

## FY16 RSM-EWN IPR

Portland District, Lower Columbia River Regional Sediment Management Plan,  
Rod Moritz, Wendy Briner, Jessica Stokke, Jarod Norton



### Columbia River and Lower Willamette Channel

- RM 3 to 106.5
- 43' authorized depth, 5' advanced maintenance.
- 6-8 MCY dredged annually.
- Hopper and pipeline dredging, typically March – Nov.
- Deepening completed in 2010.

**BLUF:** A Regional Sediment Management Plan (RSMP) is needed to ensure that dredging and placement of material is done in the most beneficial manner practicable, while preventing re-shoaling and ensuring a reliable Federal Navigation Channel.

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**Problem Statement/Issue**

- Due to limited funding and the availability of dredge plant, shoaling annually causes the Columbia River Pilots to issue draft restrictions in the -43' channel.
- Historical upland and in-water placement sites are reaching their capacity and there is a need to proactively manage annual O&M dredged material.
- Prevent wasting and/or rehandle of dredged material.

**Approach to Address Problem**  
**(Tools, Models, Technologies)**

- Development of a sediment budget for LCR
- RSM FY12 Initiative AdH modeling of problematic reaches of the river (Westport).
- Hindcasting results of informed dredging/placement seasons as a metric for success.
- JALBTCX data to inform placement of material in upland and beach nourishment areas, this will support a CAP Section 204 project to explore areas for habitat creation (alleviate placement capacity issues).
- DOTS request to determine best leave morphology for habitat creation and evaluation of best vegetation alternatives.
- Discussion with ERTG for scoring criteria of habitat creation areas for salmonids.



**Deliverables**

Lit Review	12/31/15
Stakeholder engagement	Winter 2016
RSM	2017



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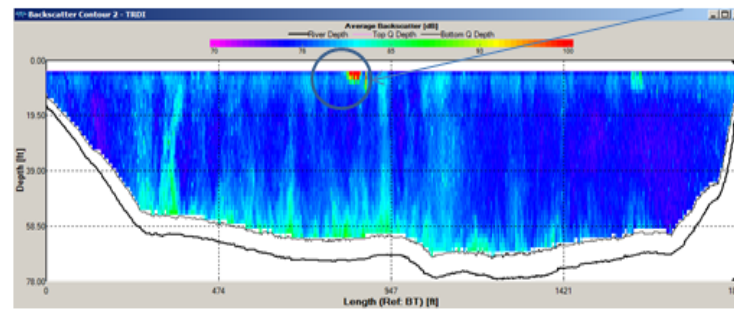
### Accomplishments/Benefits/Lessons Learned/Actions-construction

- Completion of a Lit Review capturing all applicable sediment uses in the lower river.
- Coordination with an on-going DMMP effort, expected completion in 2018.
- Completing tech notes from previous efforts that will feed the RSMP.
- Continued use of a stakeholder working group to facilitate RSMP development.
- Streamlining the development by using an established collaborative process.
- NWP opportunities to use 204 and 536 projects for beneficial use of dredged material.
- Sediment sampling from RM 3+00 to 106+00, roughly 3 samples (transects) every 3 miles.

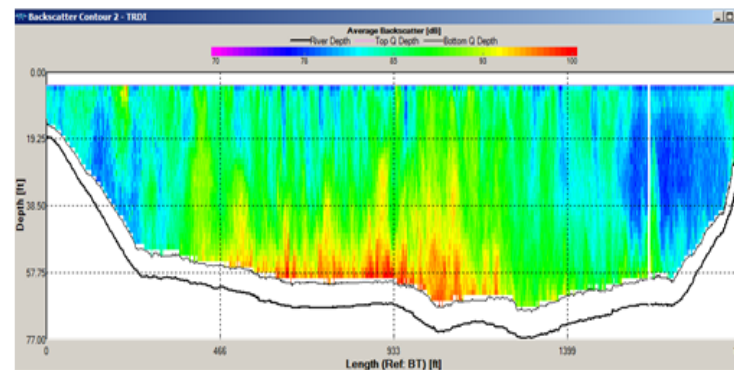
14246900 COLUMBIA RIVER @ BEAVER ARMY  
TERMINAL NR QUINCY, OR

Measured Back Scatter (db)  
Feb 27 12:30 pm Q = 290,000 cfs

Wake Air Bubbles from passage of  
Large boat



Measured Back Scatter (db)  
Feb 27 3:30 pm Q = 380,000 cfs



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**UPs – Positives from effort**

- Development of a sediment budget will allow for resources to be requested appropriately for each FY. Limited dredge plant on the West Coast is shared between a number of competing needs. C&LW typically has the largest dredging need on the West Coast.
- Beneficial use of dredged material to prevent wasting the resource. Using placement practices that replicate pre-dam conditions on the river to enhance habitat opportunities for species.
- Meeting stakeholder needs and identifying concerns through the working group to allow all interested parties have a voice.

**DOWNS – “Challenges” from effort**

- Due to the size and complexity of the LCR the development of an RSMP is going to take a number of years to complete. The data collection by USGS to begin development of a sediment budget will take a minimum of a year. NWP resources/personnel are limited due to high priority projects (MCR Jetty Repairs)
- Problems created by competing stakeholder needs/concerns.
- Quantifying short-term successes and communicating them to stakeholders.
- Changing conditions (new listed species, etc)
- Finishing RSM Tech Notes... ☹️



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USACE RSM PDT

- Rod Moritz, Hydraulic Engineer
- Wendy Briner, Sediment Quality
- Jessica Stokke, C&LW Project Manager
- John Hayes, Technical Lead – DMMP
- Jake Macdonald, GIS
- Jarod Norton, RSM Project Manager

What key leveraging opportunity(s) did stakeholders/partners provide?

- USGS use of existing data collection systems at two points in the LCR to assist in developing sediment flux.
- Leveraging O&M funds from C&LW
- Use existing stakeholder working group developed for Mouth of the Columbia River.
- CREST to act as non-federal sponsor.



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**Value to the Nation**

- Cost savings to the NWP Nav program
  - Preventing rehandle of material.
  - Improved function of the passive navigation structures/reduction in dredging.
- Value added through habitat creation with dredged material.
  - Use of dredged sediments to create habitat for juvenile salmonids and ESA-listed birds.
- Reliable Navigation Channel for Users.
- Leveraging resources by using a stakeholder working group that has shown successes in the past.
- NWP hopes that the outcome of the RSMP will lead to SBU's applied to the district for habitat creation.
- Improved partnerships with inactive stakeholders.
- Permitting and compliance requirements improved by combining actions and allowing agencies to consult programmatically instead of at each action.
- Capacity of placement sites should be improved at each reach by expanding the upland and beach nourishment sites. This will reduce the programmatic dredging cost of long disposal trips for in-water placement areas.
- Other?

