



U.S. Army Corps of Engineers  
Seattle District



## Dredged Material Management Program

### *Regulating Bioaccumulatives in Dredged Material: Issues and Challenges*

Wednesday, November 1, 2017

9:00 am - Noon

# MEETING SUMMARY

## Meeting Objectives

The goals of the meeting were to 1) present the Bioaccumulation Issues and Challenges talk given at SMARM, this time with sufficient time for question and discussion, and 2) to review in detail the origin and definition of Site Condition II - the management goal for Puget Sound disposal sites - with respect to bioaccumulation.

## Summary of questions and discussion from *Issues and Challenges* presentation

- Is it an antidegradation or risk approach to managing the sites?
- What is a *significant* effect? What is not acceptable? Is it risk based or statically based?
- Consider economic and environmental effects
- Relook at confined aquatic sites - Multi User Disposal Sites (MUDS)
- Looking for flexibility within Site Condition II (SCII) and what is allowed by the Environmental Impact Statements (EISs)
  - Consider differences between nearshore impacts and deep water impacts
  - Discussion about Sediment Impact Zones (SIZs) - are they needed?
  - How and when is the Cleanup Screening Level (CSL) applied?
  - Discussion of sequential placement vs. capping
- Target Tissue Levels (TTL) are high, need to be looked at
- Do Human Health standards need to be re-evaluated for the disposal sites?
- Discussion on chronic sub-lethal effects
  - What would it look like?
  - Is there a time factor?
  - Environmental effect vs. human health effect
  - Onsite vs offsite effects
- Will there be different standards for different sites? Might be unavoidable when dealing with bioaccumulation
- Are there any problems with Site Condition II at any of the disposal sites? What does the monitoring show?
- Know where you want to go with monitoring program before tackling
- Does (Sediment Management Standards (SMS) apply because there is no SIZ?



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- Could you have, under a SIZ, a sequential placement option for site management for sediment that is in the grey zone, not “hot” stuff?
- What is the difference between sequencing and capping?
- Ecology clarified that SIZs do not preclude the application of SMS to the disposal sites
- PCBs are a low hanging fruit? PAH/cPAHs are a low hanging fruit?
  - Need to keep in mind economic effects of ratcheting down criteria
- Concern PCBs still high in fish
  - If not in sediment at site - is there another pathway?

## Summary of questions and discussion from *The Story behind Site Condition II* presentation

- Discussion on why SCII was chosen
- What would chronic sub-lethal effects look like?
- What about temporal scale? Short term bioaccumulation year to year?
  - Site would look different each year as it is used for disposal
  - Community effects hard to see
- Monitoring needs to be reoriented to address bioaccumulation
  - What evidence do we have for on-site bioaccumulation effects?
- How do you know if bioaccumulation is from your site or from somewhere else?
- PCBs are high priority contaminant of concern (COC) - still in environment
- TTLs are high, need to be lower
- Lowering TTLs shouldn't be considered in isolation; there may be other mechanisms at work

## Summary of meeting wrap-up discussion

### Monitoring

- Currently looks mostly at onsite physical and chemical effects
- Not much on bioaccumulation- none onsite, will look offsite if triggered
  - Focused on Molpadia, not structured for a broader look
- DMMP agencies repeated Anderson/Ketron site trawl survey for biological resources
- Need to reevaluate assumptions with data (benthic toxicity & bioaccumulation)
- Is there evidence of bioaccumulation? Or is this proactive management?
- Look at other evidence of bioaccumulation of COCs in fish and invertebrates

### General discussion

- Should a supplemental EIS be done for bioaccumulatives?
- Should we rethink MUDS or sequenced capping sites?
  - Is this needed now with the cost of bioaccumulative COCs (BCOCs)?
- Monitoring - is there a problem?
  - opportunity to do a thorough baseline
  - How and what to look for?
    - Consider other tools like passive samplers



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- Look at other databases, CERCLA? What would apply?
- Cross reference databases - CERCLA as a model for monitoring
- Difficulties with monitoring at depth of disposal sites
  - Sites changes with each disposal event
- What are the sideboards on what we are allowed to do (SCII and regulations) vs feedback on what the site is telling us?
  - How much do onsite invertebrates contribute to the food web?
- Other sources of PCBs
  - What are contributions to food web from other sources (outfalls etc)?
  - Upland sources can be significant
- Is there an operational fix?
  - What are the upper bounds of site management?
- Previous presentations valuable
  - Gene Revelas, Kelsey and Erika
- We need to figure out what our flexibility is before we can change the monitoring
- Compare datasets off/on site - start w/ what we know prior to new monitoring
- Summary of data - tissue and sediment
- Where are the data gaps?
- Where are we now? Is it sufficient?
- Do we need to change the existing monitoring program? Add to it? Do we even have a problem?
- Setup new monitoring workgroup?
- Communicate better what the uncertainties are
- What are other dredging monitoring programs around the country doing? What are they finding?

### Next Meeting

- Need another session on monitoring - is the current monitoring answering questions about bioaccumulatives?
    - Do we have a problem?
    - Distribute monitoring data prior to meeting
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