# United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503

AUG 2 3 2011

In Reply Refer To:
**13410-2011-I-0383**
X Ref. 13410-2010-I-0001, 13410-2007-I-0651
1-3-05-IR-0557, 1-3-05-IC-0558, 1-3-04-I-0003,
1-3-00-I-1412, 1-3-05-I-0298, 1-3-05-IC-0299

Evan R. Lewis, Chief
Environmental and Cultural Resources Branch
Seattle District, Corps of Engineers
P.O. Box 3755
Seattle, Washington 98124-3755

Dear Mr. Lewis:

Subject: USACE; Snohomish River Navigational Channel Maintenance Dredging

Your July 25, 2011, letter requested our concurrence with your determination of "may affect, not likely to adversely affect" for the Coastal/Puget Sound bull trout (*Salvelinus confluentus*), bull trout critical habitat, and marbled murrelet (*Brachyramphus marmoratus*) for the dredging and associated disposal of sediments in the lower 6.6 miles of the Snohomish River Basin at Everett, Snohomish County, Washington. You also determined that the project would have "no effect" on designated critical habitat for marbled murrelet. Your letter and Biological Evaluation were received in our office on July 25, 2011. This informal consultation has been conducted in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

First established in 1910, the Snohomish River navigation channel extends 6.6 miles upstream from the mouth of the Snohomish River at a depth of between 8 and 15 ft at mean lower low water and a width of between 150 and 425 ft through the 9-mile-long Snohomish River estuary. The channel requires routine maintenance dredging to remove accumulating sediments and maintain depth for vessel passage. Two settling basins developed by the U.S. Army Corps of Engineers (Corps) catch sediment and reduce the frequency of dredging required to maintain safe navigation. The Corps proposes to remove up to 500,000 $yd^3$ of material annually, using both a barge-mounted clamshell dredge and a hydraulic pipeline dredge. The action area includes a lower sediment basin and adjacent navigation channel, an upper sediment basin and adjacent

navigation channel, a Puget Sound Dredged Disposal Analysis (PSDDA) open-water disposal site located in Port Gardner, upland disposal sites along the river, including the Riverside Business Park and Parcel O sites, and, occasionally, Jetty Island, a man-made island and berm formed behind a rock jetty.

In 2012 and even-numbered years through 2018, the Corps proposes to use a barge-mounted clamshell dredge to remove up to 500,000 $yd^3$ of material per year from the downstream sediment basin and an adjacent downstream portion of the navigation channel. Shoreline and intertidal areas will not be dredged, leaving a 400-foot-wide fish movement corridor along both edges of the channel. Dredged material will be transported via a bottom-dump barge and placed at the PSDDA open-water disposal site.

In 2013 and odd-numbered years through 2017, the Corps will remove up to 250,000 $yd^3$ of material per year from the upper sediment basin and adjacent upstream portion of the navigation channel using a hydraulic pipeline dredge to directly place sediments at the two upland disposal sites. The dredged material will be rehandled at these sites and transported via truck for beneficial use at other locations. Sediment not needed at the upland sites will instead be clamshell dredged and transported via barge to the open-water disposal site. Intertidal areas from 50 to 150 ft wide will be left undisturbed along both edges of the navigation channel to provide a movement corridor for fish during dredging.

The maintenance dredging was originally covered under a consultation in 2000 (USFWS Reference # 1-3-00-I-1412). The consultation was renewed in 2003 (USFWS Reference # 1-3-04-I-0003) and revised in 2005 (USFWS Reference # 1-3-05-IR-0557 and 1-3-05-IC-0558). The consultation was again revised in 2007 (13410-2007-I-0651) to address the upland disposal locations at the Riverside Business Park and Parcel O sites and in 2009 (13410-2009-I-0001) to consult on 2010 and 2011 maintenance dredging. These consultations addressed effects of routine maintenance dredging on the bull trout and its critical habitat, marbled murrelet, and bald eagle (*Haliaeetus leucocephalus*). The bald eagle was removed from the Federal List of Threatened and Endangered Wildlife effective August 8, 2007.

*Conservation Measures*

The following conservation measures will be applied to minimize effects to listed species:

- Dredging will be conducted between October 16 and February 14, when adult and subadult bull trout and their prey (juvenile salmonids) are least likely to be present in the action area.
- Dredging will occur only in the previously disturbed navigation channel and will avoid intertidal shoreline areas along both edges to provide a movement corridor for fish during dredging and reduce impacts to benthic organisms.
- Clamshell dredging will remove sediments in a manner that eliminates risk of entraining fish and minimizes spilling excess material from the bucket and/or barge. Barges will not be filled beyond their capacity so that they completely contain the dredged material.

- Hydraulic dredging in the upper sediment basin and adjacent navigation channel will remove sediments in a manner that eliminates risk of entraining fish and minimizes disturbing sediment outside of the immediate vicinity of the operations. Dredged sediments will be deposited at upland disposal sites via a pipeline, which will minimize sediments entering the water. Dredge spoils will settle out of the slurry in a series of settling ponds and weirs, and return water will be sampled to ensure total suspended solids and dissolved oxygen are within permitted limits.
- Sediments in the channel were tested for contaminants in 2003 and 2004 and meet the specifications for open water disposal and beneficial use. Dredged material will be transported to and deposited at approved disposal sites (open water and upland), and will conform to Dredged Material Management Program disposal standards. The disposal of dredged material at the open water site is covered under a separate consultation (USFWS Reference # 1-3-05-I-0298/0299).
- Dredging will be carried out in compliance with all permits issued by state and federal regulatory agencies to protect water quality and minimize impacts to listed species.

Based on the information provided, we have concluded that effects to the federally listed bull trout and designated critical habitat for the bull trout would be insignificant and discountable. Therefore, we concur with your "may affect, not likely to adversely affect" determination. Our conclusion is based on the following rationale.

*Bull Trout*

- Preliminary results of recent acoustic telemetry studies (described in the Biological Evaluation) conducted on adult and larger subadult bull trout in northern Puget Sound and the Snohomish River found that bull trout left tidal areas by August 12, well before the beginning of the proposed dredging. Although several fish returned to marine areas during mid-November of that year, these fish moved quickly back upstream to freshwater areas by early December. None of the tagged bull trout returned to tidally influenced areas until March. Based on the time of year when dredging will be conducted (October through February), the risk of a bull trout being directly exposed to project activities is considered extremely low and therefore discountable.
- Bull trout enter the lower Snohomish River estuary as adults and larger subadults. These fish are highly mobile and able to detect and avoid areas of disturbance. The dredge operations will result in elevated levels of turbidity that are localized around the barge and will not affect the entire width or length of the channel at any given time. Bull trout that are in the vicinity of the dredge will likely avoid the clamshell and easily move around or pass through the sediment plume. For those bull trout that pass through the sediment plume, exposure to turbidity from clamshell dredging is expected to be brief (less than 1 hour), and is not expected to reach or exceed levels that will measurably affect them. Therefore, direct effects to bull trout associated with short-term exposure to elevated levels of turbidity are considered insignificant.
- Temporary increases in noise, turbidity, and water column disturbance during dredging are expected to signal adult and subadult bull trout to avoid the immediate vicinity of the

clamshell or hydraulic dredge during dredging activities, and instead occupy the intertidal areas outside of the navigation channel. Therefore, entrainment of individual bull trout in dredging equipment is considered extremely unlikely and therefore discountable.

- The lower Snohomish River provides rearing habitat for juvenile salmonids, a valuable food source for bull trout. However, this area does not provide spawning habitat for salmonids or marine forage fish. The proposed dredging will occur when the majority of juvenile salmonids and other forage fish are not present in the action area, and will occur only in the navigation channel, not along the intertidal areas along the shoreline. Because the proposed action will not affect forage fish spawning habitat, and impacts to the benthic community or any forage fish that are present in the action area will be temporary, effects to bull trout via their prey resources are considered insignificant.

*Bull Trout Critical Habitat*

The lower Snohomish River and nearshore areas of Port Gardner Bay are used seasonally by anadromous bull trout for foraging and migration. The channel and surrounding nearshore marine areas were designated as bull trout critical habitat on September 26, 2005 (70 FR 56212) and revised on October 18, 2010 (75 FR 63898). The action area provides six of the nine Primary Constituent Elements (PCE) of critical habitat. Potential effects to these PCEs are addressed below.

PCE #2: *Migration habitats with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent, or seasonal barriers.* The lower Snohomish River functions as a migratory corridor for bull trout that are foraging in the nearshore marine environment or traveling between core areas. Although dredging and disposal operations will temporarily cause increased turbidity, the plume will be localized and will not preclude fish from moving through the action area during dredging. Because the project will not alter the function of the area for migration or preclude movement of bull trout, effects to this PCE are considered insignificant.

PCE #3: *An abundant food base including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.* The lower Snohomish River provides rearing habitat for juvenile salmonids during their outward migration to Puget Sound. The proposed action will result in temporary, localized impacts to the benthic community and sessile organisms at both the dredge and disposal sites. Because the proposed action will not occur during the time when juvenile salmonids are outmigrating or rearing in the estuary, and effects to the benthic community are short-term, effects to bull trout food resources and this PCE are considered insignificant.

PCE #4: *Complex river, stream, lake, reservoir, and marine shoreline aquatic environments, and processes that establish and maintain these aquatic environments, with features such as large wood, side channels, pools, undercut banks, and unembedded substrates, to provide a variety of depths, gradients, velocities, and structure.* Maintenance dredging will occur only in the existing navigation channel and sediment basins, which currently do not provide complex

environments. Intertidal and shoreline areas will not be dredged, and no riparian vegetation will be removed as a consequence of the project. Therefore, effects to this PCE are considered insignificant.

PCE #5: *Water temperatures ranging from 2 to 15° C (36 to 59° F), with adequate thermal refugia available for temperatures that exceed the upper end of this range. Specific temperatures within this range will depend on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shading, such as that provided by riparian habitat; streamflow; and local groundwater influence.* The proposed dredging will not affect the water temperature of the Snohomish River estuary.

PCE #7: *A natural hydrograph, including peak, high, low, and base flows within historic and seasonal ranges or, if flows are controlled, minimal flow departure from a natural hydrograph.* The proposed dredging will not measurably affect the current hydrology of the lower Snohomish River.

PCE #8: *Sufficient quality and quantity such that normal reproduction, growth, and survival are not inhibited.* The proposed action will result in a localized degradation of water quality during dredging operations. Sediment test data indicate that sediments in the lower Snohomish River navigation channel are considered "safe" for open water disposal and beneficial use based on criteria outlined by the PSDDA. Because the dredge material is not contaminated and impacts to water quality associated with turbidity are temporary and localized, effects to this PCE are considered insignificant.

*Marbled Murrelet*

Based on the information provided, we have concluded that effects to the federally listed marbled murrelet would be insignificant. Therefore, we concur with your "may affect, not likely to adversely affect" determination. Our conclusion is based on the following rationale.

- The proposed dredging is located at least 13 miles from the nearest suitable marbled murrelet nesting habitat and will not occur during the marbled murrelet nesting season (April through September). Therefore, it will not affect nesting marbled murrelets or their young within their nesting habitat.
- Marbled murrelets are known to forage throughout marine nearshore areas in Puget Sound. However, murrelets do not forage in freshwater systems and are not expected to be present in the action area during active dredge operations. Therefore, effects to marbled murrelets due to disturbances or turbidity from dredging activities are considered discountable.
- The lower Snohomish River does not provide spawning habitat for marine forage fish. The proposed dredging will occur only in the navigation channel, not in the intertidal areas along the shoreline where marine forage fish are likely to be found. Because the proposed action will not affect forage fish spawning habitat, and impacts to the benthic community and individual forage fish are temporary, effects to marbled murrelets via their prey resources are considered insignificant.

This concludes consultation pursuant to the regulations implementing the Endangered Species Act (50 CFR 402.13). This project should be re-analyzed if new information reveals effects of the action that may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation. The project should also be re-analyzed if the action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation, and/or a new species is listed or critical habitat is designated that may be affected by this project.

If you have any questions about this letter or our joint responsibilities under the Endangered Species Act, please contact Lisa Wood at (360) 753-4371 or Martha Jensen at (360) 753-9000, of this office.

Sincerely,

for Ken S. Berg, Manager
Washington Fish and Wildlife Office

cc:
WDOE Bellevue, WA (R. Padgett)