

# The role and need for HIA in Superfund hazardous waste site assessment

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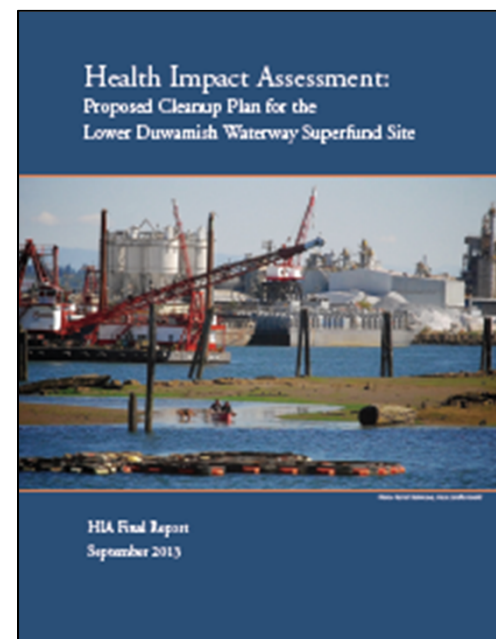
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**SCHOOL OF PUBLIC HEALTH**  

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**UNIVERSITY *of* WASHINGTON**



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**UW Public Health**
- Linn Gould**  
**Just Health Action**
- BJ Cummings**  
**Duwamish River Cleanup Coalition/  
Technical Advisory Group (DRCC/TAG)**
- Funders**  
**Health Impact Project – a collaboration of  
the Robert Wood Johnson Foundation and  
The Pew Charitable Trusts**  
**UW Rohm and Haas Professorship in  
Public Health Sciences**



Puget Sound

Seattle

In 2001, EPA listed a 5.5 mile stretch of the Lower Duwamish River as a Superfund site

Duwamish River

Elliott Bay

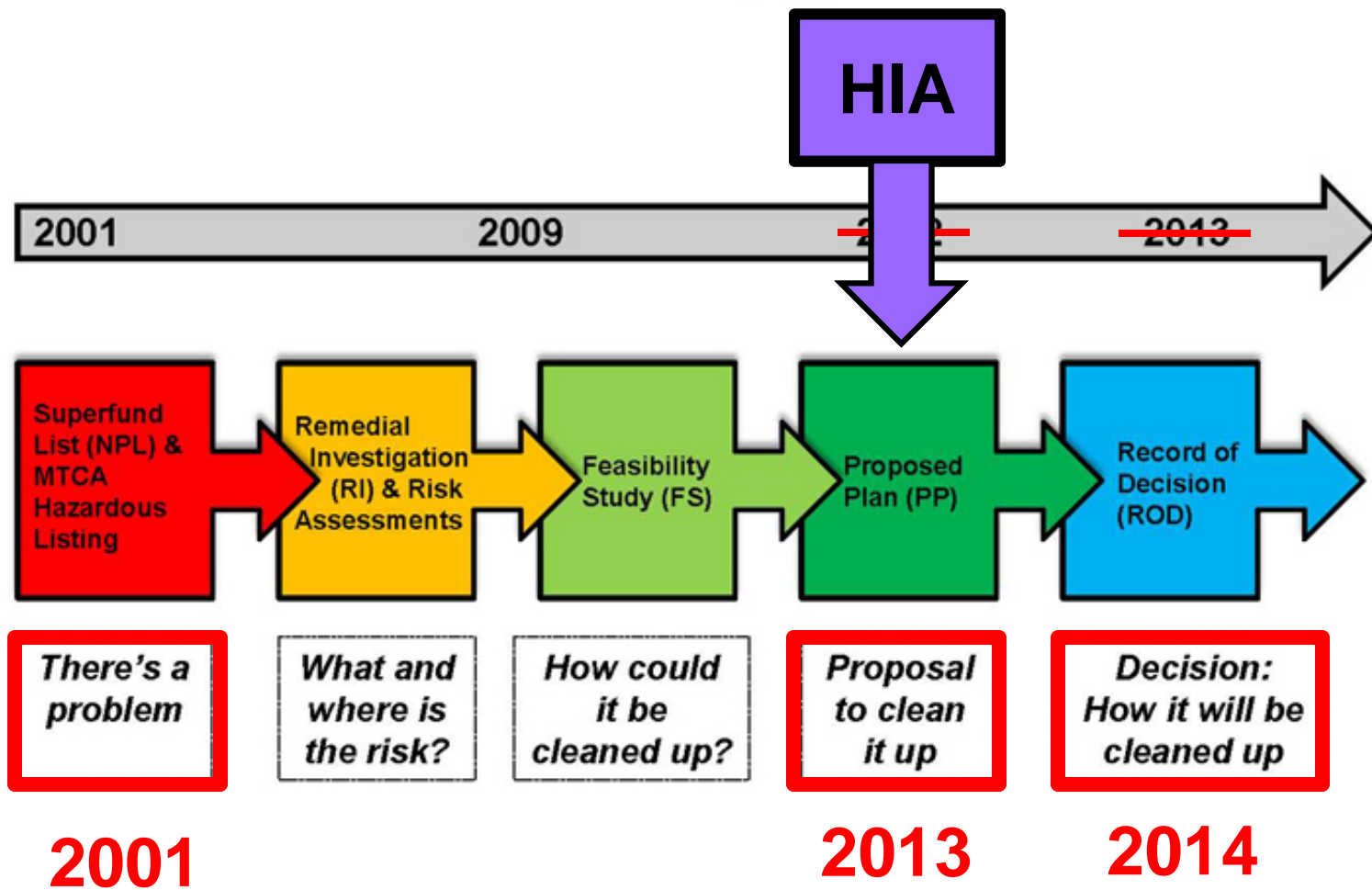
Lake Washington

Google Maps (Oct 2012)



A River Lost? (2007) Photo: Paul Joseph Brown, *Seattle Post-Intelligencer*

# Cleanup Planning Milestones



# Cleanup: Four Objectives

**RAO 1: \* Protect health of people who eat seafood**

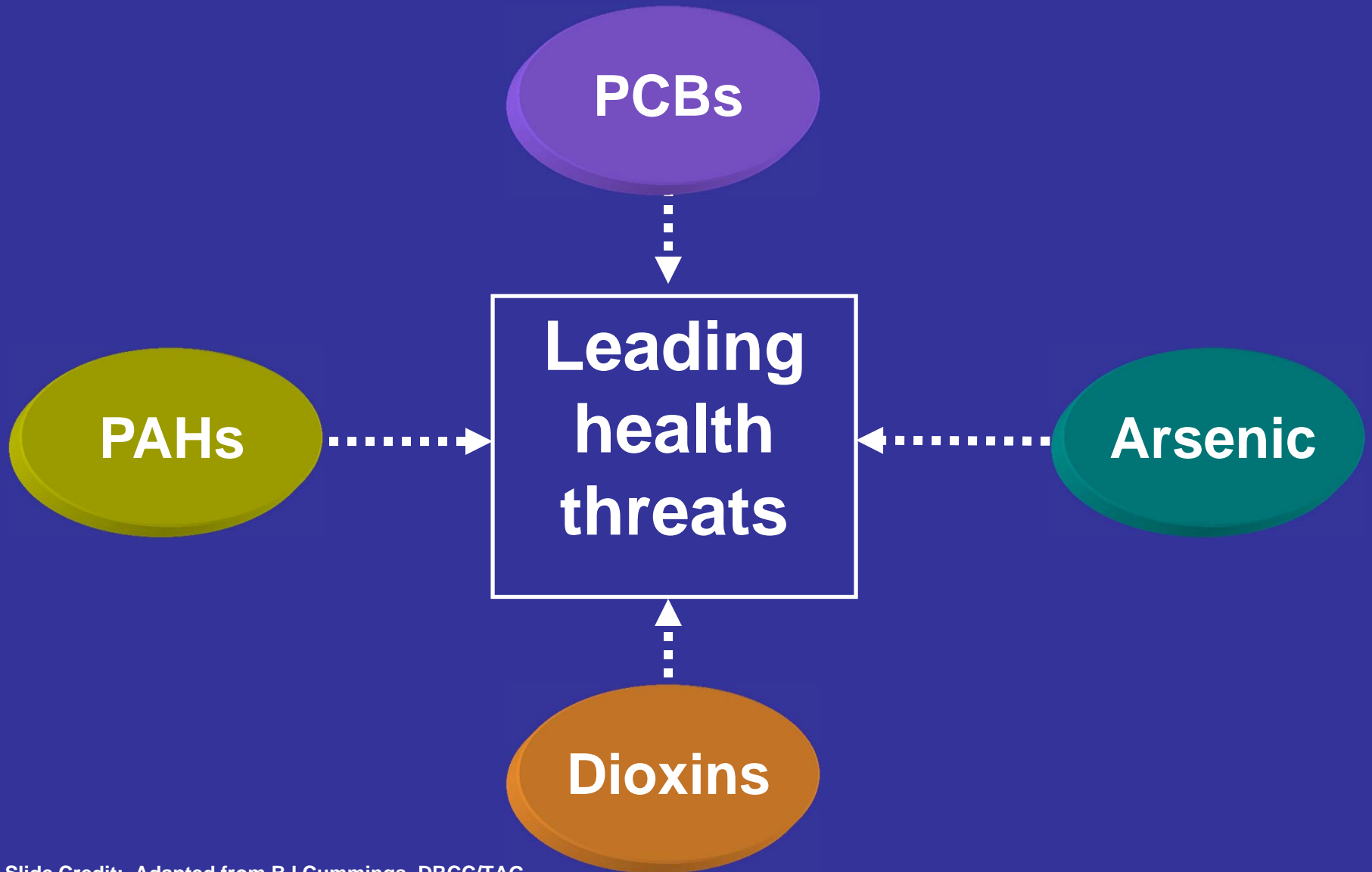
**RAO 2: Protect health of people who have contact with sediments**

**RAO 3: Protect health of fish and wildlife**

**RAO 4: Protect health of benthic community**

**\* RAO = Remedial Action Objective**

# EPA: Human Health Risk Assessment



# Post-Cleanup Health Risks

~~RAO 1: \* Protect health of people who eat seafood~~

- Excess cancer risks will still reach **1 / 10,000** for some Tribal and other fish consumers.

State law: cannot exceed 1 / 1,000,000

- Non-cancer risks will still reach **Hazard Quotient of 8**, for some Tribal children.

State and federal law: HQ cannot exceed 1



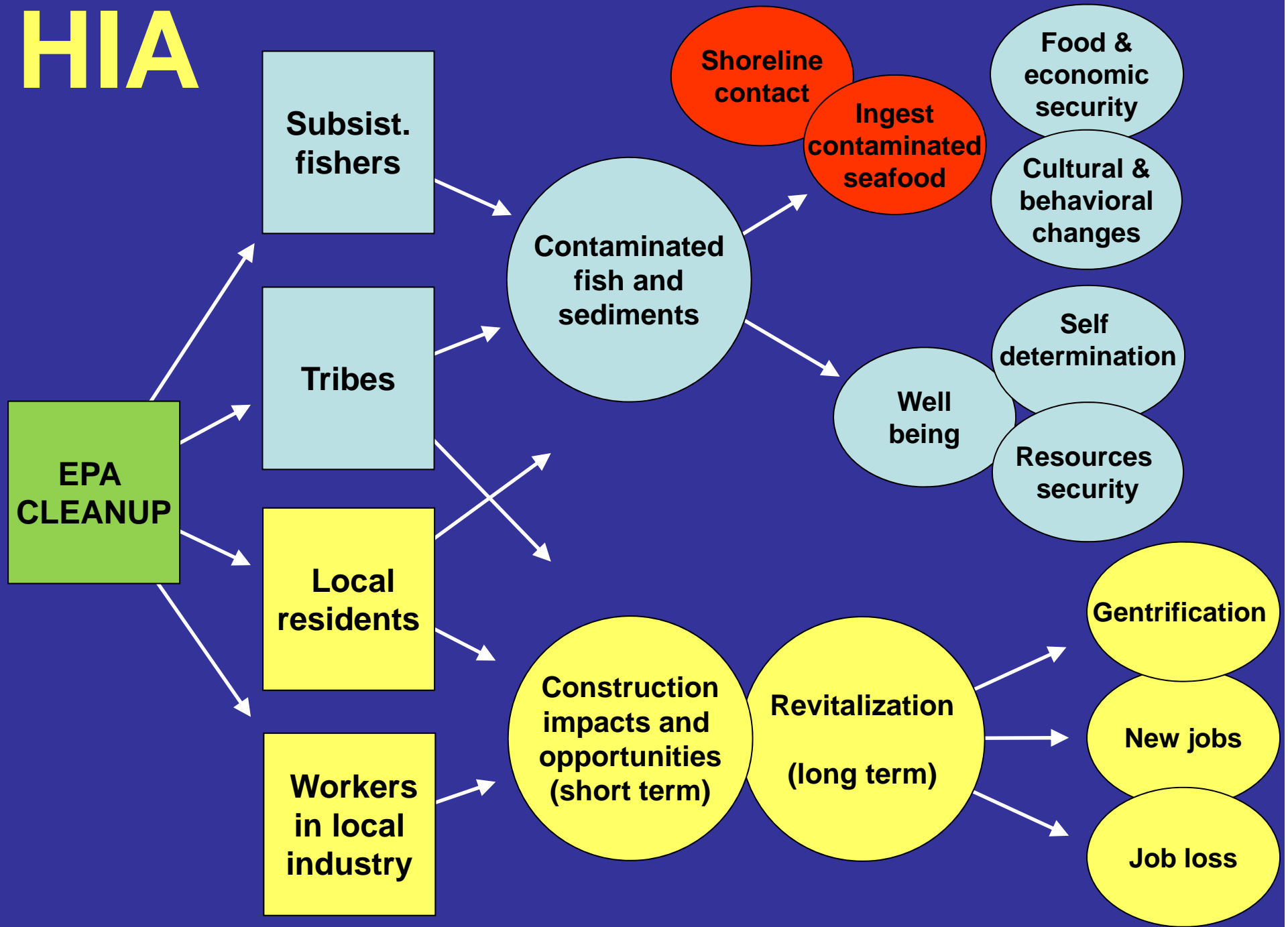
# Institutional controls

- Advisories
- Signs
- Awareness
- Education
- “Offsets”?



Source: DRCC/TAG?

# HIA



# HIA Findings

- **Cleanup construction**
  - Health impacts manageable with best practices
  - Opportunities for local jobs

# HIA Findings

- **Local residents**
  - Disproportionate cumulative burden of existing health and environmental problems
  - Cleanup could revitalize local communities, but
  - Could accelerate gentrification



Photo by Linn Gould

# HIA Findings

- **Local workers and employment**
  - Many existing phenomena do or could adversely affect industry employment
  - Inadequate information to characterize cleanup impacts, relative to existing phenomena

# HIA Findings

- **Subsistence fishers**
- **Affected Tribes**
  - Disproportionate cumulative burden of existing health problems
  - Post-cleanup seafood contamination and restrictions pose disproportionate harm
  - Tribal outcomes are worse than EPA predictions, if account for broader Tribal definitions of health

# Role of HIA

- **Superfund & risk assessment paradigm**
  - Biomedical endpoints
  - Generally not “cumulative”
  - Cleanup and institutional controls (ICs)
  - Minimal assessment of ICs
- **HIA**
  - Broader definition of health; holistic approach
  - Cumulative and disproportionate impacts; equity
  - Approach ICs as public health intervention