

# COQUILLE RIVER

[Local Sponsor: Port of Bandon]

## Description

Dredged material from the Coquille River was formerly placed in the EPA designated interim ocean dredged material disposal site (ODMDS). However, safety concerns arose over the ODMDS's rock substrate and pinnacles as well as its biological value as a site of diverse habitat and cover.

The Corps recommended designation of a new ODMDS and began using it for maintenance dredging in 1989 under its Section 103 authority. It is approximately 1,500 feet north-northeast of the interim ODMDS (Figure 1). The Corps' analysis of the adjusted ODMDS is covered in an evaluation report drafted in October 1987. The EPA issued a final EIS and designated the site in 1990.

Coordinates: Coquille interim Ocean Dredged Material Disposal Site:  
Corner Coordinates (NAD 1972):

43° 07' 54" N, 124° 27' 04" W  
43° 07' 30" N, 124° 26' 27" W  
43° 07' 20" N, 124° 26' 40" W  
43° 07' 44" N, 124° 27' 17" W

Dimensions: 3600' x 1400', Azimuth (long axis): 12° T, Average Depth: 60'

Coordinates: Coquille Section 102 Ocean Dredged Material Disposal Site  
Corner Coordinates (NAD 27, 40 CFR 228.12):

43° 08' 26" N, 124° 26' 44" W  
43° 08' 03" N, 124° 26' 08" W  
43° 08' 13" N, 124° 27' 00" W  
43° 07' 50" N, 124° 26' 23" W  
43° 08' 08" N, 124° 26' 24" W (Centroid)

Dimensions: 3,500' x 1,750', Azimuth (long axis): 312° T Average Depth: 60'

A shoal typically forms between the ends of the jetties at the river's entrance. The shoal builds from the north jetty outward to mid-channel. In some years this shoal reaches clear across the channel. A second shoal forms across the channel between RM 0.2 and 0.5. The entrance of the Coquille River is dredged by hopper dredge working intermittently from May through September. Table 1 provides the ODMDS disposal history.

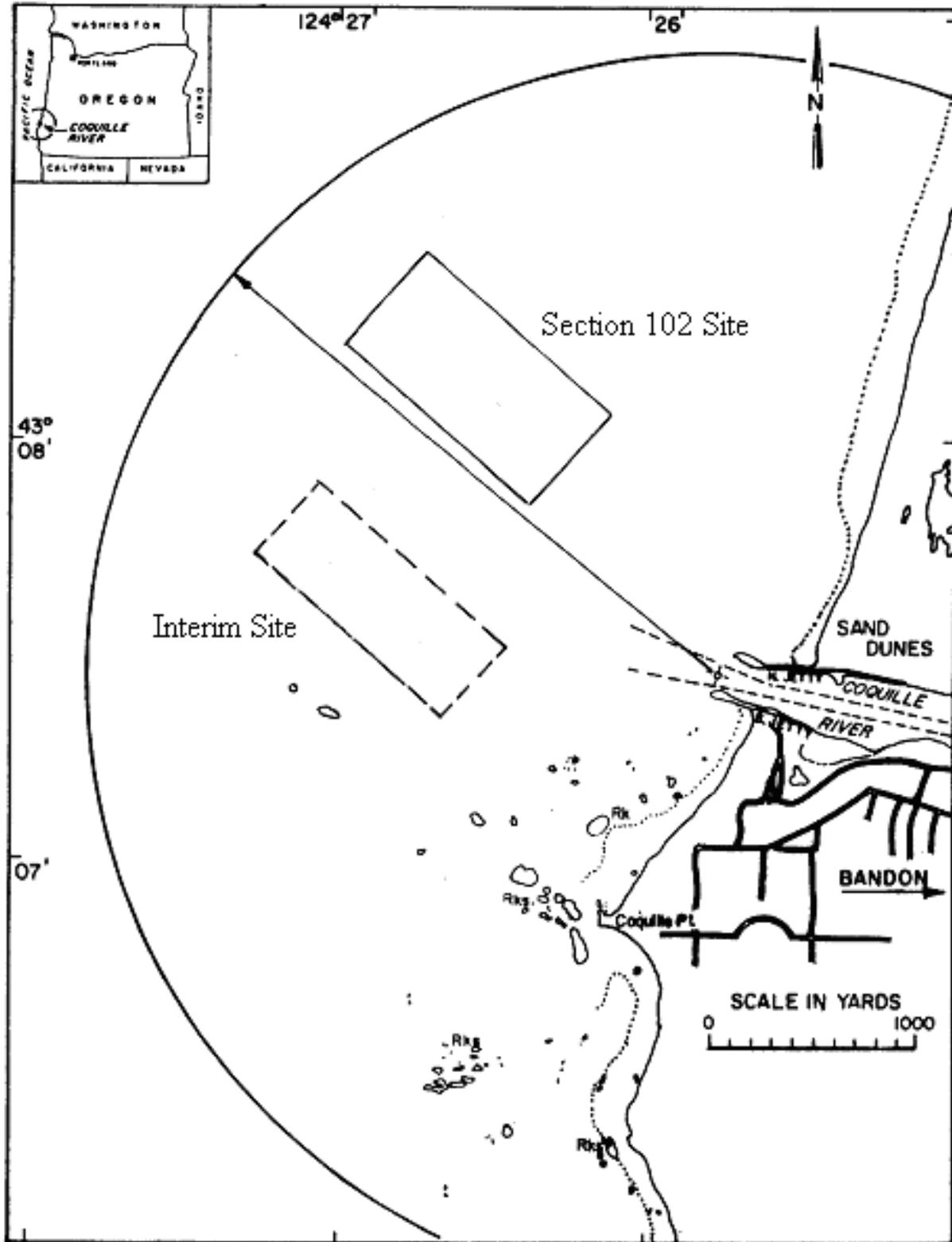


Figure 1: Coquille River ODMDS.

## **Sediment Evaluation**

**1981 February**, sediment samples were collected from the Coquille federal navigation project by the Portland District.

**1990 August**, sediment samples were collected from the Coquille federal navigation project by the Portland District. All samples were made up of poorly graded, gravelly sands with mean sand content of 98.6% and fines content of 0.4%. Mean grain size was 0.44 mm and volatile solids averaged 0.8%. These values closely match those of the 1981 samples. The material meets exclusionary criteria of the therefore no further chemical or biological testing is required.

**1996 June, FEDERAL PROJECT**. Nine samples were collected using a Ponar grab sampler. Samples CQR-P-1 and -2 are from the Federal project as well as CQR-P-6 through -9 which were collected from the mainstem Coquille River channel. Samples CQR-P-1 through CQR-P-5, taken from the boat basin, were subjected to chemical analysis because of their fine grained organic nature. The Federal project sediments CQR-P-6 through -9 from the Coquille River consisted of sands and gravels with the sand fraction having around 60 percent medium-grained sands retained on the 5 to 2.5 mm sieve. This material meets exclusionary criteria and requires no further testing. The sediments in the boat basin were silt with an organic content ranging from 6.0 to 8.0 %. Metals were below established screening levels (SL). No pesticides or PCBs were detected in the Federal project sediments. All sediment samples analyzed contained PAH's with fluoranthene, pyrene and phenanthrene showing the highest concentration levels in each of the samples. Individual and total PAH content of all samples was far below established screening levels for PAH. Organotins were found in four of the five boat basin samples tested. However, they fall between the method reporting limit of 3 ppb and the method detection level of 0.2 ppb well below the established concern level of 73ppb (TBT). All material from the Federal project was determined to be suitable of unconfined in-water disposal without further evaluations.

**1996 JUNE, NON-FEDERAL PROJECT**. Funded by EPA, 3 samples were collected from the boat basins, outside of the Federal project and subjected to chemical analyses. Metals were below established screening levels (SL). The only pesticides detected were Alpha-BHC (0.2 ppb) and 4,4'DDD (0.6 ppb) in sample CQR-P-5. These levels are below the method reporting limits (MRL) of 2 ppb for these compounds, but above the method detection level (MDL) of 0.2 ppb. No PCBs were detected. All 3 Non-Federal sediment samples analyzed contained PAH's with fluoranthene, pyrene, and phenanthrene showing the highest concentration levels in each of the samples. Individual and total PAH concentrations were far below SLs for PAH for all samples. Organotins were found in all 3 of the Non-Federal samples tested. However, they fell between the MRL of 3 ppb and the MDL of 0.2 ppb well below the established screening level of 73 ppb (TBT). All material tested was determined to be suitable of unconfined in-water disposal without further evaluations.

**August 21, 2001, FEDERAL PROJECT**, Six (6) surface grab sediment samples were collected from the Coquille River. All samples were submitted for physical analyses (mean 0.39 mm, with an average of 72.99% sand and 25.92% fines), with 2 samples analyzed for metals (9 inorganic), total organic carbon (TOC), pesticides/polychlorinated biphenyls (PCBs), phenols, phthalates, miscellaneous extractables, polynuclear aromatic hydrocarbons (PAHs) and organotin (TBT) pore water analysis.

The level for silver in sample COQR-P-05 was initially found to be above the SL; reanalysis of the sample found the level to be substantially below the SL. None of the other contaminants tested were found to be at or above their SL. Therefore, all sediment is determined to be suitable for unconfined, in-water placement without further characterization.

**2006 September**, Six (6) surface grab samples were collected in the Coquille River from the entrance to River Mile (RM) 0.5. All samples were submitted for physical analyses, with grain-size in the channel ranging from 98.6% to 93.9% (mean 97.2%) poorly graded sand (includes shell hash), with volatile solids content ranging from 1.29% to 3.15% (mean 1.92 %). Grain-size within the boat basin ranged from 92.3% to 88.1% (mean 90.2%) silt and clay, with volatile solids content ranging from 9.07% to 8.54% (mean 8.8 %). Two (2) fine-grained samples collected within the boat basin were submitted for chemical analyzes to include: metals, total organic carbon (TOC), pesticides/polychlorinated biphenyls (PCBs), phenols, phthalates, miscellaneous extractables, polynuclear aromatic hydrocarbons (PAHs) and organotin (TBT) (total) analysis.

Sediment represented by samples collected during this sampling event meet the Tier II guidelines established in the DMEF/SEF for unconfined in-water placement without further characterization.

## ODMDS History

1977, the Coquille ODMDS received interim designation from the EPA.

### **Evaluation**

1984 May, information on the Coquille ODMDS's aquatic resources and sediment physical characteristics were obtained from a field sampling program conducted by the Portland District.

During August and September 1984, site specific geologic information and geophysical investigations by sidescan sonar and sub-bottom acoustic reflection profiling was performed. In addition, existing geologic and oceanographic data pertinent to the Coquille River interim ODMDS was compiled.

1985 July, information on the Coquille ODMDS's sediment physical characteristics was obtained from field sampling program by the Portland District.

1987 October, the draft Coquille Ocean Dredged Material Disposal Site Evaluation report was published by the Portland District. No changes were made to this document after review and this document became the final report.

The evaluation report recommended an adjusted site 1,500 feet north-northeast of the interim ODMDS for final site designation. Field data collected to support designation of the interim site and interviews with vessel operators revealed safety and environmental concerns with its location. This was due to its proximity to rocky substrate and pinnacles associated with Coquille Point and the Oregon Island National Wildlife Refuge to the south.

### **Designation**

1990 March, EPA, Region 10 published the Coquille, Oregon Dredged Material Disposal Site Designation Final EIS. The final rule was published in the **May 21, 1990** Federal Register with final site designation effective as of **June 20, 1990**.

### **Management/Monitoring**

The Coquille River **Site Management/Monitoring Plan** was completed and coordinated for public review in **April 1997**. No comments were received. The management/monitoring plan for this site calls for conducting bathymetric surveys annually as a Tier I monitoring activity.

Bathymetric surveys were conducted in **July 1982, July 1985, August 1988, and June 1989** of the interim ODMDS. Bathymetric surveys were conducted **June 1989, October 1992, June 1996, September 2000, July 2002, May 2003, April 2005, May 2006, April 2007, May 2008, May 2009, June 2010, and April 2011** of the EPA final designated ODMDS. Copies of bathymetry and bathymetry difference plots for the Coquille River interim and final ODMDS are attached to the end of this section. Note due to rough weather no **2004** bathymetric survey was completed. Historically no significant alteration to the bottom contours due to mounding of dredged material is evident, however, in the **2011** survey mounding up to 4-5 feet is evident in several areas. Surveys scheduled for **2012** should be watched to see if this is an anomaly or if it

continues.

### **Management/Monitoring Actions and Recommendations**

Beginning in **1992**, CENPP-OP-NWH was notified of requirements for annual bathymetric surveys of all ODMDSs as a Tier I monitoring requirement. Monitoring has indicated no mounding or other reasons to modify present management practices at this location. Continuation of present management and monitoring practices is recommended to meet project and regulatory obligations. Special studies such as sidescan sonar surveys or benthic infauna and sediment characterization should be conducted as needed.

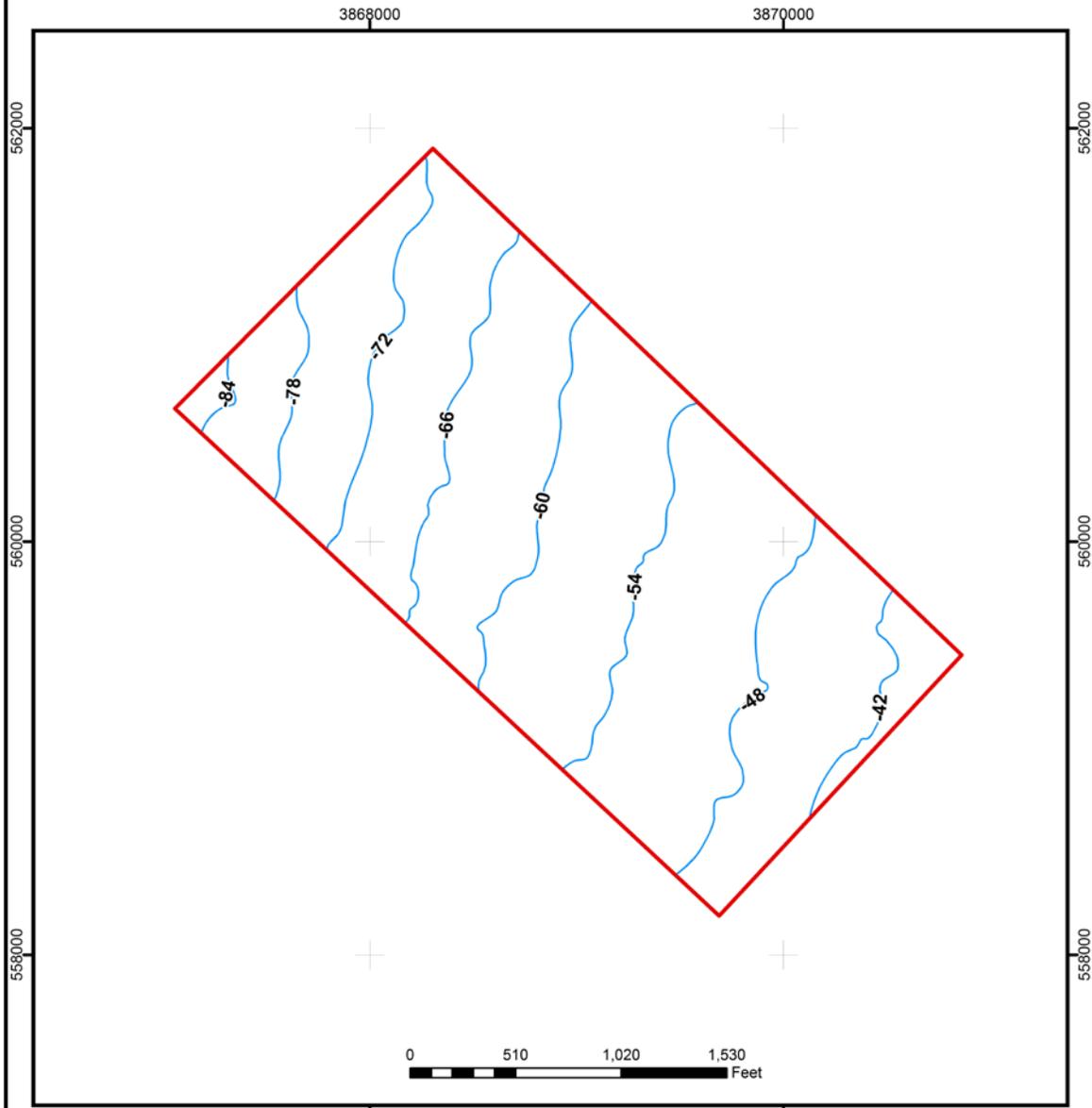
Check the **2012** bathymetric surveys for mounding indicated in the **2011** bathymetric surveys.

**Table 1**

Volumes Dredged  
Coquille River  
[in thousands of cy]

<u>Fiscal Year</u>	<u>Hopper Dredge</u>
1986	61.3
1987	38.0
1988	15.4
1989	13.2
1990	31.8
1991	29.0
1992	78.3
1993	56.7
1994	71.9
1995	21.8
1996	9.7
1997	24.5
1998	5.9
1999	18.4
2000	14.4
2001	23.7
2002	30.3
2003	37.5
2004	20.3
2005	22.3
2006	19.4
2007	16.1
2008	20.9
2009	24.3
2010	19.9
2011	22.2

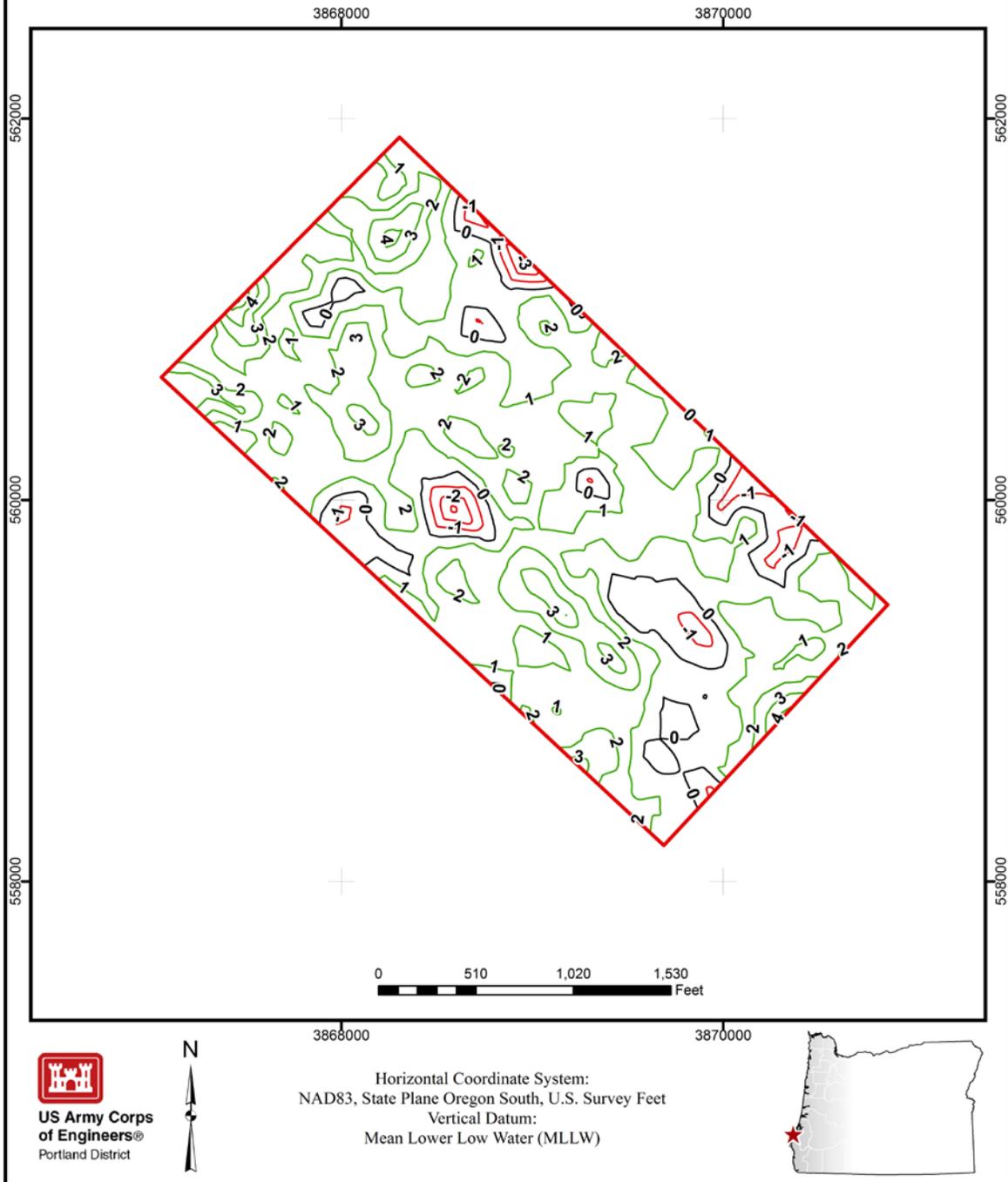
**OFFSHORE DREDGED MATERIAL DISPOSAL  
Coquille Section 102 Disposal Site  
Survey Date: 20 April 2011  
6' Contours**



Horizontal Coordinate System:  
NAD83, State Plane Oregon South, U.S. Survey Feet  
Vertical Datum:  
Mean Lower Low Water (MLLW)



**OFFSHORE DREDGED MATERIAL DISPOSAL  
Coquille Section 102 Disposal Site  
Survey Dates: 21 June 2010 & 20 April 2011  
1 Foot Contours of Change from 2010 to 2011**



**OFFSHORE DREDGED MATERIAL DISPOSAL  
Coquille Section 102 Disposal Site  
Survey Dates: 29 June 1989 & 20 April 2011  
1 Foot Contours of Change from 1989 to 2011**

