

Joint MTCA/SMS Advisory Group & Sediment Workgroup Meeting

December 17, 2010

Sediment Management Standards

Decision Making Framework

The Big Picture



Where we left off in July 2010 with Advisory Groups

Ecology needed to make decisions on four key issues identified by the advisory groups:

1. Whether to maintain a **two tier decision framework** similar to the approach in the current SMS rule.
2. When to consider **cost** in setting sediment cleanup standards.
3. If and how to settle liability for “**site units**” within a larger sediment site.
4. How to clarify liability given the probability of **recontamination**.

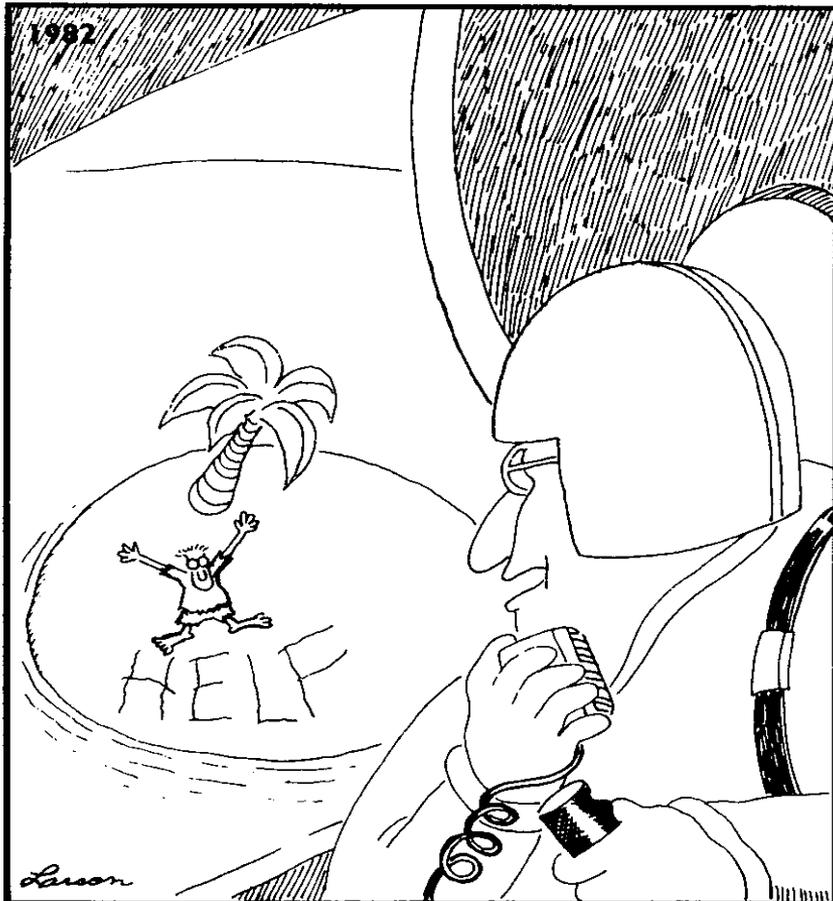
What we've been doing for four months

Making initial decisions on the four key issues which involved:

- Engaging in numerous internal discussions with technical staff, site managers, and management.
- Developing details on how to implement decisions.
- Beginning to draft rule language to support the decisions – but we're not finished.
- Retool our process in response to Governor's rule moratorium

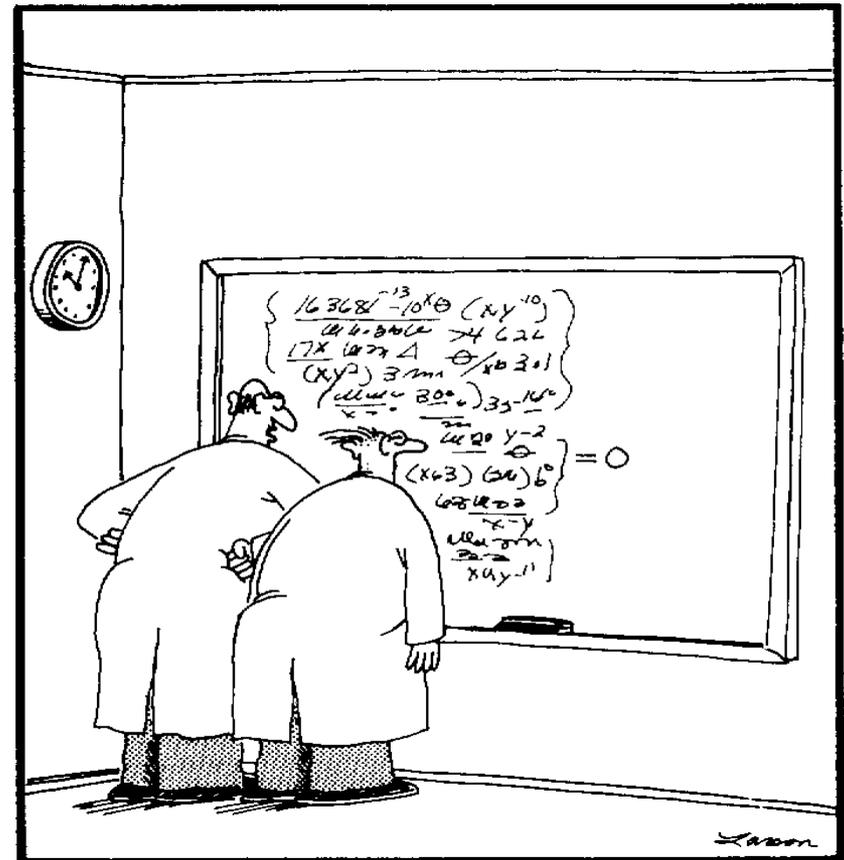
Common Rulemaking Mistakes

Focus on Small Details and Miss the Big Picture



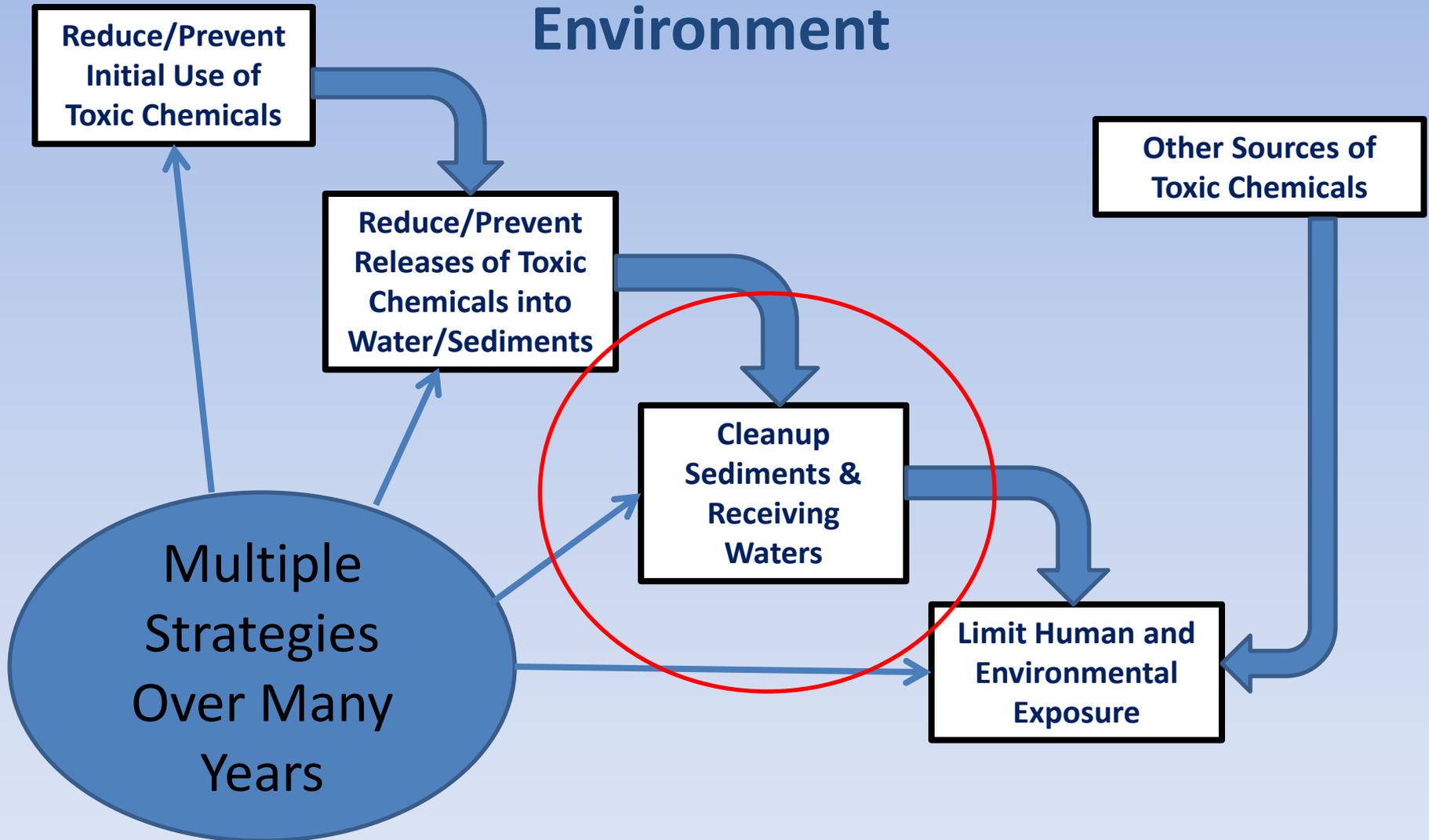
"Wait! Wait! ... Cancel that, I guess it says 'helf.' "

Tackle the Big Picture and Get Lost in Details or Overextended



"No doubt about it, Ellington—we've mathematically expressed the purpose of the universe. Gad, how I love the thrill of scientific discovery!"

Understand the Big Picture While Dealing With Manageable Chunks That Help Improve the Environment



Rule Revisions that Reflect Real World Opportunities and Constraints

Multiple technologies will be needed to address sediment contamination.

Active cleanup measures (e.g., dredging, capping) can reduce risks by eliminating exposure to contaminated sediments.

We will rarely be able to dredge our way to complete success.

Actions to prevent and control ongoing releases of hazardous substances will be needed to achieve cleanup goals.

Source control and prevention will require several decades.

Institutional controls will help bridge the timeframes between active cleanup measures and long term goals

Institutional controls have limited effectiveness for aquatic sites.

Goals for today

Inform advisory group about Ecology's decisions on SMS rule.

Walk through decision framework.

Discuss and consider suggestions from the group.

What has Ecology decided?

1. **Criteria framework:** Retain the current SMS two tier framework with an upper and lower bound for setting sediment cleanup standards and/or remediation levels.
2. **Consideration of cost.** Retain the current SMS methodology that allows cleanup standards and/or remediation levels to be determined using net environment benefit, technical effectiveness, and cost.
3. **Site units.**
 - Allow settlements for discrete site units within a larger site.
 - Allow for a process to settle liability for the larger site.
4. **Recontamination.** Clarify source control requirements/liability for PLPs while recognizing their inability to prevent releases from other people.

Other issues we've been grappling with

- Terminology: Harmonizing MTCA and SMS terminology such as remediation levels and cleanup standards.
- Determining how to settle liability for a PLPs contaminant contribution to the larger site if it is “minimal”.
- How to achieve the conservative, long term environmental goal for the larger site given the real issue of stormwater contamination.
- What criteria to use to determine how to settle liability for larger baywide or watershed wide contamination.
- Whether and how to use the Cleanup Settlement account for these types of baywide or watershed wide settlements.

Strategy

- 1. Reduce Risk:** Reduce risk to human health and the environment by cleaning up high risk/highly contaminated areas, reducing contaminant loading to the environment, and reducing redistribution of nearshore contamination to the environment.

- 2. Provide Incentives:** Offer more incentives (and better predictability) for PLPs to cleanup the most contaminated area (Site Units) within larger sites.

- 3. Resolve Liability:** Three pieces to resolving liability:
 - **Active Cleanup:** Identify Site Units for active cleanup.
 - **PLP source control:** Prevent recontamination of Site Unit by PLP sources through PLP source control; prevent PLP from further loading to Baywide Site.
 - **Contribution** to Baywide Site for long term monitoring, further remedial actions, or source control to attain cleanup goal.

Decision Making Framework (Proposed)

Establishing Protective Cleanup Standard

Using the SMS methodology :

- A remediation level or cleanup standard is set within a range:
 - Upper bound set by: Regional Background/ 10^{-5} Risk
 - Lower bound set by: MTCA Natural background/ 10^{-6} Risk
- Where the remediation level or cleanup standard is set is determined by *technical feasibility, cost, and net environmental benefit.*

Settling PLP Liability

- **Site Units:** PLPs have options regarding settling liability (contribution protection, covenant not to sue) for discrete Site Units within a larger baywide contaminated site.
- **Recontamination:** Ecology has options for releasing PLP liability for recontamination of a Site Unit if ongoing release is:
 - Not from the PLP or
 - Not under the authority of the PLP

Site Units

What are they and what can they do for you?

- SMS and MTCA currently provide authority to define and remediate site units or portions of sites. Rule revisions would clarify details.
- Site Units are a pragmatic approach that favors:
 - Risk reduction to human health and the environment
 - Actions
 - Incentives
 - More efficient cleanup
- A tool we can use to get cleanup done when we have widespread contamination from multiple PLP's and sources.
- Analogous to an interim action with a twist (PLP liability settlement: covenant not to sue, contribution protection).

Is contamination widespread on a baywide/watershed scale?

Yes

No

Establish Baywide Site:

- Cleanup Goal Highest of:
 - MTCNA Natural Background
 - Effects Based
 - PQL

Establish Individual Sites:

- Cleanup Standard or Remediation Level set within a range.
- PLP sources controlled to prevent recontamination above Remediation Level.
- PLP liability resolved w/Consent Decree.

Are there chemical signatures, PLPs, chemical concentrations, sediment distribution patterns to delineate Site Units within a Baywide Site?

No

Site Units cannot be established . See **Establish Individual Sites** above

Yes

Establish Site Unit Within Baywide Site:

- Cleanup Standard or Remediation Level set within a range.
- PLP sources controlled to prevent recontamination above Remediation Level.
- PLP liability resolved w/Consent Decree.

Resolve PLP Liability to Baywide Site:

- Contribute dollars to Cleanup Settlement Account or other Ecology approved entity for:
 - Source control directly related to loading to Baywide Site.
 - Residual Cleanup.
 - Long term Baywide Site monitoring.

Is the **Site Unit** PLP(s) contribution to **Baywide Site** minimal relative to:

- Baywide Site concentrations above cleanup levels.
- Past or existing sources.

Yes

Baywide Site liability cannot be resolved by cash out. See **Establish Individual Sites** above

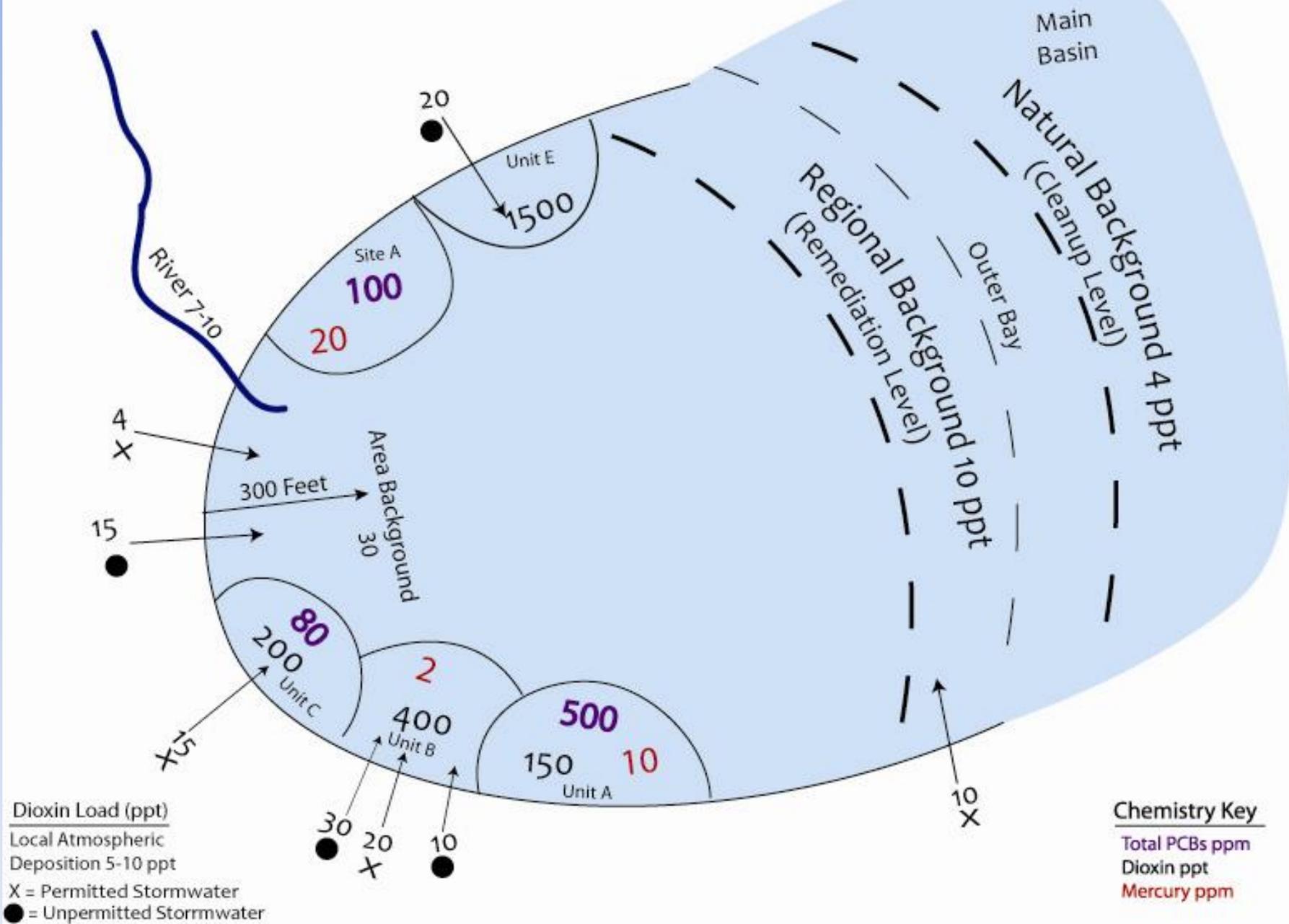
No

I have no idea what you're talking about...



...so here's a bunny with a pancake on its head.

PUGET SOUND BAYWIDE SITE

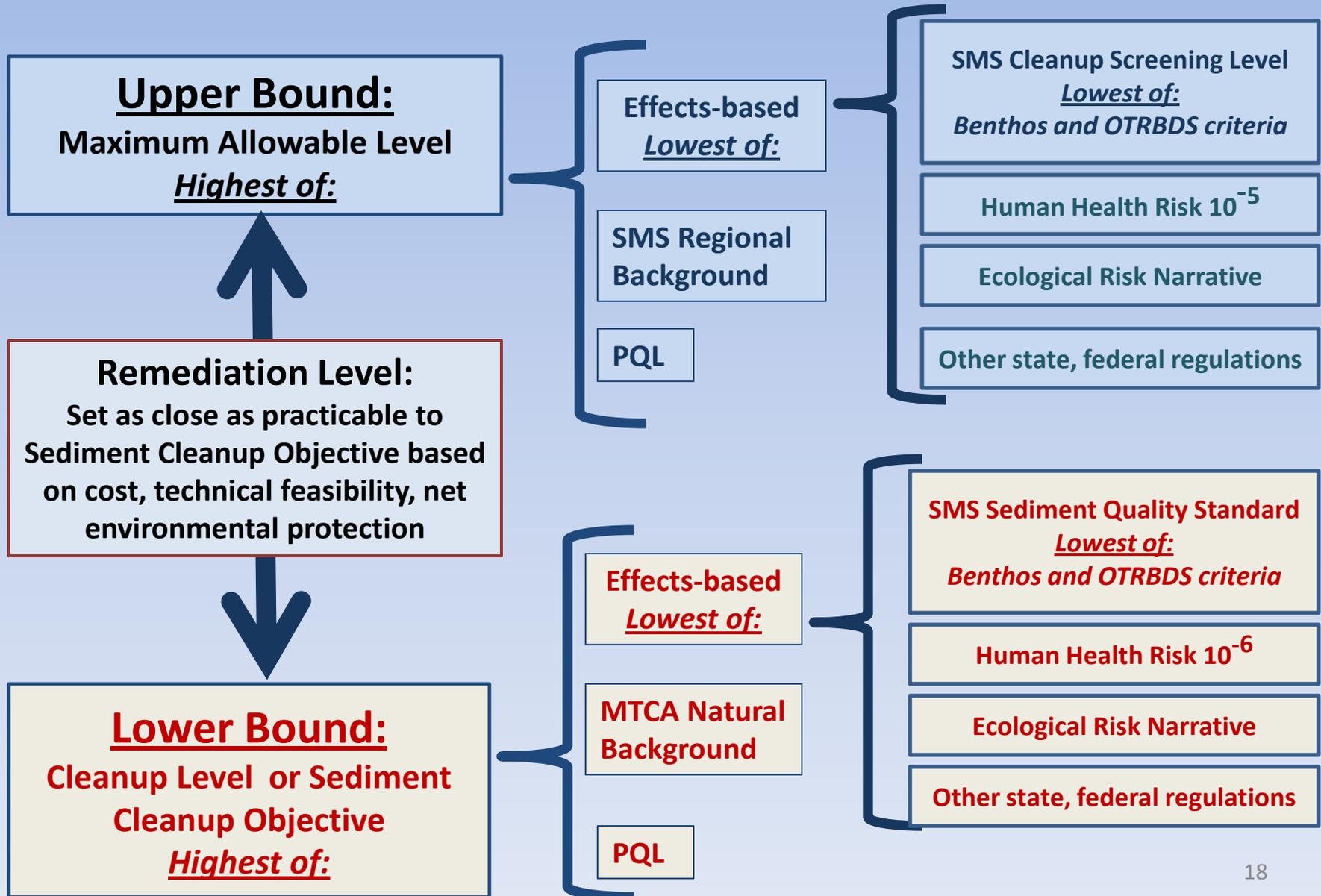


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Setting remediation levels or cleanup standards



Why would we settle liability for a Site Unit?

Cleanup of Site Units would result in:

- A **more expeditious cleanup** of the Baywide Site to cleanup goals over time by:
 - Reducing redistribution of higher concentration Site Unit contamination to Baywide Site.
 - PLP source loading to Baywide Site reduced or eliminated.
- **Significant reduction of risk** to human health/environment:
 - Site Units can have significantly higher concentration than Baywide Site.
 - Site Units typically located in critical habitat nearshore areas.
 - Risk to fish, shellfish, and habitat is reduced.
 - Risk to human health is reduced from fish and shellfish consumption and dermal exposure.
- **Expedite habitat restoration** and reduce natural resource damage by getting cleanup done.

What would an RI/FS look like for a Site Unit?

- Characterization to determine the nature and extent of sediment contamination to define the Site Unit and determine remedial alternatives.
- Remedial alternatives would include combinations of:
 - Dredging
 - Capping
 - Enhanced natural recovery (thin layer capping)
 - Source control of PLP stormwater, other PLP discharges, PLP upland contamination
 - Institutional controls
- DCA conducted to determine Site Unit remediation level concentration and remedial alternative.

How would we settle liability for a Site Unit?

- **PLPs have two options:**
 1. Settle liability for the Site Unit only.
 2. Settle liability for both the Site Unit and the Baywide Site.
- Scope of the **covenant not to sue must be commensurate** with remedial actions.
- **Active cleanup measures** (i.e. dredging, capping) will be required for areas within the Site Unit with concentrations above regional background (with adjustments for natural recovery over 10 years).
- Remediation level **must be below** the highest of regional background or 10^{-5} risk (that is, the upper bound).
- All **PLP sources** (stormwater, wastewater, upland contamination) must be **controlled** to prevent recontamination above remediation levels.
- PLPs are **not liable for recontamination** that is not their responsibility.

How would we settle liability for a Baywide Site?

- In order for a PLP to settle their Baywide Site liability by contributing to the Cleanup Settlement Account they must:
 - Settle liability for the Site Unit.
 - Show their liability for the Baywide Site is insignificant or small relative to:
 - Baywide Site concentrations above the sediment cleanup objective.
 - Loading from past and existing non PLP sources.
- Scope of the covenant not to sue must be commensurate with remedial actions to reach Baywide Site sediment cleanup objective over the long term (decades).
- Settlement can include contribution in dollars to the Cleanup Settlement Account for further remedial actions:
 - **Long term natural recovery monitoring** of the Baywide Site.
 - **Further active cleanup** of discrete Baywide Site areas.
 - **Source control** to prevent loading to the Baywide Site.

How would Natural Background be established?

- Natural Background would be defined under 173-340-200 WAC.
- Natural Background would be established under 173-340-709 WAC.
- Currently “background” (regional or natural) data exists:
 - PSAMP: Ambient monitoring, Urban Waters Initiative monitoring
 - BOLD study
 - Ecology baywide sediment characterizations
- Ecology working towards supplementing this data to provide a body of data that can be utilized to establish Natural Background in Puget Sound.

How would Regional Background be established?

- Regional Background means within a department defined geographic area typically encompassing an embayment, watershed, or reach of a river, concentrations of any hazardous substances in sediment resulting from combined point and nonpoint sources not attributable to *significant identifiable sources*. Regional background concentrations are generally expected to be *greater than or equal to* natural background and *less than* area background as defined in WAC 173-340-200.
- Sampling to determine Regional Background:
 - Must include areas away from the direct influence of point sources.
 - Cannot include areas within the depositional or mixing zone of an outfall or other identifiable contaminant source.
 - Cannot include areas within a Site Unit.
 - Cannot include nearshore areas if identifiable sources have contaminated the nearshore.