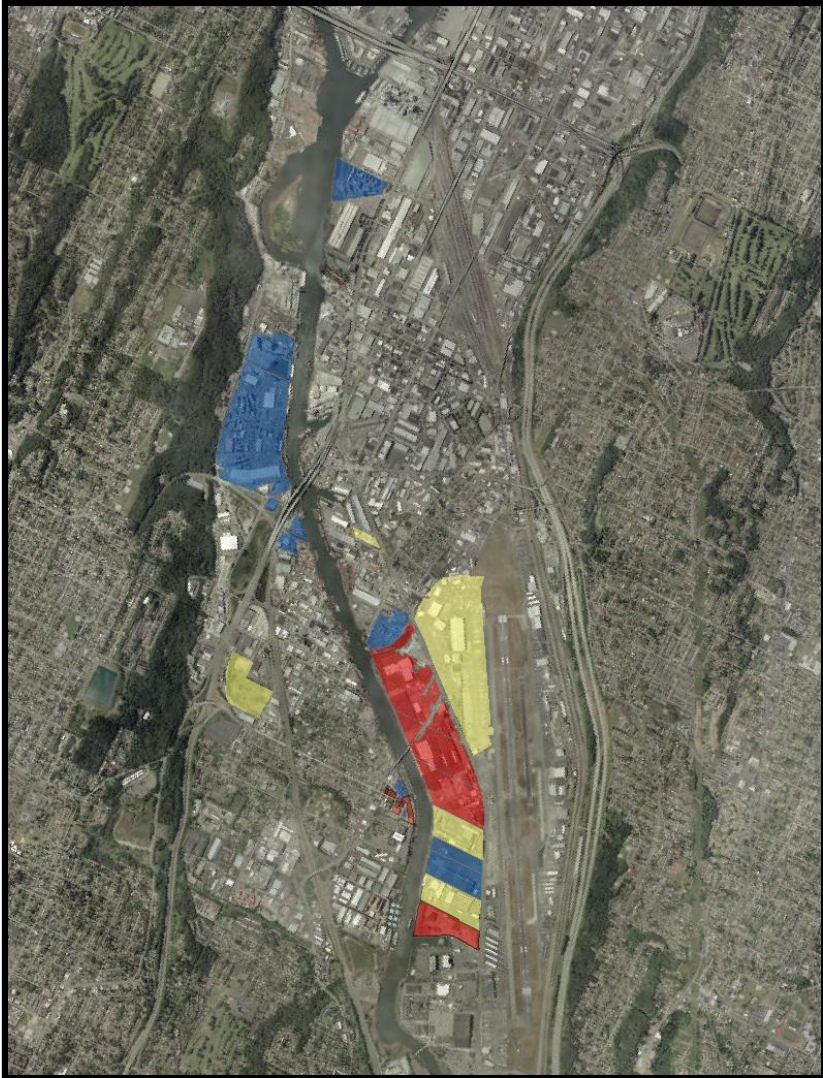
A Lot is Happening Now



More Work Remains to be Done

Remedial Actions in LDW

- EPA Sites
- Ecology Sites
- Areas under Investigation



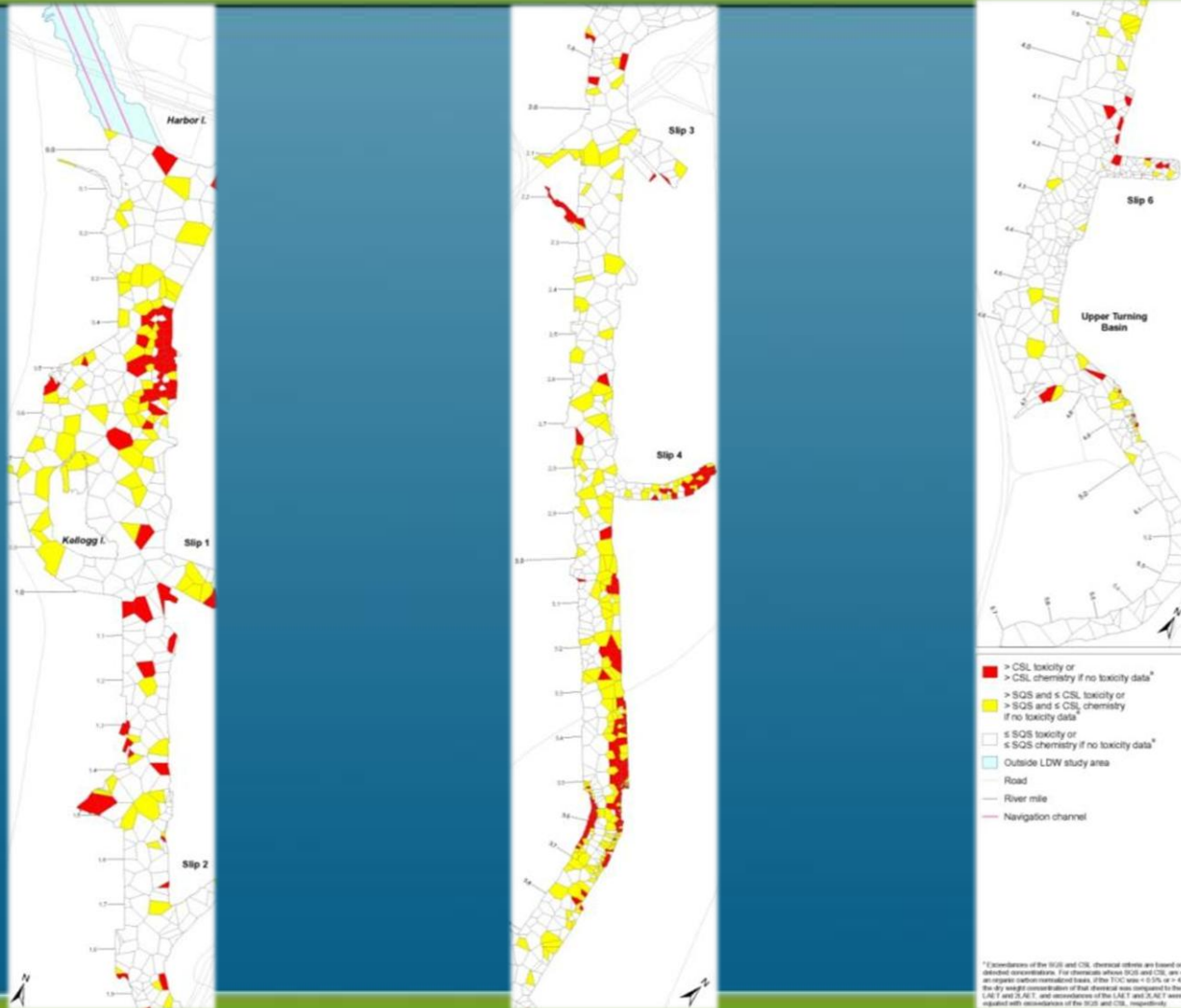
Contamination: What's the Concern?

- **PCBs**
(*Polychlorinated biphenyls*)
- **PAHs**
(*Polycyclic aromatic hydrocarbons*)
- **Dioxins and furans**
- **Arsenic**
- **Other chemicals including phthalates**

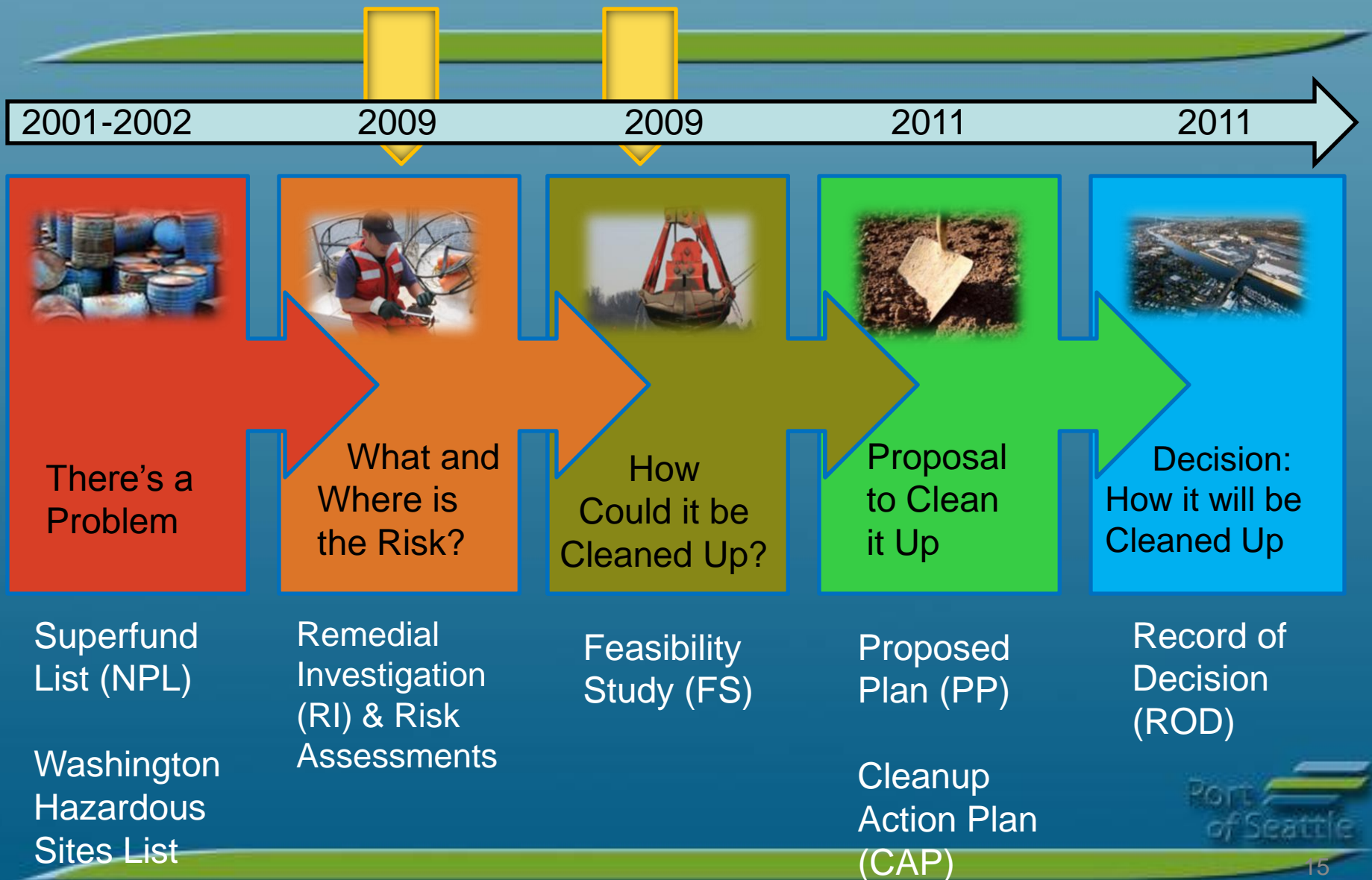
Study Area and LDWG - sponsored Early Action Areas



Contamination: Where Is It?



Starting to Look at Options



Cleanup Goals

- Seafood Consumption



- Direct Contact with Contaminants



- Worms and Benthic Invertebrates



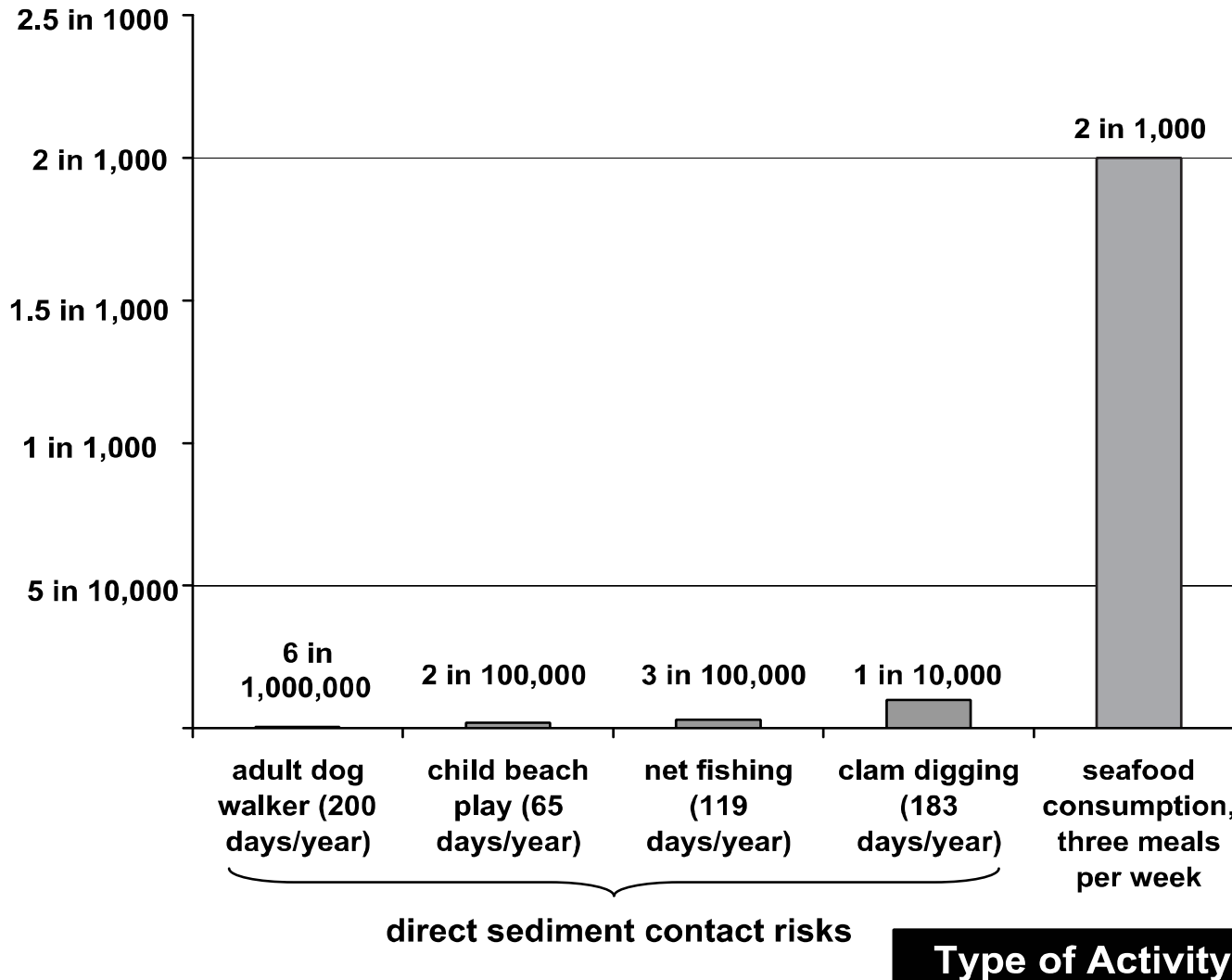
- Fish and Wildlife



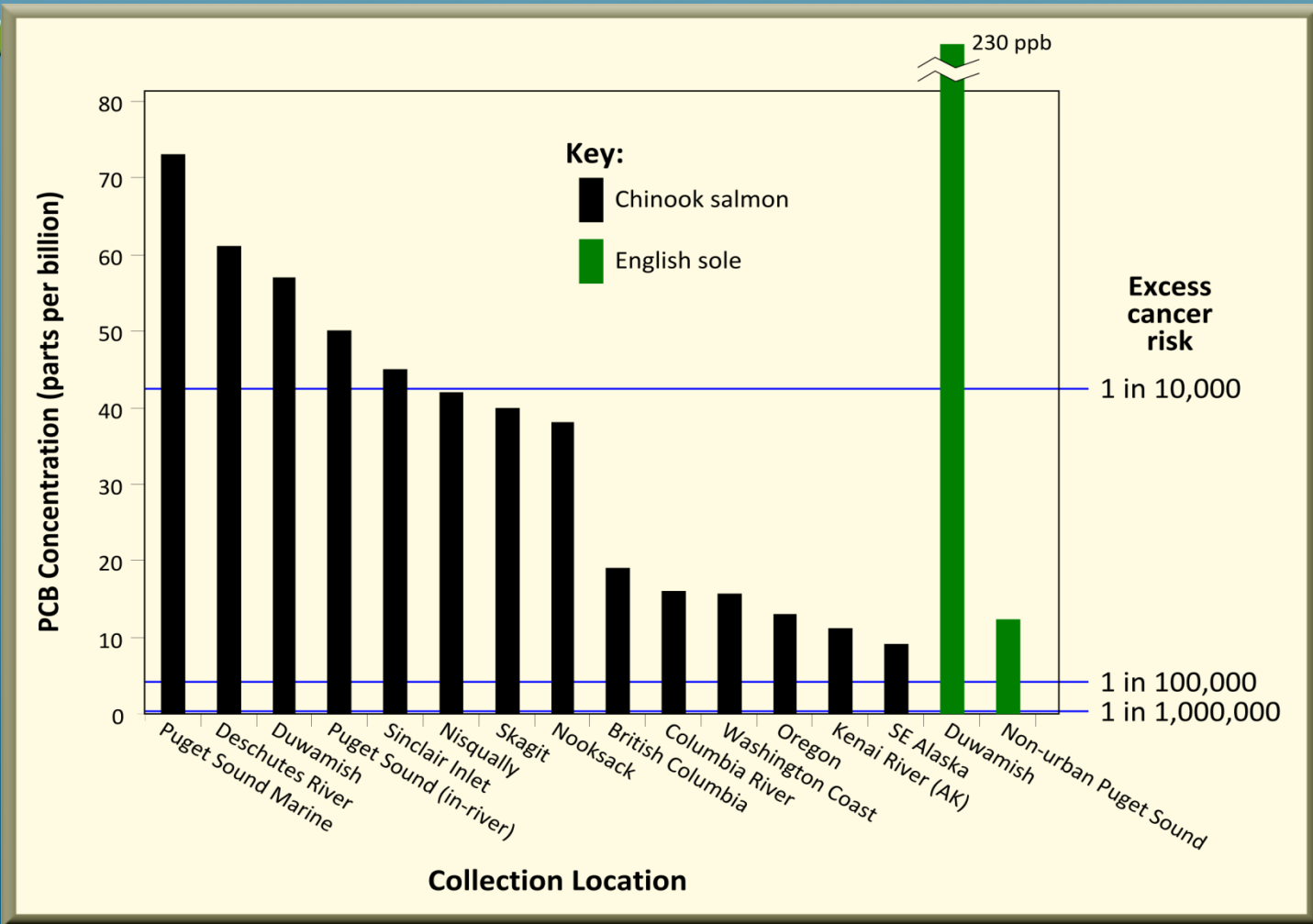
***Cleanup goal is to reduce risk.
How will we go about It?***

Additional Chance of Getting Cancer for an Individual

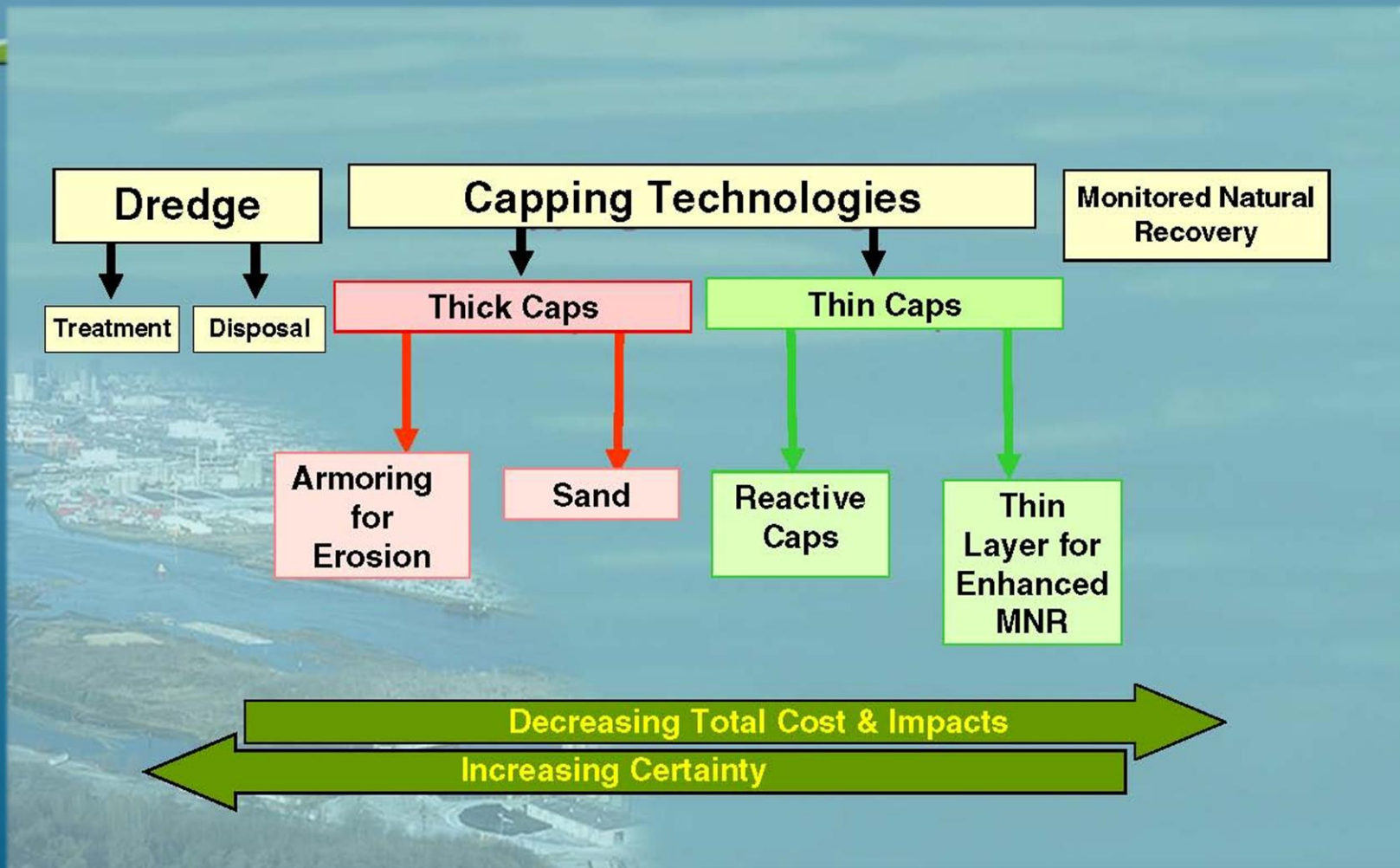
Comparison of Risks for Different Types of Activities







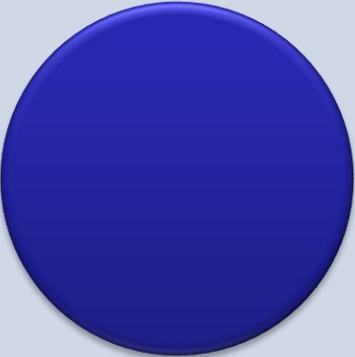
Average PCB concentrations in chinook salmon



Multiple Technologies Available



Technologies Combine Into Five Options

Early Actions Only	Hot Spot Removal	Containment Focus	Removal Focus	Maximum Removal
 <p> Acres Managed : 34 Estimated Cost: \$50 million Years to Complete: 5 </p>	 <p> Acres Managed : 193 Estimated Cost: \$220 million Years to Complete: 10 </p>	 <p> Acres Managed: 193 Estimated Cost: \$270 million Years to Complete: 11 </p>	 <p> Acres Managed: 193 Estimated Cost: \$480 million Years to Complete: 17 </p>	 <p> Acres Managed: 315 Estimated Cost: \$1.2 billion Years to Complete: 41 </p>



Early Action & Dredging



Containment



Monitoring and Natural Recovery & Verification Monitoring

Regulatory Agencies Consider These Criteria When Evaluating an Option

**Protection of human health and the environment
Consistent with all other environmental standards**

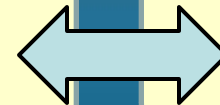
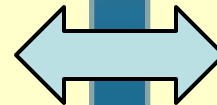
**Effective
Long
Term**

**Construction
Time &
Impacts**

**Includes
Treatment**

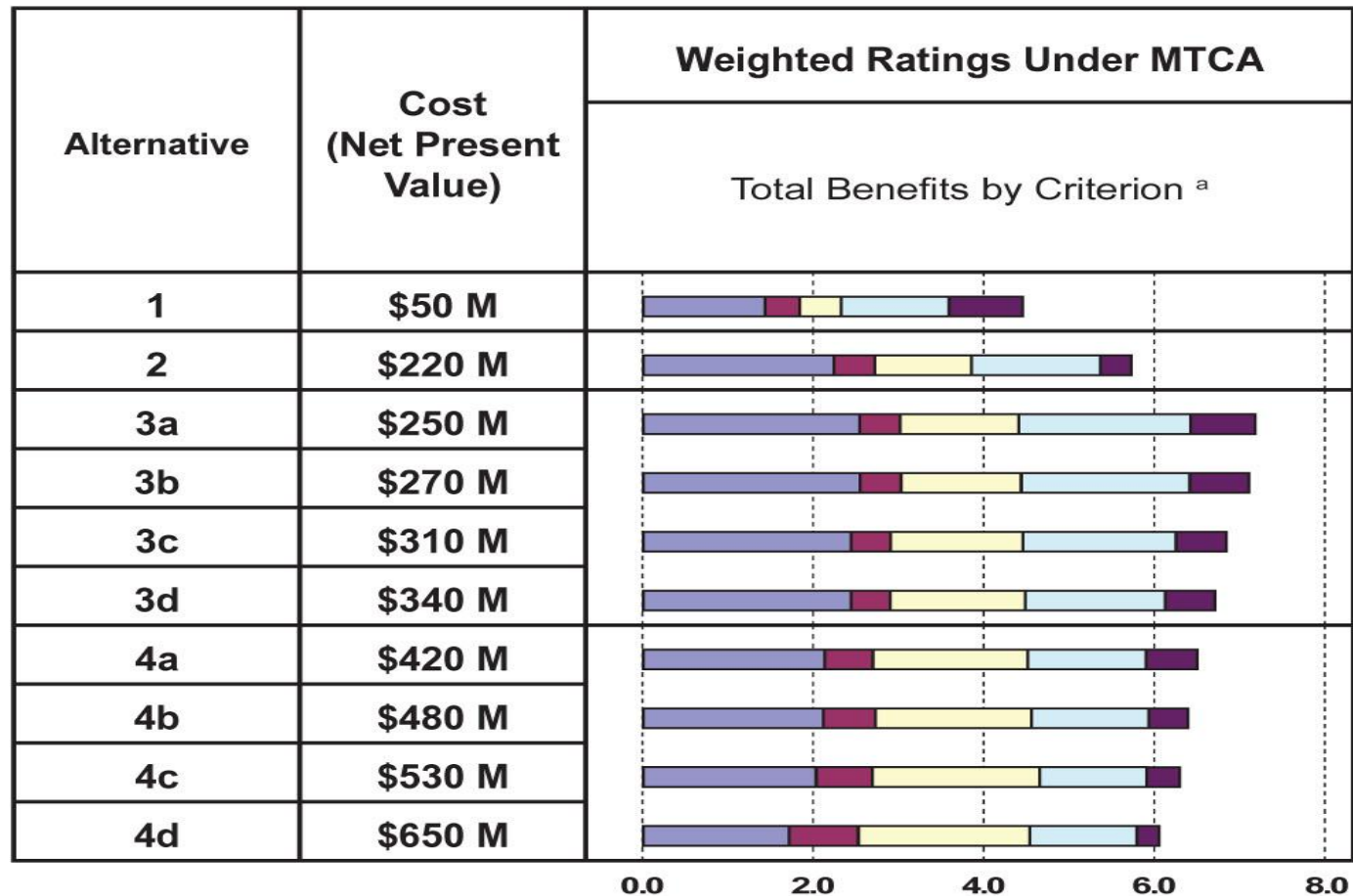
**Ability
to Get
It Done**

Cost



Acceptance of community, state and tribal nations

Figure ES-6b: Comparative MTCA Ratings



Notes:

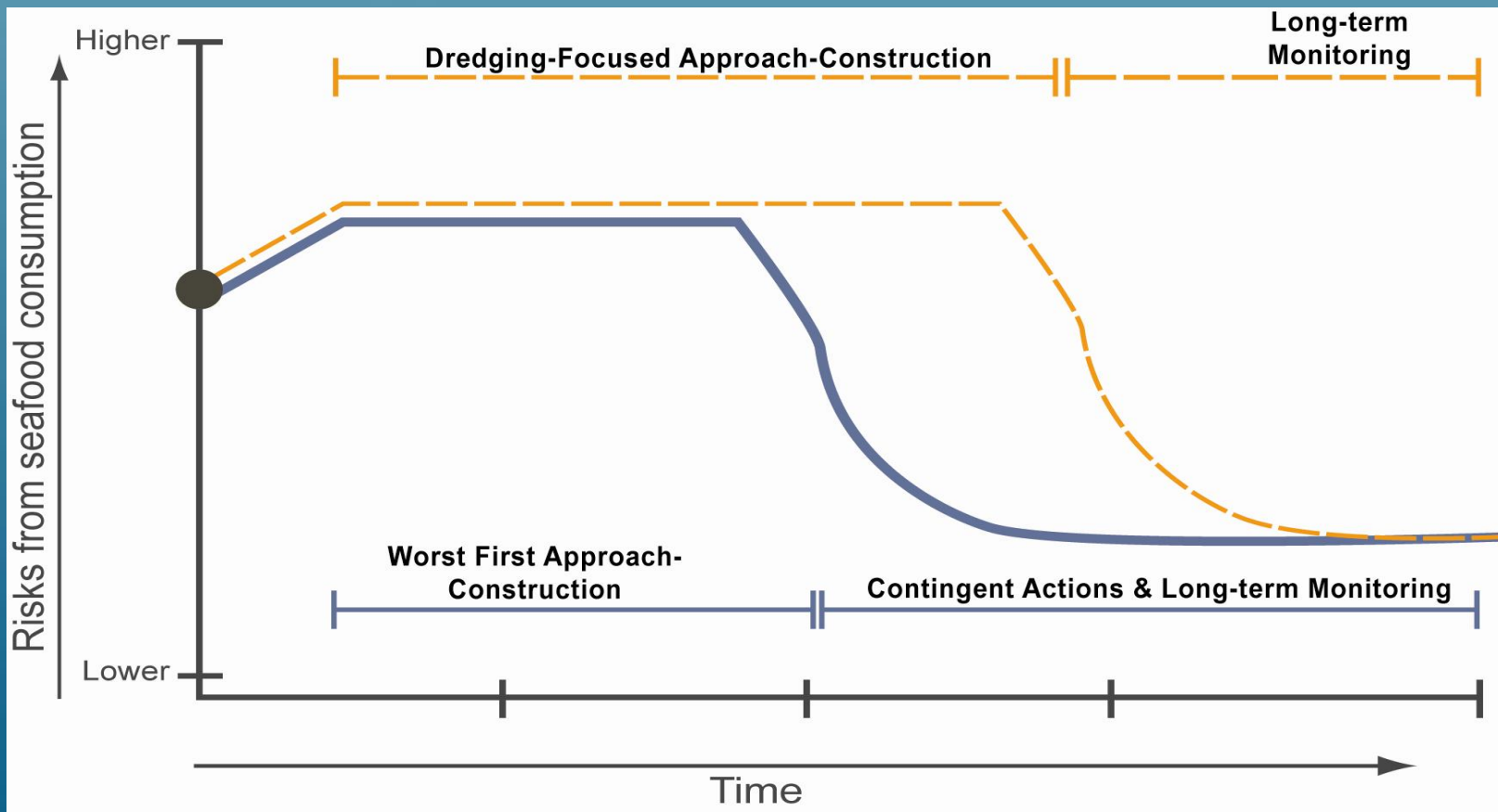
^a See Appendix J for detailed evaluation

- Overall Protectiveness
- Permanence
- Long-Term Effectiveness
- Management of short-term risks
- Implementability

Community Involvement and Cleanup Alternatives

- Draft FS to recommend Approach but not an Alternative
 - Clean up most contaminated areas first
 - Robust monitoring, reevaluating modeling, revisit conclusions
 - Invest in gaining understanding while moving forward
 - Take additional actions as needed
- Community involvement process ongoing

Conceptual Effect of Cleanup Approaches on Seafood Risks



Challenging Issues

- Balancing cost and time to achieve cleanup goals
- Maintaining multiple uses
- Avoiding recontamination
- Setting cleanup goals

The logo consists of three horizontal, rounded rectangular bars stacked vertically. The top bar is light blue, the middle bar is lime green, and the bottom bar is a darker teal. The text 'Port of Seattle' is overlaid on the right side of these bars.

Port of Seattle

Where a Sustainable World is Headed

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