

FY14 RSM-EWN IPR

Portland District, Oregon Shoreface Sediment Stabilization, Rod Moritz, Kate Groth, Jarod Norton

BLUF: The Portland District speculates that increased shoaling in the Yaquina Entrance channel is a result of aeolian transport. Sand fencing is proposed to interrupt a circular pattern of accretion on the south jetty, migration into the channel and movement out of the channel back to the jetty.

Description/Challenges

- Increased shoaling at Yaquina Entrance
- Limited federal/state resources
- City of Newport - South Beach State Park Master Plan
- Public perception of sand fences
- Stakeholder/Interest in the project area
- Recreational use of the site

Objectives

- Reduce aeolian transport from the dunes and beaches south of the Yaquina South Jetty
- Reduce dredging need in the FNC
- Reduce funding and equipment constraints
- Leverage construction funds from the Port of Newport



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Approach

- Differential Global Positioning System technology to measure changes to the dune environment
- Comparison of LiDAR imaging from various datasets
- Hydrosurveys
- Bagnold Model for determining aeolian Transport
- Initial Pilot Project to be expanded over time, contingent on success



Deliverables

Initial Upland Survey – Oregon State University (OSU)	8/31/14
Sand Fence Implementation Plan - OSU	9/30/14
Sand Fence Construction – Port of Newport	3/1/15
Interim Surveys - OSU	Monthly
Final Upland Survey - OSU	6/1/15
Final Report with Photo Journal - USACE	6/30/15



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Accomplishments/Benefits/Lessons Learned/Actions-construction

- Up to 40,000 CY may be captured in the proposed sand fencing implementation plan, savings of roughly \$300k
- Unit price of \$.03/CY for sand fencing compared to \$7.50/CY for hopper dredging
- Allows dredge YAQUINA to focus on other priorities
- Additional sand fencing may further reduce the dredging need, and continue to reduce aeolian transport in the FNC
- Sand fencing will build the foredune
- Sand fencing has proven to be effective adjacent to the MCR North Jetty, in similar conditions
- Dredge YAQUINA was built specifically to work the Oregon Coast entrance channels



Photo: Tyler Susa (OSU)

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District PDT Members

- Rod Moritz, Coastal Engineer
- Kate Groth, Coastal Project Manager
- Jarod Norton, RSM Project Manager
- Mike Turaski, Acting Chief Waterways Maintenance
- Michael Booton, Hydrosurveys

Stakeholders and Partners

- Oregon State University
- Port of Newport
- The City of Newport
- OPRD
- ODFW
- DOE
- DLCDC

Leveraging/Collaborative Opportunities

- NWP provided \$28k for a Cooperative Agreement with Oregon State University for Surveys, Plan Development, Monitoring, and Final Report
- Port of Newport to provide funding for construction of Sand Fences
- City of Newport and Oregon Parks and Recreation Department to facilitate public processes



MCR Sand Fences

