



Regional Sediment Management Program Portland District (NWP): Lower Columbia River – Regional Sediment Management Plan



Description 3 Shoaling in the Lower Columbia River (LCR) limits navigation throughout the Columbia River, especially during periods of low water. Due to limited funding and the availability of dredge plant, this shoaling annually causes the Columbia River Pilots to issue draft restrictions in the river. These restrictions cause an economic impact to the region. A Regional Sediment Management Plan (RSMP) is needed to ensure that dredging and placement of material is done in the most efficient manner practicable, to prevent re-shoaling and to ensure a reliable Federal Navigation Channel. NWP plans to complete an RSMP.



Lower Columbia River Deep-Draft Navigation Channel

**Issue/Challenge
To Address**

Dredged material placement sites in the Columbia River have been increasingly harder to find. Historical upland and in-water placement sites are reaching their capacity and there is a need to proactively manage annual O&M dredged material. Previous RSM projects have included AdH and PTM modeling of problematic reaches of the river, as well as an RSMP for the Mouth of the Columbia River. A comprehensive RSMP is needed to maximize dredging efficiency, while beneficially using the resource sediment in the process. Work will be done by Portland District staff, in conjunction with ERDC, with input from local and regional stakeholders.



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Major components of developing the RSMP are developing a sediment budget, creating a stakeholder working group, identifying areas as sediment sources/needs, and completing an RSMP. Though the goal of this project is to develop an RSMP, the final step will be implementation of the plan and applying RSM principles to annual O&M navigation (and other) projects.

Successes Lessons Learned

Lessons learned will be compiled during the duration of this study.

Projected Benefits Value Added

In 2016 the Columbia-Snake River System supported \$24B in commerce. A reliable navigation channel is critical to the support of the region. Through the implementation of an RSMP annual navigation (and other) projects will be aligned with RSM projects. Specifically there tie-ins with habitat creation projects under CAP 204 and 536. The states of Oregon and Washington have been engaged on various projects supporting the beneficial use of dredged material, allowing NWP to leverage resources to develop projects that support RSM principles.

Expected Products

- LCR RSMP
- Stakeholder engagement
- IPR Presentation
- Conference presentation

Stakeholders/Users

NWP, ERDC, USGS, ODFW, WDFW, EPA, NOAA, DLCD, DOE, ODEQ, others

Leveraging Opportunities

This RSM proposal leverages \$150k in NWP FY17 appropriated funds. It also leverages \$65k in FY16 RSM funds, and \$150k in FY16 appropriated funds. As well as \$220k in FY15 NWP appropriated funds, and \$65k in FY15 RSM funds. These funds were used to set up a critical framework to build the RSMP, including a MIPR to USGS for data continuous data collection to determine sediment flux. NWP funds will continue be used to fund USGS and ERDC to develop a sediment budget for the LCR (below Bonneville Dam). The sediment budget will be used to project annual dredging needs by reach, and determine the best approach to meeting the NWP navigation mission, while beneficially using the material. NWP will coordinate with USGS for additional data from the confluence of the LCR and Cowlitz River, in addition to the data being collected at gauging stations at RM 52 and RM 106. In FY16 the results of data collected during FY15 at the USGS gauging stations will be hindcast based on known dredging quantities to refine the estimating tool.

The District will complete an MMR on the two highest priority LCR pile dike structures in FY17. These reports will consider options for placing dredged material to extend the life of the structures and will also evaluate the continued function of pile dikes in passively maintaining the navigation channel (reducing the need for maintenance dredging) and protecting upland disposal sites. An expansion of the reports will be applicable to all 233 pile dike systems in the LCR, below Bonneville Dam.

The development of an RSMP for the LCR will set the framework for beneficial use projects in the future. Understanding the opportunities that exist for NWP to meet its navigation mission while also providing for ecosystem restoration, shoreline stabilization, etc; will be a driving component of this plan. The current 5-year O&M plan identifies placement sites through 2018. The district will use the RSMP to inform development of a DMMP for O&M.



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In 2013 a dredging VE study was conducted at NWP. As part of the initial literature review a number of the recommendations for dredging and disposal methods from the VE study will be evaluated. These recommendations included both beneficial use and least cost methods for channel maintenance.

Points of Contact

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Participating Partners

NWP, USGS, Columbia River Pilots, Port Commission Team