Port of Seattle

ITEM NO. 7b Supp

DATE OF MEETING October 12, 2010

Briefing on the Lower Duwamish Waterway Superfund Site




Briefing Summary

- Cleanup required of contamination in Lower Duwamish to protect human health and ecological environment
- Feasibility Study presents array of alternatives to conduct cleanup
- All alternatives predicted to protect environment in long term – 90% reduction in PCBs achieved
- Short term differences include impacts of actions, length of time to reduce risk, and cost
- EPA and Ecology will select cleanup alternative

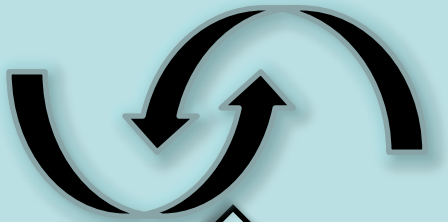
Lower Duwamish Waterway Superfund Site

Industrial and Cultural Legacy, Economic Engine, Growing Communities

- 5-mile stretch, about 441 acres, range of industrial contaminants
- Listed as Superfund site in 2001
- Studies define contamination and risk
- LDWG invested $40 million to move process forward, and is pursuing early action cleanups of prioritized contaminated areas
- Duwamish Valley supports over 100,000 jobs and 80% of City's industrially-zoned land

Roles and Responsibilities

Regulatory Agencies



Lower Duwamish Waterway Group (LDWG)

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City of Seattle

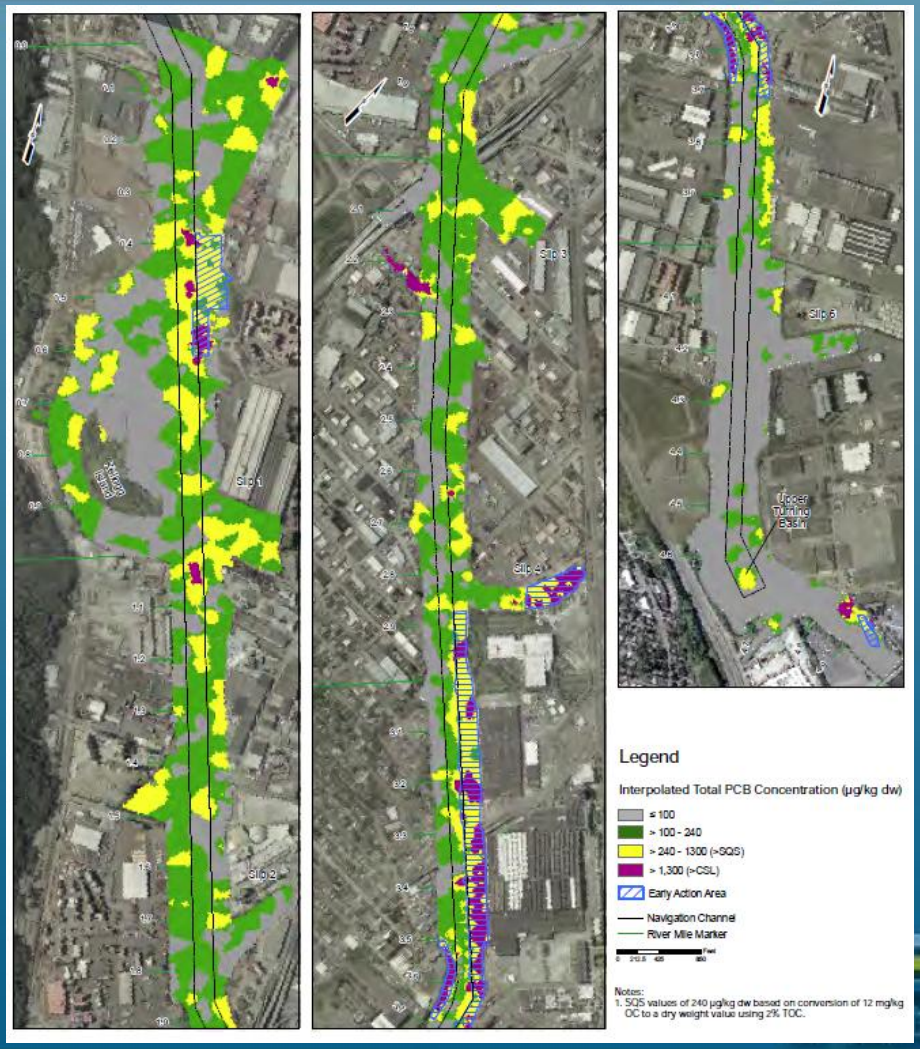
King County

BOEING

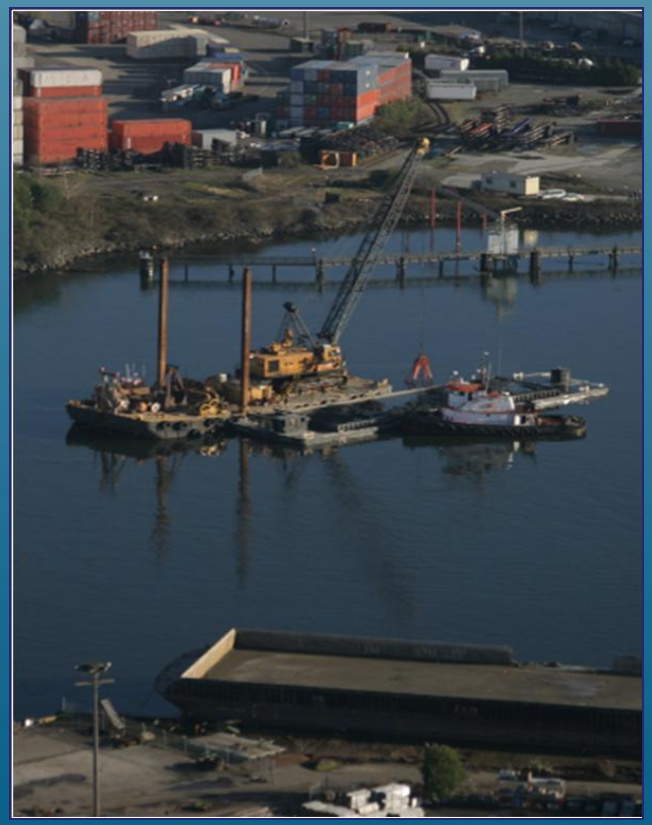
- **Sampling**
- **Studies**
- **Plans**
- **Analyses**
- **Cost Sharing**

Getting Oriented – Sediment Contamination and Early Action Areas

- Risk Drivers
  - PCBs
  - Arsenic
  - Dioxin
  - cPAHs
  - 40+ state "sediment management standard" chemicals
- Five Early Action Areas under way (hatched)
- Remaining hot spots require cleanup (yellow)



Key milestone: October 15
Getting closer to cleanup decision



- Draft Final Feasibility Study October 15 www.ldwg.org
- FS edited with significant EPA/Ecology input
- Focused agency and public review through end of year
- Public input key to regulators selecting preferred cleanup alternative
- Stakes are high – time is now to engage region and provide input

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Cleanup Goals

- Seafood Consumption

- Direct Contact with Contaminants

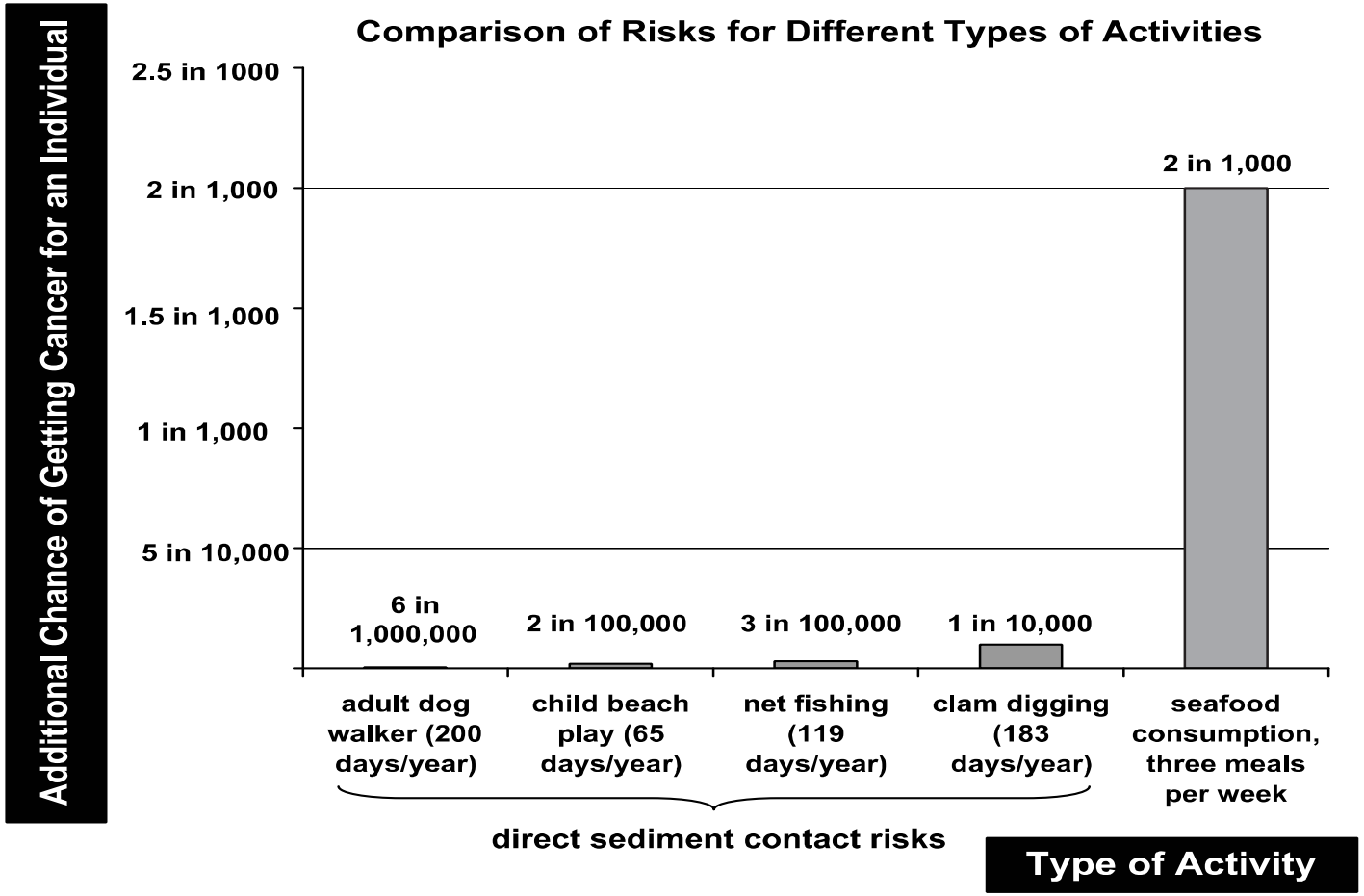
- Worms and Benthic Invertebrates

- Fish and Wildlife

Cleanup goal is to reduce risk.

How will we go about It?

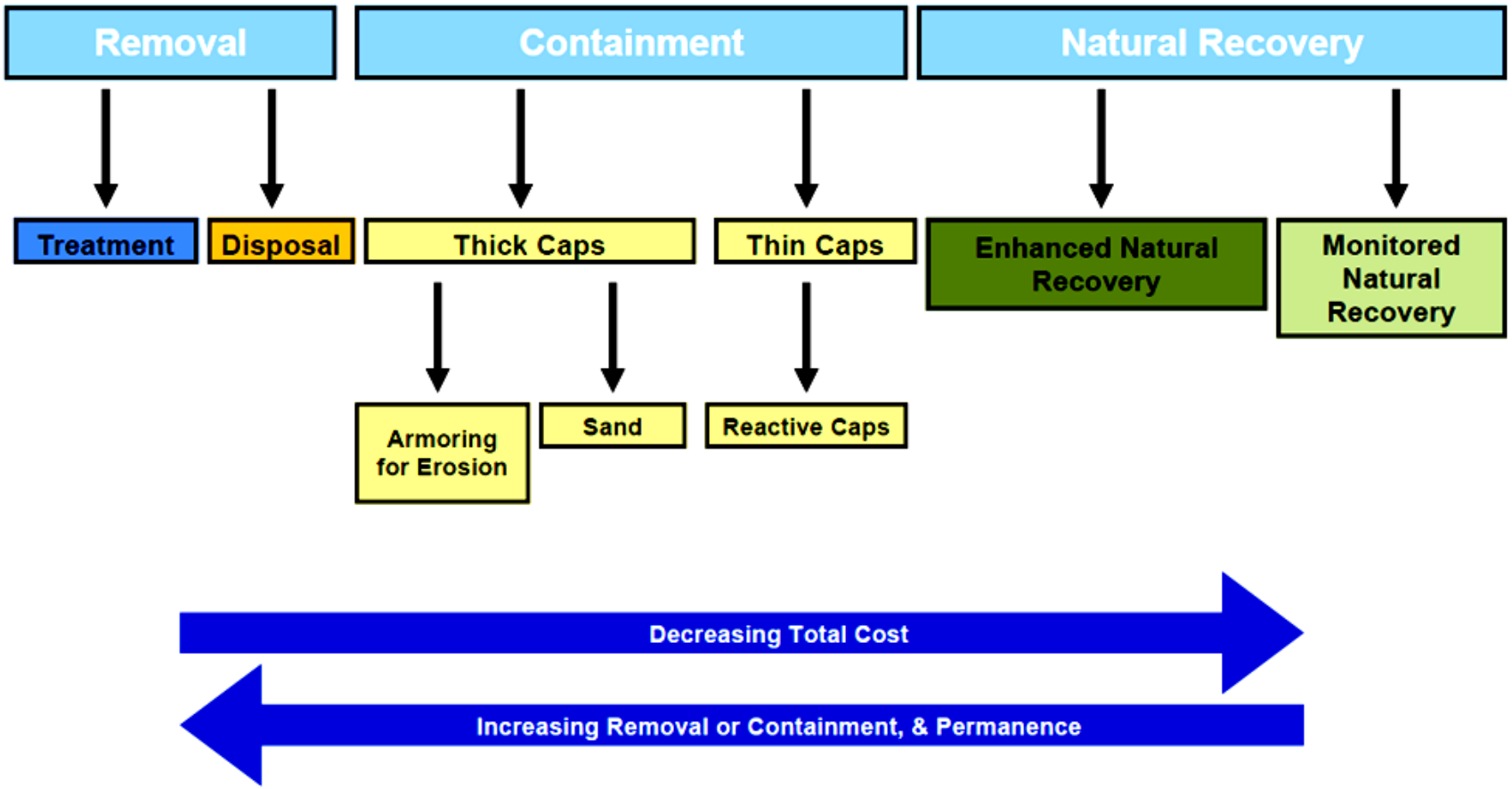
Risk Levels in Lower Duwamish: Baseline Risk Assessment



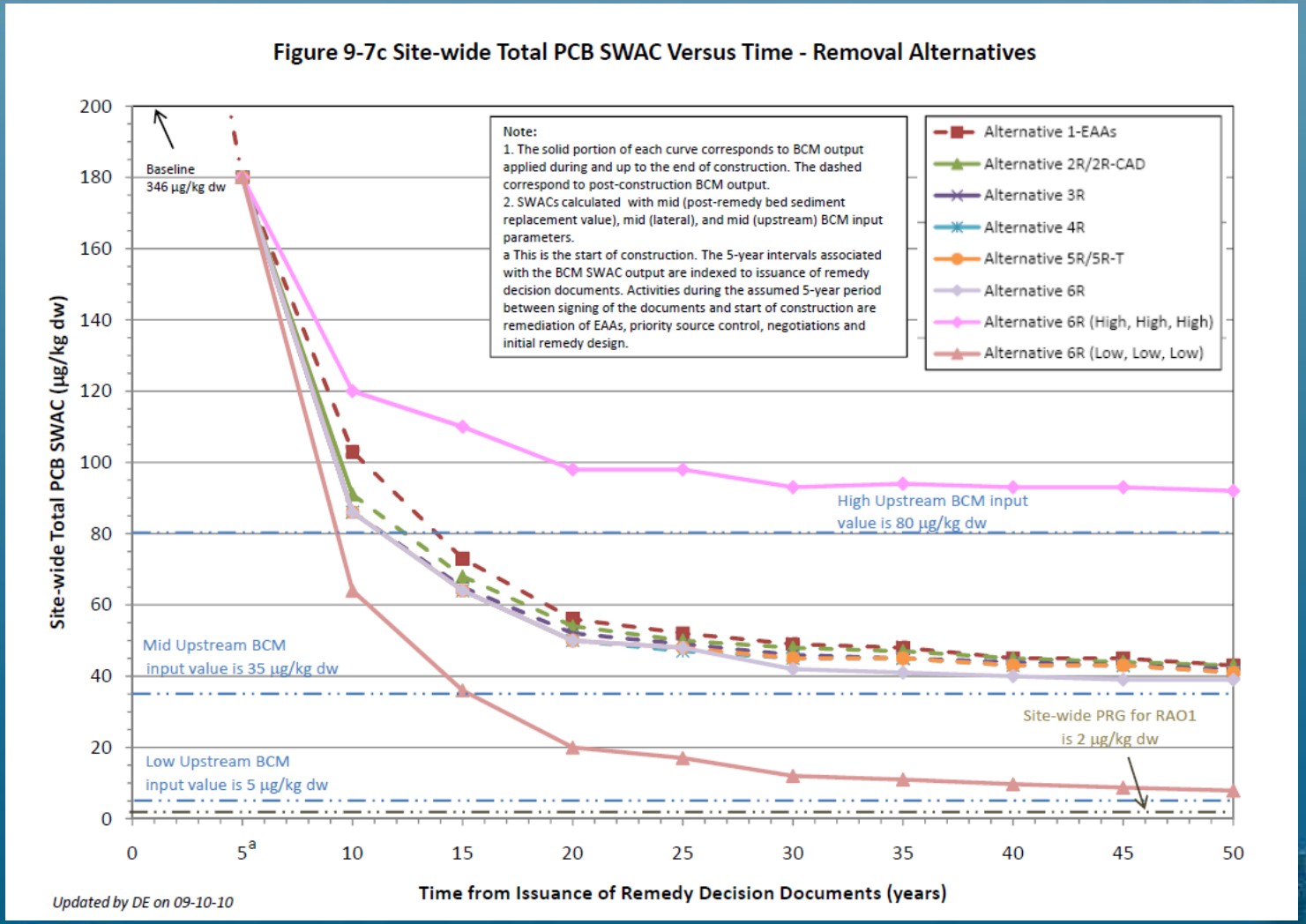
Alternatives in FS

- 12 Alternatives developed and evaluated in FS
- Alternatives vary by:
  - Types of technologies (dredge or cap)
  - Size of footprint requiring action
  - Amount of natural processes vs. active
  - Predicted time to reduce risk in sediment (12 to 43 year)
  - Certainty of time to reduce risks
  - Cost (200 Mil to 1,330 Mil)

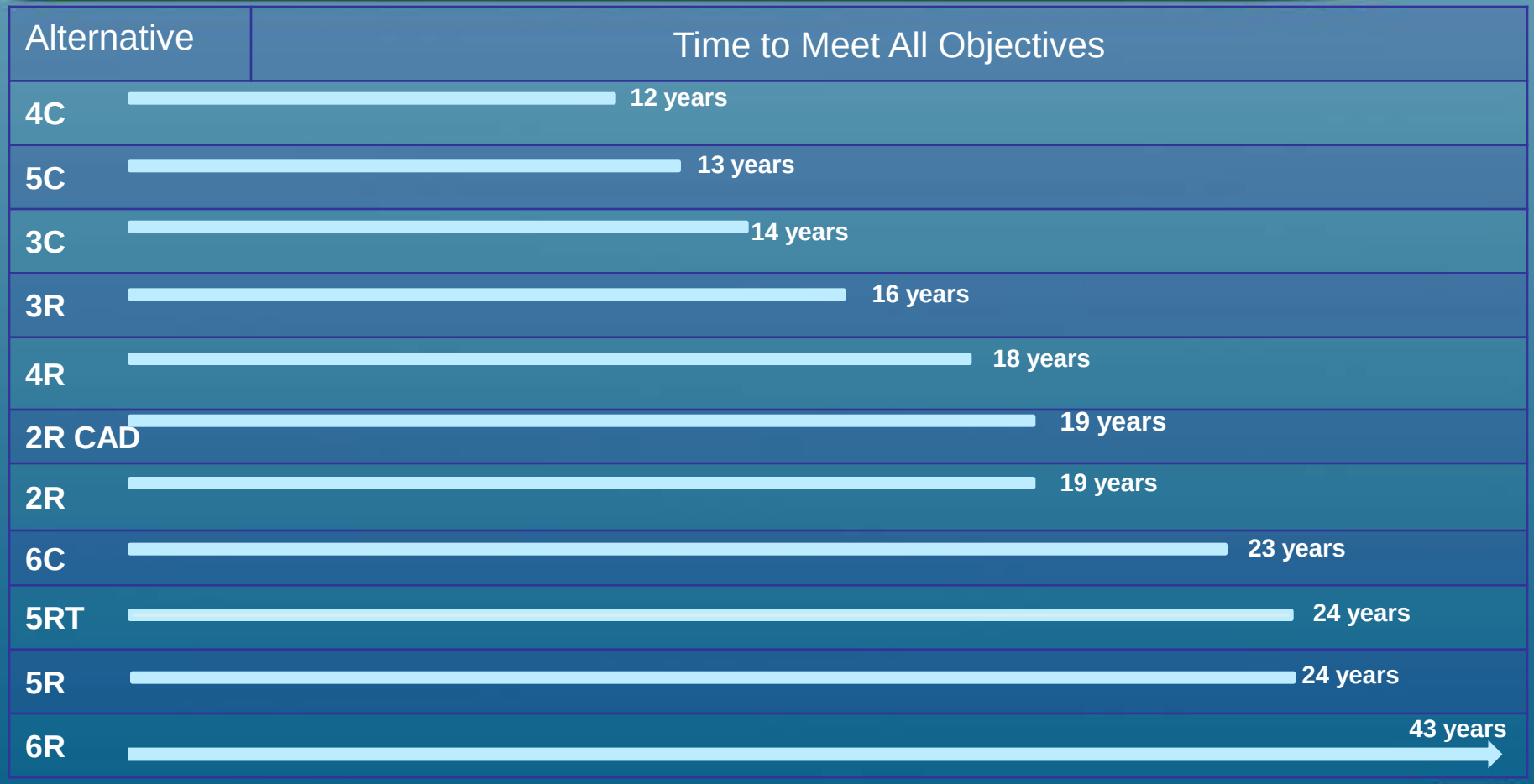
Multiple Technologies Available



All Alternatives Designed to Meet Cleanup Objectives



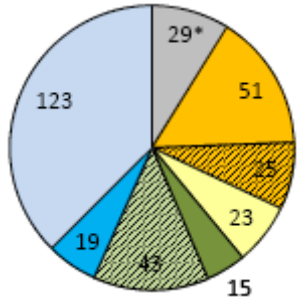
Alternatives Vary in Time to Meet Objectives



Range of Alternatives Evaluated – Varying technologies and footprints

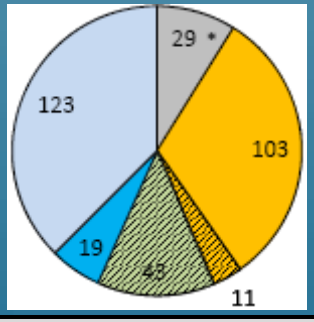
EXAMPLES: Alternative 4 actively remediates 143 acres (full range is 29-328 acres)

Alternative 4 - Combined Technology

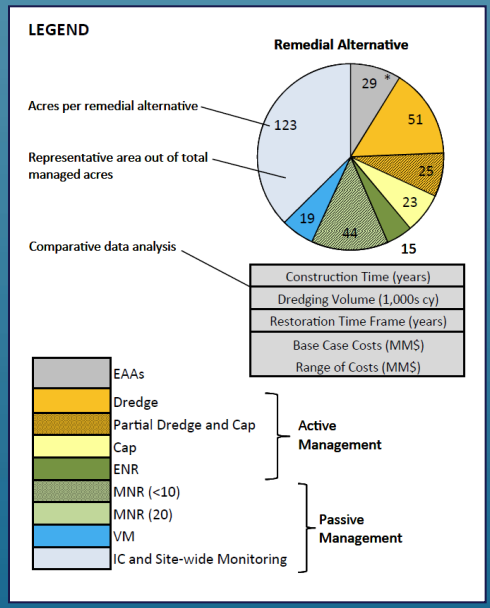


Construction time: 7 yrs
Dredging Volume: 560,000 cy
Restoration timeframe: 22 yrs
Base Case Cost: $280 million Range of Costs: $210 to $390 million

Alternative 4 - Removal Emphasis



Construction time: 13 yrs
Dredging Volume: 1,100,000 cy
Restoration timeframe: 23 yrs
Base Case Cost: $450 million Range of Costs: $360 to $630 million

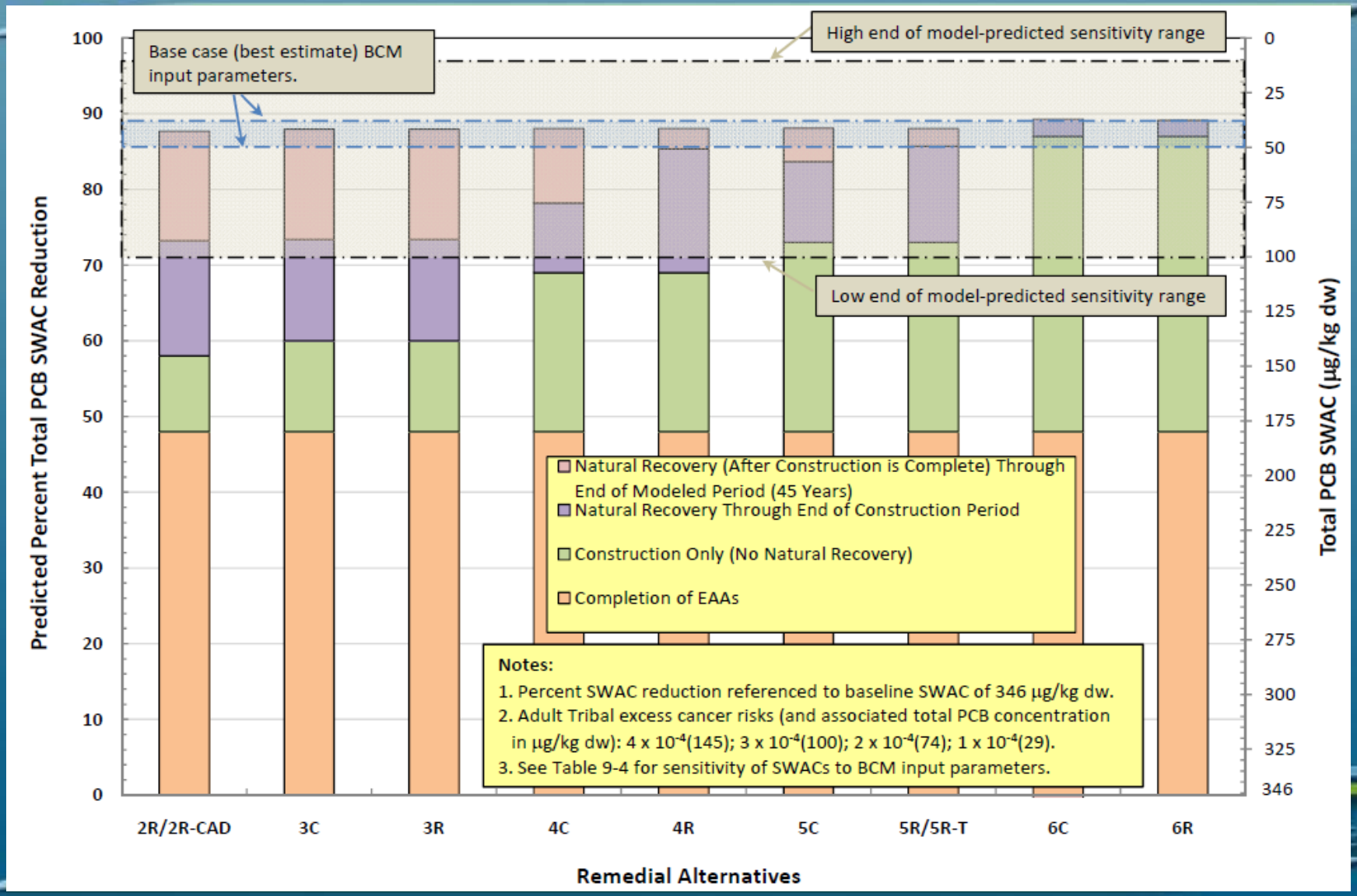


Primary Differences:

- "Combined" alternatives emphasize mix of active technologies.
- "Removal" alternatives focus more on dredging rather than other active technologies.
- Costs range from $200 million to $1.3 billion, construction timeframes from 4-38 years.

(Note: handout with more detailed charts)

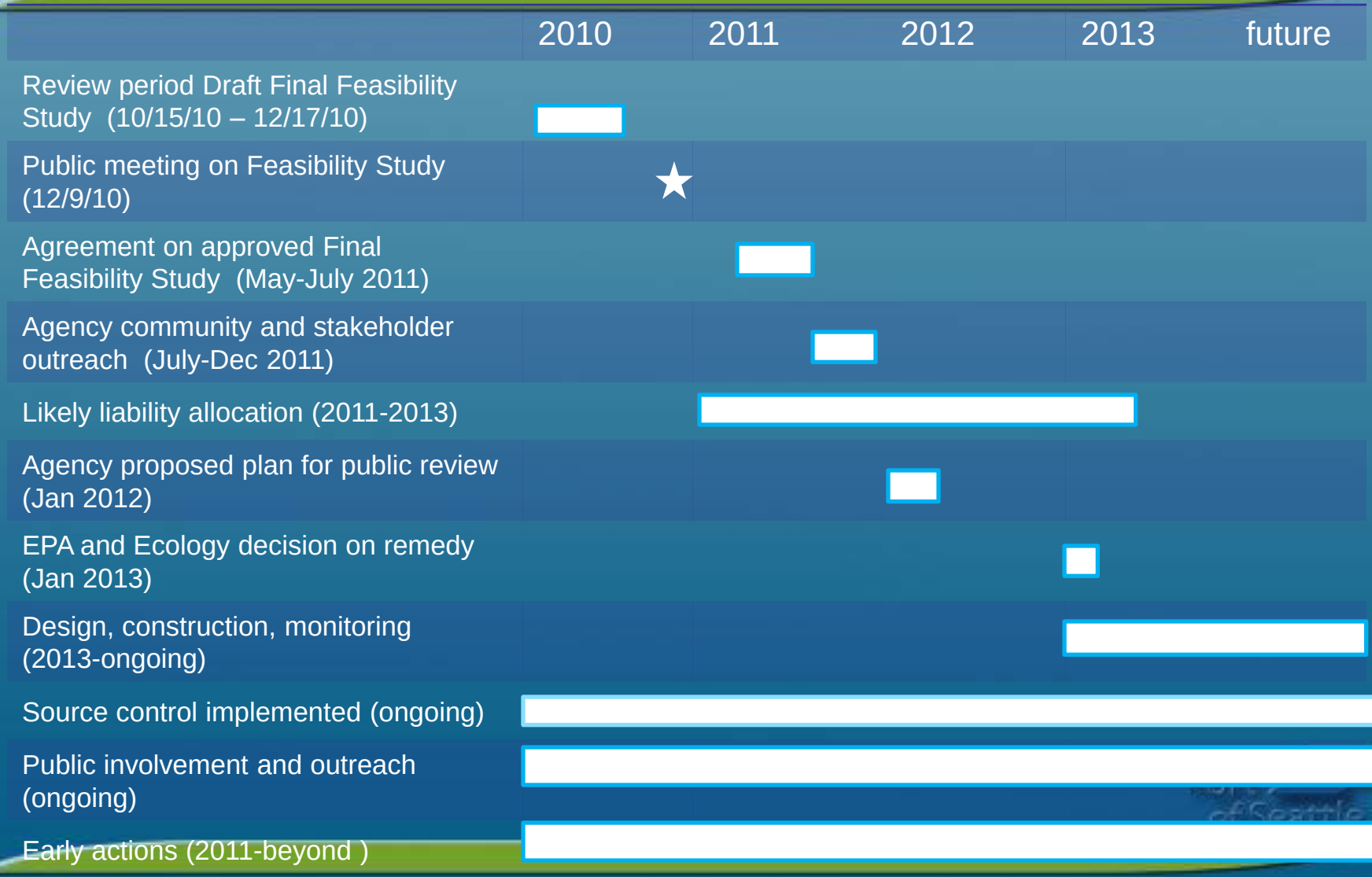
Reduction in PCBs achieved in different ways



Tradeoffs to Consider – "Combined" vs. "Removal"

- Dredging
  - Considered more permanent in long term
  - Causes most impact during construction
  - Larger dredge volumes mean longer construction, truck/train transport impacts (traffic, emissions), community and worker impacts
- Non-dredge methods (capping, engineered and monitored natural recovery)
  - Get done faster and cheaper
  - Less short-term impacts than dredging
  - May require more maintenance over time
- All technologies require monitoring to ensure they are functioning as intended

Moving toward Cleanup



Funding Impacts to Region

- Range of cleanup costs large, and don't include other support activities (source control, EAAs)
- Liability will likely be allocated broadly
- Public agency projections of impacts to tax and ratepayers are being developed
- Local and regional businesses will absorb costs, potential impacts on business health and investment
- Uncertain availability of MTCA grant money to local governments

Key Stakeholders are Involved

- EPA and Ecology
- U.S. Army Corps, NOAA, U.S. Fish and Wildlife
- WDFW and DNR
- Tribes
- Duwamish River Cleanup Coalition (DRCC)
- Local residents and businesses
- Potentially responsible parties
- Seattle and King County ratepayers/taxpayers

Community Outreach Is Ongoing

- Joint outreach to community groups with EPA, Ecology, DRCC
- Outreach to non-English speaking communities
- ECOSS hosting business meetings
- Web-based availability of documents and online comment opportunity
- EPA/Ecology public meeting December 9

Briefing Summary

- Revised Feasibility Study moves us closer to a cleanup decision
- Moving forward with cleanup is critical to reduce risks to community and environment
- Alternatives vary in time, impacts, and cost
- Funding impacts to businesses, Port, and municipalities
- EPA and Ecology will select cleanup alternative that best meets their objectives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