

Appendix H

Columbia River Ocean Dredged Material Disposal Sites

Volume I

Main Report with Technical Exhibits

Table of Contents

Purpose	H-1
Statutory and Regulatory Requirements.....	H-3
Need	H-4
Ocean Disposal and Lower Columbia River Navigation	H-7
Background	H-7
Historic Offshore Disposal (pre-1977)	H-7
Current Offshore Disposal (post-1977).....	H-8
Analysis of Alternatives	H-10
Overview of Dredge Types.....	H-10
Overview of Disposal Options	H-12
No Action Alternative.....	H-12
Upland/Beach Disposal	H-12
Estuarine Disposal	H-13
Ocean Disposal.....	H-14
Off the Continental Shelf.....	H-14
Continued Use of Existing Sites.....	H-15
New Ocean Dredged Material Disposal Sites	H-15
Ocean Dumping Site Designation Process.....	H-15
Overview	H-15
Ocean Dumping Site Designation Work Group	H-16
Defining a Zone of Siting Feasibility	H-18
Columbia River Zone of Siting Feasibility.....	H-19
Ocean Environment	H-20
Biological (Living) Resources.....	H-20
Physical Processes and Geological Resources	H-22
Sediment and Water Quality	H-26
Cultural Resources	H-27
Recreational Uses.....	H-27
Commercial Uses.....	H-27
Overlays	H-29
Candidate Sites	H-31
Conflict Matrix Analysis	H-44
Proposed Sites Circulated in the Draft EIS.....	H-56
Sites Not Proposed in the Draft EIS	H-65
Further Consideration and Refinements.....	H-66
Eleven Specific Factors for Ocean Disposal Site Selection.....	H-73

Application of Eleven Specific Criteria.....	H-73
Application of Five General Criteria.....	H-85
Determination of Compliance and Selection for Formal Designation.....	H-87
Selection of Ocean Disposal Sites for Formal Designation	H-89

LIST OF FIGURES

Figure 1. Designated Ocean Dredged Material Disposal Sites.....	H-2
Figure 2. Expanded Ocean Disposal Sites	H-11
Figure 3. Phases of the Site Designation Process.....	H-17
Figure 4. Location of Zone of Siting Feasibility	H-21
Figure 5. Issue Areas	H-29
Figure 6. Candidate Site 1.....	H-33
Figure 7. Candidate Site 2.....	H-34
Figure 8. Candidate Site 3.....	H-35
Figure 9. Candidate Site 4.....	H-36
Figure 10. Candidate Site 5	H-37
Figure 11. Candidate Site 6.....	H-38
Figure 12. Candidate Site 7	H-39
Figure 13. Candidate Site 8	H-40
Figure 14. Candidate Site 9	H-41
Figure 15. Candidate Site 10	H-42
Figure 16. Conflict Matrix Legend.....	H-54
Figure 17. 20 Percent Fines Contour.....	H-58
Figure 18. 20-30-200 Fishing Routes	H-59
Figure 19. Composite	H-60
Figure 20. Proposed DEIS Sites and Composite Map.....	H-61
Figure 21. Proposed DEIS Sites.....	H-63
Figure 22. Revision 1.....	H-67
Figure 23. Revision 2.....	H-69
Figure 24. Revision 3.....	H-70

LIST OF TABLES

Table 1. Estimated Ocean Disposal Volumes.....	H-6
Table 2. Results from Overlay Ranking Process	H-31
Table 3. Plus and Minus for Each Candidate Disposal Site.....	H-43
Table 4. Conflict Matrix for Candidate Site 1	H-45
Table 5. Conflict Matrix for Candidate Site 2	H-46
Table 6. Conflict Matrix for Candidate Site 3	H-47
Table 7. Conflict Matrix for Candidate Site 4	H-48
Table 8. Conflict Matrix for Candidate Site 5	H-49
Table 9. Conflict Matrix for Candidate Sites 6 and 7.....	H-50
Table 10. Conflict Matrix for Candidate Site 8	H-51

LIST OF TABLES (continued)

Table 11. Conflict Matrix for Candidate Site 9	H-52
Table 12. Conflict Matrix for Candidate Site 10	H-53
Table 13. Overlay Prioritization by the Workgroup.	H-56
Table 14. Ocean Dredged Material Disposal Site Conflict Matrix Deep Water Site ..	H-71
Table 15. Ocean Dredged Material Disposal Site Conflict Matrix Proposed Site E ..	H-72
Table 16. Battelle Disposal Tests on Soft Shelled Crabs	H-81
Table 17. Scripps Tests on Disposal Impacts on Hard Shelled Crabs.....	H-81
Table 18. Weighted Survival of Dungeness Crabs	H-82

TECHNICAL EXHIBITS

- A Living Resources
- B Physical Processes and Geological Resources
- C Sediment and Water Quality
- D Cultural Resources
- E Recreational Resources
- F Dungeness Crab Research
- G Commercial and Recreational Fishing
- H Management and Monitoring Plan

GENERAL BIBLIOGRAPHY

VOLUME II – COMMENTS AND COORDINATION (Bound Separately)

**VOLUME III – APRIL, MAY 1999 OCEAN DREDGED MATERIAL DISPOSAL SITES
COORDINATION AND MEETING MINUTES** (Bound Separately)