

Biological Evaluation

Continued Use of Multiuser Dredged Material Disposal Sites in Puget Sound and Grays Harbor

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**US Army Corps of Engineers
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Scope

- 5 nondispersive and 3 dispersive sites in Puget Sound
- 2 dispersive sites in Grays Harbor
- 25-year coverage (2015-2040)
- transport and disposal of dredged material
- dredged material evaluation procedures
- disposal site monitoring
- 16 listed species



Puget Sound Disposal Sites



Grays Harbor Disposal Sites

South Jetty

TYPE: Dispersive
AREA: 55.1 Acres DEPTH: >40 ft.
SITE DIMENSIONS: 800 x 3,000 ft. rectangular
DISPOSAL ZONE: within rectangle
TARGET AREA: none.
BARGE POSITIONING METHOD: DGPS

Point Chehalis

TYPE: Dispersive
AREA: 229.6 Acres DEPTH: >50 ft.
SITE DIMENSIONS: 2,000 x 5,000 ft. rectangular
DISPOSAL ZONE: within rectangle
TARGET AREA: none.
BARGE POSITIONING METHOD: DGPS

Ocean
Shores

Disposal Coordinates

Corners of 3 cells within rectangle:

Lat: 46°55'00.51 46°55'04.49 46°55'10.46 46°55'17.09
Long: 124°08'06.94 124°07'50.66 124°07'26.23 124°06'59.10

Lat: 46°54'41.91 46°54'45.90 46°54'51.87 46°54'58.50
Long: 124°07'57.26 124°07'40.98 124°07'16.55 124°06'49.42

Point Chehalis

South Jetty

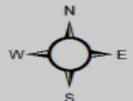
Navigation Channel

Westport

Disposal Coordinates

Four corners of rectangle:

Lat: 46°54'34.82 46°54'32.06 46°54'26.96 46°54'24.20
Long: 124°09'30.67 124°08'47.65 124°09'31.74 124°08'48.72



2,500 0 2,500 5,000 7,500
Feet

Rockfish BiOp

- Biological Opinion from NMFS in 2010
- 9,700 to 126,000 listed rockfish larvae estimated to be affected per year at the 5 nondispersive sites
- Recommended ichthyoplankton surveys at 7 of the 8 Puget Sound disposal sites



Ichthyoplankton Survey

- DMMP agencies collaborated with NMFS in conducting surveys at 5 nondispersive and 1 dispersive site (Rosario Strait) in 2011-2012
- 217 larval rockfish collected in 64 samples during 11 monthly sampling events
- No bocaccio, but identification of other species was not possible without doing genetic analysis
- storage in formalin precluded genetic analysis



Rockfish Evaluation - 2015

- Corps found errors in NMFS 2010 calculations
- More realistic model used for volume of water affected (truncated cone vs. cylinder)
- Larval densities from ichthyoplankton survey used (which were higher than densities used in the BiOp)
- Species split taken from recreational catch counts
- Total number of affected listed larvae estimated to be 14,000/yr at 5 nondispersive sites



Marine Mammals

- 2010 BE included an appendix addressing potential effects of DMMP disposal to marine mammals in Puget Sound
- Appendix updated in 2015 BE



Determination Summary Table - Salmonids

Species	Effect Determination	Designated Critical Habitat/Proposed Critical Habitat
Puget Sound Chinook Salmon <i>Oncorhynchus tshawytscha</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Hood Canal Summer-Run Chum Salmon <i>Oncorhynchus keta</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Puget Sound Steelhead <i>Oncorhynchus mykiss</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Lower Columbia River Coho Salmon <i>Oncorhynchus kisutch</i>	May affect, not likely to adversely affect	No effect
Lower Columbia River Chinook Salmon <i>Oncorhynchus tshawytscha</i>	May affect, not likely to adversely affect	No effect
Upper Willamette River Chinook Salmon <i>Oncorhynchus tshawytscha</i>	May affect, not likely to adversely affect	No effect
Columbia River Chum Salmon <i>Oncorhynchus keta</i>	May affect, not likely to adversely affect	No effect



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Determination Summary Table – Other Fish Species

Species	Effect Determination	Designated Critical Habitat/Proposed Critical Habitat
Bocaccio Rockfish <i>Sebastes paucispinis</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Canary Rockfish <i>S. pinniger</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Yelloweye Rockfish <i>S. ruberrimus</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Eulachon <i>Thaleichthys pacificus</i>	May affect, not likely to adversely affect	No effect
North American Green Sturgeon <i>Acipenser medirostris</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect



Determination Summary Table – Birds, Whales & Turtles

Species	Effect Determination	Designated Critical Habitat/Proposed Critical Habitat
Marbled Murrelet <i>Brachyramphus marmoratus</i>	May affect, not likely to adversely affect	No effect
Southern Resident Killer Whale <i>Orcinus orca</i>	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Humpback Whale <i>Megaptera novaeangliae</i>	May affect, not likely to adversely affect	NA
Leatherback Sea Turtle <i>Dermochelys coriacea</i>	No effect	No effect



Status of BE

- Submitted to NMFS and USFWS June 19
- Consultation on 2010 BE expires at the end of December 2015
- Extensions received from NMFS and USFWS for the Corps' use of the Port Gardner and Elliott Bay sites through February 15 for maintenance dredging of the Snohomish and Duwamish federal navigation projects

