US Army Corps of Engineers®
Walla Walla District

Environmental Assessment

Port of Lewiston Dock Expansion and Storage Area Development

April 2012

TABLE OF CONTENTS

Section	Page
1. INTRODUCTION	1
2. PROJECT PURPOSE AND NEED	2
3. AUTHORITY	2
4. ALTERNATIVE ACTIONS	3
4.1 Alternatives Considered	3
4.1.1 No Action	3
4.1.2 Dock Expansion and Storage Area Development (Proposed Action/(Preferred Alternative)	3
4.1.3 Improve Productivity at the Existing Dock (No Build)	8
4.1.4 Add an Additional Berth	8
4.1.5 Relocate the Dock	8
4.1.6 Develop Additional Storage Area Elsewhere	8
4.2 Screening of Alternatives	9
5. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES	9
5.1 Water Quality/Sediment Quality	9
5.2 Aquatic Environment	11
5.3 Terrestrial Environment	15
5.4 Threatened and Endangered Species	16
5.5 Socioeconomics/Transportation	25
5.6 Cultural Resources	27
5.7 Cumulative Effects	29
6. ENVIRONMENTAL REVIEW REQUIREMENTS	30
6.1 Federal Statutes	30
6.2 Executive Orders	31
6.3 Executive Memorandums	31
6.4 State Permits	32
7. CONSULTATION AND COORDINATION	32
8. REFERENCES	33

FIGURES

Title	Page
Figure 1 – Port Of Lewiston dock expansion and storage area location	1
Figure 2 – Aerial photo of dock expansion and storage area location	4
Figure 3 – Dock extension plan view	5
Figure 4 – Location of dock extension and dolphin relocations	6
Figure 5 – Gravel storage area expansion plan view	7

TABLES

Title	Page
Table 4-1 Screening of Alternatives	9
Table 5-1 ESA listed and Candidate Species, and Critical Habitat near Port of Lewiston	16

APPENDICES

A – Department of the Army Section 404/10 Decision Document
B – Section 401 Water Quality Certification from Idaho Department of Environmental Quality
C – Biological Opinion from U.S. Fish and Wildlife Service, January 4, 2012
D – Biological Opinion from National Marine Fisheries Service, March 28, 2012
E – Concurrence letter from Idaho State Historic Preservation Office

1. INTRODUCTION

The Walla Walla District Corps of Engineers (Corps) proposes to approve use of Corps-owned property by the Port of Lewiston (Port) for expansion of their existing dock and development of a graveled storage area at the existing Port facilities in Lewiston, Idaho. These facilities are located on the right (north) bank of the Clearwater River at River Mile 1.5 (Figure 1) at the upstream end of the reservoir formed by the Corps' Lower Granite Dam. This reservoir is part of the Columbia/Snake Inland Waterway that provides for inland waterborne navigation between the Pacific Ocean and Lewiston. The Corps constructed a flood protection levee along the shore as part of the dam project and owns a variable width strip of land along the levee. The Port has an easement from the Corps to use a portion of the land and levee for port and industrial purposes. Under the terms of the easement, the Port must obtain Corps approval before making modifications to the property. Because the Port's proposed project includes modification to an existing Corps structure (the levee), the Corps must also review the Port's project under 33 USC 408 (Section 408).

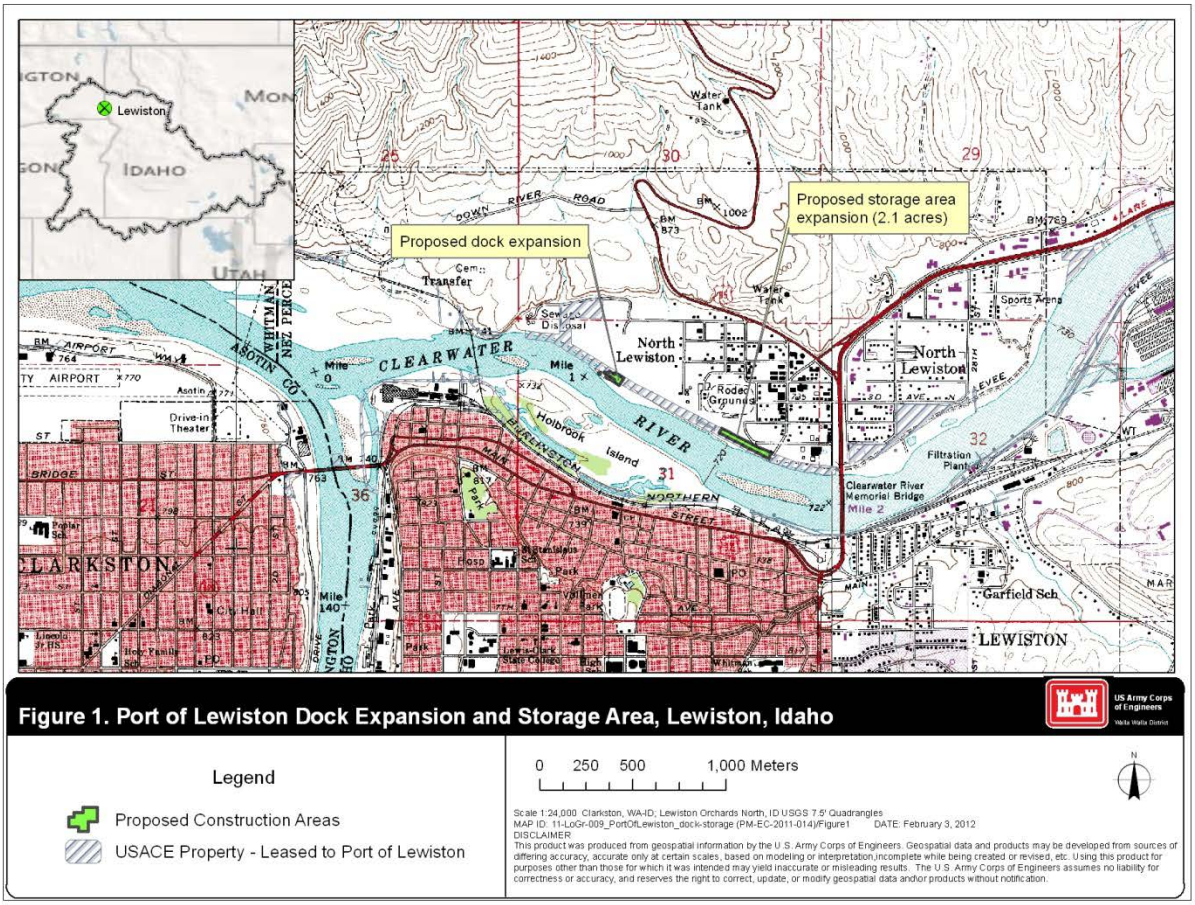

Figure 1 – Port of Lewiston dock expansion and storage area location

The Corps is also reviewing this project through its Regulatory program and is considering issuing a Department of the Army permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The Corps issued a Public Notice for this project on June 13,

2011, and held a public hearing on October 19, 2011. A final decision on the permit will be made concurrently with completion of the environmental compliance for the easement use and Section 408 approvals. A separate decision document and environmental review for the Section 404/10 permit is being prepared by the Corps in accordance with the Corps' Regulatory Program regulations (33 CFR 320-332). That decision document is incorporated herein by reference and attached hereto as Appendix A.

This Environmental Assessment addresses potential environmental effects associated with the proposed action and any reasonable alternatives. It is intended to be comprehensive and addresses potential environmental effects associated with all of the Corps approval actions.

2. PURPOSE AND NEED

The purpose of the proposed action is to provide the Port with additional dock space for safer and more efficient handling of cargo and to increase the storage area available for cargo and equipment, which may enable the Port to remain competitive with other modes of freight transportation and to continue to meet its responsibilities as a generator of local economic activity. The Port has indicated there are several problems with the current dock facility. The short dock restricts the movement of the crane used to transfer containers to and from the barges. The boom radius is too short to reach the ends of the barges overhanging the dock, requiring the longer barges to be moved with a tug upstream or downstream and increasing the time needed to transfer containers. The dock is not long enough to allow two barges to be berthed at the same time, requiring use of a tug to move the barges. The current dock configuration limits the ability to off-load very long roll on/roll-off (RO/RO) cargo. There is not enough clear space at the western end of the dock to off-load long cargo without jockeying the cargo transporters numerous times to move cargo around the terminal building. Additionally, the current storage area adjacent to the dock is too small to accommodate large amounts of cargo, reducing efficiency in loading or unloading cargo. Cargo cannot be stored for long periods of time without negatively impacting operations. All of these inefficiencies result in longer berthing times and increased costs for equipment and fuel as well as reducing the berth utilization rate that would be achievable.

3. AUTHORITY

The Port's easement from the Corps, authorized under 40 USC 319, requires Corps approval before any modifications are made to the easement area. Modification of an existing Corps structure (levee) requires review and approval under 33 USC 408. The proposed project also requires permits (Section 404/10) under the Corps' Regulatory Program (33 CFR Parts 320-332).

4. ALTERNATIVE ACTIONS

4.1 Alternatives Considered

4.1.1 No Action

Under the No Action alternative, the Port would not expand the existing dock facility. Operational procedures at the dock would remain the same. The Port would continue the practice of moving barges along the face of the dock to accommodate loading and unloading using the existing crane. Only one barge could be serviced at a time. The Port would also continue to jockey transporters around the terminal building when off-loading RO/RO cargo.

Under this alternative, the Port would not develop a graveled storage area within the easement area. The Port has identified a 10-acre area about 1,600 feet upstream of the existing dock as their proposed storage area. About 2.1 acres of this area are located within the Port's easement area and the remaining 7.9 acres are owned by the Port. The entire area was used as a dredged material disposal site in 1988. Dredged material consisting of sand, silt, and cobble was used to fill this area to a depth of about eight feet to provide a level surface for development. The Port has already graded and graveled their portion of the 10-acre area and is using it for cargo and equipment storage. Without the Corps approval, the Port would not develop the 2.1 acres within the easement or use it for storage.

4.1.2 Dock Expansion and Storage Area Development (Proposed Action/(Preferred Alternative)

Under the preferred alternative, the Port would expand the existing dock facility and develop the remaining 2.1 acres of their planned storage area. Expansion of the dock facility would consist of relocating the cellular sheet pile mooring dolphin located just downstream of the existing dock, extending the sheet pile bulkhead that forms the dock, installing tiebacks and deadmen, backfilling the dock area to grade, regrading the adjacent yard and installing a new storm draining system, paving, and installing the fender and barge handling systems (Figure 2). The existing mooring dolphin would be demolished by removing the concrete cap and pulling the sheet pile. The sheet piling would be removed by pulling with a crane using a vibratory extractor. Granular fill within the dolphin would be used as part of the backfill for the dock extension. The dock extension would consist of a 150-foot long by 60-foot wide L-shaped sheet pile wall attached to the western (downstream) end of the existing sheet pile barge dock and the face of the levee (Figures 3 and 4). The sheet pile would be installed using templates and a vibratory hammer. Tiebacks and deadmen would be installed to stabilize the sheet pile wall. About 3,900 cubic yard of backfill would be placed behind the new sheet pile wall to the level of the tiebacks. The fill would be placed through the water behind the wall so no dewatering should be needed. Tie rods and concrete deadmen would be installed on the fill and the remainder of the fill would be placed and compacted to the level of the bottom of the pavement. After the tie rods are tensioned, concrete pavement would be placed along the front of the dock. The adjacent apron would be regraded for proper drainage away from the river to a new storm sewer to be installed above the back slope of the levee. The remainder of the dock and regraded yard would then be paved with asphalt concrete paving (about 9,640 square feet of new impervious surface).

The crawler crane would be able to access the entire length of the dock and barges. An existing pole-mounted light adjacent to the dock would be relocated.

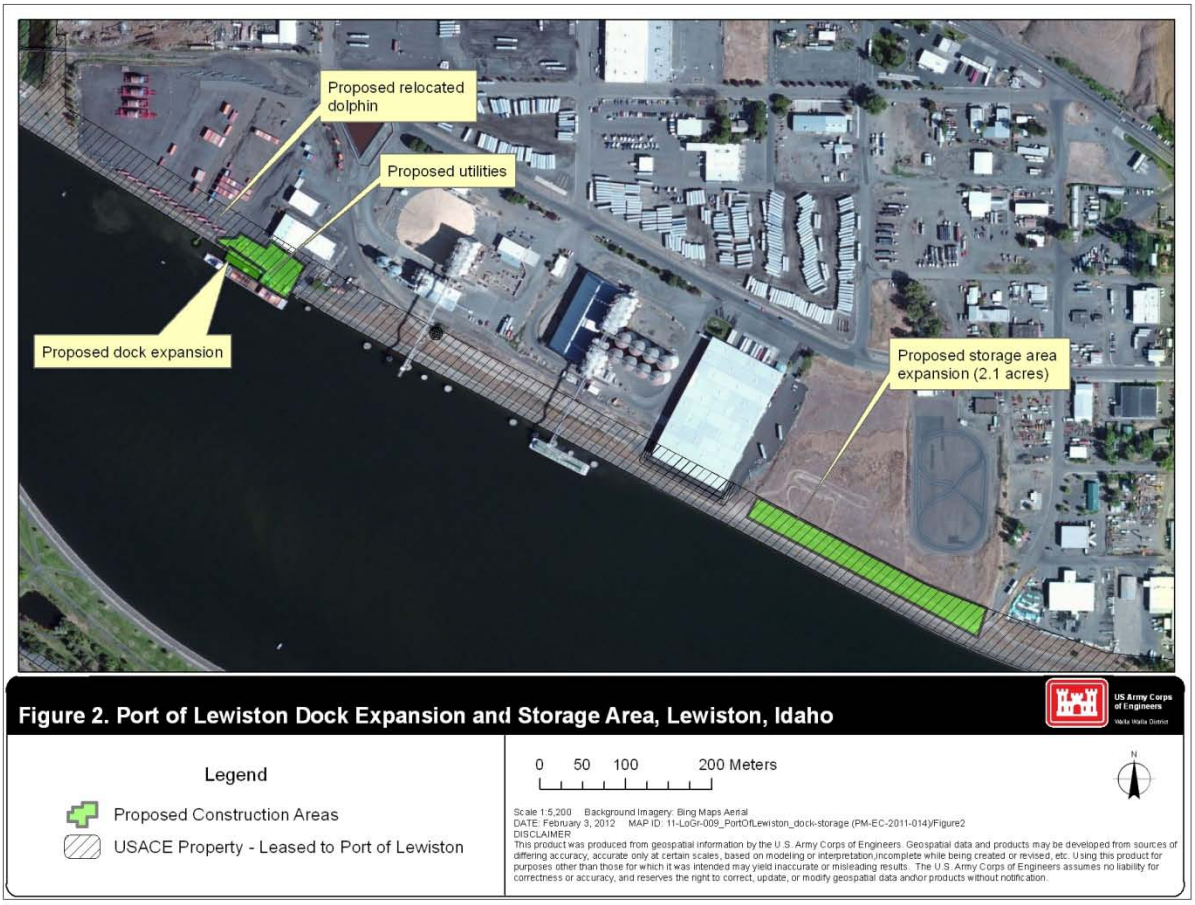

Figure 2 – Aerial photo of dock expansion and storage area location

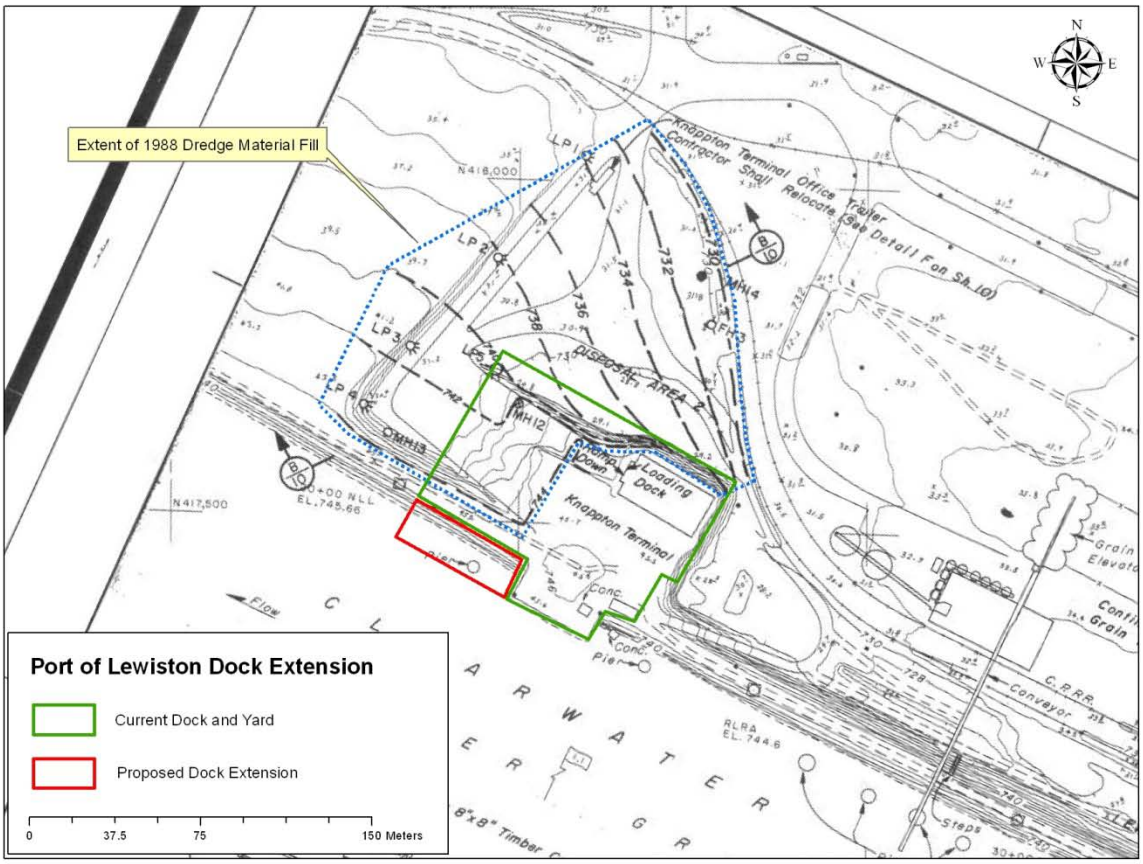

Figure 3. Dock extension plan view.

Figure 4 Location of dock extension and dolphin relocation. New features are outlined in yellow.

Storm drainage modification would be made to channel runoff from both the new and existing areas of the dock to a new oil/water separator. The separator would discharge into the Corps' existing storm drain system. Stormwater would then drain into an 80,000 square foot wetland, infiltrate, then be pumped into the Clearwater River. Stormwater treatment is expected to result in improved water quality from the site.

A fendering system would be constructed on the expanded dock to prevent damage to vessels and the terminal when barges are berthed and moored. The fender system would consist of 25 fender piles consisting of 12-½ inch by ½ inch steel pipe. Rubber fenders would be attached to the face of the concrete cap along the new sheet pile wall. Piles would be lifted by a crane and installed by a land-based vibratory pile driver. Each pile would be driven about 10 feet into the existing river bed.

A new barge handling winch system would be installed. The defunct winch system would be removed and a new system would be installed. The new system would allow a single operator to be able to position barges along the face of the dock without help from a tug.

The sheetpile dolphin would be relocated 115 downstream of the dock extension, thereby allowing more than one barge to tie up at the terminal. Sheetpile would be installed to form a round cell 18-feet 9 ¾-inches in diameter using the same methods as the dock extension. Fill material would be placed within the cell and capped with concrete. A mooring bit would be installed on top of the dolphin. A series of 12-inch by 10-inch timbers would be attached to the river side of the dolphin to provide protection for the dolphin and the barges moored to the dolphin.

Development of the 2.1 acres of Corps property for the storage area would consist of grading to level the area and placement of a gravel layer about 12 inches thick (Figure 5). No other improvements would be needed.

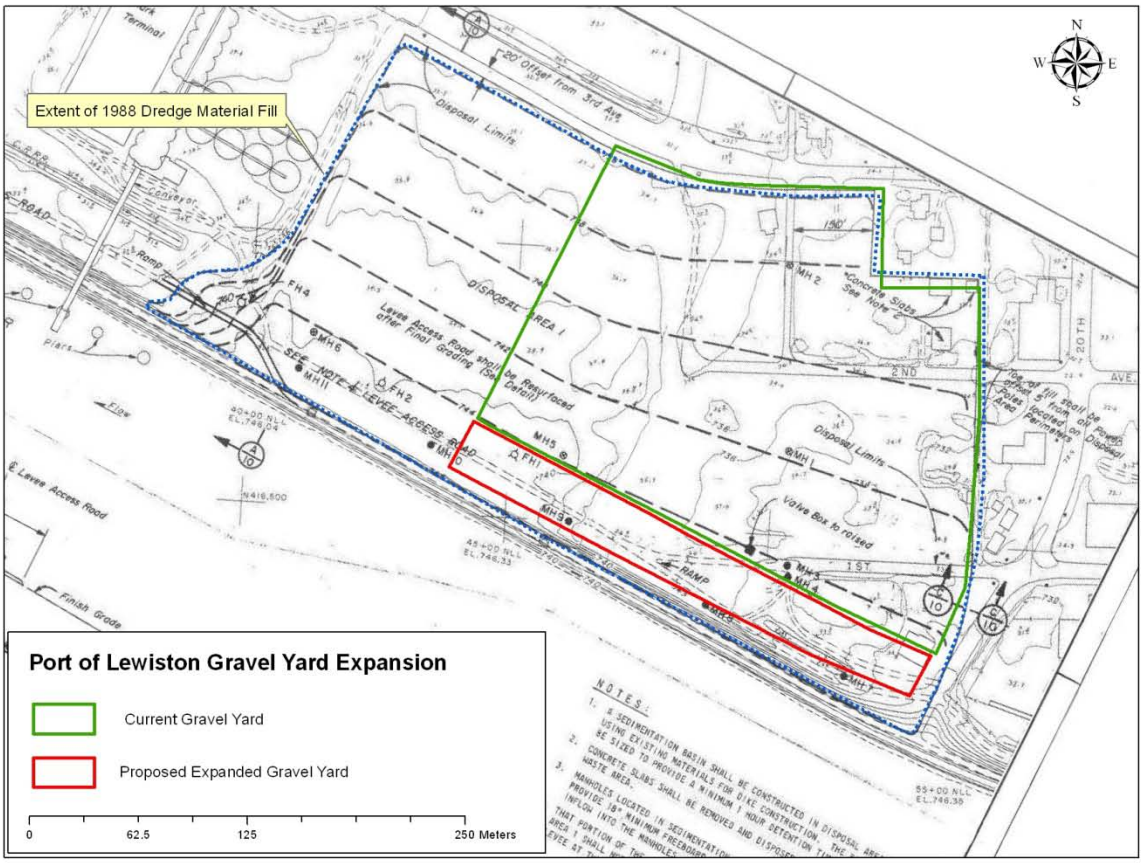

Figure 5. Gravel storage area expansion plan view.

The Corps reviewed the Port's proposed action for engineering and dam safety issues under the authority of Section 408. The Corps determined the project would be a minor modification under Section 408 and would not affect the purpose or function of the Lower Granite Dam project. As long as the Port provided requested engineering documents and addressed specific comments regarding the storm drain and the sheet pile installation, the Corps determined the proposed action would be acceptable.

The Port proposes to construct the project May 2012 – December 2012. In-water work would be done July 1 – September 30. Pile-driving is planned to occur between July 2 and September 14 and take about 77 days. Development of the 2.1 acre storage area would be done between June 1 and June 15, 2012.

4.1.3 Improve Productivity at the Existing Dock (No-Build)

Under this alternative, the Port would improve the existing dock and would not construct the extension. The existing dock is configured as a single berth. The only way to increase efficiency would be to install a new mechanized barge handling system that would reposition barges as they are loaded or unloaded. This would not address the need for additional barge moorage or the limited space available for crane movement, nor would it improve the Port's ability to handle RO/RO cargo.

4.1.4 Add an Additional Berth

Under this alternative the Port would construct a separate barge berth downstream from the existing dock. This would include the structure to support use of a Ringer crane. The cost of constructing a separate berth was the same as extending dock, but the rental/purchase of a Ringer crane would be much more than adding a second crawler crane at the extended dock. An access bridge would also be needed to minimize the haul distance from the berth to the yard. This would increase the cost, impact a wetland, and require an additional easement from the Corps.

4.1.5 Relocate the dock

Under this alternative, the Port would relocate the dock. This was not practicable as the Port's North Lewiston facility is a currently functional facility with supporting infrastructure and ready access to regional transportation networks (Columbia/Snake navigation system, railroad, two U.S. highways). It would be impractical and expensive to relocate the dock. The dock would need to be located in the vicinity of the Federal navigation channel within Nez Perce County at a location capable of supporting adequate water depth for the barges and tugs. Locations meeting these requirements are limited. Any location outside of the boundary of the existing Port facility would require new support facilities and connections to regional land-based transportation. Relocating the dock within the Port facility or in a new location would result in changes to land form, increased environmental effects, and increased costs.

4.1.6 Develop Additional Storage Area Elsewhere

Under this alternative the Port would develop the 2.1 acres of storage area elsewhere. This was impractical as the storage area needs to be in the vicinity of the barge loading and off-loading facilities and the existing 7.9 acre storage area to be functional. It would be inefficient to locate the storage area elsewhere within the Port facility or on additional land. Development of a different site would likely result in more environmental effects than developing the 2.1 acres.

4.2 Screening of Alternatives

The Corps identified screening criteria to determine which alternatives to consider further. These criteria are:

- Must allow for two barges to be moored at the same time
- Must accommodate a wide variety of cargo
- Must improve efficiency and safety in handling cargo
- Must provide usable storage in the vicinity of the dock
- Must have minimal negative environmental effects

Table 4-1 lists the screening criteria and indicates if the alternative met the criteria.

Table 4-1. Screening of Alternatives

Criteria	No Action	Proposed Action	No Build	Add Berth	Relocate Dock	Storage Elsewhere
Two barges	No	Yes	No	Yes	Yes	N/A
Variety of cargo	No	Yes	No	Yes	Yes	Yes
Improve efficiency/safety	No	Yes	Yes	No	Yes	No
Storage near dock	No	Yes	Yes	Unknown	Unknown	No
Min environ effects	Yes	Yes	Yes	No	No	No

Alternatives that did not meet the screening criteria were removed from further consideration. The only alternative that met the criteria was the Proposed Action, therefore it was the only alternative carried forward for additional analysis. The No Action alternative was also carried forward as required by NEPA for comparison.

5. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the environmental resource areas the Corps determined are relevant to the alternatives being considered and evaluates the effects of the alternatives on those resources. The Corps considered, but did not identify, any potential affects to noise pollution, air quality, hazardous/toxic materials, or recreation.

5.1 Water Quality/Sediment Quality

Water quality in the Clearwater River in the vicinity of the Port is generally good. Data collected by the Corps in 2008-2010 confirms that water quality in the lower Clearwater River portion of Lower Granite reservoir meets Idaho state water quality standards. In the Idaho Water Quality Standards (IDAPA 58.01.02), the Clearwater River in Lower Granite reservoir is described as protected for the designated beneficial uses of cold water aquatic life, primary contact recreation, and domestic water supply.

Sediment in the Port berthing area is predominantly sand with some fines (silt) and cobble. The Corps has sampled sediment from the berthing area numerous times, most recently in 2011, and has not detected contaminants in any concentrations that would require treatment or special disposal. The Port facility is located at the upstream end of Lower Granite reservoir just above the confluence with the Snake River and just below where the Clearwater River changes from a free-flowing river to part of a slackwater pool. This location experiences sediment deposition, particularly along the shoreline, as suspended sediment settles out because of decreased water velocity. This deposition creates shoaling which reduces the water depth and impedes navigation. Periodically the Port has had the berthing area dredged to restore the authorized depth needed for barge traffic (14 feet deep as measured at the minimum operating pool or reservoir level). Historically this has been done in conjunction with maintenance dredging performed by the Corps in the adjacent Federal channel every 3-5 years on average. The dredged material has been disposed of upland, either in Idaho or Washington, or in-water in the Snake River in Washington. The water quality parameters of turbidity, temperature, pH, and dissolved oxygen are monitored during dredging and disposal operations. Dredging and in-water disposal does generate turbidity, but this does not exceed Idaho or Washington water quality standards outside of the mixing zone. Because dredging has been performed during the winter when the water is cold, there has been no excedance of water quality standards for the other parameters. The periodic maintenance dredging has had no significant effect on water quality.

Port operations have had a minor effect on local water quality. Storm water from the Port facility is currently collected and discharged into the storm sewer constructed and maintained by the Corps. The Port has an oil-water separator at the site, but the separator may not be functioning properly. Storm water from the existing dock is collected and pumped into an existing manhole that connects with the storm sewer. This storm sewer is parallel with the levee and discharges to an infiltration pond/wetland located at the downstream end of the Port facility. Water from the pond is periodically pumped into the Clearwater River through pipes that go across the top of the levee. The City of Lewiston has been working with EPA for several years to obtain a National Pollution Discharge Elimination System (NPDES) permits for the storm water. The Port is working with the City to ensure the stormwater discharges from the Port facilities are in compliance with the City's permit.

Barge tows operating in the Port berthing area can generate small amounts of turbidity through prop wash when maneuvering barges, primarily when the tows first get underway. The plume is short-lived and does not extend very far downstream.

5.1.1 No Action

There would be no change to water quality in the Clearwater River under the No Action alternative. The Port would continue to take actions to maintain the water depth in the berthing area to accommodate barge traffic. These actions would likely be dredging in conjunction with maintenance dredging performed by the Corps, although the Corps is developing a long-term Programmatic Sediment Management Plan that is considering other actions in Lower Granite reservoir that may reduce the frequency and amount of dredging used to maintain the water depth in the Snake/Clearwater Rivers confluence area. There would be no change in the use of

the Corps' storm water drain system. The existing oil-water separator may still not function properly. There would be no change in turbidity from prop wash.

5.1.2 Proposed Action

There would be a short term effect on water quality during construction of the dock expansion and dolphin relocation, but it would not be significant. There would be a short term increase in turbidity when the sheet pile was being installed, however, the plume would be small and should dissipate rapidly. Once the piling is in place, it would act as a coffer dam. All placement of fill would occur behind the sheet pile wall and no turbidity should be released into the Clearwater River. No other water quality parameters would be affected.

Idaho Department of Environmental Quality has issued Section 401 Water Quality Certification to the Port (Appendix B) and is requiring the Port to use best management practices (BMPs) for sediment and erosion control during construction and to monitor the effectiveness of the BMP's. The Port must use containment measures such as silt curtains, geotextile fabrics, and silt fence to minimize in-water sediment suspension and turbidity.

Water quality effects from operation of the expanded dock would be the same as for the No Action alternative. There would be no additional channel maintenance or dredging needed, either in footprint of dredged area or frequency of dredging or quantity of material to be removed. The area that would be occupied by the dock expansion is already within the footprint of the berthing area currently maintained by the Port. There would be some short-lived turbidity plumes generated by prop wash from the tows, but these plumes would have only a minor effect on water quality. The new barge handling winch would reduce the need for tugs to reposition barges along the dock and would reduce the instances of prop wash.

The effects on storm water would be minimal or positive. The existing storm sewer and retention pond would be able to accommodate the additional runoff from the 9,640 square feet of additional impervious surface. The new oil-water separator would result in improved water quality of storm water discharged into the retention pond.

Development of the storage area would have no effect on water quality. There would be no storm water runoff from the construction activities or the use of the area once the gravel has been placed.

5.2 Aquatic Environment

The aquatic environment in the vicinity of the Port facility is primarily the portion of the Clearwater River within Lower Granite reservoir. The Port area is considered to be a backwater area of the reservoir. The substrate is mostly sand with silt and cobble supporting a limited diversity of benthic organisms. Riprap armoring on the levee provides hard substrate that provides habitat for some aquatic insects and hiding cover for some predatory fish. There is no riparian vegetation on the shoreline to provide shading for aquatic organisms. The area is within a created turning basin for barge tows and experiences sediment deposition as flows in the free-flowing part of the Clearwater River meet the reservoir. This area has been dredged periodically since the 1970's to maintain navigation water depth, most recently in 2005-2006. The benthic

organisms tend to recolonize the area within 6 months of the dredging actions. The Port berthing area and turning basin also experience periodic disturbance from towboat prop wash. Many of the fish species found in the area have been identified as species of greatest conservation need by the Idaho Department of Fish and Game (IDFG) (IDFG 2005).

Resident fish species that are found in the area include Northern pikeminnow, white sturgeon, rainbow trout, largemouth bass, smallmouth bass, carp, bull trout, and several species of minnows. One of the two viable populations of white sturgeon is located from Hells Canyon Dam downstream to Lower Granite Dam. Recent estimates of numbers of fish over 0.6 m (2 ft.) in this reach is 3,600 fish (IDFG 2005).

Anadromous fish species that are found in the area include steelhead, sockeye salmon, Chinook salmon, and hatchery-origin coho salmon. Populations of spring/summer Chinook salmon in the Clearwater drainage were eliminated or severely depressed by the Lewiston dam in the 1950s. The Idaho portion of the Snake River spring/summer Chinook salmon Evolutionary Significant Unit (ESU) consists of all of all the Salmon River drainage and the Snake River drainage upstream to Hells Canyon Dam. The Clearwater drainage was not included in the ESU due to loss of this population in the 1950s. Currently sockeye salmon are only found in lakes in the Stanley basin of the upper Salmon River, primarily Redfish and Alturas lakes (IDFG 2005).

Some sockeye salmon and spring/summer Chinook salmon, while not part of the ESUs in the Clearwater drainage system, may also incidentally occupy the area at times as they migrate upstream in the Snake River. The other anadromous fish use this area as a migration corridor during the proposed work period, but may use the area for rearing and overwintering at other times of the year. Research suggests that some juvenile fall Chinook salmon may use the affected area during summer months for rearing (Arnsberg and Hesse 2012).

The Nez Perce Tribe began reintroduction of coho salmon in the Clearwater in 1994 with hatchery-origin fish. Dam counts show 5,057 adults and 291 jacks passed over Lower Granite Dam during upstream migration in 2011. There is a 10 year average of 2,414 adults and 313 jacks migrating upstream past Lower Granite Dam[1].

The Port area is part of the migratory corridor for Pacific lamprey, which are considered an endangered species by the state of Idaho (IDFG 2005). Historically Pacific lamprey were found in all major river systems where salmon and steelhead occurred including the Snake, Salmon, and Clearwater rivers in Idaho (Simpson and Wallace 1982). However, Pacific lampreys have declined to only a remnant of their pre-1940s populations throughout their range in the Columbia River Basin. Lower Snake dam counts have declined to less than 500 fish in recent years. Because Pacific lamprey spend extended periods in freshwater, they are especially vulnerable to degraded stream conditions, including sedimentation due to land disturbance, and water quality limitations that impact food (diatom) production in nursery streams (Paradis et al. 1999b).

The mainstem Clearwater River currently serves as a primary migration route for adult Pacific lamprey to access upstream spawning areas, and as a rearing area for ammocoetes (larval lamprey). In the past Pacific lamprey overwintering likely occurred to a large degree in the

[1] http://fpc.org/

Snake River-Hells Canyon reach and the lower Clearwater River (Kooskia, Idaho to mouth), with movement in April and May into tributaries to spawn (USACE 2009). Spawning in the Clearwater River drainages occurs from late May to early July in slow riffles or runs with adequate gravel and cobble substrates (IDFG 2011), in excavated shallow depressions. Young adult lamprey may start their migration to the Pacific Ocean in the fall; however, strong pulses of migration have been documented in Idaho streams from late winter months to early summer and it is believed that in Idaho streams downstream migration primarily occurs between February and June (IDFG 2011 report). It is unclear if adults spawn in the mainstem Clearwater River or if the presence of juveniles is a result of their downstream migration from drainages upstream. As long as there is lamprey production in Clearwater River tributaries, the mainstem Clearwater River will continue to serve as a rearing area for juveniles that have migrated downstream. It is unknown if the Port area is a rearing area. Surveys conducted by the Corps in 2011 in the Snake River just downstream of the Snake/Clearwater confluence did not detect any ammocoetes.

Operation of the existing Port facility has several minor effects on the aquatic environment. Barge tows operating on the river generate noise with the motor and the propellers, but any effect on aquatic species is short-lived once the tow has passed through. Current barge use at the Port averages one (1) barge per week during March through July and 1-2 barges per week during August through February. Given the low amount of barge traffic and short time the noise is generated, the effect on aquatic species is minimal.

The passage of tows also results in wave action, which can cause shoreline erosion. The Clearwater River in the vicinity of the Port is armored with riprap, which minimizes erosion and turbidity from erosion.

5.2.1.1 No Action

There would be no change to the aquatic environment under the No Action alternative. Navigation water depth in the Port berthing area and Federal navigation channel would continue to be maintained, possibly by periodic dredging. There would be no change the status of lamprey.

5.2.1.2 Proposed Action

Construction of the dock expansion and dolphin relocation would have a minor effect on the aquatic environment. Placement of the fill for the dock expansion and dolphin would result in the loss of about 0.12 acres of open water. Any benthic organisms within the footprint would be buried by the placement of fill material. About 150 lineal feet of riprap would be buried and replaced by a sheetpile wall, reducing substrate for aquatic insects, but also reducing hiding cover for predatory fish. These actions would not significantly reduce the amount of aquatic habitat available for use in the lower Clearwater River.

Impacts to fish in the area would be minimized by the proposed timing of construction (July 1- September 30). Most anadromous fish would have migrated through the area, but some rearing juveniles may still be present. It is unlikely that there would be impacts to white sturgeon, as large adults tend to occur in large, deep pools in mainstem channels, and juveniles

and subadults seasonally occupy sloughs. White sturgeon also tend to use areas with faster currents and hard substrates (IDFG 2005), both uncharacteristic of the area. Construction related impacts to fish species in the area would, therefore, be short-term and minor.

Once the new structures are in place, effects would be similar to the No Action alternative. The new oil/water separator would improve water quality in the storm water being discharged into the Clearwater River, which would improve conditions for aquatic species.

Operation of the expanded dock would not have significant effects on aquatic species. When the Port was experiencing higher usage in the late 1990's and early 2000's, the existing Port facility handled about five times the current amount of cargo. The number of barges needed to handle that level of cargo averaged about 3-4 barges per week (one barge per day on three or four separate days) using the existing dock. If the amount of cargo handled at the Port increased to levels similar to that of ten years ago, the number of barges using the Port's dock could double to 2-4 barges per week. An increase in the number of barges using the Port's dock does not necessarily equate to increased barge traffic and increased environmental effects. Most of the environmental effects are caused by the passing of a tow, not the number of barges. In the Snake River, tows can consist of between one and four barges and each barge can be destined for a different port facility. Four barges per tow is the maximum number that can be accommodated by the locks of the Snake River dams. Additional barges destined for the Port of Lewiston does not necessarily mean more tows, but instead could result in more barges in the tow (up to the maximum of four). Since the proposed dock expansion would allow two barges to be handled at a time, the number of tows could possibly be reduced as one tow could pick up or drop off both barges at one time instead of making two separate trips. The new barge handling winch system would also allow barges to be repositioned along the dock without the use of a tug.

If the amount of barge traffic were to increase, it could have potential increased effects on fish through noise level. Effects on fish are tied to the number of tows. An increase in number of barges would not have as much of an effect on fish as the number of tows as it is the passing of a tow that increases the noise level in the river and creates the wave action. As stated in the National Marine Fisheries Service (NMFS) Biological Opinion for this project, dated March 28, 2012, p. 27-28 "the amount of noise level produced would be similar to what is already being produced by the passing of the existing barge traffic, which should then remain within the background sound level and within current sublethal effects." If larger tows (more barges per tow) use the dock, noise levels would not necessarily increase as there would still be just one tug pushing the tow and generating the noise through operation of the motor and propellers.

Any increase in barge traffic would also increase the amount of wave action, which could affect fish through increased shoreline erosion and physical damage to fish. In the Port area, this effect would be minimal. Much of the shoreline in the Port area is armored with riprap, therefore there would be little erosion or turbidity from erosion. Barge traffic can affect salmon eggs, but the area does not contain spawning habitat so eggs would not be present.

Development of the additional storage area would have no effect on the aquatic environment. The storage area would be on the inland side of the levee and would not be

adjacent to the Clearwater River. Any storm water would be collected and discharged into the storm sewer.

5.3 Terrestrial Environment

The terrestrial environment in the vicinity of the Port facility has been heavily affected by commercial and industrial development. The Corps reworked the shoreline when constructing the levees as part of Lower Granite Dam. The shoreline is completely armored with riprap and bulkheads, and no natural shoreline or shoreline vegetation exists at or near the Port facility. The Port has an existing dock and berthing basin with regular barge traffic using the site. Upland staging areas used during the construction period are compacted and devoid of any natural vegetation. The proposed storage area supports a sparse stand of non-native weeds. There is no natural riparian area, upland or riparian vegetation, or aquatic vegetation at the site.

The Corps owns and operates a storm water drainage pond /wetland which is approximately 5 acres in size, and located at the northwest corner of the Port facility. The storm water drainage pond/wetland is characterized by emergent and shrub vegetation.

Small mammals, such as rats and mice are most likely present on-site at the Port facility. Some of these mammals may hide within the containers or cargo. Due to the industrial nature and local urban setting surround the Port, large mammals (ungulates, long ranging wildlife) would most likely avoid this area due to the urban/industrial setting. Birds, such as songbirds, great blue herons, egrets, and red tail hawks and kestrels may use the drainage pond/wetland on occasion. Waterfowl, such as Canadian geese and various ducks may occur in or fly over the project area. Osprey use the Clearwater River, which is adjacent to the Port; however, no osprey nests have been observed at the Port.

5.3.1 No Action

The No Action alternative would not change the terrestrial habitat or the use of that habitat.

5.3.2 Proposed Action

The proposed dock expansion would have short-term minor effects on terrestrial habitat and species during construction. Pile driving would result in temporary and short-term noise impacts, and some birds may avoid the project site during pile driving activities. However, noise impacts would be minimized by use of a vibratory hammer and no long-term impacts to wildlife are anticipated. The wetland/storm water drainage pond is located over 1,000 feet away from the proposed construction activities at the dock, which should further minimize direct noise affects generated during construction activities.

Operation of the expanded dock would have no effect on terrestrial species. The amount of hard surface area would increase by about 1/4 acre, but most of this would be the surface of the dock itself. The Port proposes to upgrade the drainage systems to ensure all surface flows are captured and routed through a new oil/water separator before being discharged to the storm water

pond/wetland. This slight increase in discharge would have no adverse affect on the wetland or wildlife that may temporarily utilize this area.

Development of the additional storage area would have a negligible effect on terrestrial species. The existing vegetation on the 2.1 acres would be converted to a gravel surface, but the site provides little or no habitat for terrestrial species at present.

5.4 Threatened and Endangered Species

Table 5-1 identifies the species listed under the Endangered Species Act that may be found in the vicinity of the Port facility. Two anadromous fish species, one non-anadromous fish species, and three terrestrial species were identified as occurring in Nez Perce County, Idaho.

Table 5-1. ESA Listed and Candidate Species, and Critical Habitat that may occur at or near Port of Lewiston,

Species	Scientific Name	Listing Status	Critical Habitat at/near the Action Area
LISTED SPECIES			
Chinook Salmon Snake River Basin fall-run ESU	***Oncorhynchus tshawytscha***	T	YES
Steelhead Snake River Basin DPS	***O. mykiss***	T	YES
Bull Trout Columbia River DPS	***Salvelinus confluentus***	T	YES
Canada Lynx Contiguous U.S. DPS	***Lynx canadensis***	T	Not applicable
Spalding's catchfly Contiguous U.S. DPS	***Silene spaldingii***	T	Not applicable
CANDIDATE SPECIES			
North American Wolverine	***Gulo gulo luscus***	C	Not applicable

Listing status: 'T' means listed as threatened under the ESA; 'E' means listed as endangered; "C" means the species is a candidate for listing.

5.4.1 Terrestrial and Non-Anadromous Fish Species

- Canada Lynx

Canada lynx are listed as threatened and are considered a "species of greatest conservation need" by the IDFG. Lynx are associated with boreal forests of spruce, subalpine fir, and lodgepole pine, generally above 4,000 feet (1,219 m) in elevation and provide a prey base of snowshoe hare (Ruggiero et al. 2000). A mosaic of successional stages in these forest types are needed to meet lynx habitat requirements. Lynx presence has been well documented, historically and currently, throughout the Panhandle of Idaho; however, there are no known records of occurrence of lynx near the Port of Lewiston. Based on the biological and necessary habitat requirements, Canada lynx are extremely unlikely to occur in the action area. No critical habitat exists on Corps lands for Canada lynx. Because this species is unlikely to be present in the project area, both the No Action alternative and the Proposed Action would have *No Effect* on the species and it will not be discussed further.

- Spalding's Catchfly

Spalding's catchfly, a plant in the carnation family, is listed as threatened under ESA and by the state of Idaho (State of Idaho, 2009). The species is endemic to the Palouse region of south-east Washington and adjacent Oregon and Idaho. This species is found predominantly in the Pacific Northwest bunchgrass grasslands and sagebrush-steppe, and occasionally in open-canopy pine stands.

The largest occurrence of Spalding's catchfly in Idaho is south of Lewiston in the Snake River Canyon, along the western flank of Craig Mountain (Gray et al, 2004), south of the action area, and upstream along the Snake River. Within this area, Spalding's catchfly grows in mesic, forb-rich, bunchgrass steppe, on northerly aspects from 1,400 to 3,400 ft (427 to 1,036 m) elevation (Hill and Gray 2004). Slopes here are usually steep, but it also grows on gently sloping benchlands.

No Spalding's catchfly were found in any of the Habitat Management Units on Corps lands between Lyon's Ferry (RM 59) to Asotin Slough (RM 147), and upstream of the confluence of the Snake and Clearwater Rivers to RM 8.2 on the Clearwater during a 2008 vascular plant survey on Corps lands in the upper Snake River (Bailey 2008a, 2008b). There are no known local populations of Spalding's catchfly in the Port of Lewiston action area. Because this species is unlikely to be present in the project area, both the No Action alternative and the Proposed Action would have *No Effect* on the species and it will not be discussed further.

- North American Wolverine

The North American wolverine is currently a candidate species are considered a "species of greatest conservation need" by the IDFG. The State of Idaho classifies North American wolverine as a protected nongame species. Wolverine habitat consists entirely of alpine, arctic, and sub-arctic regions. No such habitat exists at the Port of Lewiston project site. Because this

species is unlikely to be present in the project area, both the No Action alternative and the Proposed Action would have *No Effect* on the species and it will not be discussed further.

- Bull Trout

Bull trout were listed as threatened throughout the Pacific Northwest. Populations remain in portions of Oregon, Washington, Idaho, Montana, and Nevada. Bull trout are found in the Tucannon River, Asotin Creek, the Grande Ronde and Imnaha Rivers. They are also found in tributaries to the Clearwater and Salmon Rivers.

The final critical habitat designation for bull trout (70 FR 63898) was published in 2010. Critical habitat includes the stream channels within the designated stream reaches and includes a lateral extent from the bankfull elevation on one bank to the bankfull elevation on the opposite bank.

The proposed project is located in the Middle - Lower Clearwater River Critical Habitat Subunit (CHSU). This CHSU is essential to bull trout conservation because the Clearwater River and Middle Fork Clearwater River primarily serve as migratory corridor, connecting local bull trout populations within the Clearwater River Critical Habitat Unit as well as maintaining connectivity to other Mid-Columbia River bull trout populations. The main river reaches also provide important foraging and overwintering areas for sub adult and adult bull trout that originate in upstream CHSU's. The Clearwater River is designated as foraging, migration, and overwintering habitat from its confluence with the Snake River upstream 74.3 miles to its confluence with South Fork Clearwater River (USFWS, 2010).

Bull trout use of the lower Clearwater River is for feeding, migrating, and overwintering. In the vicinity of the Port facility such use by bull trout is not expected during the proposed construction time period, and would be at a low level once the new structures are in place. No spawning and early rearing occurs in the lower Clearwater River.

5.4.1.1 No Action

The No Action alternative would not change the use of the lower Clearwater River by bull trout. Periodic maintenance actions (dredging) at the Port facility to maintain water depth for navigation are not likely to adversely affect bull trout or destroy or modify their critical habitat. Bull trout use of the Port area is expected to be low. Water quality would experience short term, localized degradation, but would not violate state water quality standards. Any individuals in the area would be able to avoid the work area.

5.4.1.2 Proposed Action

The Corps has concluded formal consultation with the U.S Fish and Wildlife Service (USFWS) for the proposed dock expansion project. The Biological Assessment (BA) submitted by the Corps concluded the proposed project "*May Affect, But is Not Likely to Adversely Affect*" bull trout, but is "*Likely to Adversely Affect*" bull trout critical habitat. In their letter of January 4, 2012, USFWS provided their Biological Opinion and concurrence with the Corps'

determination of effect (Appendix C). USFWS stated the proposed action is not likely to adversely affect bull trout because bull trout use the area for feeding, migration, and overwintering. Bull trout use of the Port is expected to be at a low level. No spawning or early rearing occurs in the lower Clearwater River. Construction would be performed during the summer in-water work window when bull trout are not expected to be in the Port area. USFWS concluded for those reasons, effects to bull trout are expected to be discountable.

Regarding the effect on critical habitat, USFWS concluded the proposed action is not likely to destroy or adversely modify designated critical habitat for bull trout. The project would result in short-term adverse effects to Primary Constituent Elements (PCE) of bull trout critical habitat; however, the project would not impact the functionality of the Clearwater Critical Habitat Unit (CHU) or, by extension, critical habitat range wide in providing for the conservation of the bull trout. USFWS expected the Conservation Measures described in the BA (which included using Best Management Practices, performing in-water work in the summer, and using a vibratory hammer to install sheet pile) would reduce the magnitude of the adverse effects.

5.4.2 Anadromous Fish Species

- Snake River Fall Chinook and Snake River Basin Steelhead

This section discusses only ESA-listed Snake River fall Chinook salmon in terms of the ESA and the extent of the ESU, and not Snake River spring/summer Chinook salmon or Snake River sockeye salmon ESUs listed under the ESA, as they are not found within the affected area. Although spring/summer Chinook salmon use the Clearwater River, and sockeye salmon may incidentally use the Clearwater River, they are not listed under the ESA in the Clearwater drainage because the current natural runs are primarily the result of the past reintroduction programs (NPT and IDFG 1990; Columbia River Inter-Tribal Fish Commission 2000).

The Clearwater River serves as spawning, rearing, and migratory habitat for ESA-listed Snake River (SR) fall Chinook salmon and Snake River Basin (SRB) steelhead. The primary use of the area by SRB steelhead and SR fall Chinook salmon analyzed in this document is migration through the action area, with a low level of rearing. No spawning occurs within the action area. Thus, for this action area, the biological requirements for steelhead are the habitat characteristics that support successful completion of migration and, to a lesser extent, rearing.

(SR fall Chinook salmon are listed as threatened. The ESU includes all naturally spawned populations of fall-run Chinook salmon in the mainstem Snake River below Hells Canyon Dam, and in the Grande Ronde, Imnaha, Salmon, and Clearwater Rivers, as well as four artificial propagation programs (Lyons Ferry Hatchery, Fall Chinook Acclimation Ponds Program, Nez Perce Tribal Hatchery, and Oxbow Hatchery Fall Chinook Hatchery Programs). The overall adult abundance has been increasing significantly beginning in 2000, but this ESU has been reduced to a single remnant population with a narrow range of available habitat.

Today, fall Chinook salmon in the SRB exhibit one of two life histories that Connor *et al*. (2005) have called ocean-type and reservoir-type. The reservoir-type life history is one where juveniles overwinter in the pools created by the dams, prior to migrating out of the Snake River.

The reservoir-type life history is likely a response to early development in cooler temperatures, which prevents juveniles from reaching a suitable size to migrate out of the Snake River.

Currently, natural SR fall Chinook spawning is limited to the Snake River from the upper end of Lower Granite Reservoir to Hells Canyon Dam; the lower reaches of the Imnaha, Grande Ronde, Clearwater, Salmon, and Tucannon Rivers; and small areas in the tailraces of the Lower Snake River hydroelectric dams (Good *et al*. 2005). The majority of spawning today occurs upstream of Lower Granite Dam, with the largest concentration of spawning sites in the Clearwater River, downstream from Lolo Creek to the U.S. Highway 95 bridge at Spalding which is about 9 miles upstream from the Port.

In 2010, approximately 34% of the fall Chinook salmon redds counted upstream of Lower Granite Reservoir were observed in the Clearwater River. Within the Clearwater River watershed, there were 1,924 redds total, with 1,632 in the mainstem Clearwater, 281 in the Potlatch, eight in the North Fork, two in the South Fork, one in the Selway, and none in the Middle Fork Clearwater (Arnsberg *et al.* 2011). Most of the redds in the mainstem occur in the lower 41 miles, below the North Fork Clearwater River (Garcia *et al.* 2005). Redds are not found in the Port area as flow conditions and the substrate (the Port area has sand instead of cobble) are not suitable for spawning.

The river margins are important for juvenile rearing during spring and summer; and those changes in channel structure, substrate, and vegetation can reduce the invertebrate productivity (and thus food supply) and holding/hiding cover for juvenile fall Chinook salmon. The amount and extent of those effects on rearing habitat (in comparison to historic conditions) and resulting effects on fall Chinook salmon survival rates have not been determined.

Snake River Basin (SRB) steelhead are listed as threatened. This stock includes all natural-origin populations of steelhead in the Snake River Basin of southeast Washington, northeast Oregon, and Idaho. It also includes six hatchery stocks, including fish from the Dworshak National Fish Hatchery and the rearing facilities in Lolo Creek.

The SRB steelhead occupy habitat that is considerably warmer and drier (on an annual basis) than other steelhead Distinct Population Segments (DPS). The SRB steelhead DPS includes all anadromous populations that spawn and rear in the mainstem Snake River and its tributaries between Ice Harbor and the Hells Canyon hydro complex. The Clearwater River Major Population Group (MPG) contains five extant populations and one extirpated population.

The SRB steelhead are generally classified as summer run, based on their adult run timing pattern. Summer steelhead enter the Columbia River from late June to October. After holding over the winter, summer steelhead spawn during the following spring (March to May).

Designated critical habitat within the Clearwater subbasin for fall Chinook salmon includes the Clearwater River from its confluence with the Snake River upstream to its confluence with Lolo Creek, the North Fork Clearwater River from its confluence with the Clearwater River upstream to Dworshak Dam, and all other river reaches presently or historically accessible to fall Chinook salmon in the Lower Clearwater and Lower North Fork Clearwater (below Dworshak

Dam.) Snake River Fall Chinook salmon use this section of the Clearwater River for migration and early rearing.

Critical habitat for Snake River steelhead was redesignated in 2006. The lower Snake River corridor is primarily critical habitat for migration passage. However, some habitat suitable for rearing or overwintering is likely present in the lower Snake River.

Effects of current Port operations on SR fall Chinook and SRB steelhead would be the same as those described in Section 5.2 Aquatic Environment.

5.4.2.1 No Action

The No Action alternative would not change how the area in the vicinity of the Port is being used or the current effects on SR fall Chinook or SRB steelhead.

5.4.2.2 Proposed Action

The proposed action includes activities which could affect ESA-listed SRB steelhead and SR fall Chinook salmon through underwater noise, sediment, turbidity, and toxic fuel contamination. Some of these effects have already been described in Section 5.2.1.2. above.

Heavy equipment working in the stream while removing the existing structures and then installing the new wall would, at a minimum, scare and potentially kill any fish that might be present in the action area. Although no spawning occurs at the site, adult salmon and steelhead would be migrating past the work area. Any adult fish present would probably flee from the initial disturbance and then stay away from the work site as activities continue. Although most juvenile fish would have already migrated out some may lag behind and could be present at the in-river work site. As with adult fish, juvenile fish could also flee from the activities, but juvenile fish might be more apt to take cover in the rocky substrate and could be killed during filling of the dock extension area. NMFS has included an incidental take statement in their March 28, 2012 Biological Opinion for an estimated total of 123 juvenile fish. Of these 123 fish, 41 are steelhead and 82 are Chinook salmon. The Smolt-to-Adult-Return (SAR) ratio for both species between 2000 and 2011 has ranged from 0.92 to 2.08 for steelhead and 0.22 to 2.74 percent for Chinook (Fish Passage Center website at http://www.fpc.org/survival/css_annual_sars_SNK_COL_queryv3.html). This means the juvenile salmonid take estimated by NMFS represents up to possibly one or two returning adult fish for each species.

Since the area within the bulkhead would be filled, there would be no water available under the dock for predators to hide in order to ambush their prey. For this reason, increased predation on salmonids is not an issue.

Installation of the sheet piles and fender pipe piles is planned to occur between July 1 and September 30. Vibratory hammer actual operations run time of approximately 7 hours during a 12-hour shift is anticipated. Given the lack of applicable criteria, the lack of observed injury from vibratory driving, and the fact that the adult salmon would be only moving through the

area, thereby reducing the duration of exposure, the Corps assumes that vibratory driving of sheet piles would not pose a risk of physical injury to listed salmon.[Effects analysis of the vibratory hammer operations is based on an estimate of the distance and severity of elevated underwater noise from the vibratory hammer compared to background sound levels.]

Most hatchery produced SR fall Chinook and SRB steelhead smolts use the Clearwater River to migrate downstream during spring high water and, therefore, would not be present during the construction period beginning July 1. However, naturally-produced fish from the Clearwater River are delayed in their emergence and passage by cold water releases from Dworshak Dam on the North Fork Clearwater. The passage date for this fish starts in late July and can extend into late summer and fall (Connor, 2009). The behavior of returning adult fish will be less affected by underwater noise. The vibratory hammer operations would not be continuous, with operating times approximately 7 hours total during each 12-hour work shift. It is expected that adult fish migrating upstream through the affected area would have already encountered many obstacles, and they would continue swimming upstream and get through the action area. The sound levels that fish would be exposed to would result in only behavioral effects. These effects would likely be similar to other noise, such as that created by barge traffic, and would only result in minimal effects to fish fitness.

- Turbidity

The Port, by its actions of in-river work activities, would create turbidity in the Clearwater River. Salmonid survival depends on many factors, including food availability, predator avoidance, immune system health, and reproduction. Stressful conditions are known to reduce the adaptive responses of salmonids to natural environmental fluctuations and increase their susceptibility to disease (Birtwell 1999). Information in the scientific literature (as summarized in Rowe *et al.*2003) regarding effects of sediment on fish shows a variety of adverse effects ranging from displacement, to reduced ability to feed or avoid predation, to death, depending on the amount or concentration of sediment.

The mixing zone for the construction of this project is not anticipated to occur beyond 300 ft downstream of the project activities. The construction land area is already a hardened site. There are no areas of vegetative ground cover which might produce sediment if disturbed. The Port would ensure that it the uses the precautionary measures and BMPs as outlined in the proposed action to reduce sediment and turbidity impacts to listed fish and their habitat. These measures include using a summer low flow work period, proper sequencing of demolition activities, placing fill behind the new bulkhead and not within the river current, using silt fence and clean fill materials, and watering areas to minimize dust. Based on the above it is expected that only minimal to moderate sublethal effects on fish from turbidity would occur.

The Port would install the fender piles (12.5-inch diameter x 0.5-inch thickness steel pipes) by lifting them with a crane and driving them approximately 10 ft into the riverbed with a land-based vibratory pile driver. Since no dredging would be required to install the fender system, there would be little disturbance to the substrate. As a result, the amount of turbidity expected to be produced from the installation of the pile structures is minimal.

Since no dredging is needed to install the fender system and dock area, sediment production is expected to be minimal. However, any sediment ending up in the Clearwater River is likely to be deposited along the streambank, where the area is already riprapped. Some small amounts of fines might be transported downstream. Due to the sediment transport capacity of the Clearwater River, sediment is unlikely to alter stream channel characteristics preferred by juvenile salmonids, and there is no spawning habitat in the action area.

- Toxins

It is expected that the use of machinery in the action area would result in a small amount of oil and hydraulic fluid leakage during operations. However, effects to fish would likely be minor due to the small amount of petroleum product, the size of any potential spill in relation to the volume of stream flow, and implementation of conservation measures to minimize such impacts.

- Conclusion

Based on the information provided and the precautionary measures described as part of the proposed action, effects to SRB steelhead and SR fall Chinook salmon from underwater noise levels, sediment-related harm, and toxins could occur, but mortality is not expected. Only sublethal effects from these impacts are anticipated because: (1) Project timing has allowed smolt migration to have already occurred; (2) underwater noise levels are expected to cause only some behavioral effects; (3) larger, adult fish are less affected by the noise levels and the noise should not cause migration problems for them; and (4) the timing and intensity of any sediment plumes and toxins are minimized by the dilution factor of the large flow volume of the Clearwater River.

Of those fish affected within the action area, only those juvenile fish located within the new dock perimeter have a risk of being killed; however, it is expected that many of these fish would flee the area during project activities. Also, with smolt migration already completed, the number of juvenile fish still present and potentially injured or killed is small compared to the total number of juvenile fish in the Clearwater River system.

Overall, the proposed action would have little effect on the abundance, productivity, spatial structure, or diversity of SRB steelhead or fall Chinook salmon because: (1) Smolts would have already passed through the action area, and adults are expected to be able to continue their upstream migration run; (2) the habitat at the project site is considered poor rearing habitat and not many juvenile fish would normally inhabit this area; (3) those juvenile fish within or near the perimeter of the fender and pile installation would likely flee from construction activities. Those juvenile fish remaining might take refuge in the riprap cover and would eventually be killed when the enclosed area is filled with rock; however, the numbers of such fish is small compared to the overall number of juvenile fish present in the Clearwater River system; (4) the action area is located within a heavy-use industrial area. Noise levels are expected to be limited to behavioral effects and not cause physical injury; and (5) potential turbidity/sediment and toxin effects are only short term and minimized by project work timing, implementation of the project's precautionary measures, and through dilution by the Clearwater River flow at the

project site. Therefore, it is unlikely that the proposed action would have any major effect on the viability of either the SRB steelhead DPS or the Snake River fall Chinook salmon MPG.

- Critical Habitat

Actual effects to critical habitat would likely be minor due to the summer low-flow in-river water work window, the short extent of any turbidity plume, operation of the oil/water separator, use of the vibratory hammer, and implementation of the conservation measures. The project activities are likely to negatively affect several Primary Constituent Elements (PCE) (water quality, substrate, and safe passage) in the short term, but effects are expected to be minor, short lived, and have only minimal to moderate effects on fish habitat. Therefore, based on the effects described above, it is reasonably likely that the proposed action will have a small, local reduction in the conservation value of critical habitat.

- Essential Fish Habitat Affected by the Project

The consultation requirement of section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) directs Federal agencies to consult on all actions, or actions that may adversely affect Essential Fish Habitat (EFH). Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH.

The habitat affected by this project are for Pacific coast salmon, as designated by the Pacific Fishery Management Council (PFMC), in the State of Idaho for the freshwater life stages of Chinook salmon and coho salmon (PFMC 1999). The action area includes areas designated as EFH for various life-history stages of Chinook and coho salmon.

Based on the information provided in the Applicants Biological Assessment and the analysis of effects, the Corps and NMFS concluded that the proposed action would have the following adverse effects on EFH designated for Chinook and coho salmon: (1) Short-term increased sediment and fuels affecting water quality; and (2) temporary disruption of adult migration and juvenile rearing.

The Corps has concluded formal consultation with the National Marine Fisheries Service (NMFS) for the proposed dock expansion project. The Biological Assessment (BA) submitted by the Corps concluded the proposed project "*Is Likely to Adversely Affect*" Snake River Basin streelhead, Snake River spring/summer Chinook salmon, Snake River fall Chinook salmon, Snake River sockeye, and designated critical habitat. In their letter of March 28, 2012, NMFS provided their Biological Opinion (Appendix D) and concluded the proposed action was not likely to jeopardize the continued existence of Snake River Basin steelhead and Snake River fall Chinook salmon, or result in the destruction or adverse modification of their designated critical habitat.

5.5 Socio-economics

The Port is a public agency with a primary objective to encourage economic growth in Nez Perce County and the state of Idaho. The Port oversees harbor operations, terminal facilities, international trade, and industrial and economic development. The existing dock is used to support these activities, especially through the transport of containerized cargo and oversized cargo. Commercial transportation of cargo in the Lewiston area consists primarily of shipments by rail, trucks and commercial navigation. The Port competes with other ports and transportation modes and its current operation is focused primarily on the transport of containerized cargo and oversized cargo. After unloading cargo at the Port facility, it is shipped by rail or truck to its final designation.

The number of barges using the existing dock and the amount of cargo transported via the Port varies based on regional, national, and international economic conditions. Historical reports found on the Port's website (www.portoflewiston.com) indicate the number of container shipments per year over the past 20 years remained fairly steady in the 1990's, but have been generally declining since 2002. The number of container shipments dropped off considerably in 2008, which is concurrent with the decline in the economy. The website also shows a similar pattern in tons of wheat shipped with a large drop in 2008.

Data collected by the Corps for commercial lockages through Lower Granite Dam display a similar pattern of barge traffic. From 2001 to 2007, the general trend was downward for number of tows and tonnage going upstream, with a steep decrease in 2008. There was a slight upward trend for number of tows and tonnage going downstream between 2008 and 2010 (the last year for which data is available). The number of barges dropped off steeply in 2008 and has continued to decrease. While this data does not indicate how many of the tows used the Port's facilities, it does indicate industry trends in the area.

5.5.1 No Action

Under the No Action alternative, use of the Port facilities and later shipment of cargo by rail or truck, would continue to increase or decrease largely based on economic conditions. Inefficiencies in the use of the Port's existing dock would remain. This could adversely affect the ability of the Port to compete for customers and to meet its objective of encouraging economic growth, but there is no clear indication that the Port has suffered from a competitive disadvantage based on the current level of commercial barge traffic. Transportation of cargo to and from the Port would continue at past or current levels depending on market forces. Not developing the additional 2.1 acres of storage area would have a minor effect on the Port's ability to store cargo and equipment.

5.5.2 Proposed Action

Under the proposed action, the Port would be able to improve its efficiency in handling cargo, which could reduce time and costs and may help make the Port more competitive with other ports and transportation modes. This would not necessarily result in any increase in the number of barges, the amount of cargo, or the use of the Port as a transportation hub as usage is

largely based on the state of the economy and on unknown market forces. However, reduced operating costs would likely be passed on to the shippers, who may pass some of these cost savings to their customers.

The Port anticipates that the dock expansion would result in increased business, and therefore the Corps is addressing that potential in this EA. Any increase may not exceed the amount of business the Port has experienced in the past – with its current facilities The Port has had more business in the past and the system has the capacity to handle that amount of business. There is no indication that is the maximum amount of business that the current dock facility could accommodate. The level of barge traffic at the Port is currently low compared with levels in the 1990's. From March through July barge use of the dock averages about one barge per week. From August through February barge use is higher, averaging about 1-2 barges using the dock per week. This use can be represented by the amount of cargo currently being handled at the dock. In 2011 the total container cargo handled by the Port with its current dock was 3,653 Twenty Foot Equivalent Unit (TEU's). When the Port was experiencing higher usage in the late 1990's and early 2000's, the number of TEU's handled each year was about 17,000 TEU's (See Port webpage http://www.portoflewiston.com/wordpress/?page_id=69), which is about five times the current amount of cargo. The number of barges needed to handle that level of cargo averaged about 3-4 barges per week (one barge per day on three or four separate days) using the existing dock. If the amount of cargo handled at the Port increased to levels similar to that of ten years ago, the number of barges using the Port's dock could double to 2-4 barges per week. This would not be considered an increase in use but a return to levels that were experienced for several years.

An increase in the number of barges using the Port's dock does not necessarily equate to increased barge traffic and increased environmental effects. Most of the environmental effects are caused by the passing of a tow, not the number of barges. In the Snake River, tows can consist of between one and four barges and each barge can be destined for a different port facility. Four barges per tow is the maximum number that can be accommodated by the locks of the Snake River dams. Additional barges destined for the Port of Lewiston does not necessarily mean more tows, but instead could result in more barges in the tow (up to the maximum of four). Since the proposed dock expansion would allow two barges to be handled at a time, the number of tows could possibly be reduced as one tow could pick up or drop off both barges at one time instead of making two separate trips.

The purpose of the Port's proposed project is to increase efficiency and safety of dock operations. Any increase in cargo handled would be the result from market/economic forces. Even if an increase in barge traffic and/or increase in cargo can be linked to the dock expansion, such an increase is not expected to result in significant impacts. The existing dock handles containerized and break bulk cargo and the majority of the cargo is exported – barges bring empty containers upstream to the Port and take filled containers downstream. Cargo to be exported is brought in to the Port primarily via truck. Of that cargo, about 90% is shipped out on barges with the remaining cargo shipped out via rail (Dave Doerinsgfeld, Port Manager, personal communication, April 9, 2012). Historically the transportation system supporting Port activities handled 3-5 times the amount of cargo currently being handled, so any increase in the amount of

cargo up to that historic level would not represent an increase in the capability of the system or an increase in impacts to that system.

There are multiple transportation routes that could be used to haul any of the cargo that would be loaded or off-loaded at the Port - no specific transportation route has been identified for any of the cargo. Both U.S.Highway 12 and 95 are already being used for cargo that is currently moving through the Port, including oversize loads. Use of the highways for transporting materials and equipment is regulated by the respective state transportation departments. Any use of the highways would need to comply with the applicable requirements, restrictions, and permits.

If the Port experiences an increase in cargo from what is being shipped currently, there could be an increase in rail traffic. However, as noted above, the transportation system has historically handled up to five times the amount of cargo that is currently being shipped. Also, rail is used for shipping out only about 10% of that cargo.

The amount of barge traffic using the expanded dock would be dictated by the economy and market forces. Shipment by barge is more fuel efficient than shipment by rail or truck, therefore if fuel prices continue to rise, there could be more shipment of bulky or oversized cargo by barge. However, this could occur regardless of the proposed expansion of the Port's dock. The Corps was unable to identify any methodology to determine the effect of potential increased barge traffic on use of Interstates 84 and 90 resulting solely from the dock expansion. Any increase or decrease in the use of other transportation modes caused by the dock expansion would not be expected to be great.

The types of cargo that could be handled by the Port would not be expected to change. The expanded dock would make it easier for the Port to handle the loading or off-loading of large, oversized, and RO/RO cargo. The Port has off-loaded this type of equipment in the past using the existing dock. For example, the Port has received and unloaded nine barges (36 modules) of large/oversized cargo (commonly referred to as "megaloads") of equipment for the petroleum industry. The Port has informed the Corps that existing contracts for such cargo have been completed and no further contracts for that type of equipment are in place. Any future contracts are not reasonably certain to occur.

Developing the additional 2.1 acres of storage area would have a minor effect on increasing the Port's ability to store cargo and equipment. The Port has already constructed a new seven (7) acre storage area (on Port property) adjacent to the proposed 2.1 acre storage area.

5.6 Cultural Resources

The current project area is located just over one mile upriver from the confluence of the Clearwater River and the Snake River. The Snake-Clearwater river confluence has been occupied at least since the onset of the Holocene up to modern times based on evidence from nearby archaeological sites. The immediate project area has been identified as containing archaeological site remains based on ethnographic data concerning the location of a former Nez Perce village. That information has never been confirmed by archaeological testing. However,

the project area is primarily located on areas formerly used for upland disposal of dredged material.

5.6.1 No Action

The no action alternative would not result in effects to cultural resources. While the original development of the Port's facilities may have impacted cultural resources, the continued operation of the facilities is not anticipated to result in any additional effects.

5.6.2 Proposed Action

Implementation of the proposed action would also not result in significant impacts to cultural resources. Both the dock expansion and the development of the gravel storage area would occur entirely on land that has been used for upland disposal of dredge material. Plans on file at the Corps indicate that soils within the area of the expanded gravel storage yard are approximately eight feet deep, and soils within the area of the expanded dock are even deeper. All of this proposed work would occur completely within areas of fill, so it has no potential to impact previously undisturbed deposits associated with possible archaeological sites in the area.

The in-water portion of the proposed dock expansion would have no impacts to cultural resources. The driving of sheet pile, and the relocation of an existing mooring dolphin are not anticipated to affect archaeological deposits. Pre-inundation surveys have identified no known inundated archaeological sites adjacent to the proposed in-water work. Furthermore, pre-inundation photos indicate significant alteration of the Clearwater River channel in the vicinity of the dock expansion, and the area has been dredged in the past.

The amount of barge traffic accessing the dock would have no direct effect on cultural resources. Tows can indirectly create shoreline erosion through wave action, but an increase in the number of barges would not necessarily result in an increase in the number of tows. Much of the lower Snake River shoreline is armored with riprap, which limits erosion. If shoreline erosion affects cultural resource sites, the Corps could be expected to take action similar to what it has taken in past years at several sites along the river to prevent further erosion. Any increase in barge traffic associated solely with the dock expansion is not expected to increase such remedial actions. The shoreline of the Clearwater River in the vicinity of the Port is already armored with riprap, so no erosion would be expected.

Channel maintenance has the potential to affect cultural resources, however the dock expansion itself would not result in any increased channel maintenance. Any channel maintenance needed in the future would be limited to those areas previously disturbed. Any disposal of dredged material would be designed to avoid affecting known cultural resource sites.

The proposed expansion of the Port of Lewiston dock and development of the gravel storage yard would not significantly alter current port operations, nor would it result in increased visual or auditory impacts that might affect traditional cultural values of significance to local Native Americans.

5.7 Cumulative Effects

Cumulative effects are defined as "the impact on the environment which results from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions." Analysis of cumulative effects focuses on issues that are relevant to the decision to be made and are "truly meaningful" (CEQ 1997), (i.e., important issues of national, regional, or local significance). The Corps reviewed comments received on the Regulatory Office Public Notice for this project, input from other related environmental compliance efforts, input from the public and agency review of this EA and the accompanying draft Finding of No Significant Impact (FONSI), and input from technical staff to determine which resources should be included in this analysis. The Corps considered potential cumulative effects for the affected environment, but identified only one resource in the region, the aquatic environment, as being relevant to the decision and truly meaningful.

The aquatic environment in the lower Clearwater River has been affected by almost 40 years of modification and use since the construction activities began for Lower Granite Dam. The Corps cleared the shoreline along the Clearwater River and constructed levees to prevent the adjacent land from being inundated by the reservoir created behind the dam. This eliminated riparian habitat and replaced it with riprap. The Clearwater River in this location is now part of a slackwater pool, changing the aquatic habitat from riverine to reservoir. Port and industrial facilities have developed along the shoreline and resulted in the construction of berthing structures. Historically, the Corps has performed periodic maintenance dredging to provide for commercial navigation and flow conveyance. This dredging has removed sediment and the associated benthic organisms in the sediment. Recreational boaters and commercial watercraft (tour boats, tugs with barges) routinely pass through the area year-round.

Regarding reasonably foreseeable future actions, the Corps is not aware of any future actions/projects in the immediate vicinity of the Port, aside from possible channel maintenance actions already discussed in this EA. The port and industrial use of the area would be expected to continue. The Corps is aware of a similar dock expansion project being proposed for the Port of Wilma, which is located on the right bank of the Snake River about 5 miles downstream of the Port of Lewiston. That project would involve a 60' extension to an existing dock. The Corps can assume the purpose of that dock extension would be to provide for the more efficient handling of cargo and could potentially result in an increase in barge traffic on the Lower Snake River. That dock is used primarily for the export of break-bulk cargo and heavy equipment, but import of such cargo is also possible. There are no petroleum products loaded/offloaded at that dock. (Debbie Snell, property manager, Port of Wilma, personal communication, April 13, 2012). The potential environmental effects from that dock expansion, if it occurs, would be expected to have similar minor effects on the aquatic environment as the dock expansion at the Port of Lewiston. Neither the Federal channel near the Port of Wilma nor the port berthing area have been experiencing sediment deposition that interferes with navigation, so no channel maintenance actions are likely needed in the foreseeable future. The Port of Wilma dock expansion is not located on Corps managed Federal land, but the Port of Wilma would be required to obtain a Section 404/10 permit from the Corps' Regulatory Office in Seattle, WA.

The potential incremental effects to the aquatic environment resulting from the proposed action, when added to other past, present, and reasonably foreseeable future actions, is not expected to be significant.

6. ENVIRONMENTAL REVIEW REQUIREMENTS

6.1 Federal Statutes

6.1.1 National Environmental Policy Act (NEPA)

This Environmental Assessment is being prepared and circulated to agencies and the public for review and comment pursuant to the requirements of the Act. Full compliance with NEPA will be achieved when the other environmental review requirements have been concluded and the final FONSI, if one is determined to be appropriate, is signed.

6.1.2 Clean Water Act

Discharge of fill material below the line of ordinary high water in the waterway requires evaluation under Section 404 of the Act. The Port has requested a Department of the Army Permit from the Corps under Section 404. The Corps will make a final decision on the permit concurrently with the completion of the environmental compliance for the easement use approval.

Idaho Department of Environmental Quality issued Section 401 Water Quality Certification to the Port on February 6, 2012 for the proposed project.

Storm water is being addressed through the City of Lewiston and their application for an NPDES permit for storm water discharges.

6.1.3 Endangered Species Act (ESA)

The Corps is referencing the ESA consultations performed for the issuance of the Section 404/10 permit and is not performing separate ESA consultation for granting approval to use the easement areas. The contractor for the Port prepared a Biological Assessment (BA) that was modified several times, the final version of which was dated August 29, 2011. As discussed in Section 5.4, the BA concluded the proposed project "*may affect, and is likely to adversely affect*" Snake River fall Chinook salmon and Snake River Basin steelhead, and critical habitat for those species as well as Columbia River bull trout. The BA also concluded the proposed project "may affect, but is not likely to adversely affect" Columbia River bull trout. The BA also stated there would be short-term, localized, transient effects to Essential Fish Habitat.

The Corps requested formal consultation with USFWS and NMFS. USFWS issued a Biological Opinion and concurrence on January 4, 2012. NMFS issued a Biological Opinion on March 28, 2012.

6.1.4 National Historic Preservation Act (NHPA)

The Corps is referencing the NHPA consultation performed for the issuance of the Section 404/10 permit in regard to the expansion of the existing dock. The Corps' Regulatory office consulted with the Idaho State SHPO and conducted public meetings with Tribes and other interested parties. This consultation resulted in a response from the Idaho SHPO on July 25, 2011(Appendix E) stating that "No additional investigations are recommended; project can proceed as planned", and that "No historic properties will be affected within the project area".

The Corps has completed archaeological testing and a determination of effect pursuant to 36 CFR Part 800 for the proposed expansion of an existing gravel storage yard. The testing, along with research of Corps files identified that the entire area containing the proposed gravel yard expansion was an upland dredge fill area. The fill is as much as eight feet deep in places, so the determination was made that the proposed gravel yard expansion would result in *no historic properties affected*. This determination was forwarded on or about February 13, 2012 to the Idaho SHPO, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Colville Reservation, and the Wanapum. The Corps received a response from the Idaho SHPO dated March 9, 2012 stating "No additional investigations are recommended; project can proceed as planned", and "No historic properties will be affected within the project area". The Corps received concurrence from the Confederated Tribes of the Colville Reservation. The Nez Perce Tribe comments were addressed as part of the Government to Government consultation performed on April 2, 2012. The Corps did not receive any other responses.

6.2 Executive Orders

6.2.1 Executive Order 11988, Flood Plain Management, May 24, 1977

This project would not change the flood plain nor encourage development within the floodplain.

6.2.2 Executive Order 11990, Protection of Wetlands, May 24, 1966

This project would not adversely affect the wetlands located within the storm water retention pond.

6.3 Executive Memorandums

6.3.1 CEQ Memorandum, August 10, 1980, Interagency Consultation to Avoid or Mitigate Adverse Effect on Rivers in the Nationwide Inventory.

This segment of the Clearwater River is not included in the inventory of wild and scenic rivers.

6.4 State Permits

6.4.1 Idaho Stream Alteration Permit

The Port would not need to obtain a Stream Alteration Permit from the Idaho Department of Water Resources as the work would occur within a port district.

7. CONSULTATION AND COORDINATION

The Corps distributed the EA and draft FONSI for a two week review which was extended for another two weeks. The Corps received a total of 57 e-mail messages or letters, of which 18 were requests for an extension in the comment period. Of the remaining 39 messages, one stated they had no comment, one provided information in support of the proposed action, and 37 were opposed to the proposed action. The Corps also received copies of 18 letters sent to the Port of Lewiston (Port) supporting the dock expansion project.

The District Commander discussed this project with the Nez Perce Tribe Executive Council (NPTEC) during meetings in November 2011 and February 2012. Additionally, the District Commander met with NPTEC on April 2, 2012 for Government-to-Government consultation to specifically discuss this project and the Tribe's comments on the EA and draft FONSI.

This revised EA is being distributed to the public and agencies for information and is also available through the Walla Walla District Corps of Engineers web site at www.nww.usace.army.mil/LewistonDock/default.asp.
The distribution list includes the following:

Federal Agencies
U.S. Fish and Wildlife Service
National Marine Fisheries Service
Environmental Protection Agency

Idaho State Agencies
Idaho Department of Fish and Game
Idaho Department of Environmental Quality
Idaho Department of Water Resources
Idaho State Historic Preservation Office
Idaho Transportation Department

Local Governments
Nez Perce County
City of Lewiston
Port of Lewiston

Tribes
Confederated Tribes and Bands of the Yakama Nation

Confederated Tribes of the Colville Reservation
Confederated Tribes of the Umatilla Indian Reservation
Nez Perce Tribe
Wanapum Band

Other
Pacific Northwest Waterways Association

Opportunities for public and agency review and comment was also provided through the Corps' Regulatory Office permitting process. The Corps released a Public Notice on June 13, 2011 regarding the Port's request for a Section 404/10 permit. The Corps held a public hearing on October 19, 2011 and took comments on the project.

8. REFERENCES

Anglin, D.R., W.J. Ambrogetti, and C.L. Burley. 1979. A preliminary study to determine feasible methods of harvesting adult lamprey in the Columbia River, U. S. Fish and Wildlife Service, Vancouver, WA.

Arnsberg, B.D., W.P. Connor, and E. Connor. 1992. Mainstem Clearwater River study: assessment for salmonid spawning, incubation, and rearing. Final Report to Bonneville Power Administration, Contract No. DE-B179-87BP37474.

Arnsberg, B., A. Garcia, P. Groves, D. Milks, and R. Mueller. 2011. 2010 Snake River Fall Chinook Salmon Spawning Summary. Bonneville Power Administration Reports.

Arnsberg, B. and J. Hessee. 2012. Summary of juvenile fall Chinook use of the Lower Columbia River. Memorandum to Dave Johnson. Nez Perce tribe Department of Fisheries Resource Management. Research Division.

Bailey, P. 2008a. Vascular Plant Survey for Upper Snake River, WallaWalla District, Washington. Environmental Laboratory, U.S. Army Engineer Research and Development Center. Vicksburg, MS.

Bailey, P. 2008b. Vascular Plant Survey for Lower Snake River, WallaWalla District, Washington. Environmental Laboratory, U.S. Army Engineer Research and Development Center. Vicksburg, MS.

Bennett, D.H., M. Madsen , and T.J. Dresser, Jr. 1997. *Habitat use, abundance, timing, and factors related to the abundance of subyearling chinook salmon rearing along the shorelines of lower Snake River pools*. Completion report to the U.S. Army Corps of Engineers, Walla Walla District prepared by University of Idaho, Department of Fish and Wildlife Resources. Walla Walla: U.S. Army Corps of Engineers.

BLM (U.S. Bureau of Land Management). 2000. Clearwater River, North Fork Clearwater River, and Middle Fork Clearwater River subbasins. Biological Assessment of ongoing

and proposed Bureau of Land Management activities on fall Chinook salmon, steelhead trout, bull trout, and BLM sensitive species. Bureau of Land Management Upper Columbia-Salmon Clearwater District, Cottonwood Field Office, Cottonwood, Idaho. March 2000.

Birtwell, I. K. 1999. The effects of sediment on fish and their habitat. Fisheries and Oceans Canada. Research Document 99/139. Ottawa 1999.

Connor, W.P., J.G. Sneva, K.F. Tiffan, R.K. Steinhorst and D. Ross. 2005. Two alternative juvenile life history types for fall Chinook salmon in the Snake River Basin. American Fisheries Society. 134: 291-304.

Connor, W, B. Arnsberg, S. Smith, D. Marsh, and W. Muir. 2009. Post release performance of natural and hatchery subyearling fall Chinook salmon in the Snake and Clearwater rivers. 2008 Annual Report of Projects 1983350003, 199102900, and 19980104 to the U.S. Army Corps of Engineers and Bonneville Power Administration, Portland Oregon.

Close, D.A., M. Fitzpatrick, H. Li, B. Parker, D. Hatch, and G. James. 1995b. Status report of the Pacific lamprey *Lampetra tridentata* in the Columbia River Basin. U.S. Dept. of Energy. Bonneville Power Administration.

Council on Environmental Quality (CEQ). 1997. Considering Cumulative Effects under the National Environmental Policy Act. [Washington, D.C.]: The Council.

Curet, T.D. 1993. Habitat use, food habits and the influence of predation on subyearling chinook salmon in Lower Granite and Little Goose pools, Washington. Master's thesis, University of Idaho.

Gray, K., Juanita Lichthardt. 2004. Spalding's Catchfly (*Silene Spaldingii*) Monitoring, Craig Mountain, Idaho: 2nd Year Results. Idaho Conservation Data Center, Idaho Department Of Fish And Game, Boise, Idaho

Good, T.P., R.S. Waples, and P. Adams (editors). 2005. Updated status of federally listed ESUs of West Coast salmon and steelhead. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS-NWFSC-66, 598 p. http://santacruz.nmfs.noaa.gov/files/pubs/00749.pdf

Hill, J. L., and K.L. Gray. 2004. Conservation Strategy for Spalding's catchfly (*Silene* spaldingii Wats.). Idaho Dept. of Fish and Game Conservation Data Center and U.S. Fish and Wildlife Service. Boise, Idaho. 150 p.

Idaho Department of Fish and Game. 2005. Idaho Comprehensive Wildlife Conservation Strategy. Boise, ID. http://fishandgame.idaho.gov/cms/tech/CDC/cwcs.cfm.

Idaho Department of Fish and Game. 2011. The Status of Pacific Lamprey (*Entosphenus tridentatus*) in Idaho. Boise, ID. https://research.idfg.idaho.gov/Fisheries%20Research%20Reports/mgt999-040Grunder2011%20The%20Status%20of%20Pacific%20Lamprey.pdf

Lesica, P., and B. Heidel. 1996. Pollination biology of Silene spaldingii. Unpublished report to Montana Field Office of The Nature Conservancy. Montana Natural Heritage Program, Helena, Montana. 16 p

NWPPC (Northwest Power Planning Council). 2004. Snake Hells Canyon Subbasin Assessment. Prepared for the Northwest Power Planning Council. May, 2004.

PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and identification of essential fish habitat, adverse impacts, and recommended conservation measures for salmon. Pacific Fishery Management Council, Portland, Oregon. March. Available at: http://www.pcouncil.org/salmon/salfmp/a14.html

Pletcher, T.F. 1963. The life history and distribution of lampreys in the Salmon and certain other rivers in British Columbia, Canada. Master‖s Thesis. University of British Columbia, Vancouver, B.C., Canada.

Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires. 2000. The scientific basis for lynx conservation: qualified insights. Pages 443-454 *in* L.F. Ruggiero, K.B Aubry, S.W. Buskirk, et al. Ecology and conservation of lynx in the contiguous United States. University Press of Colorado, Boulder.

Simpson, J.C., and R.L. Wallace. 1982. Fishes of Idaho. University of Idaho Press. Moscow, ID.

State of Idaho. 2009. Federal threatened and endangered species in Idaho. [Online]. Available at www.species.idaho.gov (accessed 22 FEB 2009) Idaho Governor's office of conservation. Boise, ID.

U.S. Army Corps of Engineers. 2009. Pacific lamprey passage improvements implementation plan 2008 – 2018. Final Report. Portland District, Portland, OR.

USFWS (U.S. Fish and Wildlife Service). 2011. Species profile: North American wolverine (*Gulo gulo luscus*). Environmental Conservation Online System. Available at: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0FA

U.S. Fish and Wildlife Service. 2010. Bull Trout Final Critical Habitat Justification: Rational for Why Habitat is Essential, and Documentation of Occupancy. U.S. Fish and Wildlife Service, Portland, Oregon, 979pp plus appendices

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Finding for Above-Numbered Permit Application

This combined decision document contains the Environmental Assessment, 404(b)(1) Guidelines Evaluation, Public Interest Review, and Statement of Findings.

1. Application as described in the public notice.

APPLICANT: Port of Lewiston (POL), 1626 6th Avenue North, Lewiston, Idaho 83501

WATERWAY & LOCATION: Clearwater River, at the existing POL facilities within the City of Lewiston, near US Highway 12 in the Northeast ¼ of the Northwest ¼ of Section 31, Township 36 North, Range 5 West, Boise Meridian, Washington-Clarkston, USGS Quadrangle, Nez Perce County, Idaho.

LATITUDE & LONGITUDE: Latitude North: 46.4247 degrees
Longitude West: -117.0163 degrees

PROJECT PURPOSE

- Basic: Construct a dock expansion and storage area.

- Overall: Increase efficiency of the POL operations by constructing a dock and storage areas which would allow berthing of multiple barges and accommodate loading, unloading, and storage of oversized cargo. Through the public notice and comment period, public hearing, and site visits the Corps has also identified improved safety as a purpose for the project.

- Water Dependency Determination: Construction of a dock to off load sea-going barges is by nature a water dependent activity, particularly as it is occurring in waters designated as Section 10 Waters for navigability. The graveled storage area is not a water dependent activity.

PROPOSED WORK:

Avoidance and Minimization Information: The dock expansion by its nature is a water dependent activity. There is no alternate location that would avoid impacts to waters of the U.S. Additionally, since the project involves the expansion of an existing facility, relocating the dock to alternate locations would lead to additional new impacts instead of incremental impacts at the current location. The graveled storage area would be built in an area that has been heavily impacted by construction of the levee and the existing POL. Alternative locations would likely cause greater damage than what would occur at the existing facility. Again, as above, because this is an expansion at an existing facility alternate locations

would involve re-constructing the POL or elements of the POL at a different location or would lead to increased transportation costs to move cargo to and from an off-site storage facility. Alternate locations for the dock expansion and the graveled storage area are not considered practicable alternatives because they would not result in less environmental damage, would be cost prohibitive, and would not meet the project purpose.

The POL has proposed to minimize project impacts associated with the dock expansion by implementing the following: timing construction of the expansion to minimize impacts to listed fish species; sequencing construction such that sheet piling will form a contained cell separating the work/fill area from open water, thus reducing turbidity/water quality impacts; use of a vibratory hammer to install the sheet piling which will reduce underwater noise impacts to listed fish and the fishery in general; construction of a stormwater collection and treatment facility; and retrofitting the surfacing on the old dock section so stormwater from the old and new dock can be collected by the stormwater system.

The POL has also proposed to minimize additional impacts associated with the graveled storage area by locating it on previously filled and disturbed upland areas adjacent to and expanding an existing graveled storage area. The proposed location for the additional storage area contains no woody vegetation and is covered by weedy herbaceous vegetation.

COMPENSATORY MITIGATION: The POL has not proposed compensatory mitigation. It is noted the POL has made efforts to reduce and minimize impacts associated with the project as described above. Impacts associated with the expansion will result in a loss of approximately 0.12 acres of open water habitat. This habitat is severely degraded due to past construction of levees and the POL. It is also impacted by on-going dredging to maintain shipping. There is no riparian vegetation along this section of the river. The riparian corridor at the project location consists of rip rapped bank associated with the flood control levee. Because of the relatively minor nature of the impacts and the degraded quality of the impacted water, the Corps has determined that compensatory mitigation is not required for the project.

EXISTING CONDITIONS: The proposed project is in conjunction with an existing commercial dock facility. The POL was formed in 1958. The Lewiston-Clarkston Levees were constructed as part of water protection works in accordance Public Law 79-14. The existing dock and attendant features are on Corps fee title land acquired for the construction of Lower Granite Dam. The dock and attendant features were constructed to accommodate transport of agricultural and natural resource exports, which were the primary business opportunity in this community. The POL is managed by a board of commissioners elected by the citizens of Nez Perce County. Construction of a graveled storage area will also be on a disturbed area impacting approximately 2 acres of Corps fee title land. The POL is responsible for maintenance dredging in and around the immediate port area.

2. Authority.

☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403).
☒ Section 404 of the Clean Water Act (33 U.S.C. §1344).
☐ *Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C.*

1413).: NOT APPLICABLE IN IDAHO

3. Scope of Analysis.

a. NEPA. *(Write an explanation of rationale in each section, as appropriate)*

(1) Factors.

(i) Whether or not the regulated activity comprises "merely a link" in a corridor type project. Although not a "link" in the traditional use of the term, the POL is vital in providing an intermodal link along various corridors utilizing various forms of transportation including barge, rail, and road.

(ii) Whether there are aspects of the upland facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity. As stated previously the levee is a federal levee built and managed by the US Army Corps of Engineers. The dock and certain attendant features are on land acquired by the Corps as part of the Lower Granite Lock and Dam project authorized by the Rivers and Harbors Act of 1945; therefore, the upland portions of the project are mostly under Federal control and responsibility. It will be necessary for the project to comply with requirements the Corps may impose in upland areas related to Real Estate and Section 408 reviews.

(iii) The extent to which the entire project will be within the Corps jurisdiction. As stated previously; the levee, portion of the storage area, and all in water work are within Corps jurisdiction.

(iv) The extent of cumulative Federal control and responsibility. Based upon the above facts and as this project is an expansion of an existing port on a Section 10 waterway it is determined that there is enough Federal control and responsibility (under regulation and ownership) on site for the Corps to consider under its review the entire proposed action, namely the dock expansion and construction of the graveled storage area.

(2) Determined scope.
☐ Only within the footprint of the regulated activity within the delineated water.
☒ Over entire property. *See a(1)(iv) above.*

b. NHPA "Permit Area".

(1) Tests. Activities outside the waters of the United States ☒are/☐are not included because all of the following tests ☒are/☐are not satisfied: Such activity ☐would/ ☒would not occur but for the authorization of the work or structures within the waters of the United States; Such activity ☒is/☐is not integrally related to the work or structures to be authorized within waters of the United States (or, conversely, the work or structures to be authorized must be essential to the completeness of the

overall project or program); and Such activity ☒is/☐is not directly associated(first order impact) with the work or structures to be authorized. The portion of the dock expansion occurring in upland would not be built, but for authorization/permitting of the in-water portion, therefore the upland portion of the dock expansion should be considered part of the permit area. However, this is not true for the graveled storage area as the POL plans to construct it irrespective of whether or not structures and work within waters of the United States is authorized.

c. Determined scope. The permit area would include both upland and in-water impacts associated with construction of the dock expansion. Additionally, the Corps considers the graveled storage area part of the review area since approximately 2-acres of the storage pad would be on Corps land.

d. ESA "Action Area".

(1) Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

(2) Determined scope. *The action area would include the area of direct impacts associated with in-water work as well as upland impacts occurring on and near the existing levee. Additionally, indirect impacts could include a zone of sedimentation in the river (~984 feet from the active work site), underwater noise (~ 6miles downstream and ~1 mile upstream), and terrestrial noise (~1600 feet from the active work site). These distances are based on literature, manuals, and studies referenced in the POL's Biological Assessment revised dated 19-Jul-2011 prepared for ESA consultation.*

e. Public notice comments. ☒ Public Notice Comment Periods ran from 22-Jun-2011 – 22-Jul-2011 and from 22-Jul-2011 – 22-Aug-2011 for a total of 60 days. The public hearing comment period ran from 16-Sep-2011 – 29-Oct-2011 for a total of 45 days. Total comment period was 105 days. A separate EA was prepared for the 408 review and the real estate instrument, which include an additional comment period of 28 days.

(1) The public also provided comments at ☒public hearing, ☐public meeting, and/or ☒ *Explain.* Several commentors requested a public hearing based on controversy and cumulative impacts. The public hearing was held on October 19, 2011 in Lewiston, Idaho near the site of the proposed project.

(2) Comments and issues raised. Comments were coded based on the comment period, i.e. when the comments were received (I=Initial, E=Extended, H=Hearing. The comments were also given a number based on the chronological order received.

Name	Issue
Comment 1. I1, I2, I3, I4, I5, I6, I9, I10, I11, I12, I13, I14, I16, I17, I18, I20, I22, I23, I24, I25, I1, I2,	**Issue**: Extend the comment period. **Corps Response**: The Public Notice Comment period was extended thirty days running from 22-Jun-2011 to 22-Aug-2011 for a total of 60 days. Additionally there was a comment

I3, I4, I5, I6, I9, I10, I11, I12, I13, I14, I16, I17, I18, I20, I22, I23, I24, I25, I26, I27, I28, I29, I30, I31, I32, I33, I34, I35, I36, I37, I39, I40, I42, I43, I44, I45, I46, I47, I48, I51, I52, I55, I57, I63, I69, I70, I72, I73, I74, I76, I77, E2	period associated with the Public Hearing that ran from 16-Sep-2011 to 29-Oct-2011 for a total of 45 days. The public was provided substantial opportunity to comment on the project.
Comment 2 I39, I41, I42, I47, I48, I51, I52, I67, I72, I76, I77, I79, E1, E2, E4, E6, E8, E10, E12, E16, E18, E21, E22, E26, E27, E28, E30, E31, E35, E36, E40	**Issue:** A public hearing(s) needs to be held. **Corps Response:** The Corps held a public hearing regarding the project in Lewiston, Idaho on October 19, 2011.
Comment 3 I20	**Issue:** The State of Idaho is "ramrodding" the Port of Lewiston expansion through without appropriate notification and comment period. **Corps Response:** Noted.
Comment 4 I21, I42, I49, I51, I54, I55, I57, I59, I61, I62, I63, I67, I69, I72, I73, I74, I78, E2, E3, E4, E6, E8, E16, E18, E21, E23, E28, E31, E32, E35, E36, E40, E55	**Issue:** Use of taxpayer dollars to fund the POL expansion is wasteful given legal challenges, decline in shipping, etc. Expansion should not be permitted pending legal challenges, i.e. transport of oversized loads on US Hwy 12. **Corps Response:** The funding source is not a factor that the Corps considers in its permit decision and is beyond its scope of authority. The pending legal challenges are also not germane to the Corps decision. The pending legal challenges focus on use of US Hwy 12 as a corridor for oversized loads. The Corps has determined that the POL's proposed project is for multiple purposes. Even if the court cases are decided such that they preclude use of US Hwy 12, the POL has shown a need for the proposed project, including safety and efficiency of operations at the POL.
Comment 5 E43, E49, E57, E58,	**Issue:** The proposed expansion will improve safety/efficiency at the POL. The proposed expansion will allow the POL to

E59, E60, E63, H1, H2, H4, H7, H8, H9	meet modern needs. **Corps Response:** It appears that the project would improve safety by providing additional work space and efficiency by reducing turn-around times or the amount of time it takes to load and unload barges, tug standby time and providing the POL with the ability to handle multiple barges concurrently. The second issue/comment is more difficult to judge given that the POL's future business circumstances is a forecast based on assumptions and variables that provide an estimate based on current information. **POL's Response**: The primary purpose of the dock extension is to increase the efficiency, safety, and productivity of dock operations. The original 120-ft container dock has served the POL for over 30 years. The Port of Lewiston and regional economy has grown beyond the capacity of the existing dock. Since 2001, container volumes exported from the Port of Lewiston have averaged over 9,000 containers per year. Container handling by dock workers requires reductions in operational efficiency to maintain safety because of the limited dock area (approx. 5,500 square feet). Scheduling import and export containers is not efficient when only one barge can be moored and worked by dock labor. The project provides additional space for workers and allows the mooring of two barges thereby increasing productivity and efficiency of existing operations as well as reducing the need for tug standby time. In addition, the dock extension project includes stormwater management components that enhance the POL's environmental stewardship. The project is not being undertaken to allow for the POL to conduct new cargo handling activities. The POL already handles containers and break bulk cargo (non-containerized cargo, large equipment, paper pulp, etc.). The dock extension will allow the POL to handle such cargo in a safer manner while using less energy. Port of Lewiston is the most inland port on the Columbia/Snake River System. Tug companies generally deliver barges from Portland, OR. A tug will travel approximately 350 miles to Lewiston, ID to drop off a container barge at the dock and return to Portland, OR. The next tug bringing a barge may not return for four days. Dock labor can complete the discharge and loading of containers on a barge in approx. 10-hrs. Upon completion of the work, laborers must wait several days for a tug to return and deliver the next barge so work can resume. Additionally, the POL has experienced shortages of containers for customers

	because an adequate supply could not be delivered to a single berthing area. A dock extension will provide a berthing area for two barges. The advantages include: • Dock berth capacity is doubled. • The efficiency of scheduling container supply is greatly improved. • Dock labor workload can be spread throughout the week. • A safer working environment. • Water quality improvement from installation of permanent stormwater treatment system. • Tug standby and maneuvering time is greatly reduced. • Increase import/export opportunities for break bulk cargo. • The efficiency and productivity of operations allows the POL to be competitive in today's transportation market. All container traffic leaving the Port of Lewiston is bound for international markets. The dock extension will improve the accessibility of U.S. agricultural, timber and manufacturing industries to export markets. Improvements will allow the region to capture opportunities and maximize efficiencies as the economy improves.
Comment 6 I38, E42, E49, E50, E57, E58, E59, E60, H3, H5, H8	**Issue:** POL expansion will provide/maintain jobs. **Corps Response:** It is expected there will be a short term increase in jobs during project construction. The POL estimates that the proposed expansion project would result in the retention of existing employees. The POL's continued operation also supports retention and potential growth in local jobs related to agriculture and other products that are exported. While direct employment benefits are expected to be relatively minor, the proposed dock expansion will likely contribute to additional employment in the future.
Comment 7 I38, E11, E41, E42, E43, E47, E49, E50, E51, E54, E56, E57, E59, E60, E61, E62, H1, H2, H3, H4, H5, H7, H8, H9	**Issue:** POL expansion will be good for local and regional economies. **Corps Response:** Based on comments made during the public notice period, testimony given during the public hearing, and information supplied by the POL, it appears that the POL is a substantial component of the local and regional economy. The POL provides a cost effective means to export the region's products (agricultural, wood, paper, etc.). Transport of freight by barge is shown to be cheaper than by either train or truck. The continued operation of the POL appears to be an important factor in the export of local and regional products and the health of the businesses producing those products.

	POL's Response: As Idaho's only seaport, numerous individuals, businesses and organizations depend on the Port of Lewiston for their import/export needs. Several organizations have stated their support for the dock extension by letter or testimony at the Lewiston Public Hearing. Some of these organizations include: Idaho Wheat Commission, State of Idaho Transportation Department, Idaho Barley Commission, Clearwater Paper Corporation, Idaho Grain Producers Assn., Lewis-Clark Terminal Inc., Idaho Farm Bureau Federation, City of Lewiston, ID, US Wheat Association, Lewiston Chamber of Commerce, USA Dry Pea and Lentil Council, Lewis Clark Valley MPO, State of Idaho Department of Commerce, State of Idaho Legislative District 7 Legislators. Idaho's economy is primarily a natural resource based economy. Agriculture and timber industries provide the vast majority of Idaho's employment and the vast majority of export products from the State of Idaho. The Columbia/Snake River system is Idaho's connection to exporting agriculture and timber products to world markets. For example: • Approximately 90% of white wheat grown regionally is exported. • Approximately 90% of peas and lentils grown regionally are exported. • A large percentage of Idaho's agriculture products are shipped through the POL of Lewiston. These markets are expected to grow significantly in the future. Competitive transportation markets require that the POL be as operationally flexible as possible. As Idaho's only seaport, the Port of Lewiston is a critical asset to the State's economy. The dock extension will increase the efficiency and productivity of port operations and keep the POL competitive in the future. Container volumes over the past five years have decreased due to impacts stemming from the national economic recession. The Port of Lewiston historically provides over 60% of the export container volume of inland ports on the Columbia/Snake River System. The ten year average for container export volume from the Port of Lewiston is 9,239 twenty foot equivalent units (TEU's) per year. The five year average is 7,805 TEU's per year. Over the past ten years, export container volume has been as high as 14,880 TEU's and as low of 4,061 TEU's. As the U.S. economy improves, the Port of Lewiston expects export volumes to return to pre-recession levels and forecasts steady future growth.
Comment 8	**Issue:** There is no need for the POL expansion given declines

I21, I51, I54, I55, I61, I62, I63, I73, E2, E3	in shipping over the last couple of years. **Corps Response:** Arguments supporting a need for the expansion as well as those indicating that there isn't a need have been presented to the Corps. Some comments cite declines in shipping over the last several years. Others cite safety, improved turn-around times, upgrading to position the POL for future needs, etc. The Corps recognizes export cargo has declined over the last decade. The Corps also recognizes the POL's view that: part of the decline is due to the economic downturn; the purpose of the expansion is to facilitate a more rapid efficient operation to remain competitive; and that the upgrades are needed for safety. Also see POL's response Comment 7.
Comment 9 I42, I59, I62	**Issue:** Fills associated with the expansion would affect river hydrology and increase the risk of flooding to the City of Lewiston. **Corps Response:** This is a two part comment. Part 1: Addresses fills associated with the project that would occur below the ordinary high water mark of the river and potentially affect its capacity. The project would fill approximately 5,500 square feet of river bottom. The river at the project location is approximately 1,000 feet wide. The fill associated with the dock extension represents a very minor impact to the rivers capacity given the river's large size. The Corps has determined that the potential impact is minor to negligible given the size/volume of the river. Part 2: Flood Risk-The Corps has assessed and fully addresses the potential risk of flooding as part of the Section 408 review process. A Section 408 review is necessary as the proposed project would require modification of a federal flood control structure. Prior to any permitting the Section 408 review would be completed and is incorporated by reference in the Corps permit decision document.
Comment 10 I42, I54, I59, I62, E20	**Issue:** The POL expansion would increase the flood risk to the City of Lewiston given existing levels of siltation. **Corps Response:** The POL's proposed dock extension will involve placing fill material behind sheet pile in a closed cell to form the dock extension. There will be minor amounts of sediment generated during construction; however, the construction sequence would preclude any large release of sediment. Additionally, given the river's size this minor

	amount of sediment would have a negligible impact on the river's capacity. Sedimentation and siltation of the river channel is an on-going issue/problem that would not be affected by the POL's proposed project in any substantive manner. Because the POL's project will not lead to any measurable increases in siltation in the river there is no expectation that the POL's project will increase the risk of flooding in the City of Lewiston. The POL's proposed dock extension, once constructed, is not expected to generate increases in silt deposition in the river. Some commentors suggested that the Corps should not make a decision with regard to the POL's proposed project prior to issuing a decision on the Snake River Programmatic Sediment Management Plan (PSMP). The POL's proposed dock expansion is not in an area that the Corps dredges or actively maintains to allow navigation. Additionally as stated above the POL's proposed expansion is not expected to generate an increase in silt deposition in the river. Therefore the Corps has determined that there is no need to wait for completion of the decision on the PSMP prior to making a decision on the POL's proposed project. The Corps has determined that the potential impact associated with this issue is negligible. **POL's Response:** The U.S. Army Corps of Engineers (COE) is responsible for maintaining the federally authorized 14-ft. navigation channel on the Snake and Clearwater Rivers. The navigation channel and turning basin at the Port of Lewiston is well defined by several previous dredging projects undertaken by the COE. The berthing area in front of the dock extension has been dredged as a part of all routine navigational dredging projects commissioned by the COE on the Clearwater River. The Port of Lewiston is responsible for maintaining the barge berthing area. This area is defined as 50-ft. upriver and downriver from existing POL dolphins (or caissons) and 50-ft. out from the dolphins and/or dock. By extending the dock 150-ft., the POL will be responsible for dredging the expanded berthing area instead of the COE. It is important to note that no net additional dredging will be associated with this project because the area in front of the dock extension is already being covered by periodic maintenance dredging. Additionally, the height of the levee system is not affected by the dock extension. The COE is currently evaluating the height of the levee system for flood control purposes. Some comments suggest that the dock extension permits not be issued until the COE issues a Record of Decision (ROD) on the Snake River Programmatic Sediment Management Plan (PMSP). The

	installation of the dock extension is inert and will not affect sedimentation. Future dredging projects will be in accordance with conditions set by the COE and other regulatory agencies.
Comment 11 I42, I51, I54, I59, I61, I62, I63, I67, I73, E2, E3, E24, E27, E64	**Issue:** POL expansion will increase the need for dredging in the river and or should not be permitted until the Corps determines how to handle the issue. **Corps Response:** The Corps is responsible for channel maintenance of the navigation channel in this section of the river. The POL is responsible for maintaining the area around its docks, i.e. the berthing area. Increasing the dock size would not increase the need for maintenance by the Corps. The Corps is already responsible for maintaining the navigation channel and would face no additional maintenance duties as a result of the project's implementation. The project would require the POL to maintain an additional area; however, this area is relatively small given the dock extension is only 150 feet in length. The Corps has determined that the potential impacts associated with this issue are minor to negligible. **POL's Response:** See response Comment 10 above.
Comment 12 I59, I61, I78, E2, E7, E35, E40, E64	**Issue:** POL expansion would impact the fishery. **Corps Response:** The section of the Clearwater River that the project would occur in has been heavily impacted by past development, dredging, and impoundment. The river at this location is also relatively large, i.e. approximately 1,000 feet wide. Because of past impacts and the relative size of the river the POL's proposed expansion is not expected to cause more than minor impacts to aquatic resources at the site, including the fishery. Based on conversations with the Services (USFWS and NMFS) sensitive fish species, such as those listed as threatened or endangered under the ESA use the area primarily as a migratory corridor. The proposed work is expected to have a limited impact on listed species. The Corps has consulted with the USFWS and NMFS to ascertain the level of impacts that may occur to listed fish species and any mitigation necessary to minimize those impacts. The USFWS and the NMFS both issued Biological Opinions with a take statement (see attached). The USFWS issued a BO dated 4-Jan-2012 that included "Conservation Measures" necessary to minimize impacts to the listed species. The USFWS BO was clarified/amended by email dated 18-Jan-2012. The amendment by the USFWS clarified that the project work window was from July 1-September 30. The NMFS issued a

	BO dated 28-Mar-2012. The respective BO's determined that the action would not jeopardize the continued existence of the species' under review, i.e. No Jeopardy. Through special condition, the permittee will be required to comply with the mandatory terms and conditions associated with incidental take contained in the Biological Opinions. **POL's Response:** The proposed dock extension will be accomplished in a manner to minimize environmental effects and in a cost effective manner. During the construction of the dock extension, the project may affect listed fish species and critical habitat in the action area. These construction effects are temporary. The POL is taking actions to minimize effects by utilizing construction methods that abate impacts such as: • In-water construction will occur during the summer months when there are fewer listed fish present in order to minimize impacts on listed fish species. • Use of a vibratory versus impact hammer for pile driving to minimize underwater noise effects. • Using a crane and choker for pile removal. • Installing the least number of piles. • Demolition activities will be sequenced to minimize and contain turbidity when removing the existing mooring dolphin. • Fill will be placed behind the new sheet pile bulkhead and not within the river current to minimize water quality effects. • Installing perimeter stormwater treatment for the dock. The dock extension will impact approximately 5,500 square feet (approximately 0.13 acre) of Salmon, steelhead, and bull trout critical habitat in the river (conversion of rip rap covered sloping shoreline to a vertical sheet pile and fill placed below the OHWM but behind the sheet pile bulkhead) as a result of the dock extension. In addition, the project will gravel a 2 acre site adjacent to the river for storage of cargo, equipment, and materials. This site is within an industrial area and there are no existing trees or natural shoreline, and graveling this yard is not expected to adversely affect critical habitat. Berth maintenance of the 0.13 acre dock extension is not anticipated to result in long term sedimentation or turbidity issues and no additional maintenance dredging will be required. The Corps of Engineers has historically dredged the area in front of the proposed dock extension as part of routine maintenance dredging. Extending the dock is being undertaken to increase the efficiency, safety and productivity of POL operations, including reduced energy consumption. The increase in operational efficiencies will not allow the POL to conduct new

	activities, but will allow the POL to handle containers and break bulk (non-containerized) cargo better by utilizing less energy, and less environmental impact.
Comment 13 I32, I50, I54, I55, I59, I61, I62, I67, I72, I78, E2, E7, E8, E9, E10, E12, E13, E14, E18, E19, E20, E21, E22, E24, E25, E26, E28, E30, E31, E32, E34, E35, E36, E37, E38, E40, E64, H11	**Issue:** POL expansion could impact ESA-listed fish species and recovery efforts. **See Comment Response 12 above**
Comment 14 I38, E11, E39, E57, E58, E61, E63	**Issue:** Environmental impacts associated with the POL expansion are minor. **Corps Response:** This statement is qualitative in nature. It is difficult for the Corps to ascertain what the commentor's meant by minor; however, the comments appear to have been in the context of direct impacts associated with construction of the project. The Corps agrees that the direct impacts associated with the project are minor.
Comment 15 I54	**Issue:** Other local ports with deeper water could better handle oversized loads. **Corps Response:** As stated previously, the purpose of the proposed POL expansion is to improve efficiency and safety for all cargo handling and not just oversized loads. Because this alternative would not meet the project purpose, i.e. it would not increase the efficiency of operations at the POL, it would not allow berthing of multiple barges at the POL, and it would not accommodate the loading and unloading of oversize cargo at the POL, it is not considered further in the Corps evaluation.
Comment 16 I64, E64	**Issue:** The POL expansion may impact Nez Perce cultural resources, particularly a village site near the confluence of the Snake and Clearwater Rivers. **Corps Response:** The Corps has determined it is unlikely the proposed project would impact tribal cultural resources given the vast amount of previous disturbance and past development in the area. By letter dated July 22, 2011 the Idaho State Historic Preservation Office (SHPO) stated "No historic properties will be affected in the project area. After review of the potential village site area of concern it was determined that

	it is likely currently inundated as part of the Lower Granite Dam project. No specific site was identified by the commentor and SHPO did not identify any locations within the permit area of the project. The direct impact of the proposed project is within the footprint of the existing port which has had sediment accumulation and dredging throughout its history. The streambanks in the project area have been riprapped and were developed as part of a Corps flood protection levee. It is highly unlikely given past development in the project area that the proposed project would result in any impacts to cultural resources.
Comment 17 E64	**Issue:** The POL expansion may impact the Nez Perce people's health and welfare. **Corps Response:** The Corps identified only minor impacts associated with the proposed project. Demographic information indicates no differential impact based on cultural, racial or economic factors. In other words, the project would equally affect all residents of any ethnicity or background.
Comment 18 E49, E57, E60, E62, E63, H1, H5, I75	**Issue:** Use of inland port system reduces impacts associated with other forms of freight transportation. General public comment: Rail is the best route to transport freight. **Corps Response:** This comment addresses a potential alternative to waterborne transport of freight and thus an alternative for the proposed project. While this alternative could potentially avoid or minimize impacts associated with the POL's proposed expansion, it would not meet the project purpose. In addition it has been shown that bulk transport is cheaper via barge. As a good portion of the POL's revenue is generated from international cargo, rail is not a feasible alternative to ship freight overseas. Because this alternative would not meet the project purpose, it is not considered further in the Corps evaluation.
Comment 19 E21	**Issue:** Increased boat traffic that might result from the POL's expansion could be dangerous to recreational boaters. **Corps Response:** The proposed project may result in a small increase in waterborne traffic on this section of the river. This increase in traffic may result in a small increase in hazards to recreational watercraft. Given the existing use of this section of river it is anticipated that this increase in risk to recreational watercraft would be negligible. In addition the decrease in tug operations in the local area may reduce interactions between industrial and recreation waterborne traffic.
Comment 20	Issue: Compensatory Mitigation is necessary.

H10	Corps Response: The proposed project would result in approximately 0.12 acres of permanent impacts to open water, aquatic resources, associated with the Clearwater River. The project area is composed of previously impacted industrial area. This section of the river has been dredged, inundated, and the banks riprapped and stripped of woody vegetation. After evaluating the overall size and type of impacts to existing aquatic environment and in accordance with 33 CFR Part 332 (Mitigation Rule), the Corps has determined that the proposed project would have minor impacts to aquatic resources; therefore, compensatory mitigation is not required. Additionally regulations at 33 CFR 320.4(r)(iii)(2) state that "all mitigation will be directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts." Again, because the impacts to aquatic resources are minor (approximately 0.12 acres) and resource is heavily impacted at this location, the Corps has determined that compensatory mitigation would not be appropriate given the scope of impact.
Comment 21 INDIRECT GENERAL COMMENTS	General Issues associated with proposed or perceived impacts to US Hwy 12: Corps Comment: This comment and the following comments (22-34) were related to potential impacts to US Hwy 12 and extraction of oil from Tar Sands in Canada. The comments are considered peripheral to the project being considered for authorization by the Corps. The comments are being addressed for clarification and disclosure purposes only. Impacts to US Hwy 12 due to oversize/megaload transports have occurred in the past and may occur in the future, but these impacts are not changed by the proposed dock expansion. The Corps does not have authority to regulate the type of transport equipment that may be used on Highway routes in Idaho. Special permits including oversize load permits have been and continue to be authorized by the State of Idaho Transportation Department. These State authorizations have been challenged by various organizations in the past and to-date the State decisions have been upheld by the State's administrative review process. Determination on whether the impacts associated with these State special permits to the Wild and Scenic River and Scenic Byway is under the authority of the US Forest Service, State, and the various County and local zoning ordinances. The Corps did not receive comments from any governmental entity which has authority over these designations that would indicate the proposed POL expansion would have adverse impacts to

	these designations or determinations. It has been shown that alternative routes (US 95, Interstate 90) and Ports (Vancouver, Pasco) are available to transport the loads of concern and have been utilized to move these loads (oversized/megaloads) to their destination. Therefore, it is determined that usage of US Hwy 12 oversize/megaloads and the development of the Tar Sands are independent of the proposed POL expansion.
Comment 22 I14, I19, I51, I54, I59, I61, I63, I73, E2, E3, E16, E22, H6	**Issue**: Use of US Hwy 12 as a route for oversized loads is not appropriate given physical constraints and safety concerns. **Corps Response**: The State of Idaho has the responsibility to assess safety prior to issuance of the oversize/megaloads permits. It has been shown that oversize/megaloads have traveled US Hwy 12 in the past and will likely to do so in the future regardless of whether a Corps permit/authorization for the POL expansion is issued. The POL is currently capable of accepting and unloading oversized loads, without benefit of a Corps permit/authorization. Additionally, the Corps has no ability to control how traffic is routed over existing roads. Any current or future oversized loads could be routed along several corridors, i.e. US Hwy 95. The State of Idaho has control and authority to permit or deny access of oversized loads to Idaho's roadways. If loads/traffic using US Hwy 12 were to cause an unsafe condition, the State of Idaho would be the appropriate authority to regulate the type and volume of traffic and/or require road upgrades to facilitate safe passage. **POL's Response**: The Port of Lewiston requires permits under Section 10, 404, and 408 from the U.S. Army Corps of Engineers to construct the dock extension. The dock extension project increases the efficiency of activities already being conducted at the POL. In terms of impacts on highways and upland areas away from the POL, the dock extension is not allowing the POL to conduct new activities that would create new or significant impacts on transportation into or out of the POL. Moreover, the POL's project does not create a tacit preference for traffic onto US Highway 12. There is no indication that the POL's dock extension will lead to significant impacts to highways connected to the POL. The State of Idaho Transportation Department (ITD) has jurisdiction over US Highway 12 and has been reviewing the issue of transport of large loads on this highway. ITD has conducted two contested case hearings regarding the transport of oversized (24-ft in width) loads on U.S. Highway 12. ITD will determine whether and to what extent oversized loads will be allowed on Idaho highways.

Comment 23 I14, I21, I32, I51, I54, I59, I61, I62, I63, I72, I73, E2, E3, E17, E25, E32, E35, E40, H6	**Issue**: Expanding the POL would facilitate use of Hwy 12 as a route for oversized loads which is not in keeping with it being a scenic route, e.g. designated Scenic By-way. Corps Response: A "Scenic By-way" designation does not convey legal protection unless coupled with local planning and zoning ordinances and/or state law/regulation which is the domain and responsibility of local and/or state government. Also see Response Comment 21 and 22 above.
Comment 24 I19, I29, I51, I54, I59, I61, I62, I63, I72, E2, E3, E28, E55, H6	**Issue:** Expansion at the POL would facilitate routing of oversized loads along Hwy 12 which is not in keeping with the Clearwater/Lochsa River's designation as a Wild and Scenic River. **Corps Response:** The USFS is the lead/managing federal agency for this section of designated river. Under the Wild and Scenic Rivers Act the "keeper of the river", in this case the USFS would be the appropriate entity to determine whether or not the action was in keeping with the rivers designation as a "Wild and Scenic River." The USFS did not comment on the POL's proposed expansion. Also see Response Comment 21 and 22 above.
Comment 25 I19, I21, I27, I29, I31, I40, I51, I52, I54, I59, I61, I62, I63, I72, I73, I74, E2, E3, E12, E14, E16, E21, E24, E26, E27, E28, E30, E31, E32, E35, E36, H6, H11	**Issue:** Expansion at the POL would facilitate routing of oversized loads along Hwy 12, which would affect traditional economy, e.g. tourism, property values, etc. **Corps Response**: Noted. Also see Response Comment 21 and 22 above.
Comment 26 I21, I27, I40, I51, I52, I56, I59, I65, E13, E14, E16, E21, E22, E30, E31, E55	Issue: Expanding the POL would facilitate use of Hwy 12 as a route for oversized loads which would affect the traditional way of life, e.g. lifestyle, recreation. Corps Response: Noted. Also see Response Comment 21 and 22 above.
Comment 27 I21, I31, I40, I51, I52, I56, I61, E2, E6, E8, E10, E13, E14, E21, E22, E24, E26, E27,	**Issue:** Expanding the POL would facilitate use of Hwy 12 as a route for oversized loads which would affect the environment. **Corps Response:** Noted.

E28, E30, E31, E32, E35, E36, E40, E55	Also see Response Comment 21 and 22 above.
Comment 28 I54, I59, I62, I63, I72, I73, E2, E3	**Issue:** Use of Hwy 12 as a route for oversized loads could impair the USFS ability to manage the Clearwater and Lolo National Forests. **Corps Response:** The determination of compatibility and how this project may affect the USFS ability to manage the Clearwater and Lolo National Forests resides with the lead/managing federal agency, in this case the USFS. The USFS did not comment on the proposed action.
Comment 29 I38	**Issue:** Facilitating oil production in Canada is beneficial to the US. Facilitating Alberta tar sands development would contribute to Global Warming. **Corps Response:** The development of the tar sands and its resultant impacts are ongoing and would continue to be ongoing independent of the Corps authorization of the POL's proposal. This issue is not germane to the Corps decision and is beyond the Corps' scope of authority. Also see Response Comment 21 and 22 above.
Comment 30 I59, I63, E2, E3, E13, E64	**Issue:** POL expansion would facilitate use of Hwy 12 as an oversized route and impact Nez Perce and Confederated Salish and Kootenai tribal treaty rights, particularly access to traditional hunting, gathering, and fishing grounds. In addition this would impact current tribal economic and government operations. **Corps Response:** The Corps does not control how cargo is routed on Idaho highways. Oversized cargo has been routed north on both US Hwy 95 and US Hwy 12. Both options would be available to the shipper independent of whether the POL dock expansion is authorized.
Comment 31 I21, I32, I46, I47, I48, I51, I54, I61, I62, E2, E34	**Issue:** There is considerable opposition to "megaloads." **Corps Response:** Whether or not there are individuals or groups opposed to "megaloads" is not germane to the Corps review of this action. In general, public comment and press regarding "megaloads' was related to use of US Hwy 12 and not directly associated with the POL expansion. Also see Response Comment 21 and 22.
Comment 32 I59	**Issue:** Oversized loads should not be allowed to travel on Hwy 12. Alternate routes should be used.

	Corps Response: Noted. See in general response to Comments 21-31 above.
Comment 33 E40	**Issue:** Road surfaces all along the Clearwater and Lochsa Rivers would be negatively impacted. **Corps Response:** Noted. Impacts have and will continue to occur on local roadways with or without Corps authorization of the proposed project. Also see Response Comments 21 and 22.
Comment 34 I59	**Issue:** POL expansion would facilitate use of Hwy 12 as a route for oversized loads and would lead to cumulative impacts to other ESA listed species such as lynx and grizzly. **Corps Response:** The FWS and NMFS determined that the proposed project would not jeopardize ESA listed species and concurred with the Corps determination that the project "may affect, but is not likely to adversely affect", Bull trout and that the project "likely to adversely affect", Chinook salmon, sockeye salmon, and steelhead. As stated above impacts associated with Hwy 12 are outside the scope of the Corps review. Also see Response Comments 21 and 22.

(3) Site ☒was/☐was not visited by the Corps to obtain information in addition to delineating jurisdiction. April 7, 2011 - Review of proposed area of dock expansion and graveled storage area. Both areas heavily impacted by current and past use.

(4) Issues identified by the Corps. Impacts to Corps Levee, Section 408 review. The project is a minor modification and will not adversely affect the intended use of the levee (see Memorandum from Engineering and Construction dated 2 February 2012, SUBJECT: Project Review for Dock Expansion and Storage Area, Port of Lewiston, Easement No. DACW68-2075-39, Lower Granite Lock and Dam).

(5) Issues/comments forwarded to the applicant. ☐NA/☒Yes.

(6) Applicant replied/provided views. ☐NA/☒Yes.

(7) The following comments are not discussed further in this document as they are outside the Corps purview. ☐ NA/☒ Yes *Explain.* Comment 33 and 34 were general in nature and mostly expressed opinions; and therefore, will not be addressed future in this document. Comments 21 through 32 above are outside of the Corps review due to either jurisdiction or that the impacts would occur in discussed area independent of the proposed POL expansion.

4. Alternatives Analysis.

a. Basic and Overall Project Purpose (as stated by applicant and independent definition by Corps).
☒Same as Project Purpose in Paragraph 1.
☐Revised: *Insert revised project purpose here and explain why it was revised.*

b. Water Dependency Determination:
☒Same as in Paragraph 1.
☐Revised: *Insert revised water dependency determination here if it has changed due to changing project purpose or new information.*

c. Applicant preferred alternative site and site configuration.
☒Same as Project Description in Paragraph 1.
☐Revised: *Explain any difference from Paragraph 1*

Criteria. Reduce impacts to aquatic resources, i.e. water quality and listed fish.

Issue	Measurement and/or constraint
Water Quality, Impacts to Listed Fish	Measure of Turbidity (NTU's). Impacts expected up to 984feet from the worksite as referenced and determined in the project Biological Assessment revised dated July 19, 2011 prepared by Berger ABAM. Impacts minimized by use of a vibratory hammer and sequencing construction to occur within closed cell of sheet piling.
Underwater/Terrestrial Noise, Impacts to Listed Fish	Impacts expected up to 6 miles downstream and 1 mile upstream of the worksite for Underwater Noise and approximately 1600 feet for Terrestrial Noise before ambient background noise levels are reached as referenced and determined in the project Biological Assessment revised dated July 19, 2011 prepared Berger ABAM. Impacts minimized by used of a vibratory hammer to install sheet piling.
Impacts to Listed Fish	Worksite is a migratory corridor for listed fish species. Impact will be minimized by timing construction at a time when listed species are unlikely to be present as noted in the project Biological Assessment revised dated July 19, 2011 prepared by Berger ABAM.

d. Off-site locations and configuration(s) for each. (e.g. alternatives located on property not currently owned by the applicant are not practicable under the Section 404(b)(1)

Guidelines as this project is the construction or expansion of a single family home and attendant features, such as a driveway, garage, storage shed, or septic field; or the construction or expansion of a barn or other farm building; or the expansion of a small business facility; and involves discharges of dredged or fill material less than two acres into jurisdictional wetlands.)

No off site locations or configurations were considered as the project is an expansion of existing on-going port operation. Additionally, the expansion is water dependent and other off site locations would result in essentially the same or greater impacts (new instead of incremental impacts).

e. (☐ NA) Site selected for further analysis and why.

f. On-site configurations.

Description	Comparison to criteria
Dock	Different sizes and configurations of the existing dock expansion were considered. Reduction in size primarily; however, the expansion was predicated on the need to attach two barges to the dock for loading and unloading concurrently for safety and efficiency of operations. The increase in length of the dock would add additional/incremental impact to the channel. The dock extension is compatible with the purpose and need for the proposed project.
Levee	Design project with no impact to levee. This was not practicable from an engineering standpoint. The existing dock ties into the levee. Failure to establish a solid tie-in with either the levee or the existing dock would have the potential to adversely affect the existing dock and levee.
Storage area.	Under the 404(b)(1) Guidelines the storage area would not affect waters of the U.S.; therefore, it is not being evaluated under this criteria.

g. Other alternatives not requiring a permit, including No Action.

Description	Comparison to criteria
No Action	No action would continue POL operations similar to those in the past and would not address the applicant's purpose and need to establish a more efficient, safer, and competitive POL for the future.

h. Alternatives not practicable or reasonable. *Describe/explain*

Relocation is not practicable as the POL is currently a functional facility serving the agricultural and forestry community. Alternative designs (t-bar docks etc.,) were initially considered, but not

considered further as they did not meet the project purpose or were otherwise not practicable given (cost, logistics, etc.). The Corps determined that the proposed project would have similar or less impacts to the aquatic environment because of the nature of the existing dock and levee, the flowing channel, type of cargo being handled, and previous disturbance at the site. The No Action alternative would not alleviate the current safety issues at the dock and would not allow the applicant to accomplish the basic purpose and need of the project.

i. Least environmentally damaging practicable alternative. *Describe/explain*
In conjunction with the criteria evaluated in section 5 below, it is determined that the applicant's proposal is the least environmentally damaging practicable alternative in accordance with the 404(b)(1) Guidelines.

5. Evaluation of the 404(b)(1) Guidelines. (☐NA)

a. Factual determinations.

Physical Substrate. ☒ See Existing Conditions, paragraph 1 ☒ Substrate in the POL expansion area would be considered littoral drift silt deposits. The substrate consists primarily of silt, sand, and clays. It has been determined that the project would permanently cover approximately 0.12 acres of this material. Based on the size, previous disturbances in the area, and the location, impacts to the physical substrate would be minimal.
Water circulation, fluctuation, and salinity. ☒ Addressed in the Water Quality Certification. ☒ Project location is located within the slow moving pool of the Lower Granite. Water circulation and pool fluctuations both are dependent upon operational demands of the reservoir. Based upon the size and location of the project within the reservoir it is determined that the proposed project would have little to no affect upon these parameters. There would be no impact to salinity.
Suspended particulate/turbidity. ☒ Turbidity controls in Water Quality Certification. ☒ Once the project is constructed there may be a minor increase in turbidity during maintenance dredging of the expanded dock. However, due to the duration between dredging requirements and the minor additional dredge requirements this increase would be considered negligible.
Contaminant availability. ☐ General Condition ☒ There are no known records of contaminants in the proposed project area. As the POL area has been historically disturbed and the dock is dredged on an as needed basis it is unlikely that there are any contaminants available to be redistributed/associated with the proposed project.
Aquatic ecosystem and organism. ☒ Wetland/wildlife evaluations, paragraphs 5, 6, 7 & 8. ☒ The project would result in permanent loss of approximately 0.12 acres of open water.

Proposed disposal site. ☒ Public interest, paragraph 7. ☐
Cumulative effects on the aquatic ecosystem. ☒ See Paragraph 7.e. ☒ The additional fill material associated with the POL expansion into waters of the U.S. would be considered negligible from both a direct and cumulative standpoint. The area in and around the existing POL facilities is heavily industrialized with other ports, major riprap projects protecting pulp plants etc., and a levee system which runs throughout the geographic area. The additional work being proposed will not have any measurable additional impacts to the aquatic ecosystem.
Secondary effects on the aquatic ecosystem. ☒ See Paragraph 7.e. ☒ The secondary impacts associated with the direct impacts of the fill would be minor in nature. The additional dredging would be minor. The storm water filtration system being installed by the Port is a positive secondary impact associated with the proposed action.

b. Restrictions on discharges (230.10).

(1) It ☒has/☐has not been demonstrated in paragraph 4.i. that there are no practicable or less damaging alternatives which could satisfy the project's basic purpose. The activity ☐is/☒is not located in a special aquatic site (wetlands, sanctuaries, and refuges, mudflats, vegetated shallows, coral reefs, riffle & pool complexes). The activity ☐does/☒does not need to be located in a special aquatic site to fulfill its basic purpose.

(2) The proposed activity ☐does/☒does not violate applicable State water quality standards (see attached Water Quality Certification dated 6-Feb-2012) or Section 307 prohibitions or effluent standards (☐based on information from the certifying agency that the Corps could proceed with a provisional determination). The proposed activity ☐does/☒does not jeopardize the continued existence of federally listed threatened or endangered species or affects their critical habitat, as referenced in the attached Biological Opinions prepared by USFWS and NOAA, dated 4-Jan-2012 and 28-Mar-2012, respectively. The proposed activity ☐does/☒does not violate the requirements of a federally designate marine sanctuary.

(3) The activity ☐will/☒will not cause or contribute to significant degradation of waters of the United States, including adverse effects on human health; life stages of aquatic organisms' ecosystem diversity, productivity and stability; and recreation, esthetic, and economic values.

(4) Appropriate and practicable steps ☒have/☐have not been taken to minimize

potential adverse impacts of the discharge on the aquatic ecosystem (see Paragraph 8 for description of measures to reduce impacts on the aquatic environment).

6. Public Interest Review: Public interest factors have been reviewed as summarized here. Both cumulative and secondary impacts on the public interest were considered. Public interest factors that have had additional information relevant to the decision are discussed in number 7.

+ Beneficial effect
0 Negligible effect
- Adverse effect
M Neutral as result of mitigative action

+	0	-	M	
☐	☒	☐	☐	Conservation.
☒	☐	☐	☐	Economics.
☐	☒	☐	☐	Aesthetics.
☐	☒	☐	☐	General environmental concerns.
☐	☒	☐	☐	Wetlands.
☐	☒	☐	☐	Historic properties.
☐	☐	☐	☒	Fish and wildlife values
☐	☐	☐	☒	Flood hazards.
☐	☒	☐	☐	Floodplain values.
☐	☒	☐	☐	Land use.
☒	☐	☐	☐	Navigation.
☐	☒	☐	☐	Shore erosion and accretion.
☐	☒	☐	☐	Recreation.
☐	☒	☐	☐	Water supply and conservation.
☒	☐	☐	☒	Water quality.
☐	☒	☐	☐	Energy needs.
☒	☐	☐	☐	Safety.
☒	☐	☐	☐	Food and fiber production.
☐	☒	☐	☐	Mineral needs.
☐	☒	☐	☐	Considerations of property ownership.
☐	☒	☐	☐	Needs and welfare of the people.

7. Effects, policies and other laws.

a. ☐NA

Public Interest Factors. *(Add factors that are relevant to specific project that you checked in number 6 above and add a discussion of that factor)*

Factor	Discussion
Wetlands/Other Waters	There would be a permanent loss of 0.12 acres of open water associated with the proposed project. Based on the existing functions, current usage, and the overall area it has been determined that these impacts would be minor to insubstantial.
Fish and Wildlife values	Recreational access to the fisheries would be unaffected by the proposed activity. ESA species listed in the area include Bull trout, Snake River Chinook salmon, Snake River Steelhead, and Sockeye Salmon. The USFWS and NOAA issued Biological Opinions (BOs) with take statements dated 4-Jan-2012 and 28-Mar-2012, respectively. The BOs indicated that the project as proposed following "conservation measures" and "reasonable and prudent measures" would not jeopardize the continued existence of the above listed species.
Flood Hazards	The proposed project is considered a minor modification under the Section 408 process as it does not affect the purpose or function of the project; it is low impact and does not adversely affect the structural stability, pose a threat to the integrity of the levee cross section or modify the authorized hydraulics. This request does modify the geometry of the levee, but the barge dock will add material to the riverside of the levee which provides additional stability, erosion protection and does not modify its ability to provide flood protection.
Navigation	Although not affecting the direct amount or type of navigation occurring in the area, the proposed project will support the more efficient commercial navigation of barges utilizing the POL.
Water quality	The proposed project will facilitate the installation of new collector system that intercepts and treats potentially contaminated surface storm water prior to discharge. This treatment will occur in area that currently allows untreated water to directly impact the waters of the U.S. There may be some short term negative impacts associated with water quality as the sheet piling is installed. These impacts would be minimized by use of a vibratory hammer rather than an impact hammer to install the sheet piling.

Safety	One of the basic purposes of the proposed dock expansion is to improve safety. The proposed expansion would create more room for crews and equipment to load/offload barges creating a safer work environment. This impact would be beneficial.
Food and Fiber	The proposed expansion would continue to facilitate the export of agricultural and natural resource products such as timber and paper products from the region. One of the stated purposes of the project is to position the POL for future growth/demand, largely agricultural and timber related exports. The continued operation and improved efficiency at the POL is expected to have a beneficial impact on Food and Fiber production in the region.

b. Endangered Species Act. ☐ NA

The proposed project:

(1) Will not affect these threatened or endangered species:
☐Any/☐ . *Explain.*

(2) May affect, but is not likely to adversely affect:
Species: . *Explain.*

(3) ☐Will/☒Will not adversely modify designated critical habitat for the Bull trout, Chinook salmon, Sockeye salmon, and steelhead. See USFWS and NOAA BO's dated 4-Jan-2012 and 28-Mar-2012 respectively. Through special condition, the permittee will be required to comply with the mandatory terms and conditions associated with incidental take contained in the Biological Opinions.

(4) ☐Is/☒Is not likely to jeopardize the continued existence of the Bull trout, Chinook salmon, Sockeye salmon, and steelhead. See USFWS and NOAA BO's dated 4-Jan-2012 and 28-Mar-2012 respectively.

(5) The Services ☐concurred/☒provided a Biological Opinion(s). See USFWS and NOAA BO's dated 4-Jan-2012 and 28-Mar-2012 respectively. Through special condition, the permittee will be required to comply with the mandatory terms and conditions associated with incidental take contained in the Biological Opinions.

c. Essential Fish Habitat. Adverse impacts to Essential Fish Habitat ☐will/☒will not result from the proposed project. See NOAA BO dated 28-Mar-2012.

d. Historic Properties. The proposed project ☐will/☒will not have any effect on any sites listed, or eligible for listing, in the National Register of Historic Places, or otherwise of national, state, or local significance based on ☒letter from SHPO/☐.

Explain. In addition, the Corps reviewed a potential impact to a historic village. No information was provided on the specific location of this village and SHPO did not note its presence. It is likely that the village is located in the inundated Lower Granite Pool.

e. Cumulative & Secondary Impacts. The geographic area for this assessment is the Clearwater Watershed (HUC code 17060306).

(1) Baseline. Approximately 0.4% of the watershed area is wetland. Streams comprise approximately 0.5% of the watershed. Corps permits for the period since January 2008 have authorized the fill of 0.83 acres and 45,038 linear feet of stream. The projection is that authorizations will continue ☒at the current rate/☐ increase/☐ because of the recent economic downturn. Even prior to the economic downturn growth in the area was steady but slow. There is no anticipation that even as the economy improves that the area will see drastic increases in development. Additionally, much of the land within the watershed is owned by the federal government, which in many instances would preclude or severely limit development of this type. Natural resource issues of particular concern [from Corps & non-Corps activities] are stream blockages/dams, forest practices, urbanization, and agriculture primarily as they relate to loss of habitat and water quality (turbidity and sedimentation).

(2) Context. The proposed project is ☒typical of /☐a precedent /☐very large compared to /☒ other navigation and POL activities in the watershed. Development similar to the proposal has occurred since Early 1950's. Future conditions are expected to be similar with steady but moderate long term growth. Besides Corps authorized projects, other activities include expansion of other industrial facilities to accommodate safety, growth, and current usage. Resulting natural resource changes and stresses include loss of riparian habitat, impacts to wetlands and in-stream habitat, and impacts to water quality. These resources are also being affected by agriculture, steady general regional development, and other transportation developments. A key issue(s) of concern in this watershed is/are the impacts to fisheries, particularly anadromous fisheries resulting from wetland and other water habitat loss.

(3) Mitigation and Monitoring. The project affects the following key issue(s): listed fish species and water quality. The magnitude of the proposed effect is negligible within the watershed. Avoidance and minimization methods include timing construction to avoid impacts to listed fish, sequencing construction to reduce turbidity, use of a vibratory hammer to install sheet piling to reduce turbidity and impacts to listed fish. Compensatory mitigation is not required for the project.

Expand this section commensurate with the level of impact and appropriate level of existing and reasonably forseeable watershed stress to aquatic resources.

f. Corps Wetland Policy. Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.

g. (☐NA) Water Quality Certification under Section 401 of the Clean Water Act ☒has/ ☐has not yet been issued by ☐ /☒State (See the attached Water Quality Certification dated 6-Feb-2012).

h. *Coastal Zone Management (CZM) consistency/permit: Issuance of a State permit certifies that the project is consistent with the CZM plan.* ☐ *There is no evidence or indication from the that the project is inconsistent with their CZM plan. NOT APPLICABLE IN IDAHO*

i. Other authorizations. Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. §408) Taking possession of, use of, or injury to harbor and river improvements (Section 408). The proposed project is considered a minor modification. Engineering comments will be addressed by the applicant prior to acceptance of any construction plans and specifications.

j. (☒NA) Significant Issues of Overriding National Importance. *Explain.*

8. Government-to-Government Consultation with Indian Tribes

8.1 Summary of the Consultation Process

Tribes with an interest in the Clearwater River/Lower Snake River (Confederated Tribes of the Colville Reservation, Nez Perce Tribe of Idaho, Spokane Tribe of Indians, and Confederated Tribes of the Umatilla Reservation) were initially contacted by letter dated June 22, 2011 providing them notification of the Port's proposed dock expansion. Attached to that letter was a copy of the Public Notice issued on June 22, 2011. By letter dated July 21, 2011 the Corps again contacted the above mentioned tribes to advise that the public notice comment period had been extended. A copy of the extended public notice was attached to the letter. In addition to contacting the previously mentioned tribes the Corps expanded contacts to include the Coeur D'Alene Tribe, Kalispell Tribe of Indians, Kootenai Tribe of Idaho, and the Confederated Salish & Kootenai Tribes. A third letter dated September 16, 2011 was sent to the previously mentioned tribes to request their comments and advise of a Public Hearing. Of the eight (8) tribes contacted only three responded, e.g. Confederated Tribes of the Umatilla Reservation, Confederated Salish & Kootenai Tribes, and the Nez Perce Tribe of Idaho. Only the Nez Perce Tribe provided substantive comment on the proposed project.

By email dated June 23, 2011 the Nez Perce Tribe requested that the Corps provide a presentation to the Natural Resources Subcommittee of the Tribal Executive Committee on July 19, 2011. The tribe later cancelled that meeting by email dated July 12, 2011. The Nez Perce Tribe provided a comment letter on the project dated August 22, 2011. The comment letter highlighted concerns over potential impacts to treaty resources, tribal rights and

interests along US HWY 12, and cultural resources. On October 19, 2011 the Walla Walla District Commander met with the Nez Perce Tribe and discussed the project. By letter to dated March 2, 2012 the Nez Perce Tribe requested Government to Government consultation. Government to Government consultation was completed on April 2, 2012. The Corps has fully considered and addressed issues raised during tribal consultation.

9. Compensation and other mitigation actions.

a. Compensatory Mitigation

(1) Is compensatory mitigation required? ☐ yes ☒ no [If "no," do not complete the rest of this section]

(2) Is the impact in the service area of an approved mitigation bank? ☐ yes ☐ no

(i) Does the mitigation bank have appropriate number and resource type of credits available? ☐ yes ☐ no

(3) Is the impact in the service area of an approved in-lieu fee program?
☐ yes ☐ no

(i) Does the in-lieu fee program have appropriate number and resource type of credits available? ☐ yes ☐ no

(4) Check the selected compensatory mitigation option(s):
☐ mitigation bank credits
☐ in-lieu fee program credits
☐ permittee-responsible mitigation under a watershed approach
☐ permittee-responsible mitigation, on-site and in-kind
☐ permittee-responsible mitigation, off-site and out-of-kind

(5) If a selected compensatory mitigation option deviates from the order of the options presented in §332.3(b)(2)-(6), explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in §332.3(a)(1) (i.e., the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project): n/a

(6) Other Measures to Minimize Impacts: The POL has minimized project impacts associated with the dock expansion to the maximum extent practicable. The POL proposes to time construction of the expansion to minimize impacts to listed fish species. It is sequencing construction such that sheet piling will form a contained cell separating the work/fill area from open water, thus reducing turbidity/water quality impacts. The POL will use a vibratory hammer to install the sheet piling, which will reduce underwater noise impacts to listed fish and

the fishery in general. It is also constructing a stormwater collection and treatment facility and retrofitting the surfacing on the old dock section so stormwater from the old and new dock can be collected by the stormwater system.

The POL has minimized impacts associated with the graveled storage area by locating it on previously filled and disturbed ground adjacent to and extending an existing graveled storage area. The proposed location for the storage area contains no woody vegetation and is covered by weedy herbaceous vegetation.

10. General evaluation criteria under the public interest review. The Corps considered the following within this document:

    a. The relative extent of the public and private need for the proposed structure or work. (e.g. Public benefits include employment opportunities and a potential increase in the local tax base. Private benefits include land use and economic return on the property; for transportation projects benefits include safety, capacity and congestion issues.) *Explain.*
    The POL is a public entity. The POL Commissioners are elected by local residents. It has and continues to receive various types of public funding. The proposed expansion would allow the POL to remain competitive in the current market and to have the potential to compete in future markets. It would also allow the POL to retain its current future workforce with the potential to expand based upon market needs in the area.

    b. ☒There are no unresolved conflicts as to resource use. The extent and permanence of the beneficial and/or detrimental effects, which the proposed work is likely to have on the public, and private uses to which the area is suited. ☒Detrimental impacts are expected to be minimal although they would be permanent in the construction area. The beneficial effects associated with utilization of the property would be permanent. *Explain.*
    Resources issues of concern were limited to the small adverse impacts to ESA/Fisheries and the permanent lost of 0.12 acres of waters of the U.S. NOAA and USFWS both assessed the stated impacts and have determined that the project as proposed following "conservation measures" and "reasonable and prudent measures" would not jeopardize the continued existence of ESA listed species. The loss of the waters of the U.S. would be considered minimal and negligible to the site specific area. Through special condition, the permittee will be required to comply with the mandatory terms and conditions associated with incidental take contained in the Biological Opinions.

11. Special Conditions: ☒ yes ☐ no *(List special conditions of permit. Include rationale for each required condition. If no special conditions, explain why no special conditions are required.)*

a. Permittee shall comply with all terms and conditions, as set forth in the 401-Water Quality Certification (WQC), issued by the Idaho Department of Environmental Quality for the project dated 6-Feb-2012 (amended 27-Feb-2012) (attached).

For specific questions on the terms and conditions of the 401 WQC, please contact its office directly at (208) 799-4370.

Rationale: To comply with water quality certification.

b. This Corps permit does not authorize you to take an endangered species, in particular Bull trout, Snake River steelhead, Snake River Sockeye salmon and Snake River Chinook salmon. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed US Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) BOs contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BOs. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached BOs, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BOs, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The FWS and NMFS are the appropriate authorities to determine compliance with the terms and conditions of their BOs, and with the ESA.

Rationale: To notify permittee of mandatory requirements to comply with the BOs.

c. The permittee understands and agrees that, if future operations by the U.S. require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

Rationale: To notify permittee they will be required to remove their structures if they obstruct navigation of navigable waters.

12. Determinations.

a. Public Hearing Request: The Corps received 31 requests for Public Hearing. The Corps conducted a Public Hearing on October 19, 2011. Comments received from the Public Hearing and extended comment period are incorporated in Section 3(e)(2) above.

b. Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

c. Relevant Presidential Executive Orders.

i. EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians. ☒This action has no substantial direct effect on one or more Indian tribes. *Explain, if appropriate.* The Corps made substantive effort to incorporate Tribal comments into the decision making process. Efforts included: 1. Outreach and notification to 8 different tribes which had been identified as having a potential interest in the project areas; 2. Individual offers to meet informally or formally to discuss the project; 3. Executive level meeting with the Corps and the Nez Perce tribe; 4. Conducted Government to Government consultation with the Nez Perce tribe; and 5. Incorporated and addressed tribal comments in the evaluation of impacts of the proposed action.

ii. EO 11988, Floodplain Management. ☐Not in a floodplain. (☒Alternatives to location within the floodplain, minimization, and compensation of the effects were considered above.)

iii. EO 12898, Environmental Justice. In accordance with Title III of the Civil Right Act of 1964 and Executive Order 12898, it has been determined that the project would not directly or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin nor would it have a disproportionate effect on minority or low-income communities.

iv. EO 13112, Invasive Species.
☒There were no invasive species issues involved.
☐The evaluation above included invasive species concerns in the analysis of impacts at the project site and associated compensatory mitigation projects.
☐Through special conditions, the permittee will be required to control the introduction and spread of exotic species.

v. EO 13212 and 13302, Energy Supply and Availability. ☒The project was not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety. (☐The review was expedited and/or other actions were taken to the extent permitted by law and regulation to accelerate completion of this energy-related (including pipeline safety) project while maintaining safety, public health, and environmental protections.)

b. Finding of No Significant Impact (FONSI). Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an Environmental Impact Statement is not required.

c. Compliance with 404(b)(1) Guidelines. ☐NA

Having completed the evaluation in paragraph 4.i., I have determined that the proposed discharge ☒complies/☐does not comply with the 404(b)(1) Guidelines.

d. Public Interest Determination: I find that issuance of a Department of the Army permit ☒is not/☐is contrary to the public interest.

PREPARED BY:

James M. Joyner Date: 4-13-2012

James M. Joyner
Project Manager

REVIEWED BY:

David B. Barrows Date 4-13-2012

David B. Barrows
Chief, Regulatory Division

APPROVED BY:

David A. Caldwell Date 15 April 2012

David A. Caldwell
Lieutenant Colonel, Corps of Engineers
District Commander

Appendix B

Section 401 Water Quality Certification from Idaho Department of Environmental Quality

Idaho Department of Environmental Quality

§401 Water Quality Certification

February 6, 2012

404 Permit Application Number: NWW-2010-213-W04

Applicant/Authorized Agent: Port of Lewiston

Receiving Water Body Name/Assessment Unit: Clearwater River, Lower Granite Dam Pool, Water Body Unit 17060306CL001_07.

Receiving Water Body Conditions: Lower Granite Dam Pool is included in Section 5 of the 2010 Integrated Report as not supporting beneficial uses due to dissolved gas super-saturation.

Project Location: The project is located at the existing Port of Lewiston facilities within the City of Lewiston, near U.S. Highway 12 in the Northeast ¼ of the Northwest ¼ of Section 31, Township 36 North, Range 5 West, Nez Perce County, Idaho.

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC Section 1341 (a)(1), and Idaho Code §§ 39-101 et.seq., and 39-3601 et.seq., the Idaho Department of Environmental Quality (DEQ) has authority to review activities receiving Section 404 dredge and fill permits and issue a water quality certification decision.

Based upon review of the permit application and associated information for the above-referenced activity, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the activity will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, including the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02) and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations or permits.

Project Description

Work includes the discharge of 2400 cubic yards of sand and gravel fill material below the ordinary high water mark of the Clearwater River to construct a dock extension. Additional activities include the discharge of approximately 200 linear feet of metal sheet piling to contain new dock extension fill, the discharge of 25 fender piles along the face and side of the new dock extension to construct a fendering system of the expanded dock section, and the removal and

relocation of an existing mooring dolphin to a location approximately 115 feet west of the expanded dock.

Antidegradation

Idaho's Antidegradation policy requires maintaining the existing quality of state waters (Idaho Code §39-3603(1)(a)). Where the quality of water is better than that required to maintain beneficial uses, no degradation can occur unless degradation is necessary to accommodate economic or social development (Idaho Code §39-3603(1)(b)).

In the Idaho Water Quality Standards (IDAPA 58.01.02), the Clearwater River, Lower Granite Dam pool water body 17060306CL001 is protected for the following designated beneficial uses: cold water aquatic life, primary contact recreation, and domestic water supply. Water body assessment unit 17060306CL001_07 is listed in Section 5 of Idaho's 2010 Integrated Report (IR) as not fully supporting due to dissolved gas super-saturation. Water body assessment units included in Section 5 of Idaho's Integrated Report are impaired and are not considered high quality water for the listed pollutants and associated beneficial uses (Idaho Code §39-3603(2)(b)(iii)). Because dissolved gas super-saturation is identified as a pollutant of concern in the IR, Tier I protection is provided for the cold water aquatic life beneficial use (Idaho Code §39-3603(1)(a)).

Water body assessment units identified in the 2010 IR as not assessed are provided an appropriate level of protection on a case-by-case basis using current information (Idaho Code §39-3603(2)(b)(ii)). In the 2010 IR, the primary contact recreational use is not assessed. Bacteria data for this AU do not exceed the criteria for primary contact recreation, thus the primary contact recreation beneficial use is fully supporting (IDAPA 58.01.02.054) and Tier II protection is provided for the recreational beneficial use (Idaho Code §39-3603(2)(b)).

Available data for this water body assessment unit do not exceed the criteria for the domestic water supply, thus the domestic water supply beneficial use is fully supporting and Tier II protection is provided for the domestic water supply beneficial use (Idaho Code 39-3603(2)(b)).

Cold Water Aquatic Life Tier I Analysis

The primary pollutant of concern for the aquatic life beneficial use associated with the permitted project is sediment. Certain measures are proposed to prevent a lowering of water quality. DEQ is requiring the applicant to comply with the conditions of this certification to protect water quality and to meet Idaho WQS, including the water quality criteria applicable to turbidity. During the construction phase, the applicant is required to implement, install, maintain, monitor and adaptively manage best management practices geared toward reducing erosion and minimizing turbidity levels in the Clearwater River, Lower Granite Dam pool, downstream of the project.

Primary Contact Recreation Tier II Analysis

The primary pollutant of concern applicable to contact recreation is *E. coli* bacteria and will not be discharged to this assessment unit as a result of this activity. Therefore, no degradation will occur to the primary contact recreation designated beneficial use as a result of this project.

Domestic Water Supply Tier II Analysis
The primary pollutants of concern applicable to the domestic water supply beneficial use are listed in IDAPA 58.01.02.210.01 and will not be discharged to this AU as a result of this activity. Therefore, no degradation will occur to the domestic water supply designated beneficial use as a result of this project.

DEQ believes the project will comply with applicable WQS and will maintain and protect the level of water quality necessary to protect the designated beneficial uses. As long as the project is conducted in accordance with the provisions of the project plans, Section 404 permit, and conditions of this certification, then there is reasonable assurance the designated beneficial uses and water quality of this segment of the Clearwater River will be maintained and protected. DEQ therefore concludes that this activity complies with Idaho's Antidegradation policy.

Conditions Necessary to Assure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

General

1. This certification authorizes the activity as described in the Public Notice for permit received on June 22, 2011, and the attached drawings dated March and April 2011.

2. This certification is conditioned upon the requirement that any modification (e.g. change in best management practices, work windows, etc.) of the permitted activity shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to §401. Such modifications may not be implemented until DEQ has made a determination whether additional certification is necessary.

3. DEQ reserves the right to modify, amend, or revoke this certification if DEQ determines that, due to changes in relevant circumstances, including without limitation, changes in project activities, the characteristics of the receiving water bodies, or state water quality standards, there is no longer reasonable assurance of compliance with water quality standards or other appropriate requirements of state law.

4. This certification may be revoked for failure of the permittee to comply with the conditions of this certification or the terms and conditions of the referenced permit. Revocation shall become effective upon written notice to the permittee, and all activities permitted under the referenced permit shall immediately cease. The activity may not resume unless authorized by DEQ.

5. In the event ownership of the project changes, the certification holder shall notify DEQ, in writing, upon transferring this ownership or responsibility for compliance with these conditions to another person or party. The new owner/operator shall request, in writing, the transfer of this water quality certification to his/her name.

6. A copy of this certification must be kept on the job site and readily available for review by any contractor working on the project as well as any federal, state, or local government personnel.

7. The applicant is responsible for all work done by contractors and must ensure the contractor(s) are informed of and follow all the conditions described in this certification and the Section 404 permit.

8. Unless otherwise authorized by DEQ, this certification is valid for two (2) years from the date the certification was issued by DEQ.

9. Because this project disturbs more than 1 acre and there is potential for discharge of storm water to waters of the U.S., coverage under the U.S. Environmental Protection Agency Construction Stormwater General Permit must be obtained.

FILL MATERIAL

1. Fill material shall be free of easily suspendable fine material. The fill material to be placed shall include clean earth fill, sand, and stone only.

2. All temporary fills shall be removed in their entirety on or before the completion of construction.

3. Excavated or staged fill material must be placed so that it is isolated from the water edge or wetlands and not placed where it could re-enter waters of the state uncontrolled.

EROSION AND SEDIMENT CONTROL

1. Best management practices (BMPs) for sediment and erosion control suitable to prevent exceedances of state water quality standards shall be selected and installed before starting construction at the site. BMP effectiveness shall be monitored during project implementation. Turbidity shall not exceed background turbidity by more than 50 NTU instantaneously or more than 25 NTU for more than 10 consecutive days.

2. Use of containment measures such as silt curtains, geotextile fabrics, and silt fence must be implemented and properly maintained in order to minimize in-water sediment suspension and resulting turbidity.

3. Permanent erosion and sediment control measures shall be installed at the earliest practicable time consistent with good construction practices and shall be maintained as necessary throughout the operation of the project.

4. Structural fill or bank protection shall consist of materials that are placed and maintained to withstand predictable high flows in the waters of the state.

5. A BMP inspection and maintenance plan must be developed and implemented. At a minimum, BMPs must be inspected and maintained daily. BMPs shall be replaced or augmented if they are not effective.

6. All construction debris shall be properly disposed of so that it cannot enter waters of the state or cause water quality degradation.

IN-WATER WORK

1. Work in waters of the state shall be restricted to areas specified in the application.

2. Work in waters of the state shall be conducted during the winter work period recommended by the Idaho Department of Fish and Game from December 1 through February 15.

3. Measures shall be taken to prevent the entrance of wet concrete into waters of the state when placed in forms and/or from washing of trucks.

4. Unless otherwise authorized by DEQ, this certification is valid for two (2) years from the date the certification was issued by DEQ.

DREDGE MATERIAL MANAGEMENT

1. Upland disposal of dredged material must be done in a manner that prevents the material from re-entering waters of the state.

MANAGEMENT OF HAZARDOUS OR DELETERIOUS MATERIALS

1. Petroleum products, hazardous, toxic and/or deleterious materials shall not be stored, disposed of, or accumulated adjacent to or in the immediate vicinity of waters of the state. Adequate measures and controls must be in place to ensure that those materials will not enter waters of the state as a result of high water, precipitation runoff, wind, storage facility failure, accidents in operation, or unauthorized third party activities.

2. Equipment should not be fueled nor fluids changed adjacent to waters of the State. Any equipment operated adjacent to waters of the State shall be maintained in a good state of repair.

3. If an above ground spill or overfill of petroleum results in a release that exceeds 25 gallons or causes a sheen on nearby surface water, the responsible person must make an effort to contain the spill and notify the Emergency Response system at 1-800-632-8000.

4. Emergency spill procedures shall be in place which may include a spill response kit (e.g. oil absorbent booms or other equipment).

TREATED WOOD

1. Any use of treated wood materials in the aquatic environment must be conducted in accordance with IDEQ Policy # PM97-1, "Water Quality and Wood Preservatives Policy Memoranda."

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5), and the Rules of Administrative Procedure Before the Board of Environmental Quality, IDAPA 58.01.23, within 35 days of the date of the final certification.

Questions regarding the actions taken in this certification should be directed to Cindy Barrett, Lewiston Regional Office, (208) 799-4370 or *Cynthia.Barrett@deq.idaho.gov*.

Clayton Steele

Clayton Steele
Regional Administrator
Lewiston Regional Office

Appendix C

Biological Opinion from U.S. Fish and Wildlife Service, January 4, 2012

United States Department of the Interior

Fish and Wildlife Service

Idaho Fish And Wildlife Office

1387 S. Vinnell Way, Room 368

Boise, Idaho 83709

Telephone (208) 378-5243

http://www.fws.gov/idaho

JAN 0 4 2012

RECEIVED

Jan 9. 2012

Regulatory Division

IDAHO FALLS

James M. Joyner
Regulatory Project Manager
Department of the Army
Corps of Engineers
Idaho Falls Regulatory Office
900 North Skyline Drive, Suite A
Idaho Falls, Idaho 83402

Subject: Port of Lewiston Barge Dock Extension—Nez Perce County, Idaho—Biological Opinion
In Reply Refer To: 01EIFW00-2012-F-0009 Internal Use: CONS-100b

Dear Mr. Joyner:

Enclosed are the Fish and Wildlife Service's (Service) Biological Opinion (Opinion) and concurrence on the Army Corps of Engineers (Corps) determinations of effect on species listed under the Endangered Species Act (Act) of 1973, as amended, for the proposal to authorize the Port of Lewiston Barge Dock Extension (Corps Permit No. NWW-2010-00213-W04). In a letter dated September 30, 2011, and received by the Service on October 5, the Corps requested formal consultation on the determination under section 7 of the Act that the proposed project is likely to adversely affect bull trout (*Salvelinus confluentus*) critical habitat. The Corps determined that the proposed project is not likely to adversely affect the bull trout. We are providing concurrence with this determination in the enclosed Opinion.

The enclosed Opinion and concurrence are based primarily on our review of the proposed action, as described in your August 2011 Biological Assessment (Assessment), and the anticipated effects of the action on listed species and critical habitat, and were prepared in accordance with section 7 of the Act. Our Opinion concludes that the proposed project will not destroy or adversely modify bull trout critical habitat. A complete record of this consultation is on file at this office.

Thank you for your continued interest in the conservation of threatened and endangered species. Please contact Clay Fletcher at (208) 378-5256 if you have questions concerning this Opinion.

Sincerely,

for Brian T. Kelly
State Supervisor

Enclosure

cc: NOAA, Grangeville (Brege)
IDFG, Lewiston (Hennekey)

BIOLOGICAL OPINION FOR THE
Port Of Lewiston Barge Dock Extension

01EIFW00-2012-F-0009

January 2012

FISH AND WILDLIFE SERVICE
IDAHO FISH AND WILDLIFE OFFICE
BOISE, IDAHO

Supervisor _____ (acting)

Date JAN 0 4 2012

Table of Contents

1. BACKGROUND AND INFORMAL CONSULTATION 1
1.1 Introduction 1
1.2 Consultation History 1
1.3 Informal Consultations 2
1.3.1 Bull Trout 2
2. BIOLOGICAL OPINION 3
2.1 Description of the Proposed Action 3
2.1.1 Action Area 3
2.1.2 Proposed Action 3
2.1.2.1 Relocate Existing Mooring Dolphin 3
2.1.2.2 Install Sheet Pile and Fill for Dock Extension 4
2.1.2.3 Install New Fendering and Barge Handling Systems 4
2.1.2.4 Regrade and Repave 4
2.1.2.5 Install Oil/Water Separator 5
2.1.2.6 Minor Improvements 5
2.1.2.7 Gravel Storage Area 5
2.1.3 Conservation Measures 5
2.2 Analytical Framework for the Adverse Modification Determination 6
2.3 Status of Bull Trout Critical Habitat 7
2.3.1 Legal Status 7
2.3.2 Conservation Role and Description of Critical Habitat 8
2.3.3 Current Critical Habitat Condition Rangewide 11
2.3.4 Effects of Climate Change on Bull Trout Critical Habitat 11
2.3.5 Consulted on Effects for Critical Habitat 12
2.4 Environmental Baseline of the Action Area 12
2.4.1 Status of Bull Trout Critical Habitat in the Action Area 12
2.4.2 Factors Affecting Bull Trout Critical Habitat in the Action Area 12
2.5 Effects of the Proposed Action 14
2.5.1 Direct and Indirect Effects of the Proposed Action 14
2.5.2 Effects of Interrelated or Interdependent Actions 16
2.6 Cumulative Effects 16
2.7 Conclusion 17

2.8 Conservation Recommendations 17

2.9 Reinitiation Notice 18

3. LITERATURE CITED 19

List of Tables

Table 1. Stream/shoreline distance and reservoir/lake area designated as bull trout critical habitat by state 7

Table 2. PCEs, Environmental Baseline, and Determination of Effect for bull trout critical habitat in the action area for the Port of Lewiston's barge dock extension. 15

1. BACKGROUND AND INFORMAL CONSULTATION

1.1 Introduction

The Fish and Wildlife Service (Service) has prepared this Biological Opinion (Opinion) on the effects of the Port of Lewiston Barge Dock Extension on bull trout (*Salvelinus confluentus*) critical habitat. In a letter dated September 30, 2011, and received on October 5, the Army Corps of Engineers (Corps) requested formal consultation with the Service under section 7 of the Endangered Species Act (Act) of 1973, as amended, for its proposal to authorize the action (Corps Permit No. NWW-2010-00213-W04). The Corps determined that the proposed action is likely to adversely affect bull trout critical habitat. As described in this Opinion, and based on the Biological Assessment (Assessment) (Reeder 2011, entire) developed by the Port of Lewiston's (Port) consultant, Berger ABAM, and other information, the Service has concluded that the action, as proposed, is not likely to destroy or adversely modify bull trout critical habitat.

The Corps has also determined the action is not likely to adversely affect the bull trout. In this document, the Service is providing concurrence with that determination.

1.2 Consultation History

The Service, the Corps, and the consultant from Berger ABAM (who drafted the Assessment) have had the following communication/coordination on the proposed project:

June 6, 2011	The Service received an Assessment and request for concurrence from the Corps.
June 20, 2011	The Service sent the Corps an email explaining the need for additional time to review the Assessment and comment prior to providing concurrence. We also questioned the effects determinations contained in the Assessment.
June 29, 2011	The Service sent comments on the draft Assessment to the Corps and participated in a conference call to discuss the project.
July 6, 2011	The Service was copied on an email exchange between the consultant and the Idaho Department of Fish and Game discussing the probability of bull trout occurrence in the vicinity of the Port.
July 13, 2011	The Service participated in an email exchange with the consultant concerning critical habitat, effects determinations, and work windows.
July 25, 2011	The Service received a revised Assessment from the consultant via email.
August 17, 2011	The Service sent an email to the consultant stating agreement with the contents of the Assessment and effects determinations for bull trout and critical habitat.

October 5, 2011 The Service received the final Assessment[1] and request for consultation.

1.3 Informal Consultations

The Corps proposes to authorize a barge dock extension at the Port located in Lewiston, Idaho. The proposal includes the following actions: (1) relocating a mooring dolphin; (2) installing 200 feet of sheet piling and backfilling to extend the existing dock; (3) installing tiebacks and deadmen (concrete blocks used as anchors); (4) installing new fendering and barge handling systems; (5) installing a new storm drain system with a new oil/water separator for treating stormwater; (6) paving the new dock extension; and, (7) gravelling a 2 acre storage area. The project includes conservation measures to minimize resource impacts. Refer to the Assessment for a complete project description.

1.3.1 Bull Trout

Service concurrence that the proposed action is not likely to adversely affect the bull trout is based on the fact that bull trout use the lower Clearwater River as feeding, migrating, and overwintering habitat. In the vicinity of the proposed dock extension, such use is expected to be at a low level. No spawning and early rearing occurs in the Lower Clearwater River. In addition, during the summer in-water work window bull trout are not expected to be in the action area. For these reasons, effects to bull trout are expected to be discountable.

[1] The Service later determined that we had received a draft Assessment on this date instead of the final version. We notified the Corps and the consultant and subsequently received the final Assessment from the Corps by mail on December 8, 2011. Except for the size of a graveled storage area, there were no significant difference between these two versions of the Assessment.

2. BIOLOGICAL OPINION

2.1 Description of the Proposed Action

This section describes the proposed Federal action, including any measures that may avoid, minimize, or mitigate adverse effects to listed species or critical habitat, and the extent of the geographic area affected by the action (i.e., the action area). The term "action" is defined in the implementing regulations for section 7 as "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas." The term "action area" is defined in the regulations as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."

2.1.1 Action Area

The action area includes the footprint of the existing dock and proposed dock extension at the Port located at Lewiston Idaho, and extends out from the dock for a radial distance of 1,600 feet, the expected limit of detectable terrestrial noise from the project. The Assessment predicts that underwater noise from pile driving will extend out "several hundred meters" (approximately 1,000 feet) and sediment effects 300 feet.

2.1.2 Proposed Action

The Corps proposes to authorize a barge dock extension and associated activities at the Port scheduled to occur during 7.5 months between May and December 2012. Pile installation is planned to occur between July 2 and September 14, 2012, and is estimated to occur over approximately 77 days.

The following description of the proposed action is excerpted and adapted from the description provided in the Assessment. Refer to the Assessment for a complete project description.

2.1.2.1 Relocate Existing Mooring Dolphin

The project will relocate an existing mooring dolphin to a new location 115 feet west (downstream) of the proposed dock extension. The mooring dolphin consists of a group of sheet piles driven into the riverbed and capped with concrete and is located in the river in close proximity to the proposed dock extension.

The existing cylindrical mooring dolphin will be demolished by removing the concrete cap and pulling the sheet piles. Demolition activities will be sequenced to minimize and contain temporary suspended sediment and turbidity, as follows. The dock extension sheet piling will be installed from the corner of the existing dock out to the dolphin creating a new bulkhead. The dolphin sheet piling will be removed by pulling with a crane equipped with a vibratory extractor. By installing a temporary closure and removing several sheet piles from the upstream side of the dolphin, granular fill from the dolphin will be released behind the face of the dock extension sheet pile, and not into the mainstem of the river thereby minimizing sedimentation and turbidity. Once the material has settled into a stable configuration, enough of the dolphin sheets will be pulled to enable completion of the dock extension bulkhead. With the area inside the bulkhead sealed, the remainder of the dolphin sheets will be pulled.

For the new mooring dolphin, a circular template will be installed downstream of the extended dock and sheet piles reinstalled with a vibratory hammer. Following removal of the template, stockpiled gravel will be placed and a new concrete cap installed.

2.1.2.2 Install Sheet Pile and Fill for Dock Extension

The project will extend the existing dock 150 feet downstream by installing an additional 200 lineal feet of sheet pile: 150 feet for the face and 50 feet for the downstream side. The sheet pile will be installed using templates and a vibratory hammer. The area of the extension will be backfilled with approximately 4,850 cubic yards of fill behind the extended sheet pile bulkhead, 2,400 cubic yards of which will be below the elevation of the ordinary high water mark (OHWM). Fill will be placed through the water behind the new sheet pile bulkhead (and not within the river current); no dewatering is anticipated associated with fill placement.

To stabilize the sheet pile wall against the forces exerted by the fill behind it, the project will install concrete deadmen and tiebacks, and paving along its entire length. A portion of the fill will be placed and compacted prior to installing tie rods and concrete deadmen. The remainder of the fill will then be placed and compacted to the level of the bottom of the pavement. After tensioning the tie rods, the concrete pavement along the front of the dock will be placed. After regrading the adjacent apron for proper drainage and installing the oil/water separator (see 2.1.2.5 below), the remainder of the dock and regraded yard will be paved with asphalt concrete paving.

2.1.2.3 Install New Fendering and Barge Handling Systems

The project also includes the construction of a fendering system on the extended dock. The fendering system prevents damage to the vessels and the terminal when barges are berthed and moored at the terminal. The project will also replace a defunct barge handling winch system; with the replacement system, a single operator will be able to position the barges along the face of the dock without help from a tug.

The installation of the fender system will begin with placement of 25 steel pipe fender piles. Piles will be lifted by a crane and installed by a land-based vibratory pile driver. Each pile will be driven approximately 10 feet into the existing riverbed. After the piles have been set to the established elevation, any excess pile length will be removed. ACZA (i.e., Ammoniacal Copper Zinc Arsenate) treated timber wales and chocks will be installed with steel hardware and the access ladders will be installed. Rubber fenders will be attached to the face of the concrete cap along the new sheet pile wall.

2.1.2.4 Regrade and Repave

The area of the project is already almost entirely impervious. The surface of the extended dock will be impervious as well. Areas on the periphery of the dock extension will be re-graded and re-paved. The proposed area of paving consists of 31,440 square feet of asphalt concrete, with an additional 4,800 square feet of concrete, for a total of 36,240 square feet of pavement. This amounts to an increase of 8,377 square feet over the existing impervious surface for the dock extension and 1,263 square feet of new impervious surface for areas adjacent to the existing dock, for a total of 9,640 square feet of new impervious surface.

2.1.2.5 Install Oil/Water Separator

The 9,640-square feet increase in impervious surface will generate additional stormwater runoff. The dock extension will raise the dock elevation by approximately 1 foot to drain stormwater from both the existing and extension docks back to a new storm sewer to be installed above the back slope of the levee.

Storm drainage modifications will be made to channel runoff from both the new and existing areas of the dock to a new oil-water separator. The separator will discharge into the existing 48-inch diameter storm sewer trunk at the nearest manhole; stormwater will then drain into an 80,000-square foot wetland, infiltrate, and then move to the Clearwater River. Stormwater treatment is expected to result in improved water quality from the site.

2.1.2.6 Minor Improvements

These include relocating an existing pole-mounted light that is now adjacent to the dock on the levee apron.

2.1.2.7 Gravel Storage Area

The project includes gravelling a two acre storage area (for cargo, equipment, and materials) that is part of a Corps Real Estate Easement. The proposed storage area is located above the OHWM of the Clearwater River approximately 0.25 mile upstream of the Port's container dock. It is on the landward side of a levee separating the site from the river and is contiguous with Port owned land that has already been graveled. The site has previously been filled, has no existing trees or natural shoreline, and has no surface connection with the Clearwater River. The site will be cleared, grubbed and covered with 12 inches of gravel. Storm drainage will slope away from the Clearwater River to storm water detention ponds. No Clean Water Act permit is required for this action.

2.1.3 Conservation Measures

The project has minimized potential impacts to the maximum extent practicable through use of a vibratory hammer and by installing the smallest and least number of piles needed. Other measures that will be used include:

- The project proposes to conduct in-water work (e.g., pile driving) within the summer work period of July 1 – September 30 to avoid/minimize impacts on listed species and on designated critical habitat.
- Instead of an impact hammer, piles will be removed by wrapping a choker on them and pulling them out with a crane. A vibratory hammer will be used to install sheet piles. This will avoid fish mortality and will minimize the potential for adverse effects to fish from underwater noise and will reduce potential sediment disturbance.
- Silt fence and watering will be used to minimize fugitive dust. The Port's contractor will use water from an off-site source to minimize dust.
- Concrete will be poured on dry land away from any surface waters.
- Materials will be clean, covered where appropriate, and placed in a manner to prevent erosion/spills.

- Equipment will be inspected daily for leaks and proper function and to ensure that equipment is clean and free of external petroleum-based products.
- To the extent practicable, equipment fueling and maintenance activities will be performed on the dock and in the yard where surface drainage is directed to the stormwater treatment equipment already in place.
- Any waste resulting from the project will be disposed at a properly permitted site.
- Staging areas will be located above the OHWM on areas already covered by impervious surface whenever possible.
- The Corps or the Port of Lewiston will prepare, prior to project implementation, and implement a spill prevention and countermeasures plan (SPCC) to minimize the risk of spills and ensure all harmful materials are properly stored, contained, and disposed.

2.2 Analytical Framework for the Adverse Modification Determination

This Opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this Opinion relies on four components:

1. The *Status of Critical Habitat*, which evaluates the rangewide condition of designated critical habitat for the bull trout in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the critical habitat overall.
2. The *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area.
3. The *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the PCEs and how that will influence the recovery role of affected critical habitat units.
4. *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on bull trout critical habitat are evaluated in the context of the rangewide condition of the critical habitat, taking into account any cumulative effects, to determine if the critical habitat rangewide will remain functional (or will retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the bull trout.

The analysis in this Opinion places an emphasis on using the intended rangewide recovery function of bull trout critical habitat and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal

action, taken together with cumulative effects, for purposes of making the adverse modification determination.

2.3 Status of Bull Trout Critical Habitat

This section presents information about the regulatory, biological and ecological status of the bull trout and its critical habitat that provides context for evaluating the significance of probable effects caused by the proposed action.

2.3.1 Legal Status

Current Designation

The Service published a final critical habitat designation for the coterminous United States population of the bull trout on October 18, 2010 (70 FR 63898); the rule became effective on November 17, 2010. A justification document was also developed to support the rule and is available on our website (*http://www.fws.gov/pacific/bulltrout*, last accessed June 29, 2011). The scope of the designation involved the species' coterminous range, which includes the Jarbidge River, Klamath River, Columbia River, Coastal-Puget Sound, and Saint Mary-Belly River population segments (also considered as interim recovery units)[2]. Rangewide, the Service designated reservoirs/lakes and stream/shoreline miles as bull trout critical habitat (Table 1). Designated bull trout critical habitat is of two primary use types: (1) spawning and rearing, and (2) foraging, migration, and overwintering (FMO).

Table 1. Stream/shoreline distance and reservoir/lake area designated as bull trout critical habitat by state

State	Stream/Shoreline Miles	Stream/Shoreline Kilometers	Reservoir/ Lake Acres	Reservoir/ Lake Hectares
Idaho	8,771.6	14,116.5	170,217.5	68,884.9
Montana	3,056.5	4,918.9	221,470.7	89,626.4
Nevada	71.8	115.6	-	-
Oregon	2,835.9	4,563.9	30,255.5	12,244.0
Oregon/Idaho	107.7	173.3	-	-
Washington	3,793.3	6,104.8	66,308.1	26,834.0
Washington (marine)	753.8	1,213.2	-	-
Washington/Idaho	37.2	59.9	-	-
Washington/Oregon	301.3	484.8	-	-
Total	**19,729.0**	**31,750.8**	**488,251.7**	**197,589.2**

The 2010 revision increases the amount of designated bull trout critical habitat by approximately 76 percent for miles of stream/shoreline and by approximately 71 percent for acres of lakes and reservoirs compared to the 2005 designation.

[2] The Service's 5 year review (USFWS Service 2008, p. 9) identifies six draft recovery units. Until the bull trout draft recovery plan is finalized, the current five interim recovery units are in affect for purposes of section 7 jeopardy analysis and recovery. The adverse modification analysis does not rely on recovery units.

This rule also identifies and designates as critical habitat approximately 1,323.7 km (822.5 miles) of streams/shorelines and 6,758.8 ha (16,701.3 acres) of lakes/reservoirs of unoccupied habitat to address bull trout conservation needs in specific geographic areas in several areas not occupied at the time of listing. No unoccupied habitat was included in the 2005 designation. These unoccupied areas were determined by the Service to be essential for restoring functioning migratory bull trout populations based on currently available scientific information. These unoccupied areas often include lower main stem river environments that can provide seasonally important migration habitat for bull trout. This type of habitat is essential in areas where bull trout habitat and population loss over time necessitates reestablishing bull trout in currently unoccupied habitat areas to achieve recovery.

The final rule continues to exclude some critical habitat segments based on a careful balancing of the benefits of inclusion versus the benefits of exclusion. Critical habitat does not include: (1) waters adjacent to non-Federal lands covered by legally operative incidental take permits for habitat conservation plans (HCPs) issued under section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (Act), in which bull trout is a covered species on or before the publication of this final rule; (2) waters within or adjacent to Tribal lands subject to certain commitments to conserve bull trout or a conservation program that provides aquatic resource protection and restoration through collaborative efforts, and where the Tribes indicated that inclusion will impair their relationship with the Service; or (3) waters where impacts to national security have been identified (75 FR 63898). Excluded areas are approximately 10 percent of the stream/shoreline miles and 4 percent of the lakes and reservoir acreage of designated critical habitat. Each excluded area is identified in the relevant Critical Habitat Unit (CHU) text, as identified in paragraphs (e)(8) through (e)(41) of the final rule. It is important to note that the exclusion of waterbodies from designated critical habitat does not negate or diminish their importance for bull trout conservation. Because exclusions reflect the often complex pattern of land ownership, designated critical habitat is often fragmented and interspersed with excluded stream segments.

2.3.2 Conservation Role and Description of Critical Habitat

The conservation role of bull trout critical habitat is to support viable core area populations (75 FR 63898:63943). The core areas reflect the metapopulation structure of bull trout and are the closest approximation of a biologically functioning unit for the purposes of recovery planning and risk analyses. CHUs generally encompass one or more core areas and may include FMO areas, outside of core areas, that are important to the survival and recovery of bull trout.

Thirty-two CHUs within the geographical area occupied by the species at the time of listing are designated under the revised rule. Twenty-nine of the CHUs contain all of the physical or biological features identified in this final rule and support multiple life-history requirements. Three of the mainstem river units in the Columbia and Snake River basins contain most of the physical or biological features necessary to support the bull trout's particular use of that habitat, other than those physical biological features associated with Primary Constituent Elements (PCEs) 5 and 6, which relate to breeding habitat.

The primary function of individual CHUs is to maintain and support core areas, which (1) contain bull trout populations with the demographic characteristics needed to ensure their persistence and contain the habitat needed to sustain those characteristics (Rieman and McIntyre 1993, p. 19); (2) provide for persistence of strong local populations, in part, by providing habitat

conditions that encourage movement of migratory fish (MBTSG 1998, pp. 48–49; Rieman and McIntyre 1993, pp. 22–23); (3) are large enough to incorporate genetic and phenotypic diversity, but small enough to ensure connectivity between populations (Hard 1995, pp. 314–315; Healey and Prince 1995, p. 182; MBTSG 1998, pp. 48–49; Rieman and McIntyre 1993, pp. 22–23); and (4) are distributed throughout the historic range of the species to preserve both genetic and phenotypic adaptations (Hard 1995, pp. 321–322; MBTSG 1998, pp. 13–16; Rieman and Allendorf 2001, p. 763; Rieman and McIntyre 1993, p. 23).

The Olympic Peninsula and Puget Sound CHUs are essential to the conservation of amphidromous bull trout, which are unique to the Coastal-Puget Sound population segment. These CHUs contain marine nearshore and freshwater habitats, outside of core areas, that are used by bull trout from one or more core areas. These habitats, outside of core areas, contain PCEs that are critical to adult and subadult foraging, overwintering, and migration.

Primary Constituent Elements for Bull Trout Critical Habitat

Within the designated critical habitat areas, the PCEs for bull trout are those habitat components that are essential for the primary biological needs of foraging, reproducing, rearing of young, dispersal, genetic exchange, or sheltering. Based on our current knowledge of the life history, biology, and ecology of this species and the characteristics of the habitat necessary to sustain its essential life-history functions, we have determined that the following PCEs are essential for the conservation of bull trout.

1. Springs, seeps, groundwater sources, and subsurface water connectivity (hyporheic flows) to contribute to water quality and quantity and provide thermal refugia.
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.
3. An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.
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.
5. Water temperatures ranging from 2 °C to 15 °C (36 °F 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.
6. In spawning and rearing areas, substrate of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount of fine sediment, generally ranging in size from silt to coarse sand, embedded in larger substrates, is characteristic of these conditions. The size and amounts of fine sediment suitable to bull trout will likely vary from system to system.
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.

8. Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.
9. Sufficiently low levels of occurrence of nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass); interbreeding (e.g., brook trout); or competing (e.g., brown trout) species that, if present, are adequately temporally and spatially isolated from bull trout.

The revised PCEs are similar to those previously in effect under the 2005 designation. The most significant modification is the addition of a ninth PCE to address the presence of nonnative predatory or competitive fish species. Although this PCE applies to both the freshwater and marine environments, currently no non-native fish species are of concern in the marine environment, though this could change in the future.

Note that only PCEs 2, 3, 4, 5, and 8 apply to marine nearshore waters identified as critical habitat. Also, lakes and reservoirs within the CHUs contain most of the physical or biological features necessary to support bull trout, with the exception of those associated with PCEs 1 and 6. Additionally, all except PCE 6 apply to FMO habitat designated as critical habitat.

Critical habitat includes the stream channels within the designated stream reaches and has a lateral extent as defined by the bankfull elevation on one bank to the bankfull elevation on the opposite bank. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge that generally has a recurrence interval of 1 to 2 years on the annual flood series. If bankfull elevation is not evident on either bank, the ordinary high-water line must be used to determine the lateral extent of critical habitat. The lateral extent of designated lakes is defined by the perimeter of the waterbody as mapped on standard 1:24,000 scale topographic maps. The Service assumes in many cases this is the full-pool level of the waterbody. In areas where only one side of the waterbody is designated (where only one side is excluded), the mid-line of the waterbody represents the lateral extent of critical habitat.

In marine nearshore areas, the inshore extent of critical habitat is the mean higher high-water (MHHW) line, including the uppermost reach of the saltwater wedge within tidally influenced freshwater heads of estuaries. The MHHW line refers to the average of all the higher high-water heights of the two daily tidal levels. Marine critical habitat extends offshore to the depth of 10 meters (m) (33 feet) relative to the mean low low-water (MLLW) line (zero tidal level or average of all the lower low-water heights of the two daily tidal levels). This area between the MHHW line and minus 10 m MLLW line (the average extent of the photic zone) is considered the habitat most consistently used by bull trout in marine waters based on known use, forage fish availability, and ongoing migration studies, and captures geological and ecological processes important to maintaining these habitats. This area contains essential foraging habitat and migration corridors such as estuaries, bays, inlets, shallow subtidal areas, and intertidal flats.

Adjacent shoreline riparian areas, bluffs, and uplands are not designated as critical habitat. However, it should be recognized that the quality of marine and freshwater habitat along streams, lakes, and shorelines is intrinsically related to the character of these adjacent features, and that human activities that occur outside of the designated critical habitat can have major effects on physical and biological features of the aquatic environment.

Activities that cause adverse effects to critical habitat are evaluated to determine if they are likely to "destroy or adversely modify" critical habitat by no longer serving the intended

conservation role for the species or retaining those PCEs that relate to the ability of the area to at least periodically support the species. Activities that may destroy or adversely modify critical habitat are those that alter the PCEs to such an extent that the conservation value of critical habitat is appreciably reduced (75 FR 63898:63943). The Service's evaluation must be conducted at the scale of the entire critical habitat area designated, unless otherwise stated in the final critical habitat rule (USFWS and NMFS 1998, pp. 4–39). Thus, adverse modification of bull trout critical habitat is evaluated at the scale of the final designation, which includes the critical habitat designated for the Klamath River, Jarbidge River, Columbia River, Coastal-Puget Sound, and Saint Mary-Belly River population segments. However, we consider all 32 CHUs to contain features or areas essential to the conservation of the bull trout (75 FR 63898:63901, 63944). Therefore, if a proposed action will alter the physical or biological features of critical habitat to an extent that appreciably reduces the conservation function of one or more critical habitat units for bull trout, a finding of adverse modification of the entire designated critical habitat area may be warranted (75 FR 63898:63943).

2.3.3 Current Critical Habitat Condition Rangewide

The condition of bull trout critical habitat varies across its range from poor to good. Although still relatively widely distributed across its historic range, the bull trout occurs in low numbers in many areas, and populations are considered depressed or declining across much of its range (67 FR 71240). This condition reflects the condition of bull trout habitat. The decline of bull trout is primarily due to habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, past fisheries management practices, impoundments, dams, water diversions, and the introduction of nonnative species (63 FR 31647; 64 FR 17112).

There is widespread agreement in the scientific literature that many factors related to human activities have impacted bull trout and their habitat, and continue to do so. Among the many factors that contribute to degraded PCEs, those which appear to be particularly significant and have resulted in a legacy of degraded habitat conditions are as follows: (1) fragmentation and isolation of local populations due to the proliferation of dams and water diversions that have eliminated habitat, altered water flow and temperature regimes, and impeded migratory movements (Dunham and Rieman 1999, p. 652; Rieman and McIntyre 1993, p. 7); (2) degradation of spawning and rearing habitat and upper watershed areas, particularly alterations in sedimentation rates and water temperature, resulting from forest and rangeland practices and intensive development of roads (Fraley and Shepard 1989, p. 141; MBTSG 1998, pp. ii–v, 20–45); (3) the introduction and spread of nonnative fish species, particularly brook trout and lake trout, as a result of fish stocking and degraded habitat conditions, which compete with bull trout for limited resources and, in the case of brook trout, hybridize with bull trout (Leary et al. 1993, p. 857; Rieman et al. 2006, pp. 73–76); (4) in the Coastal-Puget Sound region where amphidromous bull trout occur, degradation of mainstem river FMO habitat, and the degradation and loss of marine nearshore foraging and migration habitat due to urban and residential development; and (5) degradation of FMO habitat resulting from reduced prey base, roads, agriculture, development, and dams.

2.3.4 Effects of Climate Change on Bull Trout Critical Habitat

One objective of the final rule was to identify and protect those habitats that provide resiliency for bull trout use in the face of climate change. Over a period of decades, climate change may

directly threaten the integrity of the essential physical or biological features described in PCEs 1, 2, 3, 5, 7, 8, and 9. Protecting bull trout strongholds and cold water refugia from disturbance and ensuring connectivity among populations were important considerations in addressing this potential impact. Additionally, climate change may exacerbate habitat degradation impacts both physically (e.g., decreased base flows, increased water temperatures) and biologically (e.g., increased competition with non-native fishes).

2.3.5 Consulted on Effects for Critical Habitat

The Service has formally consulted on the effects to bull trout critical habitat throughout its range. Section 7 consultations include actions that continue to degrade the environmental baseline in many cases. However, long-term restoration efforts have also been implemented that provide some improvement in the existing functions within some of the critical habitat units.

2.4 Environmental Baseline of the Action Area

This section assesses the effects of past and ongoing human and natural factors that have led to the current status of the species, its habitat and ecosystem in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have already undergone section 7 consultations, and the impacts of state and private actions which are contemporaneous with this consultation.

2.4.1 Status of Bull Trout Critical Habitat in the Action Area

The project is located in the Middle Fork–Lower Clearwater River Critical Habitat Subunit (CHSU). This CHSU is essential to bull trout conservation because the Clearwater River and Middle Fork Clearwater River primarily serve as migratory corridors, connecting bull trout local populations within the Clearwater River Critical Habitat Unit as well as maintaining connectivity to other Mid-Columbia River bull trout populations. These mainstem river reaches also provide important foraging and overwintering areas for subadult and adult bull trout that originate in upstream CHSUs. The Clearwater River is designated as FMO habitat from its confluence with the Snake River upstream 74.3 miles to its confluence with the South Fork Clearwater River (USFWS 2010, p. 527).

2.4.2 Factors Affecting Bull Trout Critical Habitat in the Action Area

The same factors affecting rangewide status of critical habitat and the species affect critical habitat in the action area. These factors include residential and commercial development, timber harvest, roads, mining, and agriculture which all contribute to very high sediment loads in the Clearwater River during high flow events (USFWS 2002, pp. 44-82).

The baseline condition of the PCEs of critical habitat in the action area is as follows (from Assessment pp. 15–17 with modification to PCE 5)

1. *Springs, seeps, groundwater sources, and subsurface water connectivity (hyporheic flows) to contribute to water quality and quantity and provide thermal refugia.*
   The action area contains no springs, seeps, or significant sources of groundwater. While the dock itself may provide some moderate amount of thermal refugia for rearing

salmonids, it does not likely influence water temperatures in the Clearwater River significantly. This PCE is not present within the action area.

2. *Migratory 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 action area does serve as a migratory corridor for bull trout. However, water quality and habitat conditions within it limit its suitability. As mentioned previously, no natural cover, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, or large rocks and boulders exist within the action area to provide any specific rearing, wintering, or foraging habitat for adult or juvenile salmonids. The water column habitat within the action area provides adequate volume for rapid adult migration.

3. *An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.*
   The action area likely provides an adequate food base for migrating bull trout, as they do not spend significant amounts of time within the action area. Water quality is impaired within the action area, but the action area does provide habitat for native and non-native juvenile fishes and aquatic macroinvertebrates that serve as prey for bull trout.

4. *Complex river, stream, lake, reservoir, and marine shoreline aquatic environments and processes with features such as large wood, side channels, pools, undercut banks and unembedded substrates, to provide a variety of depths, gradients, velocities, and structure.*
   The aquatic environment within the action area has been simplified and channelized, and no side channels, pools, or undercut banks are present within it. It does not provide a diversity of in-stream depths, gradients, velocities, or structure. This PCE is not present within the action area.

5. *Water temperatures ranging from 36 to 59°F (2 to 15°C), with adequate thermal refugia available for temperatures at 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.*
   Water quality within the action area is impaired due to a lack of riparian vegetation and water temperatures are not within the adequate thermal range. No significant amount of natural cover or riparian vegetation is present within the action area. Water temperatures in this section of the Clearwater River are likely suitable only for bull trout that are migrating through the area. This PCE is present within the action area for FMO habitat.

6. *In spawning and rearing areas, substrate of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount of fine sediment, generally ranging in size from silt to coarse sand, embedded in larger substrates, is characteristic of these conditions. The size and amounts of fine sediment suitable for bull trout will likely vary from system to system.*
   The Clearwater River within the action area is not suitable for spawning or juvenile rearing of bull trout. The nearshore habitat is extremely limited and the shoreline is armored. Substrates within the action area are largely sands, silts, and clays and lack the gravel or cobble component necessary for adequate oxygenation of developing eggs. This PCE is not present within the action area.

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 Clearwater River within the action area does not contain a natural hydrograph due to the dams that exist upstream and downstream that regulate seasonal flows. This PCE is not present within the action area.
8. *Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.*
   Water quality within the action area is impaired because of its lack of riparian vegetation and its artificial isolation from the floodplain. No natural cover (i.e., shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, or large rocks and boulders) is present within the action area. Water quantity in the Clearwater River is generally not an issue as it is regulated by dams, but water quality is impaired and listed on the 2008 303(d) list for supersaturated dissolved gas. The action area likely provides suitable water quantity but impaired water quality for migrating bull trout.
9. *Sufficiently low levels of occurrence of nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass), interbreeding (e.g., brook trout), or competing (e.g., brown trout) species that, if present, are adequately temporarily and spatially isolated from bull trout.*
   The Clearwater River within the action area has populations of several nonnative predatory species. This PCE is not present within the action area.

The above narrative indicates that of the nine identified PCEs only PCEs 2 (migratory habitat), 3 (abundant food base), 5 (water temperature), and 8 (water quality/quantity) are present in the action area or would be influenced by the project.

2.5 Effects of the Proposed Action

Effects of the action considers the direct and indirect effects of an action on the listed species and/or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action. These effects are considered along with the environmental baseline and the predicted cumulative effects to determine the overall effects to the species. Direct effects are defined as those that result from the proposed action and directly or immediately impact the species or its habitat. Indirect effects are those that are caused by, or will result from, the proposed action and are later in time, but still reasonably certain to occur. An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation.

2.5.1 Direct and Indirect Effects of the Proposed Action

The Service has designated the Clearwater River as critical habitat for bull trout (see description in section 2.4.1 above). Table 2 below shows which PCEs are present in the action area and the anticipated effects to those PCEs resulting from project implementation.

Table 2. PCEs, Environmental Baseline, and Determination of Effect for bull trout critical habitat in the action area for the Port of Lewiston's barge dock extension.

	Primary Constituent Elements (PCEs)	Environmental Baseline Present or Absent	Determination of Effect (LAA = Likely to Adversely Affect; NLAA = Not Likely to Adversely Affect)
1	Springs, seeps, groundwater sources, and subsurface water connectivity (hyporehic flows) to contribute to water quality and quantity and provide thermal refugia.	Absent	No Effect
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.	Present	LAA short-term resulting from suspended sediment/turbidity (from pile driving) and underwater noise associated with sheet pile installation with vibratory hammer. In addition, extending the dock will permanently reduce available migratory habitat by 5,500 square feet.
3	An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.	Present (forage fish)	NLAA – no significant reduction in the availability of forage fish for bull trout will occur due to project implementation.
4	Complex river, stream, lake, reservoir, and marine shoreline aquatic environments and processes with features such as large wood, side channels, pools, undercut banks and un-embedded substrates, to provide a variety of depths, gradients, velocities, and structure.	Absent	No Effect
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 vary depending on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shade, such as that provided by riparian habitat; and local groundwater influence.	Present	NLAA – no significant impact to water temperature will occur due to project implementation.
6	In spawning and rearing areas, substrate of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount of fine sediment, generally ranging in size from silt to coarse sand, embedded in larger substrates, is characteristic of these conditions. The size and amounts of fine sediment suitable to bull trout will likely vary from system to system.	Absent	No Effect
7	A natural hydrograph, including peak,	Absent	No Effect

	Primary Constituent Elements (PCEs)	Environmental Baseline Present or Absent	Determination of Effect (LAA = Likely to Adversely Affect; NLAA = Not Likely to Adversely Affect)
	high, low, and base flows within historic and seasonal ranges or, if flows are controlled, minimal flow departures from a natural hydrograph.		
8	Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.	Present but with impaired water quality, 303(d) list	LAA short-term from project generated suspended sediment and turbidity.
9	Sufficiently low levels of occurrence of nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass); interbreeding (e.g., brook trout); or competing (e.g., brown trout) species that, if present, are adequately temporally and spatially isolated from bull trout.	Absent	No Effect

As shown in Table 2, the project will result in suspended sediment/turbidity and underwater noise from pile driving which will have a short-term adverse effect to PCEs 2 (migratory habitat), and 8 (water quality). Conservation Measures incorporated into the project will reduce the magnitude of anticipated effects. These measures include using a vibratory hammer for pile driving and applying fill within the confines of the new extension bulkhead which should capture most suspended sediment. The dock extension will result in the permanent loss of 5,500 square feet of migratory habitat. But given the large size of the Clearwater River in the action area, the functionality of the habitat in providing migratory and over wintering habitat for bull trout will not be significantly impaired by this loss.

2.5.2 Effects of Interrelated or Interdependent Actions

The Service has not identified effects from actions that are interrelated or interdependent with the proposed action.

2.6 Cumulative Effects

The implementing regulations for section 7 define cumulative effects to include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this Opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

We assume that many of the threats to critical habitat identified previously in this Opinion will continue to impact critical habitat, including climate change. Warming of the global climate seems quite certain. Changes have already been observed in many species' ranges consistent with changes in climate (ISAB 2007, p. iii; Hansen et al. 2001, p. 767). Global climate change threatens bull trout throughout its range in the coterminous United States. Downscaled regional climate models for the Columbia River basin predict a general air temperature warming of 1.0 to 2.5 °C (1.8 to 4.5 °F) or more by 2050 (Rieman et al. 2007, p. 1552). This predicted temperature trend may have important effects on the regional distribution and local extent of habitats available to salmonids (Rieman et al. 2007, p. 1552), although the relationship between changes

in air temperature and water temperature are not well understood. Bull trout spawning and early rearing areas are currently largely constrained by low fall and winter water temperatures that define the spatial structuring of local populations or habitat patches across larger river basins. Habitat patches represent networks of thermally suitable habitat that may lie in adjacent watersheds and are disconnected (or fragmented) by intervening stream segments of seasonally unsuitable habitat or by actual physical barriers (Rieman et al. 2007, p. 1553).

With a warming climate, thermally suitable bull trout spawning and rearing areas are predicted to shrink during warm seasons, in some cases very dramatically, becoming even more isolated from one another under moderate climate change scenarios (Rieman et al. 2007, pp. 1558–1562; Porter and Nelitz 2009, pp. 5–7). Climate change will likely interact with other stressors, such as habitat loss and fragmentation (Rieman et al. 2007, pp. 1558–1560; Porter and Nelitz 2009, p. 3); invasions of nonnative fish (Rahel et al. 2008, pp. 552–553); diseases and parasites (McCullough et al. 2009, p. 104); predators and competitors (McMahon et al. 2007, pp. 1313–1323; Rahel et al. 2008, pp. 552–553); and flow alteration (McCullough et al. 2009, pp. 106–108), rendering some current spawning, rearing, and migratory habitats marginal or wholly unsuitable. Over a period of decades, climate change may directly threaten the integrity of the essential physical or biological features described in PCEs 1, 2, 3, 5, 7, 8 and 9.

2.7 Conclusion

The Service has reviewed the current status of bull trout critical habitat, the environmental baseline in the action area, effects of the proposed action, and cumulative effects, and it is our conclusion that the proposed action is not likely to destroy or adversely modify designated critical habitat for bull trout. The project will result in short-term adverse effects to the PCEs of critical habitat. We expect that project Conservation Measures should reduce the magnitude of adverse effects, but not eliminate them. The project will not impact the functionality of the Clearwater CHU or, by extension, critical habitat rangewide in providing for the conservation of the bull trout.

2.8 Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery programs, or to develop new information on listed species. We recommend the following conservation recommendations for this project:

1. Establish riparian vegetation, especially trees and shrubs, in the vicinity of the Port where feasible.
2. Assess the feasibility of adding instream features such as rock barbs to increase habitat complexity for migrating and overwintering bull trout and/or their prey base in the action area.
3. Monitor the effectiveness of the proposed oil/water separator and other components of the storm water run-off system for minimizing risks to water quality in the Clearwater River.

2.9 Reinitiation Notice

This concludes formal consultation on the proposed project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if:

1. New information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion.
2. The agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this Opinion.
3. A new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

3. LITERATURE CITED

Dunham, J.B. and B.E. Rieman. 1999. Metapopulation structure of bull trout: influences of physical, biotic, and geometrical landscape characteristics. Ecological Applications 9(2):642-655.

Fraley, J.J. and B.B. Shepard. 1989. Life history, ecology and population status of migratory bull trout (*Salvelinus confluentus*) in the Flathead Lake and River system, Montana. Northwest Science 63(4): 133-143.

Hansen, A.J., R.P. Neilson, V.H. Dale, C.H. Flather, L.R. Iverson, D.J. Currie, S. Shafer, R. Cook, and P.J. Bartlein. 2001. Global Change in Forests: Responses of Species, Communities, and Biomes. BioScience 51(9):765-779.

Hard, J. 1995. A quantitative genetic perspective on the conservation of intraspecific diversity. American Fisheries Society Symposium 17:304-26.

Healey, M.C. and A. Prince. 1995. Scales of variation in life history tactics of Pacific salmon and the conservation of phenotype and genotype. American Fisheries Society Symposium 17:176-84.

Independent Scientific Advisory Board (ISAB). 2007. Climate Change Impacts on Columbia River Basin Fish and Wildlife. ISAB Climate Change Report ISAB 2007-2. 136 pp

Leary, R.F., F.W. Allendorf, and S.H. Forbes. 1993. Conservation genetics of bull trout in the Columbia and Klamath River drainages. Conservation Biology 7(4):856-865.

McCullough, D.A., J.M. Bartholow, H.I. Jager, R.L. Beschta, E.F. Cheslak, M.L. Deas, J.L. Ebersole, J.S. Foott, S.L. Johnson, K.R. Marine, M.G. Mesa, J.H. Petersen, Y. Souchon, K.F. Tiffan, and W.A. Wurtsbaugh. 2009. Research in thermal biology: burning questions for coldwater stream fishes. Reviews in Fisheries Science 17(1):90-115.

McMahon, T.E., A.V. Zale, F.T. Barrows, J.H. Selong, and R.J. Danehy. 2007. Temperature and competition between bull trout and brook trout: a test of the elevation refuge hypothesis. Transactions of the American Fisheries Society 136:1313-1326.

Montana Bull Trout Scientific Group (MBTSG). 1998. The Relationship between Land Management Activities and Habitat Requirements of Bull Trout. Helena, Montana. 78 pp. + vi.

Porter, M. and M. Nelitz. 2009. A future outlook on the effects of climate change on bull trout (*Salvelinus confluentus*) habitats in the Cariboo-Chilcotin. Prepared by ESSA Technologies Ltd. for Fraser Salmon and Watersheds Program, B.C. Ministry of Environment, and Pacific Fisheries Resource Conservation Council. Available at: *http://www.thinksalmon.com/reports/BullTroutHabitatOutlook_090314.pdf* (Last accessed July 5, 2011).

Rahel, F.J., B. Bierewagen, and Y. Taniguchi. 2008. Managing aquatic species of conservation concern in the face of climate change and invasive species. Conservation Biology 22(3):551-561.

Reeder, T. 2011. Biological Assessment for the Port of Lewiston Barge Dock Extension Project. Prepared by Berger ABAM for the Port of Lewiston, Idaho. Vancouver, Washington. 26 pp. plus appendices.

Rieman, B.E. and F.W. Allendorf. 2001. Effective population size and genetic conservation criteria for bull trout. North American Journal of Fisheries Management 21:756-764.

Rieman, B.E. and J.D. McIntyre. 1993. Demographic and habitat requirements for conservation of bull trout. General Technical Report INT-302, Intermountain Research Station, U.S. Department of Agriculture, Forest Service, Boise, Idaho.

Rieman, B.E., J.T. Peterson, and D.L. Meyers. 2006. Have brook trout (*Salvelinus fontinalis*) displaced bull trout (*Salvelinus confluentus*) along longitudinal gradients in central Idaho streams? Canadian Journal of Fisheries and Aquatic Sciences 63:63-78.

Rieman, B.E., D. Isaak, S. Adams, D. Horan, D. Nagel, C. Luce, and D. Meyers. 2007. Anticipated climate warming effects on bull trout habitats and populations across the Interior Columbia River Basin. Transactions of the American Fisheries Society 136:1552-1565.

U.S. Fish and Wildlife Service (USFWS). 2002. Chapter 16, Clearwater River Recovery Unit, Idaho. 196 pp. In: U.S. Fish and Wildlife Service. Bull Trout (*Salvelinus confluentus*) Draft Recovery Plan. Portland, Oregon.

U.S. Fish and Wildlife Service (USFWS). 2008. Bull Trout (*Salvelinus confluentus*) 5-Year Review: Summary and Evaluation. 53 pp.

U.S. Fish and Wildlife Service (USFWS). 2010. Bull Trout Final Critical Habitat Justification: Rationale for Why Habitat is Essential, and Documentation of Occupancy. U.S. Fish and Wildlife Service, Portland, Oregon. 979 pp. plus appendices.

U.S. Fish and Wildlife Service and National Marine Fisheries Service (USFWS and NMFS). 1998. Endangered Species Consultation Handbook: Procedures for conducting consultation and conference activities under Section 7 of the Endangered Species Act. U.S. GPO:2004-690-278. March 1998.

Appendix D

Biological Opinion from National Marine Fisheries Service, March 28, 2012

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to NMFS Number:
2011/05455 (COE)

March 28, 2012

Lt. Col. David Caldwell
U.S. Army Corps of Engineers
Walla Walla District
201 North Third Ave.
Walla Walla, Washington 99362

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Port of Lewiston Dock Extension Project, Nez Perce County, Idaho, Clearwater River HUC 170603061306 (One project)

Dear Lt. Colonel Caldwell:

The enclosed document contains a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7(a)(2) of the Endangered Species Act (ESA) on the effects of the Port of Lewiston Dock Extension Project. In this Opinion, NMFS concludes that the action, as described, is not likely to jeopardize the continued existence of Snake River Basin steelhead and Snake River fall Chinook salmon, or result in the destruction or adverse modification of their designated critical habitat.

As required by section 7 of the ESA, NMFS provided an incidental take statement with the Opinion. The incidental take statement describes reasonable and prudent measures NMFS considers necessary or appropriate to minimize incidental take associated with this action. The take statement sets forth nondiscretionary terms and conditions, including reporting requirements, that the Federal agency or any person who performs the action must comply with to carry out the reasonable and prudent measures. Incidental take from actions that meet these terms and conditions will be exempt from the ESA take prohibition.

This document also includes the results of our analysis of the action's likely effects on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and includes six conservation recommendations to avoid, minimize, or otherwise offset potential adverse effects on EFH. These conservation recommendations are identical to the ESA terms and conditions. Section 305(b)(4)(B) of the MSA requires Federal agencies to provide a detailed written response to NMFS within 30 days after receiving these recommendations.

Printed on Recycled Paper

If the response is inconsistent with the EFH conservation recommendations, the U.S. Army Corps of Engineers must explain why the recommendations will not be followed, including the justification for any disagreements over the effects of the action and the recommendations. In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, in your statutory reply to the EFH portion of this consultation, we ask that you clearly identify the number of conservation recommendations accepted.

If you have questions regarding this consultation, please contact Mr. Dale Brege at (208) 983-4060 at the North Idaho Branch Office in Grangeville, Idaho.

Sincerely,

for William W. Stelle, Jr.
Regional Administrator

cc: R. Holder – USFWS
R. Hennekey – IDFG
M. Lopez – NPT
L. Phillips – COE
J. Joyner – COE

bcc: F/NWR – CHRON File
ISHO – File copy, Read File
NIBO – D. Brege
Moscow – B. Ries, electronic copy

Brege:Port of Lewiston Dock Extension BO:blw:3/14/12:F/NWR/2011/05455 (COE)

cc Addresses:

Russ Holder
U.S. Fish and Wildlife Service
Snake River Basin Office
1387 S. Vinnell Way, Room 368
Boise, Idaho 83709

Raymond Hennekey
Environmental Staff Biologist
Idaho Department of Fish and Game
3316 16th Street
Lewiston, Idaho 83501

Mike Lopez
Nez Perce Tribe
P.O. Box 365
Lapwai, Idaho 83540

Leroy Phillips
U.S. Army Corps of Engineers
10095 W. Emerald
Boise, Idaho 83704

James Joyner
U.S. Army Corps of Engineers
900 North Skyline Drive, Suite A
Idaho Falls, Idaho 83402

Endangered Species Act Biological Opinion
and
Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Port of Lewiston Dock Extension Project
HUC #170603061306, Nez Perce County, Idaho

NMFS Consultation Number: 2011/05455

Action Agency: U.S. Army Corps of Engineers, Walla Walla District

Affected Species and Determinations:

ESA-Listed Species	Status	Is Action Likely to Adversely Affect Species or Critical Habitat?	Is Action Likely To Jeopardize the Species?	Is Action Likely To Destroy or Adversely Modify Critical Habitat?
Snake River Basin steelhead (*Oncorhynchus mykiss*)	Threatened	Yes	No	No
Snake River fall Chinook (O. *tshawytscha*)	Threatened	Yes	No	No

Fishery Management Plan Describing EFH in the Project Area	Does Action Have an Adverse Effect on EFH?	Are EFH Conservation Recommendations Provided?
Pacific Coast Salmon	Yes	Yes

Consultation Conducted By: National Marine Fisheries Service, Northwest Region

Issued By:

for William W. Stelle, Jr.
Regional Administrator

Date: March 28, 2012

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1. Background 1
1.2. Consultation History 1
1.3. Proposed Action 2
1.4. Action Area 5
2. ENDANGERED SPECIES ACT: BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT 5
2.1. Introduction to the Biological Opinion 6
2.2. Rangewide Status of the Species and Critical Habitat 7
2.2.1. Status of the SRB Steelhead Distinct Population Segment 8
2.2.1.1. Snake River Fall Chinook Salmon Evolutionary Significant Unit (ESU) . 13
2.2.2. Status of Critical Habitat 19
2.3. Environmental Baseline 21
2.4. Effects of the Action on the Species and its Designated Critical Habitat 23
2.4.1. Effects on ESA-Listed Species 23
2.4.2. Effects on Critical Habitat 29
2.5. Cumulative Effects 30
2.6. Integration and Synthesis 31
2.7. Conclusion 32
2.8. Incidental Take Statement 32
2.8.1. Amount or Extent of Take 33
2.8.2. Effect of the Take 34
2.8.3. Reasonable and Prudent Measures and Terms and Conditions 34
2.9. Conservation Recommendations 36
2.10. Reinitiation of Consultation 37
3. MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT 37
3.1. Essential Fish Habitat Affected by the Project 37
3.2. Adverse Effects on Essential Fish Habitat 38
3.3. Essential Fish Habitat Conservation Recommendations 38
3.4. Statutory Response Requirement 39
3.5. Supplemental Consultation 39
4. DATA QUALITY ACT DOCUMENTATION AND PRE-DISSEMINATION REVIEW 39
4.1. Utility 39
4.2. Integrity 40
4.3. Objectivity 40
5. LITERATURE CITED 41

TABLES

Table 1. Federal Register notices for final rules that list threatened and endangered species, designated critical habitat, or apply protective regulations to listed species considered in this consultation. 5
Table 2. Clearwater River MPG within the Snake River Basin steelhead DPS. 13
Table 3. Viability assessment for the Lower Snake River Fall Chinook population using ICTRT criteria. 18
Table 4. Types of sites and essential physical and biological features designated as PCEs, and the species life stage each PCE supports. 20

FIGURES

Figure 1. Site Picture of the Port of Lewiston Dock Extension Project 4
Figure 2. Map showing locations of MPGs and individual populations of Snake River steelhead DPS 10
Figure 3. SRB Steelhead DPS Abundance and 5-Year Average at Lower Granite Dam. 11
Figure 4. Map of the Snake River Fall-Run Chinook Salmon ESU 14
Figure 5. Numbers of Snake River fall Chinook salmon adults crossing Lower Granite Dam through 2010 16

ACRONYMS

~	Approximately
BA	Biological Assessment
BMP	Best Management Practices
COE	U.S. Army Corps of Engineers
DNA	Deoxyribonucleic Acid
DPS	Distinct Population Segment
DQA	Data Quality Act
EFH	Essential Fish Habitat
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit
FCRPS	Federal Columbia River Power System
ft or ft^2	feet or square feet
FWS	U.S. Fish and Wildlife Service
ICTRT	Interior Columbia Basin Technical Recovery Team
ISAB	Independent Scientific Advisory Board
ITS	Incidental Take Statement
MPG	Major Population Group
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
Opinion	Biological Opinion
PAH	Polycyclic Aromatic Hydrocarbons
PCE	Primary Constituent Element
PFMC	Pacific Fishery Management Council
Port	Port of Lewiston
R/S	Recruit/Spawner
RMS	Root Mean Square
RNA	Ribonucleic Acid
RPA	Reasonable and Prudent Alternatives
RPM	Reasonable and Prudent Measures
SEL	Sound Exposure Level
SPL	Sound Pressure Level
SRB	Snake River Basin
VSP	Viable Salmonid Populations
yd^3	Cubic Yard

1. INTRODUCTION

This Introduction section provides information relevant to the other sections of this document and is incorporated by reference into Sections 2 and 3 below.

1.1. Background

The biological opinion (Opinion) and incidental take statement (ITS) portions of this consultation were prepared by the National Marine Fisheries Service (NMFS) in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531, *et seq*.), and implementing regulations at 50 CFR 402. With respect to designated critical habitat, the following analysis relied only on the statutory provisions of the ESA, and not on the regulatory definition of "destruction or adverse modification" at 50 CFR 402.02.

NMFS also completed an Essential Fish Habitat (EFH) consultation. It was prepared in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801, *et seq*.) and implementing regulations at 50 CFR 600.

The Opinion and EFH conservation recommendations are both in compliance with section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-5444) ("Data Quality Act") and underwent pre-dissemination review.

1.2. Consultation History

The U.S. Army Corps of Engineers (COE), Walla Walla District, is proposing to issue a permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act, which would authorize a barge dock extension to the Port of Lewiston (Port) in Lewiston, Idaho in the Clearwater River in Nez Perce County, Idaho. On May 26, 2011, the COE sent a draft biological assessment (BA) through the Port's consultant (Berger ABAM, Vancouver, Washington). After review of the BA, NMFS sent a letter of non-concurrence on June 17, 2011, concerning the analysis and the determinations of effect of not likely to adversely affect ESA-listed species within NMFS' authority. A site visit by NMFS (D. Brege) with Port manager (D. Doerningsfeld) occurred on July 11, 2011. The COE, NMFS, and the Port's consultant continued negotiations with several e-mails, telephone conversations, and another draft BA (July 19, 2011). After further refinements, NMFS accepted a final BA, which was received on October 5, 2011. In their BA, the COE determined that the project was likely to adversely affect Snake River Basin (SRB) steelhead, Snake River spring/summer Chinook salmon, Snake River fall Chinook salmon, Snake River sockeye, and designated critical habitat. A complete record of this consultation is on file at the Idaho State Habitat Office in Boise, Idaho.

Because the Port of Lewiston Dock Extension Project will likely affect Tribal trust resources, NMFS contacted the Nez Perce Tribe pursuant to the Secretarial Order (June 5, 1997). A copy of the proposed action and the conservation recommendations were electronically mailed to the Nez Perce Tribe for review on November 30, 2011. On December 14, 2011, the Tribe responded

with an e-mail and an attached letter containing joint comments from the Tribe and Columbia River Inter-Tribal Fish Commission. The letter was dated August 22, 2011, and was previously provided to the COE requesting the COE to deny issuing the permit. The Tribe's e-mail asked NMFS to consider the letter in the context of our ESA consultation and also asked NMFS to send them a complete copy of the draft Opinion when it was available. On January 20, 2012, NMFS sent an electronic copy of the complete draft Opinion to the Tribe. The Tribe responded on February 1, 2012, asking for staff-to-staff and government-to-government meetings. The staff meeting was scheduled for February 27, 2012. We received no response to our February 3, 2012, electronic request to schedule a government-to-government meeting with the Tribe. At the staff-to-staff meeting held at the Tribe's fisheries department conference room, the topics discussed were: (1) Linking the COE's sediment management plan to this action (see CBB 2011), (2) discussing the potential for increased barge traffic, (3) calculating the size of the action area, (4) the effects of noise generated from the demolition activities, (5) explanation of our turbidity assumptions, and (6) increasing the estimate of juvenile fall Chinook salmon in the action area.

At the staff-to-staff meeting, NMFS explained to the Tribe that: (1) the action area was determined by calculating the distance that behavioral effects would extend, (2) noise generated by demolition activities would be short in duration and would probably not add significant noise beyond the area calculated for vibratory hammer operations, and (3) turbidity generated by the project would be alleviated by project timing and sequencing of construction activities. NMFS also added additional information to this Opinion concerning: (1) indirect effects of potential increased barge traffic, and (2) numbers of juvenile fall Chinook in the action area. The issue of the sediment management plan has been referred to the COE.

1.3. Proposed Action

"Action" means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. NMFS is not aware of any interdependent or interrelated actions.

The proposed project is located at the Port of Lewiston in Lewiston, Idaho (Figure 1). Containers and other cargo carried by barges using the navigation system on the Clearwater, Snake, and Columbia Rivers are loaded and unloaded at the existing barge terminal at this industrial port facility. The proposed extension will lengthen the existing 125-foot dock in the berthing basin to increase the efficiency of the dock operation, permit more than one barge to berth, and allow longer roll-on, roll-off cargo to be unloaded to the west of the existing terminal building. The increased efficiency will enable the Port to remain competitive with other modes of freight transportation and continue to generate local economic activity.

For purposes of this consultation, the COE, through the actions of the Port, proposes to: (1) Extend the existing dock along the bank of the Clearwater River by 150 feet; (2) install

an additional 200 feet of sheet pile (150 feet along the shoreline and 50 feet from the face of the dock to the shoreline); (3) remove the existing mooring dolphin and replace it downstream of the new dock; (4) backfill with approximately 4,850 cubic yards (yd^3) behind the bulkhead, with 2,400 yd^3 below the ordinary high water mark; (5) install a new fender and barge handling system; (6) pave 9,640 square feet (ft^2) of surface area (~ 0.22 acres) on the dock extension; (7) grade or repave the adjacent yard; (8) install a new storm drainage system; (9) install tiebacks and concrete deadmen anchor blocks; (10) gravel an additional 2 acres of a 10-acre storage area; (11) install a new oil/water separator for stormwater treatment; and (12) make minor improvements to the terminal and dock areas.

Installation of the sheet piles and fender pipe piles is planned to occur in the summer months between July 1 and September 30, with construction anticipated to occur in 2012. Pile driving will occur entirely using a vibratory hammer. Vibratory hammer operations will generally be a maximum of 12 hours per day, during daylight hours only. Usually, however, this is not a continuous operation. A likely scenario for pile driving operations would be 20 minutes of vibration followed by 10 minutes off. There are also three, 20-minute breaks and a 30-minute lunch in a 12-hour shift. This leaves an anticipated total run time of approximately 7 hours during a 12-hour shift (telephone conversation between T. Reeder, Berger ABAM, and D. Brege, NMFS, on November 1, 2011, and confirmed with e-mail exchanges between D. Brege and T. Reeder on November 3, 2011, and November 14, 2011).

The COE will ensure that the Port will use the following precautionary measures and best management practices (BMPs) to avoid or minimize impacts to listed fish and their habitat:

- In-water work will be conducted within a summer low flow work period of July 1 through September 30.

- Demolition activities will be sequenced to minimize and contain turbidity when removing the existing mooring dolphin.

- Fill will be placed behind the new sheet pile bulkhead (and not within the river current) to the level of the tiebacks.

- Piles will be removed by wrapping a choker on them and pulling them out with a crane.

- A vibratory hammer will be used to install sheet piles, reducing underwater noise and sediment disturbance.

- Silt fence and watering will be used to minimize dust. The Port's contractor will use water from an off-site source to minimize dust.

- Concrete will be poured on dry land away from any surface waters.

- Materials will be clean, covered where appropriate, and placed in a manner to prevent erosion or spills.

- Equipment will be inspected daily for leaks to ensure that equipment is clean and free of external petroleum-based products.

- Equipment fueling and maintenance activities will be performed on the dock and in the yard, to the extent practicable, where surface drainage is directed to the stormwater treatment equipment already in place.

- Any waste resulting from the project will be properly disposed at a permitted site.

- Staging areas will be located above the ordinary high water mark on areas already covered by impervious surface, whenever possible.

- The Port will prepare and implement a spill prevention and countermeasures plan prior to project implementation.

The precautionary measures described here and in the consultation initiation package as part of the action are intended to reduce or avoid adverse effects on ESA-listed species and their habitats. NMFS regards the measures as integral components of the proposed action and expects that all project activities are completed consistent with these measures. We have completed our effects analysis accordingly. Any deviation from the precautionary and monitoring measures will be beyond the scope of this consultation and will not be exempted from the prohibition against take as described in the attached ITS. Further consultation will be required to determine what effect the modified action may have on listed species or designated critical habitats.

Figure 1. Site Picture of the Port of Lewiston Dock Extension Project

1.4. Action Area

'Action area' means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For consultation purposes, the action area includes the Clearwater River from 3,000 feet upstream and 3,000 feet downstream of the project site. Both the upstream and the downstream distances for the action area were based on the underwater acoustic noise generated by the vibratory hammer operations, as discussed in Section 2.4 in the analysis of effects of underwater acoustic noise levels.

This 3,000-foot distance does not extend downstream to the confluence with the Snake River, where impacts could potentially occur to ESA-listed Snake River spring/summer Chinook salmon and sockeye salmon. Therefore, these two species and their habitat are not found in the action area and are not discussed further in this Opinion.

The Clearwater River serves as spawning, rearing, and migratory habitat for ESA-listed Snake River fall Chinook salmon and SRB steelhead, and is designated critical habitat for these species (see Table 1). Although Snake River spring/summer Chinook salmon use the Clearwater River, they are not listed under the ESA in the Clearwater drainage.

Table 1. Federal Register notices for final rules that list threatened and endangered species, designated critical habitat, or apply protective regulations to listed species considered in this consultation.

Species	Listing Status	Critical Habitat	Protective Regulations
Chinook salmon (*Oncorhynchus tshawytscha*)			
Snake River fall-run	T 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	6/28/05; 70 FR 37160
Steelhead (*O. mykiss*)			
Snake River Basin	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160

Note: Listing status 'T' means listed as threatened under the ESA.

2. ENDANGERED SPECIES ACT: BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT

The ESA establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat on which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with the U.S. Fish and Wildlife Service (FWS), NMFS, or both, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their designated critical habitat. Section 7(b)(3) requires that at the conclusion of consultation, the FWS or NMFS provides an opinion stating how the agency's actions will affect listed species or their critical habitat. If incidental take is expected, section 7(b)(4) requires the provision of an ITS specifying the impact of any incidental taking, and including reasonable and prudent measures (RPMs) to minimize such impacts.

2.1. Introduction to the Biological Opinion

Section 7(a)(2) of the ESA requires Federal agencies, in consultation with NMFS, to insure that their actions are not likely to jeopardize the continued existence of endangered or threatened species, or adversely modify or destroy their designated critical habitat. The jeopardy analysis considers both survival and recovery of the species. The adverse modification analysis considers the impacts to the conservation value of the designated critical habitat.

"To jeopardize the continued existence of a listed species" means to engage in an action that would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02).

This Opinion does not rely on the regulatory definition of 'destruction or adverse modification' of critical habitat at 50 C.F.R. 402.02. Instead, we have relied upon the statutory provisions of the ESA to complete the following analysis with respect to critical habitat.[1]

NMFS uses the following approach to determine whether the proposed action described in Section 1.3 is likely to jeopardize listed species or destroy or adversely modify critical habitat:

- *Identify the rangewide status of the species and critical habitat likely to be adversely affected by the proposed action*. This section describes the current status of each listed species and its critical habitat relative to the conditions needed for recovery. For listed salmon and steelhead, NMFS has developed specific guidance for analyzing the status of the listed specie's component populations in a "viable salmonid populations" paper (VSP; McElhany *et al*. 2000). The VSP approach considers the abundance, productivity, spatial structure, and diversity of each population as part of the overall review of a species' status. For listed salmon and steelhead, the VSP criteria therefore encompass the specie's "reproduction, numbers, or distribution" (50 CFR 402.02). In describing the range-wide status of listed species, we rely on viability assessments and criteria in technical recovery team documents and recovery plans, where available, that describe how VSP criteria are applied to specific populations, major population groups (MPGs), and species. We determine the rangewide status of critical habitat by examining the condition of its physical or biological features (also called "primary constituent elements" or PCEs in some designations), which were identified when the critical habitat was designated. Species and critical habitat status are discussed in Section 2.2.

- *Describe the environmental baseline for the proposed action*. The environmental baseline includes the past and present impacts of Federal, state, or private actions and other human activities in the action area. It includes the anticipated impacts of proposed Federal projects that have already undergone formal or early section 7 consultation and the impacts of state or private actions that are contemporaneous with the consultation in process. The environmental baseline is discussed in Section 2.3 of this Opinion.

[1] Memorandum from William T. Hogarth to Regional Administrators, Office of Protected Resources, NMFS (Application of the "Destruction or Adverse Modification" Standard Under Section 7(a)(2) of the Endangered Species Act) (November 7, 2005).

Analyze the effects of the proposed actions. In this step, NMFS considers how the proposed action would affect the specie's reproduction, numbers, and distribution or, in the case of salmon and steelhead, their VSP characteristics. NMFS also evaluates the proposed action's effects on critical habitat features. The effects of the action are described in Section 2.4 of this Opinion.

- *Describe any cumulative effects.* Cumulative effects, as defined in NMFS' implementing regulations (50 CFR 402.02), are the effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area. Future Federal actions that are unrelated to the proposed action are not considered because they require separate section 7 consultation. Cumulative effects are considered in Section 2.5 of this Opinion.

- *Integrate and synthesize the above factors to assess the risk that the proposed action poses to species and critical habitat.* In this step, NMFS adds the effects of the action (Section 2.4) to the environmental baseline (Section 2.3) and the cumulative effects (Section 2.5) to assess whether the action could reasonably be expected to: (1) Appreciably reduce the likelihood of both survival and recovery of the species in the wild by reducing its numbers, reproduction, or distribution; or (2) reduce the value of designated or proposed critical habitat for the conservation of the species. These assessments are made in full consideration of the status of the species and critical habitat (Section 2.2). Integration and synthesis occurs in Section 2.6 of this Opinion.

- *Reach jeopardy and adverse modification conclusions*. Conclusions regarding jeopardy and the destruction or adverse modification of critical habitat are presented in Section 2.7. These conclusions flow from the logic and rationale presented in the Integration and Synthesis Section 2.6.

- *If necessary, define a reasonable and prudent alternative to the proposed action.* If, in completing the last step in the analysis, NMFS determines that the action under consultation is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat, NMFS must identify a reasonable and prudent alternative (RPA) to the action in Section 2.8. The RPA must not be likely to jeopardize the continued existence of ESA-listed species nor adversely modify their designated critical habitat and it must meet other regulatory requirements.

2.2. Rangewide Status of the Species and Critical Habitat

This section defines the biological requirements of each ESA-listed species affected by the action and the status of each designated critical habitat relative to those requirements. ESA-listed species facing a high risk of extinction and critical habitats with degraded conservation value are more vulnerable to the aggregation of effects considered under the environmental baseline, the effects of the action, and cumulative effects.

2.2.1. Status of the SRB Steelhead Distinct Population Segment

In this section, NMFS will first discuss the status of the SRB steelhead distinct population segment (DPS) and then provide additional detail on the major population group (MPG) within the DPS that will be affected by the Port's action.

The SRB steelhead were listed as threatened on August 18, 1997 (62 FR 43937). The listing was revised on January 5, 2006 (71 FR 834), after a review of the relationship of natural-origin steelhead with hatchery fish and resident *O. mykiss*. The revised SRB steelhead DPS includes all natural-origin populations of steelhead in the SRB that spawn and rear in the mainstem Snake River and its tributaries between Ice Harbor and the Hells Canyon hydro complex of southeast Washington, northeast Oregon, and Idaho. It also includes six hatchery stocks, including fish from the Dworshak National Fish Hatchery and the rearing facilities in Lolo Creek.

The SRB steelhead DPS is distributed throughout the Snake River drainage system, including tributaries in southwest Washington, eastern Oregon, and north-central Idaho (Good *et al.* 2005). The SRB steelhead migrate a substantial distance from the ocean (up to 940 miles) and use high elevation tributaries (up to 6,562 feet above sea level) for spawning and juvenile rearing. The SRB steelhead occupy habitat that is considerably warmer and drier (on an annual basis) than other steelhead DPSs. The SRB steelhead are generally classified as summer run, based on their adult run timing pattern. Summer steelhead enter the Columbia River from late June to October. After holding over the winter, summer steelhead spawn during the following spring (March to May). Managers classify up-river summer steelhead runs into two groups based primarily on ocean age and adult size upon return to the Columbia River. A-run steelhead are predominately age-1-ocean fish while B-run steelhead are larger, predominately age-2-ocean fish. A-run steelhead are believed to occur throughout the SRB, and B-run are thought to be produced only in the Clearwater and Salmon Rivers.

Information on the range-wide status of SRB steelhead is described in the 1996 steelhead status review (Busby *et al.* 1996), the status review update (BRT 2003), the DPS listing (January 5, 2006, 71 FR 834), the U.S. v. Oregon decision and its Supplemental Comprehensive Analysis (NMFS 2008), and the most recent 5-year review by Ford (2011).

Some of the key conservation accomplishments since the last status review in 2005 include:

- Implementation of habitat restoration projects and protective efforts at Federal, state, tribal, and local levels.

- Hydropower improvements through implementation of Federal Energy Regulatory Commission relicensing settlement agreements and the Federal Columbia River Power System (FCRPS) Biological Opinion.

- Restoration of stream flow and passage improvements in the Upper Salmon River.

- Review of hatchery operations for broodstock source and potential genetic divergence.

- Implementation of abundance-based sliding scale harvest rates.

- Continued implementation of fish screen programs for water transfer sites (Ford 2011).

The Interior Columbia Basin Technical Recovery Team (ICTRT 2003) identified six MPGs in the SRB steelhead DPS: (1) Grande Ronde River system; (2) Imnaha River drainage; (3) Clearwater River drainage; (4) Salmon River; (5) Hells Canyon; and (6) Lower Snake. Figure 2 shows the locations of the MPGs and individual populations of SRB steelhead.

Limiting factors identify the most important limitations in the biological requirements of the species. Historically, the key limiting factors for SRB steelhead include hydropower projects, predation, harvest, hatchery effects, and tributary habitat. Improved ocean conditions have also affected the status of this DPS. Limiting factors are discussed in more detail in the context of critical habitat in this Opinion.

DPS Viability Indicators.

In the 2005 status review update, NMFS modified previous approaches to the DPS risk assessment to incorporate VSP criteria. Under the Interior Columbia Basin Technical Recovery Team (ICTRT) approach, population level assessments are based on a set of metrics designed to evaluate risk across the four VSP elements: abundance, productivity, spatial structure, and diversity (McElhany *et al.* 2000). The ICTRT viability criteria are generally expressed relative to a particular risk threshold, low risk defined as less than a 5% risk of extinction over a 100-year period and very low risk as less than a 1% probability over the same 100-year period. The ICTRT recommends that each extant MPG should include viable populations totaling at least half of the populations historically present, with all major life history groups represented. In addition, the viable populations within an MPG should include proportional representation of large and very large populations historically present. Within an MPG, there could be several combinations of populations that could satisfy the ICTRT criteria. In each case, the remaining populations in an MPG should be at or above the maintained status (moderate risk) which is defined as a 25% or less risk of extinction over a 100-year period.

The SRB steelhead DPS does not meet the DPS-level viability criteria (non-negligible risk of extinction over a 100-year time period) based on current abundance and productivity information.

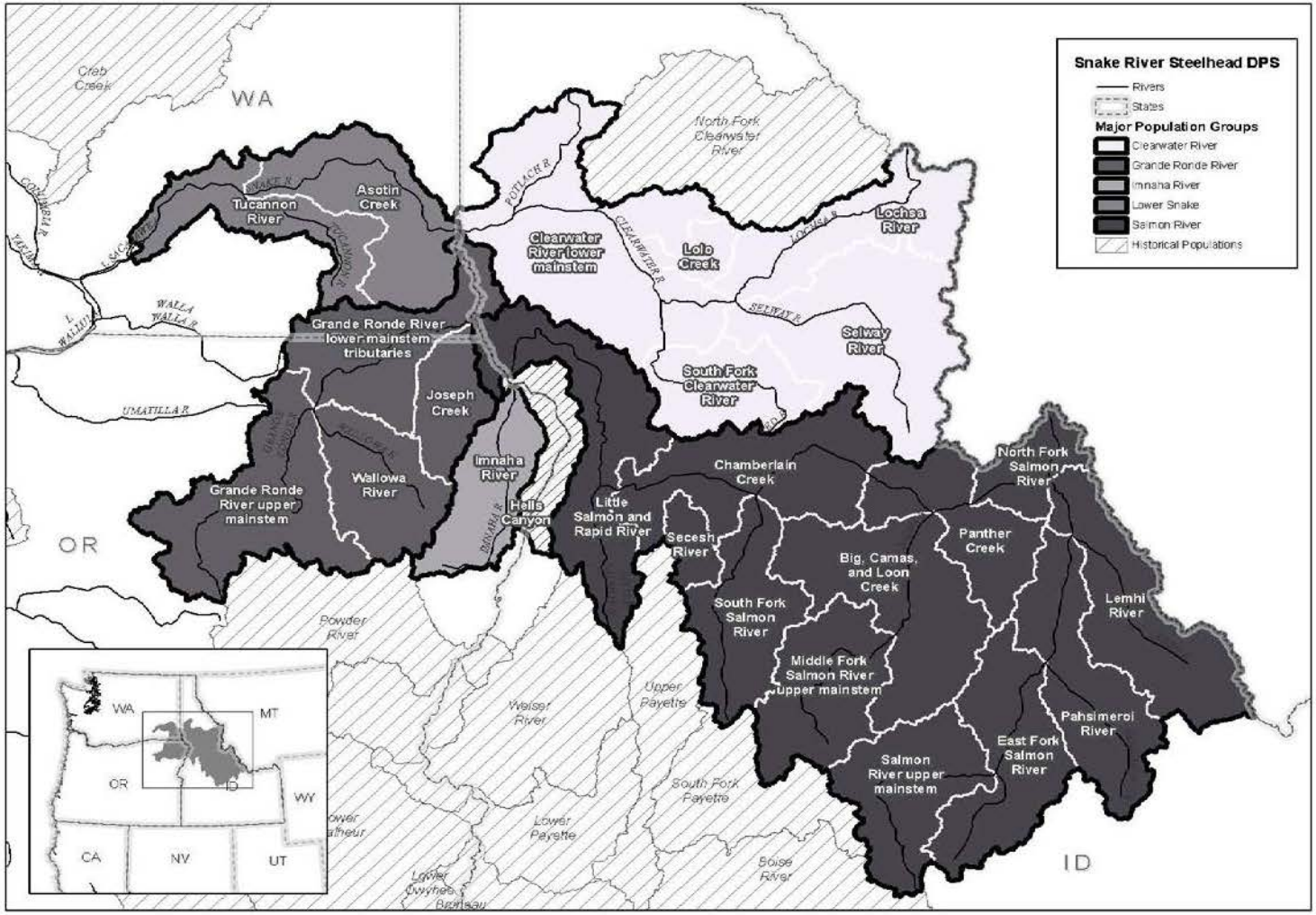

Figure 2. Map showing locations of MPGs and individual populations of Snake River steelhead

Abundance – Population-specific adult abundance is generally not available for SRB steelhead due to difficulties conducting surveys in much of their range. However, to supplement the few population-specific estimates that are available, the ICTRT used Lower Granite Dam counts of A-run and B-run steelhead and apportioned those to A-run and B-run populations proportional to

intrinsic potential habitat. The ICTRT generated 10-year geometric mean abundance estimates for two populations in the Grande Ronde MPG and reported average A-run and average B-run abundance as an indicator for the other populations. Abundance data for individual populations and MPGs for the SRB steelhead DPS are further discussed in Ford (2011).

With the exception of the Tucannon River production area, the tributary habitat used by the SRB steelhead DPS is upstream of Lower Granite Dam. Annual return estimates are limited to counts of the aggregate return over Lower Granite Dam. Returns to Lower Granite Dam fluctuated widely in the 1980s and remained at relatively low levels through the 1990s. The 2001 run size at Lower Granite Dam was substantially higher relative to the 1990s. The 2002 through 2005 return years declined but continued to remain higher than the 1990s. The 5-year trend average has also been steadily increasing, with a general increase beginning about 1980, and then a stronger increase beginning in 2001. Counts of natural-origin steelhead, which began in 1994, show a marked increase in 2001, a slightly decreasing trend through 2006, and increases for 2007 through 2010. Figure 3 shows the 1975 to 2010 abundance and 5-year trend averages for the aggregate of all steelhead populations above Lower Granite Dam. A total of 183,096 adult steelhead (wild and hatchery) have migrated over Lower Granite dam as of December 4, 2011, (UW 2011), showing a continued trend for an increasing population.

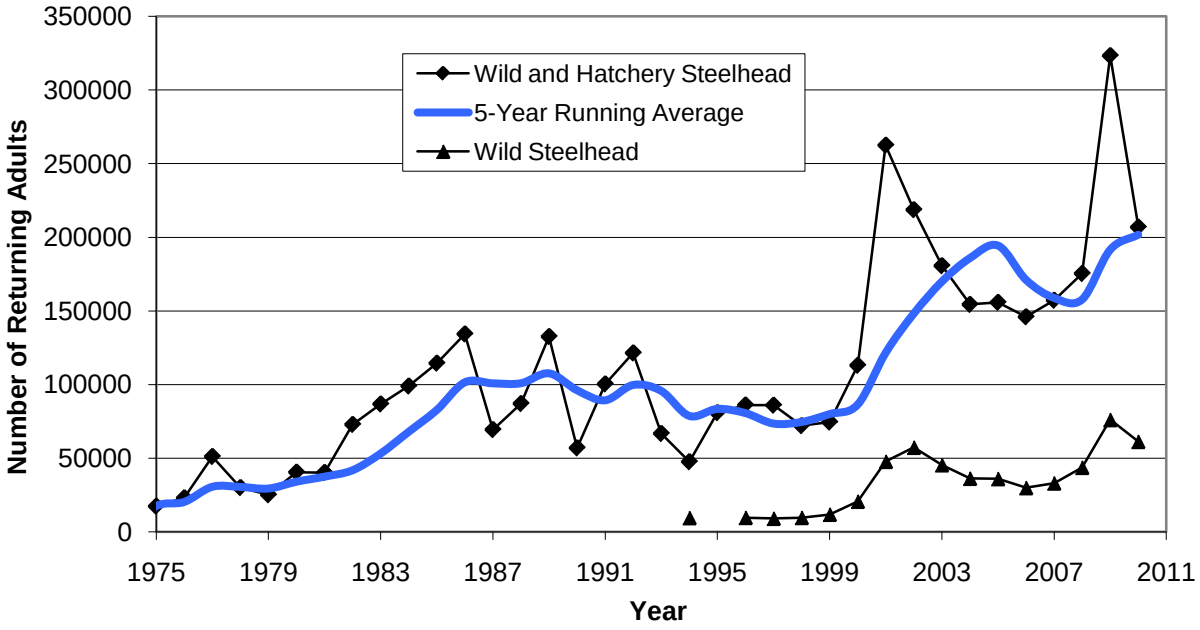

Figure 3. SRB Steelhead DPS Abundance and 5-Year Average at Lower Granite Dam.

Productivity – On average, for over 20 full brood year returns (~1980 to 1999 brood years, including adult returns through ~2004), A-run SRB steelhead populations have replaced themselves (NMFS 2008) when only natural production is considered (i.e., average recruit/spawner (R/S) has been >1.0), while B-run steelhead have not. Adult returns from 2005 to 2010 have continued to show higher return trends. In general, R/S productivity was relatively high during the early 1980s, low during the late 1980s and 1990s, and high again in recent brood years (brood year R/S estimates in ICTRT Current Status Summaries (Ford 2011). The

10-year average of all adult steelhead passing Lower Granite Dam from 2000 to 2010 was 198,366 adults while the 10-year average for natural-origin steelhead for the same period is 46,706 adults (FPC 2011; UW 2011). The latest 10-year averages have increased significantly by higher returns since 2001, and particularly by the 2009 run, when 323,388 total steelhead and 76,121 natural-origin steelhead crossed Lower Granite Dam. As of December 4, 2011, 47,891 natural-origin steelhead have crossed Lower Granite Dam (FPC 2011; UW 2011) and steelhead will continue to migrate through the end of the year.

Ocean productivity and climate cycles also appear to play key roles in population trends (Tolimieri and Levin 2004, Mantua *et al.* 1997). For example, large-scale climatic regimes, such as El Niño, appear to affect ocean productivity and influence local environmental rainfall patterns that can result in drought and fluctuating flows. The SRB anadromous fish are affected by climate-based environmental cycles; thus, the survival and recovery of these species may depend on their ability to persist through periods of low natural survival rates. The effects of possible climate change are unknown; however, the present trends in population have been improving and should help preclude extinction of natural-origin Snake River salmon and steelhead.

Spatial Structure – The ICTRT characterizes the spatial structure risk of nearly all SRB steelhead populations as “very low” or “low” (NMFS 2008), with the exception of Panther Creek which has a “high” risk due largely to past mining operations. The North Fork Clearwater River, a core area for B-run steelhead, is now inaccessible to steelhead due to the construction of Dworshak Dam near Orofino, Idaho.

Genetic Diversity – The ICTRT characterizes the diversity risk of all SRB steelhead populations as “low” or “moderate” (NMFS 2008). There has been some displacement of natural-origin fish by hatchery fish (declining proportion of natural-origin spawners), a homogenization of hatchery stocks within basins, and some stocks exhibiting high stray rates, all of which alter the genetic diversity of the population.

Clearwater River MPG.

Historically, steelhead populations in most of the Clearwater drainage were adversely affected by a partial barrier dam that existed in the mainstem Clearwater River at Lewiston, Idaho, from 1927 to 1973 (Cramer *et al.* 1998). Another dam existed in the South Fork Clearwater River, near Harpster, Idaho, which was a complete barrier to migratory fish from 1910 to 1935 (Cramer *et al.* 1998). The effects of present-day dams in the Snake and Columbia Rivers, historic effects of the Harpster and Lewiston Dams, and numerous habitat alterations likely have lingering effects on genetic characteristics, spatial structure, and productivity of steelhead in the Clearwater River Basin, as well as the for the entire DPS.

The Clearwater River MPG contains five extant populations and one extirpated (North Fork Clearwater) population. The ICTRT recovery scenario for the Clearwater MPG includes the Lower Clearwater River (large size) and two out of the following three populations (Lochsa,

Selway, and South Fork Clearwater). The Clearwater River MPG does not currently meet the MPG-level recovery goal (Ford 2011). The characteristics of the Clearwater MPG and VSP information are shown in Table 2.

Table 2. Clearwater River MPG within the Snake River Basin steelhead DPS.

Population	Abundance and Productivity Metrics				Spatial Structure and Diversity Metrics			Overall Viability Rating
	ICTRT Minimum Threshold	*Natural Spawning Abundance*	*ICTRT Productivity*	*Integrated A/P Risk*	*Natural Processes Risk*	*Diversity Risk*	*Integrated SS/D Risk*	
Lower Main Clearwater River	1,500	Insufficient Data	Insufficient Data	**Moderate?**	Very Low	Low	**Low**	**Maintained?**
South Fork Clearwater River	1,000	Insufficient Data	Insufficient Data	**High**	Low	Moderate	**Moderate**	**High Risk?**
Lolo Creek	500	Insufficient Data	Insufficient Data	**High**	Low	Moderate	**Moderate**	**High Risk?**
Selway River	1,000	Insufficient Data	Insufficient Data	**High**	Very Low	Low	**Low**	**High Risk?**
Lochsa River	1,000	Insufficient Data	Insufficient Data	**High**	Very Low	Low	**Low**	**High Risk?**

Risk Summary – Although Table 2 shows insufficient data for both abundance and productivity for Clearwater River MPG populations, NMFS believes the integrated abundance/productivity risk for the Lower Mainstem Clearwater River to be moderate. This is based on surrogate information obtained from Joseph Creek and the Upper Grande Ronde River of the Grande Ronde River MPG downstream of Lower Granite Reservoir. Also, Idaho Department of Fish and Game survey information shows good abundance of juvenile steelhead in the Bear Creek system in the Potlatch River watershed (Bowersox 2008).

2.2.1.1. Snake River Fall Chinook Salmon Evolutionary Significant Unit (ESU)

In this section, NMFS will first discuss the status of the entire Snake River fall Chinook salmon ESU and then provide additional details on fall Chinook salmon within the Clearwater River that will be affected by the Port's action.

Snake River fall Chinook salmon were listed as a threatened species on April 22, 1992, and the threatened status was reaffirmed on June 28, 2005 (FR 37160). The ESU includes all naturally spawned populations of fall-run Chinook salmon in the mainstem Snake River below Hells Canyon Dam, and in the Tucannon, Grande Ronde, Imnaha, Salmon, and Clearwater Rivers, as well as four artificial propagation programs (Lyons Ferry Hatchery, Fall Chinook Acclimation Ponds Program, Nez Perce Tribal Hatchery, and Oxbow Hatchery Fall Chinook Hatchery Programs). Figure 4 is a map showing the distribution of the Snake River fall-run Chinook salmon ESU.

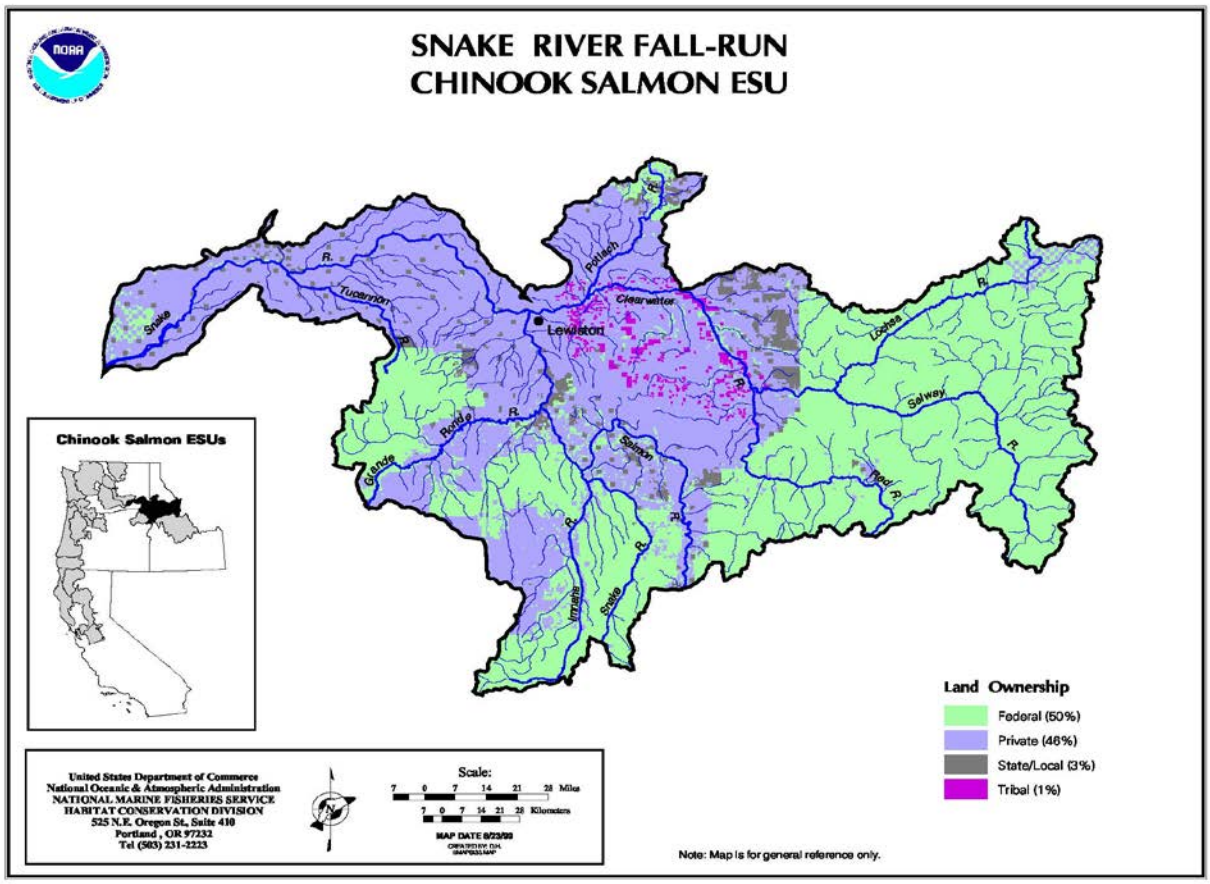

Figure 4. Map of the Snake River Fall-Run Chinook Salmon ESU

Snake River fall Chinook salmon spawning and rearing occurs only in larger, mainstem rivers, such as the Salmon, Snake, and Clearwater Rivers. Historically, the primary fall-run Chinook salmon spawning areas were located on the upper mainstem Snake River (Connor *et al*. 2005). A series of Snake River mainstem dams blocks access to the Upper Snake River, which has significantly reduced spawning and rearing habitat for Snake River fall-run Chinook salmon. Swan Falls Dam, constructed in 1901, was the first barrier to upstream migration in the Snake River, followed by the Hells Canyon Complex beginning with Brownlee Dam in 1958, Oxbow Dam in 1961, and Hells Canyon Dam in 1967. Currently, natural spawning is limited to the Snake River from the upper end of Lower Granite Reservoir to Hells Canyon Dam; the lower reaches of the Imnaha, Grande Ronde, Clearwater, Salmon, and Tucannon Rivers; and small areas in the tailraces of the Lower Snake River hydroelectric dams (Good *et al*. 2005). The majority of spawning today occurs upstream of Lower Granite Dam, with the largest concentration of spawning sites in the Clearwater River, downstream from Lolo Creek, and in the Salmon River upstream to the confluence with the Little Salmon River.

As a consequence of losing access to historic spawning and rearing sites in the Upper Snake River, fall Chinook salmon now reside in waters that are generally cooler than the majority of

historic spawning areas. In addition, alteration of the Lower Snake River by hydroelectric dams has created a series of low-velocity pools in the Snake River that did not exist historically. Both of these habitat alterations have created obstacles to fall Chinook survival. Prior to alteration of the SRB by dams, fall Chinook salmon exhibited a largely ocean-type life history, where they migrated downstream and reared in the mainstem Snake River during their first year. Today, fall Chinook salmon in the SRB exhibit one of two life histories that Connor *et al*. (2005) have called ocean-type and reservoir-type. The reservoir-type life history is one where juveniles overwinter in the pools created by the dams, prior to migrating out of the Snake River. The reservoir-type life history is likely a response to early development in cooler temperatures, which prevents juveniles from reaching a suitable size to migrate out of the Snake River.

ESU Viability Indicators. As with the steelhead status review update, NMFS also modified previous approaches to the risk assessment to incorporate VSP criteria for Chinook salmon (McElhany *et al*. 2000): Abundance, growth rate/productivity, spatial structure, and genetic diversity.

Abundance – Historical abundance of Snake River fall Chinook salmon is estimated to have been 416,000 to 650,000 fish (NMFS 2006). Abundance had declined to an estimated 72,000 fish between 1938 to 1949 as a result of a combination of heavy fishing pressure since the 1890s and the blocking of important production habitat by the construction of Swan Falls Dam in 1901. Abundance declined to an annual average of 29,000 fish by the late 1950s (Bjornn and Horner 1980). Numbers of fall Chinook salmon continued to decline during the 1960s and 1970s; approximately 80% of their historic habitat was eliminated or severely degraded by the construction of the Hells Canyon Dam complex (1958 to 1967) and the lower Snake River dams (1961 to 1975) (NWPPC 2004). Counts of natural-origin Snake River fall Chinook salmon at Lower Granite Dam were 1,000 fish in 1975, and ranged from 78 to 905 fish (with an average of 489 fish) over the ensuing 25-year period through 2000 (Good *et al.* 2005).

Abundance in recent years, however, has shown a dramatic increasing trend. The 10-year average (2001 to 2010) over Lower Granite Dam has risen to 15,101 adults (UW 2011) due greatly to the 2010 run of 41,473 adults. The number of fall Chinook salmon adults crossing Lower Granite Dam as of December 4, 2011, is 25,240. Fall Chinook redd counts have risen from only 46 redds counted in 1991 to modern-day record counts of 1,819 in 2008, 1,895 in 2009, and 2,944 in 2010 for the mainstem Snake River between Asotin, Washington, and Hells Canyon Dam (CBB 2009; CBB 2010). In the Clearwater River watershed, there were 1,924 redds counted in the mainstem Clearwater and another 281 redds counted in the Potlatch River. The total 2010 redd count for the entire ESU was 5,626, up from 3,716 redds counted in 2009. Much of the upswing is credited to the fall Chinook acclimation project led by the Nez Perce Tribe that began in 1996 (CBB 2010). Figure 5 shows the numbers of Snake River fall Chinook salmon adults crossing Lower Granite Dam through 2010.

Productivity – The BRT evaluated productivity in terms of median population growth rate (lambda) of natural-origin spawners. Lambda calculations incorporate overlapping generations to estimate the rate of population growth (Good *et al*. 2005). A lambda value of 1.0 indicates the population is replacing itself and not increasing or decreasing. The current estimate (1999 to 2008 10-year geometric mean) of natural-origin spawning abundance of Snake River fall

Chinook is just over 2,200. Previous ICTRT status reviews included estimates based on a more recent time series to account for potential major, but un-quantified changes in downstream fish passage conditions, with enhanced flows and transport regimes initiated in 1990. The updated productivity (1990 to 2008) was 1.28, or if using the longer time brood years (1983 to 2003) was 1.07. When the current natural spawning escapement estimate of 2,200 is combined with either of the two productivity estimates, it results in an abundance and productivity rating of moderate risk of extinction using the ICTRT viability curves for Snake River fall Chinook salmon (Ford 2011).

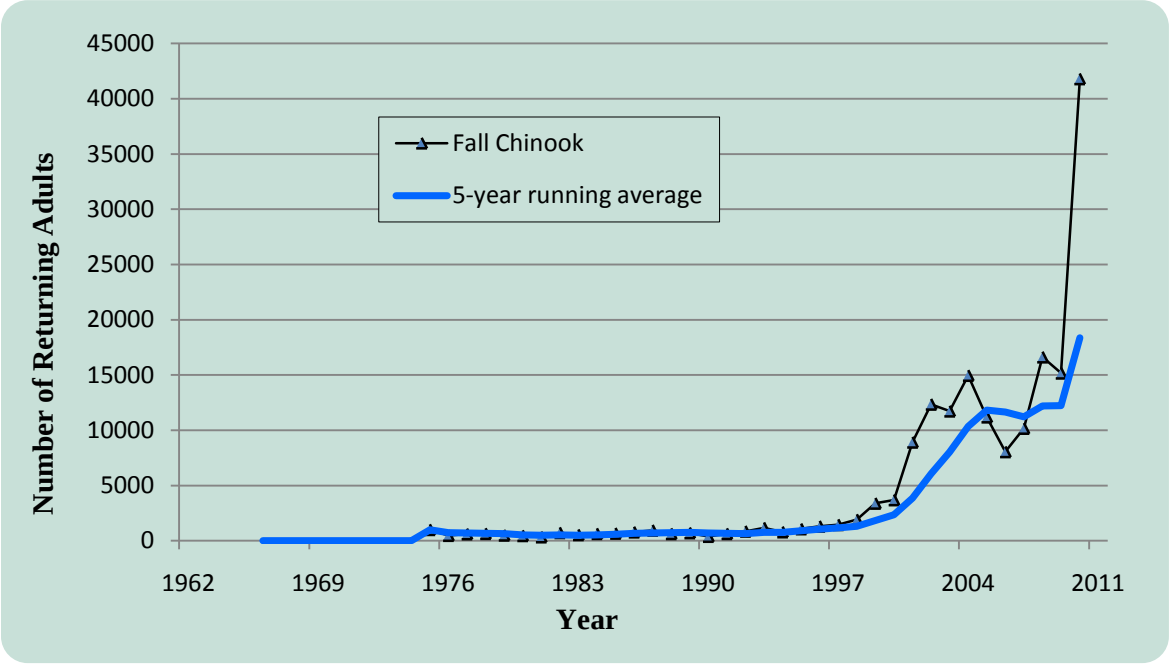

Figure 5. Numbers of Snake River fall Chinook salmon adults crossing Lower Granite Dam through 2010.

Spatial Structure – Considering the Snake River tributaries, the ICTRT determined that lower reaches of the Clearwater, Tucannon, and Grand Ronde Rivers each have the capacity to support at least 500 spawners, and thus each is also considered a major spawning area. The ICTRT considered the Snake River reach downstream of Lower Granite Dam, but did not identify enough remaining habitat for this reach to qualify as a major or minor spawning area. This reach has been significantly altered by dam construction and now contains primarily reservoir habitat. The historic amount of fall Chinook salmon spawning habitat in this reach and use of that habitat is unknown. In addition, considering redd distributions and habitat capacity estimates, the ICTRT determined that if the Snake River is divided into two mainstem reaches (above the Salmon River and below the Salmon River), each has the physical capacity to support more than the 500 spawner minimum criterion for a major spawning area (extrapolated from habitat analyses in (Connor *et al.* 2001; Groves and Chandler 1999). The "core" spawning area for the population is the mainstem Snake River, where current spawning is concentrated in a relatively small reach of the mainstem Snake River. Connor *et al*. (1993) identified 12 spawning sites within the free flowing reach of the Snake River currently accessible to fall Chinook salmon.

The ICTRT rated risk to the ESU from inadequate spatial structure as moderately high because a large portion of the historical habitat is inaccessible (Snake River above Hells Canyon Dam). The geographic location of the extant population and distribution of spawning and rearing within the population makes it vulnerable to variable environmental conditions and large disturbances which can affect the mainstem river areas fall Chinook salmon occupy (Good *et al*. 2005). That vulnerability is significant to the ESU because the single extant population is distributed relatively linearly (few branches) and occupies a small portion of the historic habitat. The numbers of fish spawning in each of the five major spawning areas has increased in recent years. Spatial structure-related risks, from long-term environmental change and short-term disturbance events, to both the extant population and the ESU, could be reduced by attaining and maintaining greater abundances of spawners in both the mainstem Snake River and in the three major spawning tributaries.

Diversity – Hatchery fish seem to be faring better than natural-origin fish, and productivity may be sustained largely by a system of small artificial rearing facilities in the Lower SRB. Hatcheries affect ESU genetics due to three major components: (1) Natural-origin fish (which may be progeny of hatchery fish); (2) returns of Snake River fish from the Lyons Ferry Hatchery program; and (3) strays from hatchery programs outside the Snake River. Phenotypic characteristics have shifted in apparent response to environmental changes from hydroelectric dams (Connor *et al.* 2005).

The Snake River fall Chinook salmon ESU has been greatly influenced by the Lyons Ferry Hatchery. The Lyons Ferry Hatchery stock was founded from native stock, and has been propagated through the Lyons Ferry, Idaho Power, and Nez Perce Tribal hatchery programs. The Lyons Ferry stock has been through several generations of artificial propagation and there is evidence of inclusion of out-of-basin strays in the broodstock.

In addition to the Lyons Ferry stock of hatchery fish, non-Snake River hatchery fall Chinook salmon have been identified at Lower Granite Dam since the mid-1980s (Good *et al*. 2005). The ICTRT noted the primary contributor of non-ESU hatchery strays continues to be from the Umatilla (Priest Rapids stock). The percentages of non-ESU fish in the escapement over Lower Granite Dam has dropped in recent years due to systematic removal of the strays identified at the dam and changes to the Umatilla program to increase homing.

While hatcheries have played a large role in the recent history of the ESU, habitat alterations have played perhaps an even larger role in shaping the current phenotypic, if not genotypic composition of the ESU. Connor *et al.* (2005) described the ocean- and reservoir-type life histories of fall Chinook salmon, with the latter apparently emerging as an adaptation to habitat alterations from dam construction and management of river flows. Other factors influencing the diversity, as well as distribution, of fall Chinook salmon include water temperature and stream depth.

Considering diversity of the Snake River ESU on the whole, the ICTRT rated the risk to the ESU from inadequate diversity as moderate (Ford 2011). The ICTRT noted in particular the loss of the majority of historic habitat and loss of diversity associated with the middle and upper Snake River populations, and the introgression of hatchery fish from outside the ESU.

Risk Summary – In summary, the condition of Snake River fall Chinook is described in Good *et al.* (2005), ICTRT (2003), and the most current 5-year assessment found in Ford (2011). The overall adult abundance has been increasing significantly beginning in 2000 (Figure 5), but this ESU has been reduced to a single remnant population with a narrow range of available habitat. The Snake River fall Chinook salmon ESU does not meet the ESU-level viability criteria (the non-negligible risk of extinction over 100-year time period) based on the ICTRT risk assessment criteria. Given the combination of current ratings for abundance, productivity, spatial structure, and diversity summarized above, the Lower Snake River fall Chinook salmon population is rated as maintained (Table 3).

Table 3. Viability assessment for the Lower Snake River Fall Chinook population using ICTRT criteria.

Snake River Fall Chinook: Brood Years	Abundance and Productivity Metrics				Spatial Structure and Diversity Metrics			Overall Viability Rating
	ICTRT Minimum Threshold	*Natural Spawning Abundance*	*ICTRT Productivity*	*Integrated A/P Risk*	*Natural Processes Risk*	*Diversity Risk*	*Integrated SS/D Risk*	
1990-2004	3000	2208 (905 – 5163)	1.28	Moderate	Low	Moderate	Moderate	Maintained
1985-2004			1.07	Moderate				

Clearwater River fall Chinook. In 2010, approximately 34% of the fall Chinook salmon redds counted upstream of Lower Granite Reservoir were observed in the Clearwater River. Within the Clearwater River watershed, there were 1,924 redds total, with 1,632 in the mainstem Clearwater, 281 in the Potlatch, eight in the North Fork, two in the South Fork, one in the Selway, and none in the Middle Fork Clearwater (Arnsberg *et al.* 2011). Most of the redds in the mainstem occur in the lower 41 miles, below the North Fork Clearwater River (Garcia *et al.* 2005).

Human activities have reduced the condition of rearing habitat along the margins of the Clearwater River. Anthropogenic sources of fine sediment upstream (e.g., road-related surface erosion and road-related landslides) have increased sediment loads in the Clearwater River above the North Fork; however, Dworshak Dam/Reservoir has moderated the effect on the lower Clearwater by trapping a large portion of North Fork sediments. Sediment loads from the upper Clearwater, however, can still cause substantial sediment deposition in slow-water river margin areas of the lower Clearwater River. In addition, highway-related and other river bank stabilization projects, and development and recreation facilities along the lower Clearwater River have reduced floodplain width, off-channel rearing areas, and edge vegetation in many sections (BLM 2000). The river margins are important for juvenile rearing during spring and summer; and those changes in channel structure, substrate, and vegetation can reduce the invertebrate

productivity (and thus food supply) and holding/hiding cover for juvenile fall Chinook salmon. The amount and extent of those effects on rearing habitat (in comparison to historic conditions) and resulting effects on fall Chinook salmon survival rates have not been determined.

Fall Chinook salmon spawning habitat is plentiful in the lower mainstem Clearwater River (Arnsberg *et al.* 1992; NWPPC 2004). The condition of spawning substrates in the Clearwater River generally appears to be fair/good, based on measurements of cobble embeddedness, fines by depth, and surface fines (Arnsberg *et al.* 1992; BLM 2000). The annual high flows in large-river currents apparently maintain suitable spawning substrate in substantial portions of the main channel in spite of watershed sediment loads that are above natural levels.

2.2.2. Status of Critical Habitat

NMFS reviews the status of designated critical habitat affected by the action by examining the condition and trends of primary constituent elements (PCEs) throughout the designated area. The PCEs consist of the physical and biological features identified as essential to the conservation of the ESA-listed species in the documents that designate critical habitat (Table 4).

Snake River salmon and steelhead have experienced long-term declines in population size since the 1870s and the present population sizes remain low in comparison to historical estimates. However, salmon and steelhead populations have been on a general increase since about 2000. Steep population declines occurred with construction of hydropower dams in the Snake River. In addition to effects of dams, population declines are attributed to the combined effects of activities that include harvest, hatchery fish, habitat loss and alterations, predator effects, and climatic conditions. Habitat loss from impassable hydropower dams, and streams dried in whole or in part by water withdrawals, sediment, and artificial passage barriers account for most of the losses of freshwater habitat for Snake River salmon and steelhead (Lee *et al.* 1997). Effects of forestry, mining, roads, urbanization, and agriculture have reduced the quality of much of the remaining salmon and steelhead habitat outside roadless areas (Lee *et al.* 1997; McIntosh *et al.* 1994).

Hydropower dams associated with the FCRPS have eliminated access to roughly 600 miles of streams historically accessible to salmon and steelhead. The FCRPS storage dams have eliminated mainstem rearing habitat, altered the natural flow regime of the Snake and Columbia Rivers, decreased spring and summer flows, increased fall and winter flows, and altered natural thermal patterns. The eight Snake and Columbia River dams kill or injure a portion of the smolts passing through the migration corridor area, and the dams create artificial conditions favorable to salmon and steelhead predators, such as terns, sea lions, seals, and northern pikeminnow. The low velocity movement of water through the reservoirs behind the dams slows the smolts' journey to the ocean and enhances the survival of predatory fish (Independent Scientific Group 1996; NRC 1996). Changes in the operation and modifications to the FCRPS dams in the last decade have reduced adverse effects of the dams; however, the dams continue to kill or harm a sizable number of steelhead smolts. In-river mortality through the FCRPS, estimated by Williams *et al.* (2005) from 1997 to 2003, ranged from 28% to 58% for Snake River spring/summer Chinook and 4% to 50% for SRB steelhead.

Table 4. Types of sites and essential physical and biological features designated as PCEs, and the species life stage each PCE supports.

Site	Essential Physical and Biological Features	ESA-listed Species Life Stage
Snake River Basin Steelhead[a]		
Freshwater spawning	Water quality, water quantity, and substrate	Spawning, incubation, and larval development
Freshwater rearing	Water quantity & floodplain connectivity to form and maintain physical habitat conditions	Juvenile growth and mobility
	Water quality and forage[b]	Juvenile development
	Natural cover[c]	Juvenile mobility and survival
Freshwater migration	Free of artificial obstructions, water quality and quantity, and natural cover[c]	Juvenile and adult mobility and survival
Snake River Fall Chinook Salmon		
Spawning & Juvenile Rearing	Spawning gravel, water quality and quantity, cover/shelter, food, riparian vegetation, and space	Juvenile and adult.
Migration	Substrate, water quality and quantity, water temperature, water velocity, cover/shelter, food[d], riparian vegetation, space, safe passage	Juvenile and adult.

a Additional PCEs pertaining to estuarine, nearshore, and offshore marine areas have also been described for SRB steelhead. These PCEs will not be affected by the proposed action and have therefore not been described in this Opinion.
b Forage includes aquatic invertebrate and fish species that support growth and maturation.
c Natural cover includes shade, large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
d Food applies to juvenile migration only.

In many Columbia River watersheds, land management and development activities have: (1) Reduced connectivity (i.e., the flow of energy, organisms, and materials) between streams, riparian areas, floodplains, and uplands; (2) elevated fine sediment yields, degrading spawning and rearing habitat; (3) reduced large woody material that traps sediment, stabilizes streambanks, and helps form pools; (4) reduced vegetative canopy that minimizes solar heating of streams; (5) caused streams to become straighter, wider, and shallower, thereby reducing rearing habitat and increasing water temperature fluctuations; (6) altered peak flow volume and timing, leading to channel changes and potentially altering fish migration behavior; and (7) altered floodplain function, water tables and base flows[2] (Henjum *et al*. 1994; McIntosh *et al*. 1994; Rhodes *et al*. 1994; Wissmar *et al*. 1994; NRC 1996; Spence *et al*. 1996; and Lee *et al*. 1997; Ecovista *et al*. 2003). Ecovista *et al*. (2003) found all seven of these problems in the Middle Fork, South Fork, and mainstems of the Clearwater River drainage.

[2] Base flow is stream discharge sustained only by groundwater, and none of the discharge is from surface runoff.

Climate change is likely to have negative implications for the conservation value of designated critical habitats in the Pacific Northwest (CIG 2004; Scheuerell and Williams 2005; Zabel *et al*. 2006; Independent Scientific Advisory Board [ISAB] 2007). Average annual Northwest air temperatures have increased by approximately 1ºC since 1900, or about 50% more than the global average warming over the same period (ISAB 2007). The latest climate models project a warming of 0.1ºC to 0.6ºC per decade over the next century. According to the ISAB, these effects may have the following physical impacts within the next 40 or so years:

- Warmer air temperatures will result in a shift to more winter/spring rain and runoff, rather than snow that is stored until the spring/summer melt season.

- With a shift to more rain and less snow, the snowpacks will diminish in those areas that typically accumulate and store water until the spring freshet.

- With a smaller snowpack, these watersheds will see their runoff diminished and exhausted earlier in the season, resulting in lower streamflows in the June through September period.

- River flows in general and peak river flows are likely to increase during the winter due to more precipitation falling as rain rather than snow.

- Water temperatures will continue to rise, especially during the summer months when lower streamflow and warmer air temperatures will contribute to the warming regional waters.

These changes will vary across the landscape. Areas at elevations high enough to maintain temperatures well below freezing for most of the winter and early spring would be less affected. Low-lying areas that historically have received scant precipitation contribute little to total streamflow and are likely to be more affected. These long-term effects may include, but are not limited to, depletion of cold water habitat, variation in quality and quantity of tributary rearing habitat, alterations to migration patterns, accelerated embryo development, premature emergence of fry, and increased competition among species.

2.3. Environmental Baseline

The ‘environmental baseline’ includes the past and present impacts of all Federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process (50 CFR 402.02). An environmental baseline that does not meet the biological requirements of an ESA-listed species may increase the likelihood that adverse effects of the proposed action will result in jeopardy to a listed species or in destruction or adverse modification of a designated critical habitat.

NMFS describes the environmental baseline in terms of the biological requirements for habitat features and processes necessary to support all life stages of each ESA-listed species within the action area. The primary use of the area by SRB steelhead and fall Chinook salmon considered in this Opinion is migration through the action area, with a low level of rearing. No spawning occurs within the action area. Thus, for this action area, the biological requirements for steelhead are the habitat characteristics that support successful completion of migration and, to a lesser extent, rearing.

Water quality in the Clearwater River is generally good, with low levels of pollutants. Because of flows released from Dworshak Dam, the mainstem Clearwater River is generally warmer in the winter and cooler in the summer downriver from the confluence of the Lower North Fork, compared to upriver segments. Since fall Chinook salmon spawn during the months of October through December, water temperatures are naturally cooler, and within acceptable ranges. The Clearwater River from the confluence of the North Fork Clearwater to its mouth is listed by the EPA as a 303d impaired water body for total dissolved gas from Dworshak Dam.

During the hot summer months of July and August, operations at Dworshak Dam are designed to release sufficient cold water to maintain Lower Granite Dam tailrace water temperatures at or below 20° C, likely become the most important factor affecting juvenile Snake River fall Chinook survival through Lower Granite reservoir (FCRPS 2008 Opinion Chapter 8, page 8-9). Geist *et al*. 2006 showed that fish in the Snake River required about 20 days longer to reach hatching at 13.8^{o} C than at 16.5^{o} C and up to 41 days longer to reach emergence. The release of cold water from Dworshak Reservoir delays hatching and emergence for naturally produced fall Chinook salmon in the Clearwater River. The passage date for naturally-produced fish from the Clearwater River at Lower Granite Dam starts approximately when hatchery fish are almost completed (late July), and extends into late summer and fall (Connor, 2009).

Clearwater River riparian areas have been impacted by flood damage, road and railway construction, urban and rural development, encroachment, logging, and livestock grazing and have been rated Functioning at Risk under the environmental baseline. The U.S. Highway 12 and the Great Western Railway, which parallel the Clearwater River, and private land development, have encroached on riparian areas and floodplains. Portions of the Clearwater River streambanks have been rip-rapped as well to protect roads and developments. The Bureau of Land Management and U.S. Forest Service have worked to improve vegetation conditions and trends on Federal lands; however, increased private land development and road construction, which encroaches on riparian areas, may result in a downward trend.

The Port is located in a heavy industrial area adjacent to a shipping channel on the Clearwater River, approximately 0.8 miles upstream of the confluence with the Snake River. The Port has an existing dock and berthing basin with regular barge traffic using the site. The shoreline is completely armored with riprap and bulkheads, and no natural shoreline or shoreline vegetation exists at or near the site. There is no natural riparian area, riparian vegetation, or aquatic vegetation at the site. There is no spawning habitat for salmonids on the site. Upland staging areas used during the construction period are compacted and devoid of any natural vegetation. Because there are dams upstream (Dworshak Dam) and downstream (Lower Granite Dam) of the project site, the river does not have the normal hydrologic regime of a natural river. Although

there is substantial flow past the port site, the area is partially impounded by Lower Granite Dam, which is located 30 miles downstream. A dike and levee system is maintained by the COE along the river shorelines for the cities of Clarkston, Washington and Lewiston, Idaho.
In the past, U.S. Highway 12 has been the subject of a number of improvement projects in the past. Lolo area passing lanes at mileposts 170 and 172 (2001/SRB01-026), U.S. Highway 12 passing lane at mile post 53 (2002/00593), Syringa Creek to Tumble Creek widening project (2007/08489), and a reinitiation on Syringa Creek to Tumble Creek (2009/02297) all made improvements to U.S. Highway 12 prior to this consultation request for the dock extension or megaload shipments.

2.4. Effects of the Action on the Species and its Designated Critical Habitat

"Effects of the action" means the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline (50 CFR 402.02). Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur.

Effects of the action that reduce the ability of an ESA-listed species to meet its biological requirements may increase the likelihood that the proposed action will result in jeopardy to that ESA-listed species or in destruction or adverse modification of a designated critical habitat.

2.4.1. Effects on ESA-Listed Species

This section describes the potential effects of the proposed action on individual fish in the Clearwater River. It then evaluates the consequences of those effects on the viability of steelhead at the Clearwater River MPG and Snake River DPS scales, and fall Chinook at the Snake River ESU scale. Steelhead use the mainstem Clearwater River almost exclusively as a migration corridor with smolts migrating downstream to the Pacific Ocean and adults migrating upstream to spawn. Fall Chinook salmon use this section of the Clearwater River for migration and early rearing. The proposed action includes activities which could affect ESA-listed steelhead and salmon through underwater noise, sediment, turbidity, and toxic fuel contamination.

Effects of in-river activities. In-river activities could have direct impacts on salmon and steelhead. Heavy equipment working in the stream while removing the existing structures and then installing the new wall will, at a minimum, scare and potentially kill any fish that might be present in the action area. Although no spawning occurs at the site, adult salmon and steelhead will be migrating past the work area. Any adult fish present would probably flee from the initial disturbance and then stay away from the work site as activities continue.

Juvenile fish could also be present at the in-river work site. The proposed work window is from July 1 through September 30. Most juvenile fish will have already migrated out of the area, but due to the cold water releases from Dworshak Reservoir, naturally-produced fall Chinook will

not have yet migrated. During the site visit on July 11, 2011, NMFS personnel did observe that some juvenile salmonids were present. All water needed for dust control would be taken by the contractor from an off-site water supply, so there will be no need for screening of water pumps. As with adult fish, juvenile fish could also flee from the activities, but juvenile fish might be more apt to take cover in the rocky substrate and could be killed during filling of the dock extension area.

The exact number of juvenile fish that might be present during in-river activities is unknown, but can be estimated by using Hall-Griswold and Petrosky's (1996) habitat and abundance ratings. They rated habitats as poor, fair, good, or excellent, where each habitat rating has a corresponding smolt density to parr carrying capacity number for steelhead or Chinook salmon in Idaho streams. NMFS selected a poor habitat rating for the Port project based on the amount of disturbed habitat (riprap and no riparian vegetation) at the construction site. The habitat rating of poor corresponds to 0.55 juvenile steelhead and 1.1 juvenile fall Chinook salmon per 100 square feet (ft^2).

Actual in-river construction activities should not exceed 7,500 ft^2 (0.17 acres) at the extension site (150 feet long x 50 feet wide) where the enclosed bulkhead area will be filled with rock. Applying the above steelhead and Chinook salmon densities, the number of juvenile fish potentially harmed or killed by in-river activities is estimated at 41 steelhead and 82 Chinook salmon, for a total of 123 fish. Based on work timing (hatchery smolt will already be gone), degraded habitat conditions, and personal observations (D. Brege, NMFS), NMFS believes this number to be representative of the number of fish present at that site. Electrofishing to remove fish from the edge of the Clearwater River is not an effective or viable option at this site due to the impracticability of isolating the work area. Since the area within the bulkhead will be filled, there will be no water available under the dock for predators to hide in order to ambush their prey. For this reason, increased predation on salmonids is not an issue.

Effects of underwater acoustic noise levels. Installation of the sheet piles and fender pipe piles is planned to occur between July 1 and September 30. Vibratory hammer operations will generally be a maximum of 12 hours per day during daylight hours, but usually, this is not a continuous operation. With work breaks, set-up times, and lunch, it leaves an anticipated run time of approximately 7 hours during a 12-hour shift.

The Fisheries Hydroacoustic Working Group (2008) adopted interim criteria for the onset of injury to fish exposed to repeated impulsive type sounds, such as those from impact pile driving. Similar criteria have yet to be developed for the continuous sounds produced by vibratory driving. However, based on the available information, NMFS expects that the risk to fish, especially to large fish such as adult salmon, from such continuous sounds is far lower than the risk of exposure to impulsive sounds. While fish kills associated with impact driving have been observed multiple times, no such kills have been associated with vibratory driving (pers. comm. from John Stadler, NMFS, Portland, Oregon). Given the lack of applicable criteria, the lack of observed injury from vibratory driving, and the fact that the adult salmon are only moving through the area, thereby reducing their duration of exposure, NMFS assumes that vibratory driving of sheet piles will not pose a risk of physical injury to listed salmon.

For purposes of this Opinion, the effects analysis of the vibratory hammer operations is based on an estimate of the distance and severity of elevated underwater noise from the vibratory hammer compared to background sound levels. The baseline underwater sound level in the Clearwater River adjacent to the shipping channel is estimated at 135 dB RMS (BA, page 9). The underwater noise generated during vibratory pile driving of 12.5-inch diameter steel piles was estimated to be 180 dB RMS at 9 meters (27 feet) (BA, page 10). Using the practical spreading model (TL = 15*log(R) where TL = transmission loss in dB and R = range in meters), NMFS estimates that these sounds will completely attenuate to background levels within approximately 10,000 meters, or roughly 6.2 miles.

Although NMFS does not expect physical injury from the vibratory pile driving for this project, behavioral effects are possible. Three-spine sticklebacks (*Gasterosteus aculeatus*) respond to white noise by reducing foraging efficiency (Purser and Radford 2011) and to pure tones and broadband noise at SPLs as low as 120 dB by increased startle responses and freezing in place (Andersson et al. 2007). Sticklebacks, like salmon, are considered hearing generalists. Using the practical spreading loss model, NMFS estimates that the underwater sounds from vibratory pile driving will attenuate to 150 dB RMS, the level at which the onset of behavioral effects could occur, at approximately 900 meters or 2,953 feet (e-mail from John Stadler, NMFS, Portland, Oregon to D. Brege, 11/3/11). Therefore, the action area was defined at roughly 3,000 feet both upstream and downstream of the project site, which equates to approximately 131 acres for potential behavioral effects. The downstream edge of this limit does not reach the confluence with the Snake River.

Hatchery fall Chinook and steelhead smolts use the Clearwater River to migrate downstream during spring high water, and therefore, should not generally be present during the construction period beginning July 1. Hatching and emergence of naturally-produced fall Chinook may be delayed by cold water releases from Dworshak Reservoir and these juvenile fish have not yet migrated through the action area by July 1. However, NMFS expects the effects on these fish to be minor and that neither injury nor mortality is expected. The distance below the action area to the confluence of the Snake River is approximately another 1900 feet, and there is undoubtedly a Clearwater River cold water plume and a mixing zone downstream of the confluence where juvenile fish could exist and avoid temperature and additional noise level issues. This area downstream of the action area would fall below the 150 decibel noise level and be at or close to background sound levels.

NMFS does not have threshold limits set for fish injury for vibratory hammer operations. However, NMFS has included monitoring of the underwater noise generated by the use of the vibratory hammer at varying distances from the source as a discretionary measure in Section 2.9 Conservation Measures.

The behavior of returning adult fish will be less affected by underwater noise. The vibratory hammer operations would not be continuous, with operating times approximately 7 hours total during each 12-hour work shift. It is expected that adult fish migrating upstream through the affected area would have already encountered many obstacles, and they would continue swimming upstream and get through the action area.

Since the naturally-produced smolt would have not yet migrated, the entire action area will be used to estimate the number of juvenile fish that could be present. This would include both the upstream and downstream areas for the width of the Clearwater River, or 5,700,000 ft^2 (3000 + 3000 X average width of 950 feet). Using the same habitat rating of poor and corresponding densities of 0.55 juvenile steelhead and 1.1 juvenile fall Chinook salmon per 100 ft^2, an estimated 31,350 juvenile steelhead and 62,700 juvenile fall Chinook could be exposed to sound effects. These may seem like rather large numbers, but as described above, and based on the best available information, NMFS believes that the sound levels that fish would be exposed to would result in only minor, non-injury, behavioral effects. These effects would likely be similar to other noise, such as that created by barge traffic, and are not likely to perceptibly alter fish fitness.

Effects of turbidity and sediment. The Port, by its actions of in-river work activities, will create turbidity and sediment in the Clearwater River. Salmonid survival depends on many factors, including food availability, predator avoidance, immune system health, and reproduction. Stressful conditions are known to reduce the adaptive responses of salmonids to natural environmental fluctuations and increase their susceptibility to disease (Birtwell 1999). Information in the scientific literature (as summarized in Rowe *et al.*2003) regarding effects of sediment on fish shows a variety of adverse effects ranging from displacement, to reduced ability to feed or avoid predation, to death, depending on the amount or concentration of sediment.

The BA states that the project will be in compliance with the Washington State Department of Ecology standards on mixing zones. Therefore, to be in compliance with turbidity mixing zones for waters with flow above 100 cubic feet per second at the time of construction (Washington Administrative Code 173.201A-030), the mixing zone for this project is not anticipated to occur beyond 300 feet downstream of the project activities.

The construction land area is already a hardened site. There are no areas of vegetative ground cover which might produce sediment if disturbed. The COE will ensure that the Port uses the precautionary measures and BMPs as outlined in the proposed action to reduce sediment and turbidity impacts to listed fish and their habitat. These measures include using a summer low flow work period, proper sequencing of demolition activities, placing fill behind the new bulkhead and not within the river current, using silt fence and clean fill materials, and watering areas to minimize dust. NMFS expects only minimal to moderate sublethal effects on fish from turbidity and sediment.

Effects of toxins. As with all construction activities near live water, accidental release of fuel, oil, and other contaminants may occur, resulting in injury or death to fish and other aquatic organisms. Petroleum-based contaminants contain polycyclic aromatic hydrocarbons (PAHs), which can be readily absorbed by fish and other aquatic animals during exposure to contaminated food, water, and sediments (Tuvikene 1995). Effects related to PAH absorption may include immune suppression, effects on deoxyribonucleic acid (DNA) and ribonucleic acid (RNA), liver lesions, and effects on reproductive potential.

NMFS expects that the use of machinery in the action area will result in a small amount of oil and hydraulic fluid leakage during operations. However, effects to fish will likely be minor due to the small amount of petroleum product, the size of any potential spill in relation to the volume of stream flow, and the conservation measures as previously described in this Opinion.

Indirect Project Effects. In preparation of this Opinion, NMFS also looked at potential indirect effects related to the project, including the potential for additional barge traffic in the Snake River system and the additional hauling of heavy equipment traffic on U.S. Highway 12. The 150-foot dock extension would make the loading/unloading dock a total of 275 feet long. According to the BA (page 2), the project is intended to increase the efficiency of the dock operation, permit more than one barge to berth at a time, and allow long roll-on, roll-off cargo to be unloaded to the west of the existing terminal building. The Port has one crane for unloading cargo, but the size of the facility limits the movement of the crane and reduces the ability of the crane to pick containers and cargo from the barge. Extending the dock will allow the crane better movement to access the entire barge and its contents.

Oversized and megaload containers have been unloaded at the Port in the past. There have been five megaload shipments from Lewiston, Idaho, utilizing U.S. Highway 12 eastward into Montana. These shipments were transported under special travel restrictions and, although they were a source of great public debate, the shipments themselves have not encountered ESA issues. Currently, there is a backlog of large loads at the Port that have already been unloaded from barges and are waiting to be trucked, regardless of the route taken.

Many industries strive to increase the amount of business they conduct and the productivity and profit they might generate. In its environmental assessment (COE 2012), the COE stated that the project would not necessarily result in any increase in the number of barges, amount of cargo, or use of the Port as a transportation hub, as usage is largely based on the state of the economy and on unknown market forces. The COE concluded that any increase was speculative. The Port of Lewiston's website shows a decreasing volume of shipping (See www.portoflewiston.com). However, if the amount of barge traffic were to increase, it could have potential increased effects through noise level, chemical contamination, and wave action.

The amount of noise level produced would be similar to what is already being produced by the passing of the existing barge traffic, which should then remain within the background sound level and within current sublethal effects. Halvorsen *et al*. (2009) examined the effects of barging on juvenile Chinook salmon olfaction and auditory function and concluded that olfactory systems of transported Chinook salmon were intact and probably functional, while the auditory sensitivities were compromised with probable recovery. These fish, however, probably experienced higher noise conditions than fish in the river system because they were directly inside the barge and exposed for significantly longer periods of time and not just in proximity to noise produced by barge traffic.

Increased barge traffic would increase the potential for the risk of spills or other chemical contamination. However, barging would continue to operate under the existing safety and operational guidelines and should not significantly increase that risk. Also, the Port's traffic

comes largely from paper and grain shipments (See www.portoflewiston.com), so any spills or releases would not be barge loads of petroleum products, since the barge only contains the amount of fuel needed to operate the vessel.

Increased barge traffic would increase the amount of wave action, which could increase shoreline erosion; however, much of the action area is already heavily riprapped and would not be expected to significantly increase turbidity or erosion. Increased wave action could cause physical damage to fish; however, Holland (1986) found that barge traffic caused physical damage to eggs, but not larvae or small fish. Since the area does not contain spawning habitat, salmon or steelhead eggs would not be present. Wave action could possibly strand juvenile fish, although it seems unlikely. Wolter and Arlinghaus (2003) used burst speed swimming performance to reason that fish more than 47 mm long should be able to withstand wash waves or backwash currents close to shore. Steelhead and salmon juveniles residing in or migrating down through the river corridor should generally be larger than 47 mm.

In the lower Columbia River, there are many ocean-going vessels which displace large quantities of water, which when hitting the shoreline, causes long run-up of the waves onto large stretches of flat beaches. This often results in stranding of small juvenile fish (B. Meyer, NMFS, personal communication). However, freshwater barges do not displace the same volume of water as the ocean-going vessels, and the Lewiston area does not have large stretches of flat beaches, but instead has large areas of riprap and a levee system, which would not present the same run-up and potential stranding issues found in the lower Columbia River.

Effects on VSP parameters. Based on the information described above and the precautionary measures described as part of the proposed action, effects to steelhead and fall Chinook salmon from underwater noise levels is expected to result in only minor, non-injury, behavioral effects. Hatchery smolt migration should have already occurred, and adult fish are less affected by the noise levels and it should not cause migration problems for them.

Again based on the information described above and the precautionary measures described as part of the proposed action, toxins and sediment-related harm could occur, but mortality is not expected. The Port will install a new storm drainage system to control surface runoff, and the timing and intensity of any sediment plumes and toxins are further minimized by the dilution factor of the Clearwater River.

Of those fish affected within the action area, only those juvenile fish located within the new dock perimeter have a risk of being killed; however, it is expected that many of these fish will flee the area during project activities. Also, with the hatchery smolt migration already completed, the number of juvenile fish still present and potentially injured or killed is small compared to the total number of juvenile fish in the Clearwater River system. Overall, the proposed action will have little effect on the abundance, productivity, spatial structure, or diversity of SRB steelhead or fall Chinook salmon. Therefore, it is unlikely that the proposed action will have any major effect on the viability of either the SRB steelhead DPS or the Snake River fall Chinook salmon ESU.

2.4.2. Effects on Critical Habitat

The proposed action will affect designated critical habitat for SRB steelhead and Snake River fall Chinook salmon for freshwater rearing and migration. No spawning habitat is present for either steelhead or fall Chinook salmon within the action area. The PCEs potentially affected by the proposed action include water quality, substrate, and safe passage. This analysis reviews the information in the BA, VSP information, and the best scientific and commercial data available to evaluate elements of the proposed action that have the potential to affect critical habitat.

Effects on water quality. Water quality could be affected in the action area by turbidity and sediment production. Sediment can produce numerous adverse effects on salmonids (Rowe *et al.* 2003). Juvenile salmonid avoidance of turbid waters may be one of the most important effects of suspended sediments (DeVore *et al.* 1980; Birtwell *et al.* 1984; Scannell 1988). Salmonids have been observed to move laterally and downstream to avoid turbid plumes (McLeay *et al.* 1987; McLeay *et al.* 1984; Sigler *et al.* 1984; Lloyd 1987; Scannell 1988; Servizi and Martens 1991). Adult and larger juvenile salmonids appear to be little affected by the high concentrations of suspended sediments that occur during storm and snowmelt runoff episodes (Bjornn and Reiser 1991). However, research indicates that chronic exposure can cause physiological stress responses that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987; Lloyd 1987; Servizi and Martens 1991).

The Port will install the fender piles (12.5-inch diameter x 0.5-inch thickness steel pipes) by lifting them with a crane and driving them approximately 10 feet into the riverbed with a land-based vibratory pile driver. Since no dredging will be required to install the fender system, there will be little disturbance to the substrate. As a result, the amount of turbidity expected to be produced from the installation of the pile structures is minimal.

Water quality could also be affected by stormwater runoff from the Port facility. Stormwater from the Lewiston Port site currently drains untreated into the Clearwater River. The Port will install an oil/water separator and will treat stormwater from the existing and extended dock and paved areas. Although this project will result in an increase in impervious area (paving the dock extension surface, repaving a portion of the yard, and gravelling a storage area), the project is expected to introduce fewer toxins into the Clearwater River and result in improved water quality from the site due to completion of the new stormwater treatment system.

Effects on substrate. Excessive fine sediment can effectively smother incubating eggs (Vaux 1968), thereby restricting movement of water through a redd (Bjornn and Reiser 1991) and reducing oxygen supply to developing embryos and the removal of their metabolic wastes (Fu-Chun 2000). Deposited sediment could also reduce cover for juvenile fish by filling the interstitial spaces between rocks.

Since no dredging is needed to install the fender system and dock area, sediment production is expected to be minimal. However, any sediment ending up in the Clearwater River is likely to be deposited along the streambank, where the area is already riprapped. Some small amounts of

fines might be transported downstream. Due to the sediment transport capacity of the Clearwater River, sediment is unlikely to alter stream channel characteristics preferred by juvenile salmonids, and there is no spawning habitat in the action area.

The area filled by the new dock surface amounts to an area 150 feet long by 50 feet wide, or 7,500 ft^2 (0.17 acres). Currently, this area is already riprapped and there is no existing riparian vegetation along the shoreline. The loss of this wetted area will not significantly affect the substrate condition of this area.

Effects on safe passage. The effect of the underwater noise production has already been discussed in the section on species effects. To summarize the effects for critical habitat, a small reduction in the value of safe passage would occur approximately 3,000 feet upstream and downstream of the vibratory hammer operations, which would affect an area of approximately 131 acres. Operation of the vibratory hammer would only occur for approximately 7 hours within a 12-hour daytime shift, and would not occur during night hours. As discussed previously, returning adult fish are less prone to behavioral disruption while they would be passing through the area in route to spawning areas. Safe passage would not be affected long term since the action area would return to current background levels as soon as the installation of the fender system is completed.

Summary of Effects on PCEs. In summary, NMFS expects that the Port's dock extension and the use of heavy equipment and the vibratory hammer will have an incremental change in the conservation value of critical habitat within the action area but, due to the nature of the proposed action, it is difficult to quantify. NMFS has calculated the area of impact where the underwater noise is above background levels and the area where a reduction in PCE conservation value will occur, but the exact nature and extent of those impacts is not precise. NMFS has also calculated the area to be filled in by the dock extension.

Actual effects to critical habitat, however, will likely be minor due to the summer low-flow in-river water work window, the short extent of any turbidity plume, operation of the oil/water separator, use of the vibratory hammer, and implementation of the conservation measures as previously described in this Opinion. The project activities are likely to negatively affect several PCEs (water quality, substrate, and safe passage) in the short term, but effects are expected to be minor, short lived, and have only minimal to moderate effects on fish habitat. Therefore, based on the effects described above, it is reasonably likely that the proposed action will have a small, local reduction in the conservation value of critical habitat.

2.5. Cumulative Effects

"Cumulative effects" are those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7

of the Act. Cumulative effects that reduce the ability of an ESA-listed species to meet its biological requirements may increase the likelihood that the action will result in jeopardy to that ESA-listed species or in destruction or adverse modification of a designated critical habitat.

NMFS is not aware of any state or private actions reasonably certain to occur in the action area. Outside the action area, the Clearwater River Subbasin has a moderate to high risk for combined effects of activities occurring on private and state lands. The primary potential for adverse effects is associated with increased development, residences, roads, highways, timber harvest, livestock grazing, and river-based recreation use. The future effects of these actions are likely to be similar to past effects described in this document under Section 2.1.2 of the environmental baseline.
Between April 1, 2000, and July 1, 2009, the population of Nez Perce County, Idaho, increased by 5.0% (U.S. Census Bureau 2010). NMFS assumes that future private and state actions will continue within the action area, but may increase slightly as the population density continues to increase.

2.6. Integration and Synthesis

The Integration and Synthesis section is the final step of NMFS' assessment of the risk posed to species and critical habitat as a result of implementing the proposed action. In this section, we add the effects of the action (Section 2.4) to the environmental baseline (Section 2.3) and the cumulative effects (Section 2.5) to formulate the agency's biological opinion as to whether the proposed action is likely to: (1) Result in appreciable reductions in the likelihood of both survival and recovery of the species in the wild by reducing its numbers, reproduction, or distribution; or (2) reduce the value of designated or proposed critical habitat for the conservation of the species. These assessments are made in full consideration of the status of the species and critical habitat (Section 2.2).

The Clearwater River Basin has a legacy of impacts that have resulted in chronic sediment inputs to its tributaries and the mainstem river, lack of instream and riparian complexity, fuel spills from trucking accidents, and high summer stream temperatures, all of which are factors that limit salmonid productivity. A review of the risks posed to SRB steelhead, fall Chinook salmon, and critical habitat from implementation of the Port of Lewiston Dock Extension Project is summarized as follows:

For steelhead and fall Chinook salmon: The action area is used by SRB steelhead and Snake River fall Chinook salmon for rearing and migration. Overall, the proposed action, combined with the environmental baseline and cumulative effects, will have little effect on the abundance, productivity, spatial structure, or diversity of SRB steelhead or fall Chinook salmon because: (1) Hatchery smolts will have already passed through the action area, and adults are expected to be able to continue their upstream migration run; (2) the habitat at the project site is considered poor rearing habitat and not many juvenile fish will normally inhabit this area; (3) those juvenile fish within or near the perimeter of the fender and pile installation would likely flee from construction activities. Those juvenile fish remaining might take refuge in the riprap cover and would eventually be killed when the enclosed area is filled with rock; however, the numbers of

such fish is small compared to the overall number of juvenile fish present in the Clearwater River system; (4) the action area is located within a heavy-use industrial area. Noise levels are expected to be limited to behavioral effects only and not cause physical injury; and (5) potential turbidity/sediment and toxin effects are only short term and minimized by project work timing, implementation of the project's precautionary measures, and through dilution by the Clearwater River flow at the project site.

For critical habitat: The action area is used for rearing and migration, but no spawning habitat occurs within the action area. The PCEs affected by the proposed action are water quality, substrate, and safe passage. The proposed action will not change these PCEs in a manner or to an extent that use of the habitat for rearing, growth and development, or migration would be appreciably changed because: (1) The value of the area is already limited since the project is located within a heavy industrial site that is completely riprapped and is devoid of any overhanging or other riparian vegetation; (2) water quality effects from sediment and toxins will be short term and minimal based on the moderate amount of sediment or toxins generated, the ability of the Clearwater River to dissipate them, and incorporation of the project's precautionary measures; (3) the loss of 0.17 acres for the new dock area is within the developed industrial area and is not within an area heavily used by salmonids; (4) the area impacted by the vibratory hammer operations would affect approximately 131 acres. Operation of the vibratory hammer would be sporadic and would not occur during night hours. Safe passage would not be affected long term since the action area would return to current noise background levels after the installation of the fender system is completed; and (5) installation of the oil/water separator would improve water quality existing conditions.

2.7. Conclusion

The effects of the proposed action were determined to not reduce the abundance, productivity, spatial structure, or genetic diversity of the SRB steelhead or Snake River fall Chinook salmon. Also, the effects of the proposed action were determined to not significantly degrade the limiting factors, baseline conditions, or the PCEs and the conservation value of the Clearwater River watershed. Therefore, after reviewing the current status of the listed species, the environmental baseline within the action area, the effects of the proposed action, and cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of SRB steelhead and Snake River fall Chinook salmon or to destroy or adversely modify their designated critical habitat.

2.8. Incidental Take Statement

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by regulation to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental

take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. For purposes of this consultation, we interpret "harass" to mean an intentional or negligent action that has the potential to injure an animal or disrupt its normal behaviors to a point where such behaviors are abandoned or significantly altered.[3] Section 7(b)(4) and section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA, if that action is performed in compliance with the terms and conditions of this ITS.

2.8.1. Amount or Extent of Take

Section 9(a)(1) of the ESA prohibits the taking of endangered species without a specific permit or exemption. Protective regulations adopted pursuant to section 4(d) extend the prohibition to threatened species. Among other things, an action that harasses, wounds, or kills an individual of an ESA-listed species or harms a species by altering habitat in a way that significantly impairs its essential behavioral patterns is a taking (50 CFR 222.102). Incidental take refers to takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(o)(2) exempts any taking that meets the terms and conditions of a written ITS from the taking prohibition.

The proposed action is reasonably certain to result in incidental take of ESA-listed species. NMFS is reasonably certain that the incidental take described here will occur because: (1) SRB steelhead and Snake River fall Chinook salmon are known to occur within the action area in the Clearwater River; and (2) the proposed action is likely to cause direct impacts to SRB steelhead and Snake River fall Chinook salmon from sediment, turbidity, fill, and underwater noise.

Non-lethal take will likely occur in the form of harm and harassment from sediment and construction disturbance effects. Measuring the number of steelhead and Chinook salmon actually harmed or harassed once fish are exposed to suspended sediment is not possible because the harm is likely to be sublethal and undetectable. Because of the difficulty of clearly defining the number of fish that could be affected by the proposed action, surrogate measures of take are necessary to establish a limit to the take exempted by this portion of the take statement. For this action, the visible distance that sediment travels is the best surrogate measure for incidental take because sediment introduced into the Clearwater River will cause take. Therefore, the extent of take in the action area is the distance that the turbidity plume is visible downstream of the project area.

There will be direct take of steelhead and Chinook salmon during the filling behind the bulkhead. NMFS has provided an estimate of the number of fish that could be present, but there is no way of knowing if fish have already fled the area or how many remain that would be killed from

[3] NMFS has not adopted a regulatory definition of harassment under the ESA. The World English Dictionary defines harass as "to trouble, torment, or confuse by continual persistent attacks, questions, etc." The U.S. Fish and Wildlife Service defines "harass" in its regulations as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).
The interpretation we adopt in this consultation is consistent with our understanding of the dictionary definition of harass and is consistent with the U.S. Fish and Wildlife interpretation of the term.

filling. The number of juvenile fish potentially harmed or killed by the in-river activities is expected to be approximately 41 steelhead and 82 Chinook salmon, for a total of 123 fish. However, there is no method by which this take can be verified because any juvenile fish that were not frightened from the area during project activities would be buried beneath the rock fill. For this action, the area filled with rock behind the bulkhead is the best surrogate measure for incidental take because filling this area of the Clearwater River will cause take.

The noise levels produced from the vibratory hammer operations are expected to fall within the level of behavioral effects only. No injury or mortality from these operations is expected; therefore, no take has been authorized for the vibratory hammer operations.

The extent of take allowed in this Opinion would be exceeded if:

1. A sediment plume resulting from project activities is visible beyond 300 feet from the downstream portion of the project area in the Clearwater River.

2. The volume of rock fill placed behind the bulkhead exceeds 5,000 yd^3.

The authorized take includes only take caused by the proposed action within the action area as defined in this Opinion. The extent of take is the threshold for reinitiating consultation. Should any of these limits be exceeded, the reinitiation provisions of this Opinion apply.

2.8.2. Effect of the Take

The sediment produced from in-water construction activities is expected to be of a short duration and low to moderate intensity that might reduce feeding efforts by any fish present and/or force them to seek other available nearby waters. No mortality is expected from sediment production.

During the filling behind the sheet pile bulkhead, there could be up to 123 juvenile fish still present, but even if all 123 were killed, this would only be a very small percentage of the total number of juvenile fish out-migrating from the Clearwater River Basin. Also, the total numbers of adult salmon and steelhead returning to the Clearwater River has been increasing, so the loss of a few out-migrant juveniles would be minimal relative to the overall production of either SRB steelhead or Snake River fall Chinook salmon.

2.8.3. Reasonable and Prudent Measures and Terms and Conditions

The RPMs are nondiscretionary measures to avoid or minimize the impact of take that must be carried out by cooperators for the exemption in section 7(o)(2) to apply. The COE has the continuing duty to regulate the activities covered in this ITS where discretionary Federal involvement or control over the action has been retained or is authorized by law. The protective coverage of section 7(o)(2) will lapse if the COE fails to exercise its discretion to require adherence to terms and conditions of the ITS, or to exercise that discretion as necessary to retain

the oversight to ensure compliance with these terms and conditions. Similarly, if any applicant fails to act in accordance with the terms and conditions of the ITS, protective coverage will lapse.

NMFS believes that full application of conservation measures included as part of the proposed action, together with use of the RPMs and terms and conditions described below, are necessary and appropriate to minimize the likelihood of incidental take of ESA-listed species due to completion of the proposed action.

The COE shall:

1. Minimize incidental take from construction activities and implementation of all precautionary measures.

2. Ensure completion of a monitoring and reporting program to confirm that the terms and conditions in this ITS are effective in avoiding and minimizing incidental take from permitted activities and that the extent of take is not exceeded.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the COE must fully comply with conservation measure described as part of the proposed action and the following terms and conditions that implement the RPMs described above. Partial compliance with these terms and conditions may invalidate this take exemption, result in more take than anticipated, and lead NMFS to a different conclusion regarding whether the proposed action will result in jeopardy or the destruction or adverse modification of designated critical habitats.

1. To implement RPM #1 (construction activities and implementation of all precautionary measures), the COE shall:

    a. Ensure that proper construction plans, designs, and techniques are followed, and make sure that all precautionary measures, including erosion and sediment control measures, are followed.

    b. Work in the in-river area only during low-flow periods between July 1 and September 30.

    c. Ensure that an emergency spill containment kit is kept on site during construction activities and that on-site personnel are knowledgeable and trained in the use of the spill containment equipment.

    d. Notify NMFS as soon as possible of any fuel spill of 1 gallon or more.

2. To implement RPM #2 (monitoring and reporting), the COE shall:

    a. Monitor the downstream extent and duration of any turbidity plumes created by the action, and notify NMFS immediately if sediment plumes are visible more than 300 feet downstream of the project area.

    b. Submit a monitoring report by April 15 of the year following construction activities to: NMFS, North Idaho Branch Office, 104 Airport Road, Grangeville, Idaho 83530.

    c. Immediately cease operation if a sick, injured, or dead specimen of a threatened or endangered species is found as a result of any activity involved with the proposed action other than fish removal as described in this Opinion. The finder must notify the Boise Field Office of NMFS Law Enforcement at (208) 321-2956. The finder must take care in handling sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

2.9. Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02).

The following recommendations are discretionary measures that NMFS believes is consistent with this obligation and therefore should be carried out:

- To better understand the sound levels produced by vibratory hammer operations and the potential for those sounds to adversely affect salmon, the COE should set up a monitoring plan that follows standard procedures such as those outlined in the Washington State Department of Transportation "Underwater Noise Monitoring Plan". (WSDOT 2011).

- To better address sediment issues within the Lower Granite pool area, the COE should finish the sediment management plan in a timely manner.

- To mitigate the effects of climate change on ESA-listed salmonids, the COE should follow recommendations by the ISAB (2007) to plan now for future climate conditions by implementing protective tributary, mainstem, and estuarine habitat measures, as well as protective hydropower mitigation measures. In particular, implement measures to protect or restore riparian buffers, wetlands, and floodplains; remove stream barriers; and ensure late summer and fall tributary stream flows.

Please notify NMFS if the COE carries out either of these recommendations so that we will be kept informed of actions that minimize or avoid adverse effects and those that benefit ESA-listed species or their designated critical habitats.

2.10. Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action on listed species or designated critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect on the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

To reinitiate consultation, the COE should contact the NMFS Idaho State Habitat Office in Boise, Idaho, and refer to the NMFS number assigned to this consultation.

3. MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

The consultation requirement of section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions, or actions that may adversely affect EFH. Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that may be taken by the action agency to conserve EFH.

This analysis is based, in part, on the EFH assessment provided by the COE and descriptions of EFH for Pacific coast salmon (PFMC 1999) contained in the fishery management plans developed by the Pacific Fishery Management Council (PFMC) and approved by the Secretary of Commerce.

3.1. Essential Fish Habitat Affected by the Project

The PFMC designated EFH in the State of Idaho for the freshwater life stages of Chinook salmon and coho salmon (PFMC 1999). The action and action area for this consultation are described in the Introduction to this document. The action area includes areas designated as EFH for various life-history stages of Chinook and coho salmon.

3.2. Adverse Effects on Essential Fish Habitat

Based on the information provided in the BA and the analysis of effects presented in the ESA portion of this document, NMFS concludes that the proposed action will have the following adverse effects on EFH designated for Chinook and coho salmon: (1) Short-term increased sediment and fuels affecting water quality; and (2) temporary disruption of adult migration and juvenile rearing.

3.3. Essential Fish Habitat Conservation Recommendations

NMFS believes that the terms and conditions in Section 2.8.3 of this document will also help avoid, mitigate, or offset the impacts of the action on EFH, as well as improve future habitat potential for Chinook salmon. The conservation recommendations below are identical to the ESA Terms and Conditions.

The COE should:

1. Ensure that proper construction plans, designs, and techniques are followed, and make sure that all precautionary measures, including erosion and sediment control measures, are followed.

2. Work in the in-river area only during low-flow periods between July 1 and September 30.

3. Ensure that an emergency spill containment kit is kept on site during construction activities and that on-site personnel are knowledgeable and trained in the use of the spill containment equipment.

4. Notify NMFS as soon as possible of any fuel spill of 1 gallon or more.

5. Monitor the downstream extent and duration of any turbidity plumes created by the action, and notify NMFS immediately if sediment plumes are visible more than 300 feet downstream of the project area.

6. Submit annual monitoring reports by April 15 of each year following stewardship activities to: NMFS, North Idaho Branch Office, 104 Airport Road, Grangeville, Idaho 83530.

NMFS expects that full implementation of these EFH conservation recommendations would protect, by avoiding or minimizing the adverse effects described in Section 3.2 above, approximately 2.1 acres of designated EFH for Pacific coast salmon. This area was calculated as the in-river portion of the action area where sediment concerns could pose a problem. This area was estimated to be the width of the river affected by a sediment plume (~200 feet) x the quantity of the length of the new dock (150 feet) plus the expected maximum length of the sediment plume (300 feet) equaling 2.066, or rounded off to 2.1 acres.

3.4. Statutory Response Requirement

As required by section 305(b)(4)(B) of the MSA, the Federal agency must provide a detailed response in writing to NMFS within 30 days after receiving an EFH conservation recommendation from NMFS. Such a response must be provided at least 10 days prior to final approval of the action if the response is inconsistent with any of NMFS' EFH conservation recommendations, unless NMFS and the Federal agency have agreed to use alternative time frames for the Federal agency response. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NMFS conservation recommendations, the Federal agency must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects [50 CFR 600.920(k)(1)].

In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we ask that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

3.5. Supplemental Consultation

The COE must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations [50 CFR 600.920(l)].

4. DATA QUALITY ACT DOCUMENTATION AND PRE-DISSEMINATION REVIEW

Section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-554) (Data Quality Act [DQA]) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the Opinion addresses these DQA components, documents compliance with the DQA, and certifies that this Opinion has undergone pre-dissemination review.

4.1. Utility

Utility principally refers to ensuring that the information contained in this consultation is helpful, serviceable, and beneficial to the intended users.

This ESA consultation concludes that the Port of Lewiston Project does not jeopardize SRB steelhead or Snake River fall Chinook salmon or critical habitat. Therefore, the COE has authorized, funded and/or carried out all actions as described in Section 1.2 of this document in accordance within its authorities under the Rivers and Harbors Act and the Clean Water Act. The intended users of this document are the COE, the Port of Lewiston, and their contractors.

Individual copies of this document were provided to the entities listed in the transmittal letter. This consultation will be posted on NMFS Northwest Region website (http://www.nwr.noaa.gov). The format and naming adheres to conventional standards for style.

4.2. Integrity

This consultation was completed on a computer system managed by NMFS in accordance with relevant information technology security policies and standards set out in Appendix III, 'Security of Automated Information Resources,' Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

4.3. Objectivity

Information Product Category: Natural Resource Plan.

Standards: This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including NMFS ESA Consultation Handbook, ESA Regulations, 50 CFR 402.01, *et seq.*, and the MSA implementing regulations regarding EFH, 50 CFR 600.920(j).

Best Available Information: This consultation and supporting documents use the best available information, as referenced in the Literature Cited section. The analyses in this Opinion/EFH consultation contain more background on information sources and quality.

Referencing: All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

Review Process: This consultation was drafted by NMFS staff with training in ESA and MSA implementation, and reviewed in accordance with Northwest Region ESA quality control and assurance processes.

5. LITERATURE CITED

Andersson, M. H., M. Gullstrom, M.E. Asplund, and M. C. Ohman. 2007. Swimming Behavior of Roach (Tutilus rutilus) and Three-spined Stickleback in Response to Wind Power Noise and Single-tone Frequencies. Royal Swedish Academy of Sciences . A Journal of the Human Environment 36(8):636-638. 2007. URL: http://www.bioone.org/doi/full/10.1579/0044-7447%282007%2936%5B636%3ASBORRR%5D2.0.CO%3B2

Arnsberg, B.D., W.P. Connor, and E. Connor. 1992. Mainstem Clearwater River study: assessment for salmonid spawning, incubation, and rearing. Final Report to Bonneville Power Administration, Contract No. DE-B179-87BP37474.

Arnsberg, B., A. Garcia, P. Groves, D. Milks, and R. Mueller. 2011. 2010 Snake River Fall Chinook Salmon Spawning Summary. Bonneville Power Administration Reports.

Birtwell, I.K. et al. 1984. A brief investigation of arctic grayling (*Thymallus arcticus*) and aquatic invertebrates in the Minto Creek drainage, Mayo, Yukon Territory: An area subjected to placer mining. Canadian Technical Report 1287, Fisheries and Aquatic Sciences.

Birtwell, I. K. 1999. The effects of sediment on fish and their habitat. Fisheries and Oceans Canada. Research Document 99/139. Ottawa 1999.

Bjornn, T.C. and D.W. Reiser. 1991. Habitat requirements of salmonids in streams. In: W.R. Meehan (Editor), Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication. 19: 83-138

Bjornn, T.C. and N. Horner. 1980. Biological Critria for classification of Pacific salmon and steelhead as threatened or endangered under the Endangered Species Act. Report to National Marine Fisheries Service, Seattle, WA.

BLM (U.S. Bureau of Land Management). 2000. Clearwater River, North Fork Clearwater River, and Middle Fork Clearwater River subbasins. Biological Assessment of ongoing and proposed Bureau of Land Management activities on fall Chinook salmon, steelhead trout, bull trout, and BLM sensitive species. Bureau of Land Management Upper Columbia-Salmon Clearwater District, Cottonwood Field Office, Cottonwood, Idaho. March 2000.

Bowersox, B. 2008. Potlatch River Steelhead Monitoring and Evaluation, Annual Report 2007. Pacific Coast Salmon Recovery funds, Contract # 05 052 CW, IDFG # 08-139, Idaho Department of Fish and Game. Boise, ID.

BRT (Biological Review Team). 2003. Updated status of Federally listed ESUs of West Coast salmon and steelhead. U. S. Department of Commerce, National Marine Fisheries Service, Seattle, Washington (July 2003). http://www.nwr.noaa.gov/AlseaResponse/20040528/brtusr.html

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lagomarcino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California. NOAA-NWFSC -27. NOAA, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle, Washington. http://www.nwfsc.noaa.gov/publications/techmemos/tm27/tm27.htm

CBB (Columbia Basin Bulletin). 2009. 2009 Fall Chinook Redd Counts in Snake River's Hells Canyon Marks Another. December 11, 2009) 2 pages. http://www.cbbulletin.com/368666.aspx

CBB (Columbia Basin Bulletin). 2010. Snake River Fall Chinook 2010 Redd Count includes records for tributaries, creeks. December 11, 2009) 2 pages. http://www.cbbulletin.com/405123.aspx

CBB (Columbia Basin Bulletin). 2011. Lack of dredging behind Lower Granite forces balancing for fish, navigation, flood control. 2 pages. http://www.cbbulletin.com/407318.aspx

CIG (Climate Impacts Group). 2004. Overview of climate change impacts in the U.S. Pacific Northwest (July 29, 2004, updated August 17, 2004). Climate Impacts Group, University of Washington, Seattle

COE (U.S. Army Corps of Engineers). 2012. Environmental Assessment (for) Port of Lewiston Dock Expansion and Storage Area Development. U.S. Army Corps of Engineers, Walla Walla District, Washington. March 2012

Connor, W. P., A. P. Garcia, H. L. Burge, and R. H. Taylor. 1993. Fall chinook salmon spawning in free flowing reaches of the Snake River. Pages 1-29 *in* D. W. Identification of the spawning, rearing, and migratory requirements of fall chinook salmon in the Columbia River basin. 1991 Annual Report to Bonneville Power Administration, Contract DEAI79-91BP21708, Portland, Oregon.

Connor, W.P., A. P. Garcia, A. H. Connor, E. O. Garton, P.A. Groves and J. A. Chandler. 2001. Estimating the carrying capacity of the Snake River for fall Chinook salmon redds. Northwest Science. 75(4): 363-371.

Connor, W.P., J.G. Sneva, K.F. Tiffan, R.K. Steinhorst and D. Ross. 2005. Two alternative juvenile life history types for fall Chinook salmon in the Snake River Basin. American Fisheries Society. 134: 291-304.

Connor, W., B. Arnsberg, S. Smith, D. Marsh, and W. Muir. 2009 Post release performance of natural and hatchery subyearling fall Chinook salmon in the Snake and Clearwater rivers. 2008 Annual Report for Projects 1983350003, 199102900, and 19980104 to the U.S. Army Corps of Engineers of and Bonneville Power Administration, Portland OR.

Cramer, S.P., C.W. Huntington, and C.R. Steward. 1998. Harvest of anadromous fishes lost by the Nez Perce Indian Tribe as a result of Lewiston and Harpster dams in the Clearwater River Basin. S.P. Cramer and Associates, Inc., Gresham, Oregon.

DeVore, P.W., L.T. Brooke and W.A. Swenson. 1980. The effects of red clay turbidity and sedimentation on aquatic life in the Nemadji River System. Impact of nonpoint pollution control on Western Lake Superior. EPA Report 905/9-79-002-B, US Environmental Protection Agency. Washington, D.C.

Ecovista, Nez Perce Tribe Wildlife Division, and Washington State University Center for Environmental Education. 2003. Draft Clearwater Subbasin Assessment. November, 2003. Report submitted to the Northwest Power and Conservation Council. Available online: *www.nwcouncil.org/fw/subbasinplanning/clearwater/plan*

Ford, M.J. (ed.). 2011. Status review update for Pacific salmon and steelhead listed under the Endangered Species Act: Pacific Northwest. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-113, 281 p.

FPC (Fish Passage Center). 2011. Online data query for adult fish passage records. Fish Passage Center of the Columbia Basin Fish and Wildlife Authority. http://www.fpc.org/adultsalmon_home.html

Fu-Chun, W. 2000. Modeling embryo survival affected by sediment deposition into salmonid spawning gravel: application for flushing flow prescriptions. Water Resources Research. 36: (6) 1595-1603.

Garcia, A., S. Bradbury, B. Arnsberg, S. Rocklage, P. Groves. 2005. "Fall Chinook Salmon Spawning Ground Surveys in the Snake River Basin upriver of Lower Granite Dam", 2004-2005 Annual Report, Project No. 199801003, 60 electronic pages, (BPA Report DOE/BP-00020366-1)

Geist, D., S. Abernethy, K. Hand, V. Cullinan, J. Chandler, and P. Groves. 2006. Survival, development and growth of fall Chinook salmon embryos, alevins, and fry exposed to variable thermal and dissolved oxygen regimes, Transaction of the American Fisheries Society 135:1462-1477.

Good, T.P., R.S. Waples, and P. Adams (editors). 2005. Updated status of federally listed ESUs of West Coast salmon and steelhead. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS-NWFSC-66, 598 p. http://santacruz.nmfs.noaa.gov/files/pubs/00749.pdf

Groves, P. A., and J. A. Chandler. 1999. Spawning habitat used by fall Chinook salmon in the Snake River. North American Journal of Fisheries Management 19:912-922.

Hall-Griswold, J.A. and C.E. Petrosky. 1996. Idaho habitat/natural production monitoring: Part I - Annual Report, 1995. Report IDFG 97-4. Idaho Department of Fish and Game. Boise, Idaho.

Halvorsen, Michele B., Lidia E. Wysocki, Carla M. Stehr, David H. Baldwin, David R. Chicoine, Nathaniel L. Scholz & Arthur N. Popper. 2009. Barging Effects on Sensory Systems of Chinook Salmon Smolts, Transactions of the American Fisheries Society, 138:4, 777-789

Henjum, M.G., J.R. Karr, D.L. Bottom, D.A. Perry, J.C. Bednarz, S.G. Wright, S.A. Beckwitt, and E. Beckwitt. 1994. Interim protection for late-successional forests, fisheries and watersheds: National Forests east of the Cascade crest, Oregon and Washington. The Wildlife Society, Bethesda, Maryland.

Holland, L. 1986. Effects of barge traffic on distribution and survival of ichthyoplankton and small fishes in the upper Mississippi River. Transactions of the American Fisheries Society 15:162-165.

ICTRT (Interior Columbia Basin Technical Recovery Team). 2003. Independent populations of Chinook, steelhead, and sockeye for listed evolutionarily significant units within the Interior Columbia River Domain: working draft, July 2003. NOAA National Marine Fisheries Service, Northwest Fisheries Science Center. Seattle, Washington.

Independent Scientific Group. 1996. Return to the River: Restoration of Salmonid Fishes in the Columbia River Ecosystem. Northwest Power Planning Council. Portland, Oregon. 500 p.

ISAB (Independent Scientific Advisory Board). 2007. Climate change impacts on Columbia River Basin fish and wildlife. ISAB Climate Change Report, ISAB 2007-2, Northwest Power and Conservation Council, Portland, Oregon.

Lee, D.C, and 20 co-authors. 1997. Broadscale assessment of aquatic species and habitats. In: Quigley, Thomas M.; Arbelbide, Sylvia J., tech. eds. An assessment of ecosystem components in the interior Columbia basin and portions of the Klamath and Great Basins: Volume III. Gen. Tech. Rep. PNW-GTR-405. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Lloyd, D.S. 1987. Turbidity as a water quality standard for salmonid habitats in Alaska. North American Journal of Fisheries Management. 7: 34-45.

Mantua, N.J., S.R. Hare, Y. Zhang, J.M. Wallace, and R.C. Francis. 1997. A Pacific interdecadal climate oscillation with impacts on salmon production. Bulletin of the American Meteorological Society 78:1069-1079.

McElhany, P., M. Ruckleshaus, M. J. Ford, T. Wainwright, and E. Bjorkstedt. 2000. Viable Salmon Populations and the Recovery of Evolutionarily Significant Units. U. S. Department of Commerce, National Marine Fisheries Service, Northwest Fisheries Science Center, NOAA Technical Memorandum NMFS-NWFSC-42. 156 p. http://www.nwfsc.noaa.gov/publications/techmemos/tm42/tm42.pdf

McIntosh, B.A., J.R. Sedell, J.E. Smith, R.C. Wissmar, S.E. Clarke, G.H. Reeves, and L.A. Brown. 1994. Management history of eastside ecosystems: Changes in fish habitat over 50 years, 1935 to 1992. USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-321.

McLeay, D.J., G.L. Ennis, I.K. Birtwell and G.F. Hartman. 1984. Effects on arctic grayling (*Thymallus arcticus*) of prolonged exposure to Yukon placer mining sediment: A laboratory study. Yukon River Basin Study. Canadian Technical Report of Fisheries and Aquatic Sciences. 1241 pp.

McLeay, D.J., I.K. Birtwell, G.F. Hartman and G.L. Ennis. 1987. Responses of arctic grayling (*Thymallus arcticus*) to acute and prolonged exposure to Yukon placer mining sediment. Canadian Journal of Fisheries and Aquatic Sciences. 44: 658-673.

NMFS (National Marine Fisheries Service). 2006. National Marine Fisheries Service's comments and preliminary recommended terms and conditions for an application for a major new license for the Hells Canyon hydroelectric project (FERC No. 1971). NMFS, Seattle, Washington. January 24, 2006.

NMFS (National Marine Fisheries Service). 2008. Supplemental Comprehensive Analysis of the Federal Columbia River Power System and Mainstem Effects of the Upper Snake and other Tributary Actions, May 5, 2008. NOAA Fisheries, Northwest Region, Hydropower Division, Seattle, WA. *www.nwr.noaa.gov/Salmon-Hydropower/Columbia-Snake-Basin/final-BOs.cfm*

NRC (National Research Council). 1996. Upstream: salmon and society in the Pacific Northwest. National Academy Press, Washington, D.C.

NWPPC (Northwest Power Planning Council). 2004. Snake Hells Canyon Subbasin Assessment. Prepared for the Northwest Power Planning Council. May, 2004.

PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation Measures for Salmon. Pacific Fishery Management Council, Portland, Oregon (March 1999). http://www.pcouncil.org/salmon/salfmp/a14.html

Purser, J. and A.N. Radford. 2011. Acoustic Noise Induces Attention Shifts and Reduces Foraging Performance in Three-Spined Sticklebacks. PLoS ONE 6 (2): e17478. doi:10.1371/JOURNAL.PONE.0017478. February 2011

Redding, J.M., C.B. Schreck and F.H. Everest. 1987. Physiological Effects on Coho Salmon and Steelhead of Exposure to Suspended Solids. Transactions of the American Fisheries Society. 116: 737-744.

Rhodes, J.J., D.A. McCullough, and F.A. Espinosa, Jr. 1994. A coarse screening process for potential application in ESA consultations. Columbia River Intertribal Fish Commission. Prepared under NMFS/BIA Inter-Agency Agreement 40ABNF3.

Rowe, M., Essig, D., and Jessup, B. 2003. Guide to Selection of Sediment Targets for Use in Idaho TMDLs. Idaho Department of Environmental Quality. June, 2003.

Scannell, P.O. 1988. Effects of Elevated Sediment Levels from Placer Mining on Survival and Behavior of Immature Arctic Grayling. Unit Contribution 27, Alaska Cooperative Fishery Unit, University of Alaska.

Scheuerell, M.D., and J.G. Williams. 2005. Forecasting climate-induced changes in the survival of Snake River spring/summer Chinook salmon (*Oncorhynchus tshawytscha*). Fisheries Oceanography 14:448-457.

Servizi, J.A. and D.W. Martens. 1991. Effects of Temperature, Season, and Fish Size on Acute Lethality of Suspended Sediments to Coho Salmon. Canadian Journal of Fisheries and Aquatic Sciences. 49: 1389-1395.

Sigler, J.W., T.C. Bjornn and F.H. Everest. 1984. Effects of chronic turbidity on density and growth of steelheads and coho salmon. American Fisheries Society. 113: 142-150.

Spence, B.C, G.A. Lomnicky, R.M. Hughes, R.P. Novitzki. 1996. An Ecosystem Approach to Salmonid Conservation. TR-4501-96-6057. ManTech Environmental Research Services Corp., Corvallis, Oregon.

Tolimieri, N., and P. Levin. 2004. Differences in responses of Chinook salmon to climate shifts: implications for conservation. Environmental Biology of Fishes 70:155–167.

Tuvikene, A. 1995. Responses of fish to polycyclic aromatic hydrocarbons (PAHs). Finnish Zoological and Botanical Publishing Board. Ann. Zool. Fennici 32: 295-309. Helsinki, Finland. 1 November 1995.

U.S. Census Bureau. 2010. State and County Quick Facts. Clearwater County, Idaho. Nov. 10, 2010. http://quickfacts.census.gov/qfd/states/16/16035.html

UW (University of Washington). 2011. DART Adult Passage All Species Composite Report Columbia Basin Research. School of Aquatic & Fishery Sciences. University of Washington. http://www.cbr.washington.edu/dart/adult.html

Vaux, W.G. 1968. Intragravel flow and interchange of water in a streambed. Fishery Bulletin 66: 479-489. U.S. Fish and Wildlife Service.

Williams, J.G., S. G. Smith, R. W. Zabel, W. D. Muir, M. D. Scheuerell, B. P. Sandford, D. M. Marsh, R. A. McNatt, and S. Achord. 2005. Effects of the Federal Columbia River Power System on salmon populations. NOAA Fisheries Technical Memorandum. Northwest Fisheries Science Center, Seattle, WA. February.

Wissmar, R.C., J.E. Smith, B.A. McIntosh, H.W. Li, G.H. Reeves, and J.R. Sedell. 1994. Ecological health of river basins in forested regions of eastern Washington and Oregon. Gen. Tech. Rep. PNW-GTR-326. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. Portland, OR.

Wolter, C. and R. Arlinghaus. 2003. Navigation impacts on freshwater fish assemblages: the ecological relevance of swimming performance. Fish Biology and Fisheries 13: 63-89.

WSDOT. 2011. Washington State Department of Transportation. Underwater Noise Monitoring Plan Template. Seattle, WA. Office of Air Quality & Noise. Also available at: http://www.wsdot.wa.gov/Environment/Biology/BA/BAtemplates.htm#Noise

Zabel, R.W., M.D. Scheuerell, M./M. McClure, and J.G. Williams. 2006. The interplay between climate variability and density dependence in the population viability of Chinook salmon. Conservation Biology 20:190-200.

Appendix E

Concurrence letters from Idaho State Historic Preservation Office

www.history.idaho.gov

Idaho • State Historical SOCIETY

July 22, 2011

RECEIVED
July 25, 2011

David B. Barrows
Chief, Regulatory Division
US Army Corps of Engineers
Idaho Falls Regulatory Field Office
900 N Skyline Drive, Suite A
Idaho Falls, Idaho 83402-1700

RE: Port of Lewiston Dock Extension; NWW-2010-213-W04

C.L. "Butch" Otter
Governor of Idaho

Janet Gallimore
Executive Director

Administration
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2682
Fax: (208) 334-2774

Membership and Fund Development
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 514-2310
Fax: (208) 334-2774

Historical Museum and Education Programs
610 North Julia Davis Drive
Boise, Idaho 83702-7695
Office: (208) 334-2120
Fax: (208) 334-4059

State Historic Preservation Office and Historic Sites Archeological Survey of Idaho
210 Main Street
Boise, Idaho 83702-7264
Office: (208) 334-3861
Fax: (208) 334-2775

Statewide Sites:
- Franklin Historic Site
- Pierce Courthouse
- Rock Creek Station and
- Stricker Homesite

Old Penitentiary
2445 Old Penitentiary Road
Boise, Idaho 83712-8254
Office: (208) 334-2844
Fax: (208) 334-3225

Idaho State Archives
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2620
Fax: (208) 334-2626

North Idaho Office
112 West 4th Street, Suite #7
Moscow, Idaho 83843
Office: (208) 882-1540
Fax: (208) 882-1763

Section 106 Evaluation

	The field work and documentation presented in this report meet the Secretary of the Interior's Standards.
X	No additional investigations are recommended; project can proceed as planned.
	Additional information is required to complete the project review. (See comments.)
	Additional investigations are recommended. (See comments.)

Identification of Historic Properties (36 CFR 800.4):

X	No historic properties were identified within the project area.
	Property is not eligible.
	Property is listed in National Register of Historic Places.
	Property is eligible for listing in the National Register of Historic Places. Criterion: __A __B __C __D Context for evaluation:
X	*No historic properties* will be affected within project area.

Assessment of Adverse Effects (36 CFR 800.5):

	Project will have *no adverse effect* on historic properties.
	Project will have an *adverse effect* on historic properties; further consultation is recommended.

If you have any questions, feel free to contact me at 208-334-3847 or travis.pitkin@ishs.idaho.gov.

Comments:

Travis Pitkin, M.S.
Archaeologist

Historical Society is an Equal Opportunity Employer.

www.history.idaho.gov

Idaho State Historical Society

C.L. "Butch" Otter
Governor of Idaho

Janet Gallimore
Executive Director

Administration
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2682
Fax: (208) 334-2774

Membership and Fund Development
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 514-2310
Fax: (208) 334-2774

Historical Museum and Education Programs
610 North Julia Davis Drive
Boise, Idaho 83702-7695
Office: (208) 334-2120
Fax: (208) 334-4059

State Historic Preservation Office and Historic Sites
Archeological Survey of Idaho
210 Main Street
Boise, Idaho 83702-7264
Office: (208) 334-3861
Fax: (208) 334-2775

Statewide Sites:
• Franklin Historic Site
• Pierce Courthouse
• Rock Creek Station and
• Stricker Homesite

Old Penitentiary
2445 Old Penitentiary Road
Boise, Idaho 83712-8254
Office: (208) 334-2844
Fax: (208) 334-3225

Idaho State Archives
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2620
Fax: (208) 334-2626

North Idaho Office
112 West 4th Street, Suite #7
Moscow, Idaho 83843
Office: (208) 882-1540
Fax: (208) 882-1763

March 9, 2012

MAR 14 2011

Michael S. Francis
Chief, Environmental Compliance Section
Walla Walla District, Corps of Engineers
201 North Third Avenue
Walla Walla, WA 99362-1876

RE: Proposed Expansion of a Gravel Storage Yard at the Port of Lewiston, Nez Perce County, Idaho (PM-EC-2011-0014)

Section 106 Evaluation

X	The field work and documentation presented in this report meet the Secretary of the Interior's Standards.
X	No additional investigations are recommended; project can proceed as planned.
	Additional information is required to complete the project review. (See comments.)
	Additional investigations are recommended. (See comments.)

Identification of Historic Properties (36 CFR 800.4):

X	No historic properties were identified within the project area.
	Property is not eligible.
	Property is listed in National Register of Historic Places.
	Property is eligible for listing in the National Register of Historic Places. Criterion: __A __B __C __D Context for evaluation:
X	*No historic properties* will be affected within project area.

Assessment of Adverse Effects (36 CFR 800.5):

	Project will have *no adverse effect* on historic properties.
	Project will have an *adverse effect* on historic properties; further consultation is recommended.

If you have any questions, feel free to contact me at 208-334-3847 or travis.pitkin@ishs.idaho.gov.

Comments: The project APE is located within recorded archaeological property 10NP149. The recorded location is based upon ethnographic descriptions and remains unconfirmed by archaeological methods.

Travis Pitkin, M.S.
Archaeologist

Historical Society is an Equal Opportunity Employer.