Applying 2013 SMS Rule to the DMMP:

PAHs as an example

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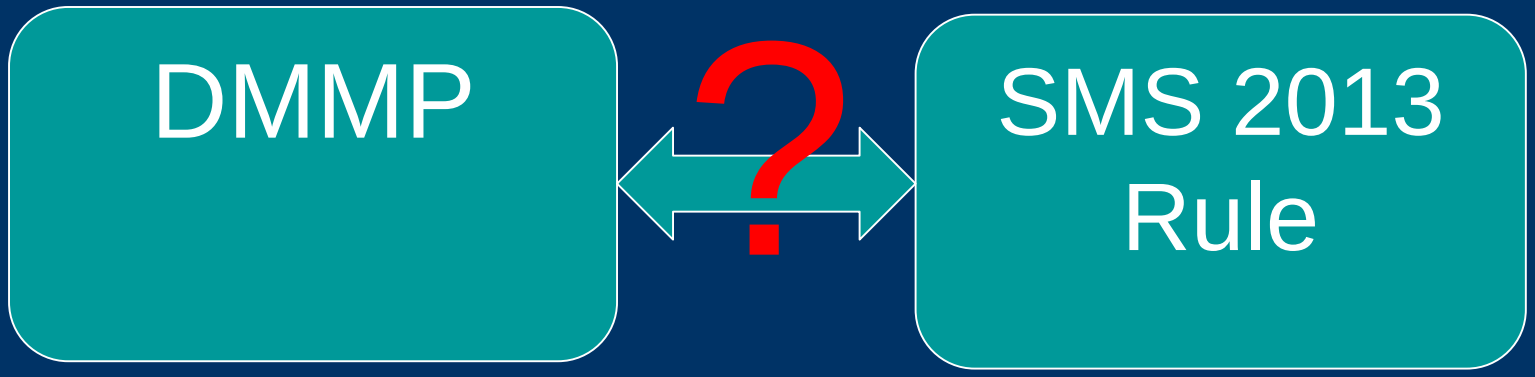
Introduction



How does the 2013 sediment rule affect DMMP decisions?

What this presentation IS:

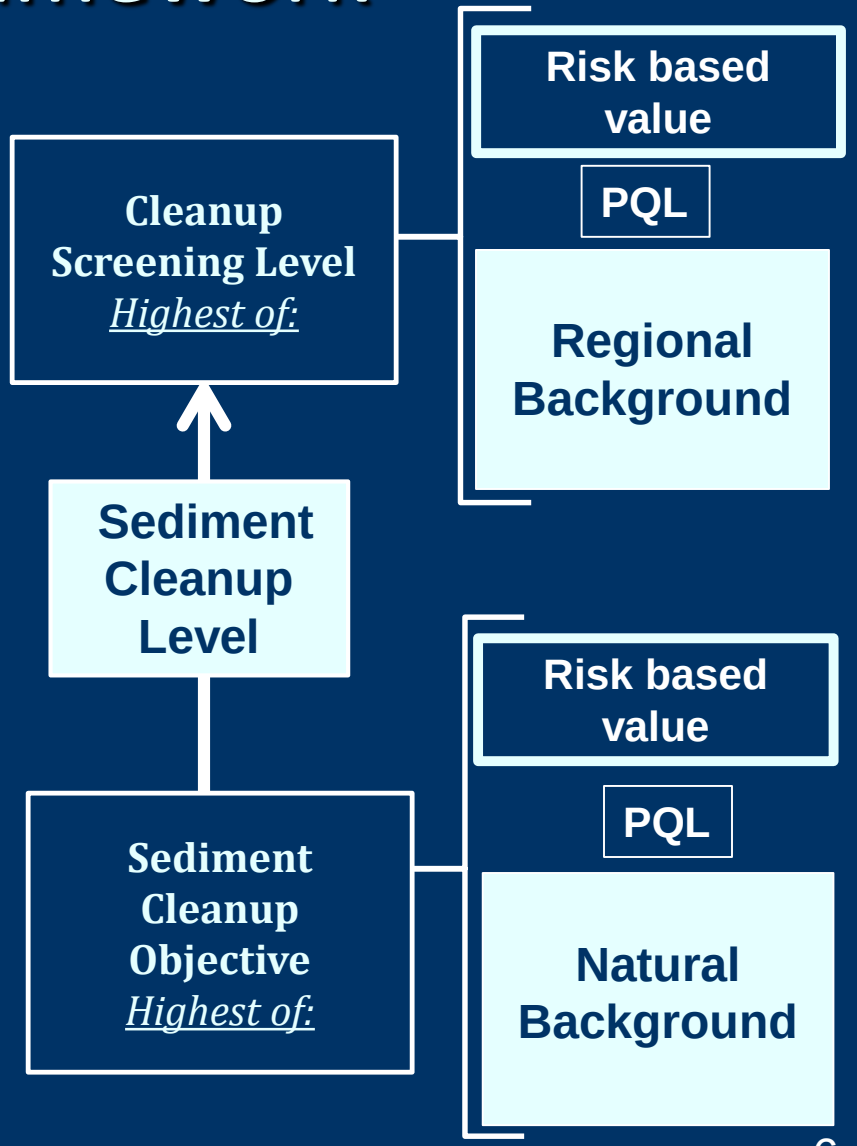
- Explanation of the 2013 revisions to SMS relating to dredging and open water disposal
- Discussion of issues and potential points of flexibility
- Case study involving PAHs at Port Gamble

What this presentation is NOT:

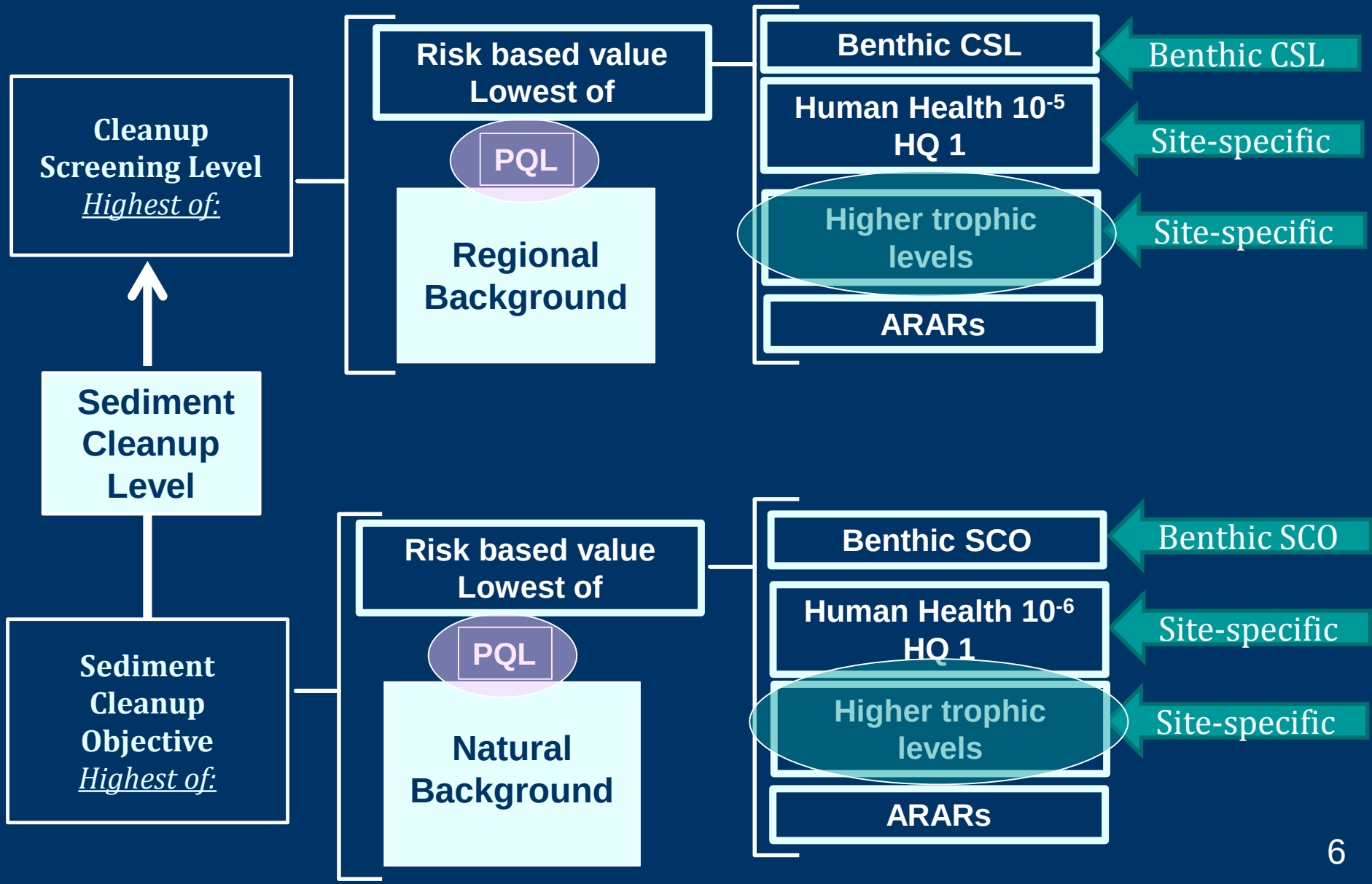
- Issue, Clarification or Status Paper
- Proposal to revise DMMP guidelines
- Blueprint for path forward on bioaccumulatives

The 2013 SMS Rule
Two Tiered Framework

- SCO is goal for ALL sediments (including disposal sites)
- Above CSL may trigger cleanup.
- Need clarity on how DMMP guidelines, disposal site management objectives, and project evaluations (antidegradation) fits.
- Current DMMP guidelines based on benthic risk, with the exception of a few bioaccumulatives (notably TBT, PCBs, dioxins)



The SMS Two Tiered Framework



Where do DMMP actions fit in?

1. Disposal sites management objectives
   - Non-dispersive= Site Condition II
   - Dispersive= Site Condition 1 (~SCO)
2. Antidegradation at the dredge project location
   - Must be below CSL
   - Between SCO and CSL may require management
3. Sediment suitability determinations, what applies?
   - Disposal sites (dispersive or non-dispersive)
   - Beneficial re-use (in-water, nearshore, upland)

WHY does DMMP need to change the *status quo*?

1. Disposal site ESA evaluations
   - Need NOAA/USFWS approval for site authorization
   - Development of fish screening levels

2. Shoreline permitting
   - Need public approval for permit support

3. Potential greater flexibility in areas with elevated regional background

Non-Dispersive Disposal Sites and the 2013 Rule

Currently all sites are below the CSL, and generally meet the SCO using existing guidance.

Non-Dispersive Disposal Sites and the 2013 Rule

So why do we need to change?

Because monitoring is not done annually, really do not know if the SCO is being met at sites at all times.

- Large volumes of clean material may influence site conditions (based on infrequent monitoring).
- We cannot assume clean material will always be available (beneficial reuse increasing).
- If site is above standards, may be difficult to resolve after the fact.

Non-Dispersive Disposal Sites and the 2013 Rule

- Need a mechanism for disposal sites to be in compliance with the SMS rule.
- 2013 SMS rule more protective than Site Condition II goal.
- As discussed this AM, need to identify where the flexibility exists in the SMS rule for disposal sites to potentially (and temporarily) be above the SCO.

Dispersive Disposal Sites and the 2013 Rule

No implications for dispersive sites:

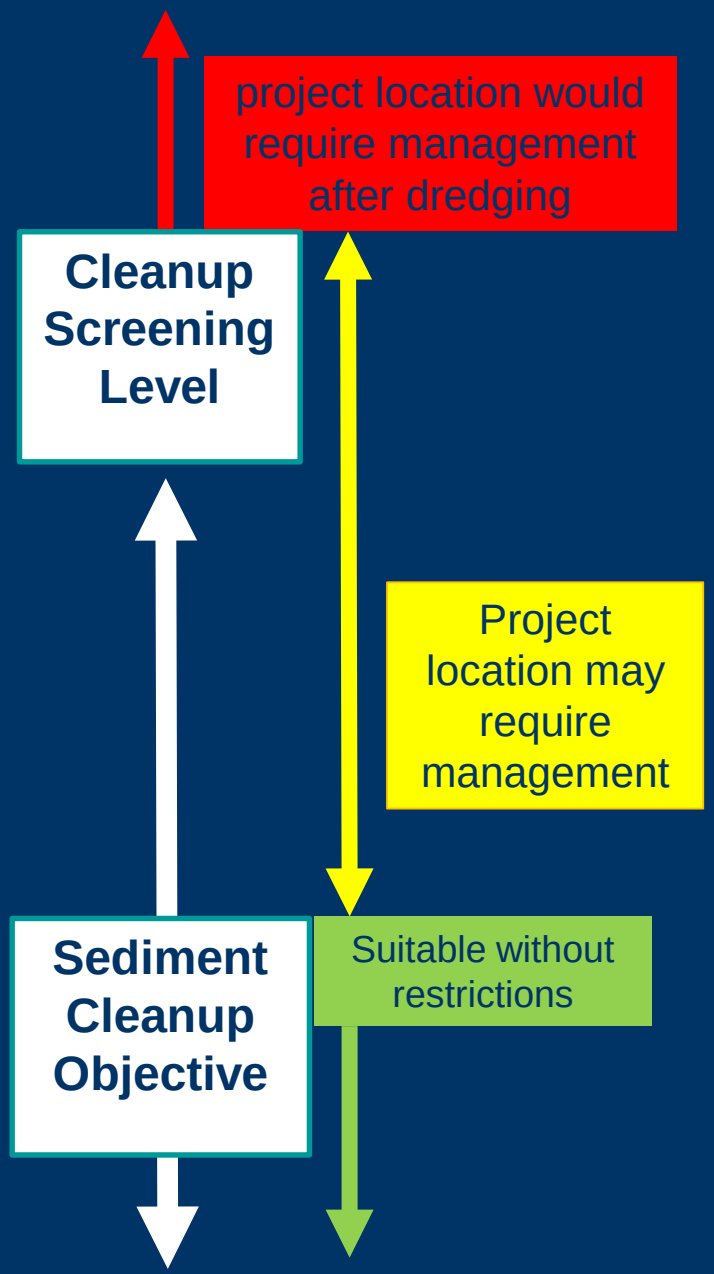
- Material going to dispersive must meet SCO

Dredge Project Site and the Rule

The sediments exposed by dredging/new surface material must pass antidegradation

Existing antidegradation approach applies, with no post-dredge management of surface if:

- Sediments are at/below SCO, or
- Sediments are cleaner than existing surface AND below CSL



Before moving to PAHs, QUESTIONS???

PAHs

1. Originally a clarification paper on PAHs was going to be presented

2. Due to complex issues discussed in previous slides, the paper was not completed.

3. A good example of how DMMP hopes to move forward with increased flexibility, yet remain protective

Port Gamble: a PAH example

The Port Gamble cleanup sediments exceeded site-specific risk for cPAHs, but below the benthic risk value for Total PAHs.

- Total PAHs are sum of 17 aromatic hydrocarbons
- cPAHs are a subset of 7 PAHs that are known or probable human carcinogens. These include benzo(a)pyrene (BaP), benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-c,d)pyrene).

Port Gamble: a PAH example

To expedite review, DMMP assumed disposal site risk-based values would be below background, and used the recent Port Gardner regional background to determine project suitability.

- Generated concerns among applicants that DMMP was moving towards evaluating cPAHs for all projects using the Port Gardner regional background value.

PAHs

Could DMMP have more flexibility with PAHs?

Yes… and no.

Potential Flexibility for cPAHs? Yes!

Low potential for human exposure to cPAHs at disposal sites:

- PAHs rapidly metabolized in many mobile species (including fish and crab), which drastically reduces bioaccumulation
- PAHs can accumulate in clams but disposal site depth/location prevents human access

Potential Flexibility for Total PAHs?

No –If based on risk to fish likely lower than current SL (benthic risk)

Yes –

In some areas regional background (at the CSL) MAY provide further flexibility.

Again, need to identify where the flexibility exists in the SMS rule for disposal sites to potentially (and temporarily) be above the SCO.

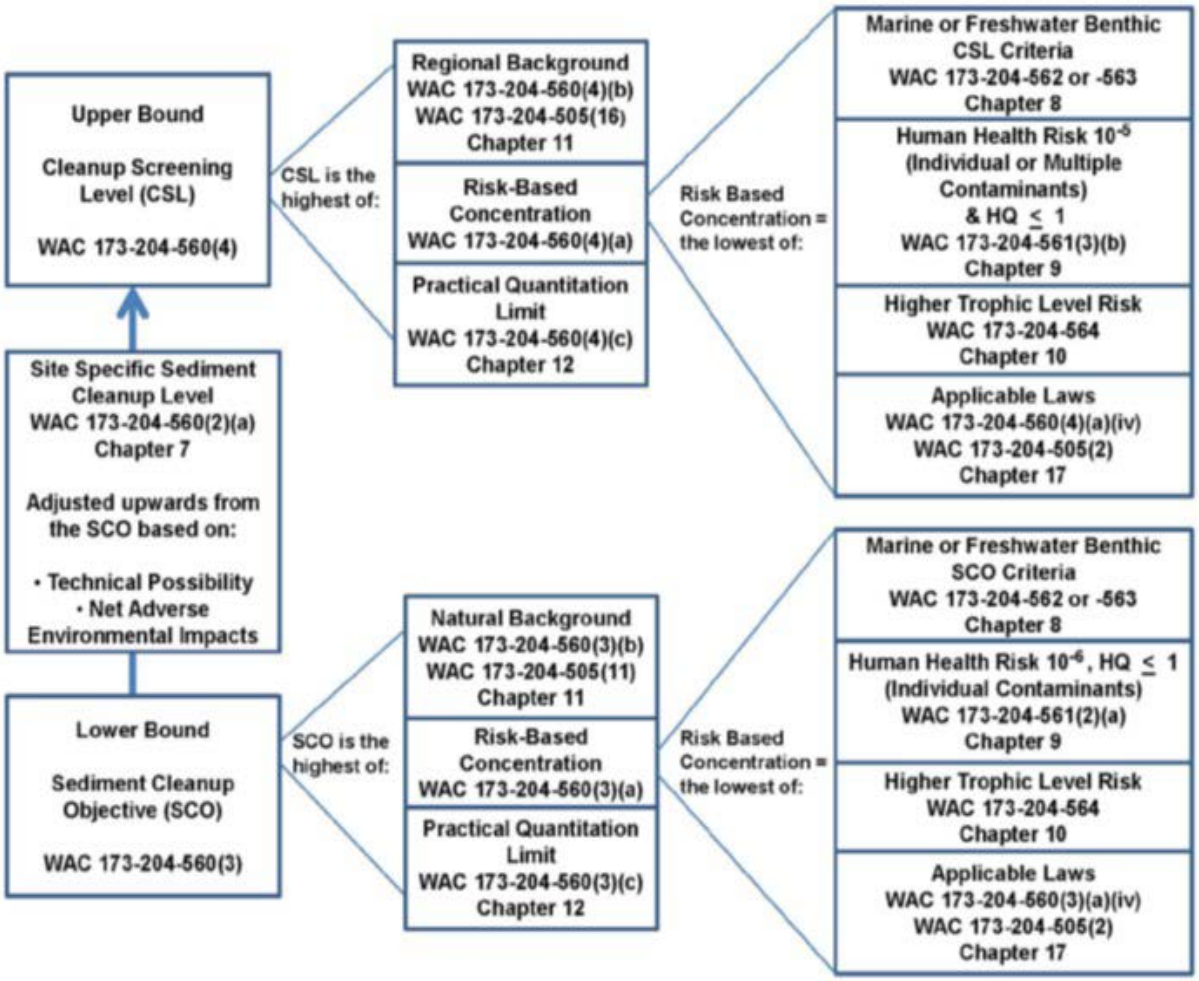
Summary

1. Bioaccumulation is complicated, and very chemical specific.
2. Determining site goals and guidelines that are consistent with 2013 SMS revisions is a priority for DMMP
3. Agencies still working on how best to allow flexibility at the disposal sites while still remaining protective of environmental and human health.

QUESTIONS???

Auxilary slides

PAHs as a Complex Example



Benthic risk uses total PAH (Benthic standard)

Human risk uses cPAHs (site-specific values) *(may not be applicable at dispersive disposal sites)*

Fish risk uses total PAHs (NOAA proposed values) *(Likely driver)*