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:
OSB1999-0315

December, 22, 1999

Lawrence C. Evans
Chief, Regulatory Branch
Corps of Engineers, Portland District
ATTN: Teena Monical
P.O. Box 2946
Portland, OR 97208-2946

Re: ESA Section 7 Formal Consultation on the U.S. Gypsum's Construction of a Wallboard Manufacturing Plant (Army Corps of Engineers Permit Application ID No: 99-1245)

Dear Mr. Evans:

This letter represents the National Marine Fisheries Service's (NMFS) Biological Opinion, pursuant to Section 7(a)(2) of the Endangered Species Act (ESA), that the effects of U.S. Gypsum's (USG) construction of a wallboard manufacturing plant, together with cumulative effects and the effects of the environmental baseline, are not likely to jeopardize the continued existence of certain listed, proposed and candidate fish species. This letter also authorizes incidental take associated with the subject activities.

BACKGROUND

This consultation is between NMFS and the U.S. Army Corps of Engineers (COE), a Federal agency, on their permitting USG to conduct work under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. USG hired Shapiro and Associates to provide supporting information to the COE for this consultation.

On November 19, 1999, the COE faxed a November 15, 1999, letter addressed to Rick Applegate, NMFS, requesting formal consultation for the U.S. Gypsum's construction of a new wallboard manufacturing plant. On November 24, 1999, NMFS received a Biological Assessment (BA) prepared by Shapiro and Associates and additional information— addressing outstanding issues—from Shapiro and Associates was provided on November 29, 1999. Prior to this date, there were numerous pre-application meetings with Shapiro and Associates, Inc. and the resource agencies. A September 16, 1999, joint (state and Federal) permit application packet was also utilized in the formation of this Biological Opinion.

The specific listed and proposed Evolutionarily Significant Units[1] (ESU) and candidate species considered in this Biological/Conference Opinion are:

ESUs Listed as Endangered:

Snake River (SR) sockeye salmon (*Oncorhynchus nerka*)
Upper Columbia River (UCR) steelhead (*O. mykiss*)
Upper Columbia River (UCR) spring chinook salmon (*O. tshawytscha*)

ESUs Listed as Threatened:

Snake River (SR) spring/summer chinook salmon (*O. tshawytscha*)
Snake River (SR) fall chinook salmon (*O. tshawytscha*)
Lower Columbia River (LCR) chinook salmon (*O. tshawytscha*)
Upper Willamette River (UWR) chinook salmon (*O. tshawytscha*)
Snake River (SR) steelhead (*O. mykiss*)
Lower Columbia River (LCR) steelhead (*O. mykiss*)
Middle Columbia River (MCR) steelhead (*O. mykiss*)
Upper Willamette River (UWR) steelhead (*O. mykiss*)
Columbia River (CR) chum salmon (*O. keta*)

ESU Proposed for Listing as Threatened:

Southwestern Washington/Columbia River (SW/CR) coastal cutthroat trout *(O. clarki clarki)*

ESU Candidate Species:

Southwest Washington/Lower Columbia River (SW/LCR) coho salmon (*O. kisutch*)

PROPOSED ACTION

USG is proposing to construct a wallboard manufacturing plant just northwest of the Lewis and Clark Bridge in Rainier, Columbia County, Oregon (Columbia River mile 65.5). The major components of the facility would be a 560,000 square foot building, a 22,500 square foot dock, and a 13-mile underground, natural gas line. Ocean-going ships would deliver materials used in the manufacturing of wallboard. The bank (approx. 3100 linear feet) would be protected as it is unstable[2]. All in-water work will be conducted during the Oregon Department of Fish and Wildlife's in-water work period of between November 1 and February 28.

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[1] For the purposes of conservation under the Endangered Species Act, an Evolutionarily Significant Unit (ESU) is a distinct population segment that is substantially reproductively isolated from other conspecific population units and represents an important component in the evolutionary legacy of the species (Waples, 1991).

[2] The shoreline consists of uniform sandy dredge spoil material that has been deposited from many Army Corps of Engineers' sources in the Columbia River over a number of years.

The building will be constructed upland away from the water and USG has already received the appropriate permits for its construction. The building, therefore, will not be covered further in this document.

The dock will be approximately 500 feet by 45 feet and will be positioned off shore 138 feet to place it away from the shoreline and in waters deeper than 20 feet. There will be one 30-foot wide ramp to the shore. The dock will be built 10.5 feet above the ordinary high water level.

The bank protection work will consist of a terraced shoreline with riprap and vegetation. Riprap will be placed over gravel that has a filter blanket underneath it. A terrace will be created below the ordinary high water level which will be planted with native vegetation. USG is committed to providing additional habitat diversity (includes keying in root wads in the base of the revetment in four to six locations) along the shoreline as long as it is determined by an engineer to not exacerbate erosion of the shoreline. This work will be coordinated with the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and NMFS.

An 8-inch, underground, natural gas pipeline will be installed from a plant in Port Westward to the USG site. The pipeline will be approximately 13 miles long and will cross 18 wetlands and 18 streams. In the wetlands, the pipeline will be placed in a trench. Topsoil will be set aside and replaced at the surface, many of the seeds, root masses, and rhizomes will be preserved. Vegetation clearing will be limited to the trench and minimal space required to create the trench. The disturbed areas will be graded and contoured to match the surrounding topography, then seeded for erosion control. The stream crossings will follow the same protocol (trenching) as for wetlands crossings. The crossings will be as perpendicular to the stream as possible. The trenches will be approximately 2 feet wide by 4 feet deep. Flows will be maintained to protect aquatic life by partial coffer dam and/or bypass pipes across the construction area. Dredged material will be placed a minimum of 10 feet away from any waterway, and sediment barriers will be used to prevent dredged material from re-entering the waterway. Three of the 18 crossings will be directional drilled into place (unless after attempting to directional drill it is determined not to be feasible). These 3 areas to be directional drilled are large water complexes as compared to the other crossings which are small creeks that are less than 2 feet wide with steep banks. Modification to the small creek sites to allow for directional drilling would be more environmentally impacting than trenching and was, therefore, eliminated as an option.

BIOLOGICAL INFORMATION AND CRITICAL HABITAT

A list of all the listed and proposed species and their associated critical habitat information that are covered in this consultation is provided in Table 2. References for additional background on biological information and historical population trends are also provided.

Table 2. References for listing status, biological information, and critical habitat elements for the listed and proposed species addressed in this consultation.

Species	Listing Status		Critical habitat	Biological Information, Historical Population Trends
	Proposed Rule	Final Rule		
Snake River sockeye salmon		November 20, 1991; 56 FR 58619	December 28, 1993; 58 FR 68543	Waples *et al*. 1991a; Burgner 1991
Snake River fall chinook salmon		April 22, 1992; 57 FR 34653	December 28, 1993; 58 FR 68543	Waples *et al*. 1991b; Healey 1991
Snake River spring/summer chinook salmon		April 22, 1992; 57 FR 34653	December 28, 1993; 58 FR 68543	Matthews and Waples 1991; Healey 1991
Upper Willamette River chinook salmon		March 24, 1999; 64 FR 14308	March 9, 1998; 63 FR 11482 (proposed rule)	Myers *et al*.1998; Healey 1991
Upper Willamette River steelhead		March 25, 1999; 64 FR 14517	February 5, 1999; 64 FR 5740 (proposed rule)	Busby *et al*. 1995; Busby *et al*. 1996
Upper Columbia River spring chinook salmon		March 24, 1999; 64 FR 14308	March 9, 1998; 63 FR 11482 (proposed rule)	Myers *et al*.1998; Healey 1991
Lower Columbia River chinook salmon		March 24, 1999; 64 FR 14308	March 9, 1998; 63 FR 11482 (proposed rule)	Myers *et al*.1998; Healey 1991
Snake River steelhead		August 18, 1997; 62 FR 43937	February 5, 1999; 64 FR 5740 (proposed rule)	Busby *et al*. 1995; Busby *et al*. 1996
Upper Columbia River steelhead		August 18, 1997; 62 FR 43937	February 5, 1999; 64 FR 5740 (proposed rule)	Busby *et al*. 1995; Busby *et al*. 1996
Middle Columbia River steelhead		March 25, 1999; 64 FR 14517	February 5, 1999; 64 FR 5740 (proposed rule)	Busby *et al*. 1995; Busby *et al*. 1996
Lower Columbia River steelhead		March 19, 1998; 63 FR 13347	February 5, 1999; 64 FR 5740 (proposed rule)	Busby *et al*. 1995; Busby *et al*. 1996
Columbia River chum salmon		March 25, 1999; 64 FR 14308	March 10, 1998; 63 FR 11774 (proposed rule)	Johnson *et al*.1997; Salo 1991
Southwestern Washington/Columbia River coastal cutthroat trout	April 5, 1999; 64 FR 16397		N/A	Johnson *et al*.1999; Trotter 1989

Burgner, R.L. 1991. Life history of sockeye salmon (*Oncorhynchus nerka*). Pages 1-117 *In:* Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.

Busby, P., S. Grabowski, R. Iwamoto, C. Mahnken, G. Matthews, M. Schiewe, T. Wainwright, R. Waples, J. Williams, C. Wingert, and R. Reisenbichler. 1995. Review of the status of steelhead (*Oncorhynchus mykiss*) from Washington, Idaho, Oregon, and California under the U.S. Endangered Species Act. 102 pp. plus 3 appendices.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27, 261 pp.

Healey, M.C. 1991. Life history of chinook salmon (*Oncorhynchus tshawytscha*). Pages 311-393 *In:* Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.

Johnson, O.W., W.S. Grant, R.G. Cope, K. Neely, F.W. Waknitz, and R.S. Waples. 1997. Status review of chum salmon from Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-32, 280 pp.

Johnson. O.W., M.H. Ruckelshaus, W.S. Grant, F.W. Waknitz, A.M. Garrett, G.J. Bryant, K. Neely, and J.J. Hard. 1999. Status review of coastal cutthroat trout from Washington, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-37, 292 pp.

Matthews, G.M. and R.S. Waples. 1991. Status review for Snake River spring and summer chinook salmon. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-F/NWC-200, 75 pp.

Myers, J.M., R.G. Kope, G.J. Bryant, D. Teel, L.J. Lierheimer, T.C. Wainwright, W.S. Grant, F.W. Waknitz, K. Neely, S.T. Lindley, and R.S. Waples. 1998. Status review of chinook salmon from Washington, Idaho, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-35, 443 p.

Salo, E.O. 1991. Life history of chum salmon (*Oncorhynchus keta*). Pages 231-309 *In:* Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.

Trotter, P.C. 1989. Coastal cutthroat trout: A life history compendium. Trans. Am. Fish. Soc. 118:463-473.

Waples, R.S., O.W. Johnson, and R.P. Jones, Jr. 1991a. Status Review for Snake River Sockeye Salmon. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/NWC195.

Waples, R.S., R.P. Jones, Jr., B.R. Beckman, and G.A. Swan. 1991b. Status Review for Snake River Fall Chinook Salmon. U.S. Dep. Commer., NOAA Tech. Memo. NMFS F/NWC-201. 73 p.

The action area is defined by NMFS regulations (50 CFR Part 402) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area includes designated critical habitat affected by the proposed action within the Columbia River at river mile 65.5. This area serves as a migratory corridor for both adult and juvenile life stages of all listed species under consideration in this BO. This area may also serve as a rearing area for juveniles. Essential features of the adult and juvenile migratory corridor for the species are: (1) Substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food (juvenile only), (8) riparian vegetation, (9) space, and (10) safe passage conditions (50 CFR Part 226). The essential features this proposed project may affect are water quality and riparian vegetation resulting from construction activities and safe passage conditions as a result of the structures placed in the river.

EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by its implementing regulations (50 CFR Part 402). When NMFS issues a conference or biological opinion, it uses the best scientific and commercial data available to separately determine whether a proposed Federal action is likely to: (1) Jeopardize the continued existence of a proposed, listed, or candidate species, and/or (2) destroy or adversely modify a proposed or listed species' critical habitat. This analysis involves the following steps: (A) Define the biological requirements of the species; (B) evaluate the environmental baseline relative to the species' current status; (C) determine the effects of the proposed or continuing action on the species; (D) determine whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the environmental baseline and any cumulative effects, and considering measures for survival and recovery specific to other life stages; and (E) identify reasonable and prudent alternatives to a proposed or continuing action that is likely to jeopardize the continued existence of the species.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' critical habitat. NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will adversely modify critical habitat it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for adult and juvenile migration and rearing of the listed salmon under the existing environmental baseline.

A. Biological Requirements

The first step in the method the NMFS uses in applying the ESA standards of Section 7(a)(2) to Pacific salmonids is to define the species' biological requirements that are most relevant to each consultation.

The relevant biological requirements are those necessary for the listed and proposed species to survive and recover to a naturally reproducing population level at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

The NMFS finds that these biological requirements are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for the survival and recovery of the listed species. Individual environmental factors include water quality, habitat access, physical habitat elements, river channel condition, and hydrology. These are measurable variables, with properly functioning values estimated using the best available information as those necessary for sufficient prespawning survival and distribution, spawning success, egg-to-smolt survival, smolt emigration survival and timing, and smolt condition to allow the long-term survival of the species. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of these species.

For this consultation, the most relevant biological requirements are: (1) Improved habitat characteristics that function to support successful migration and rearing, and (2) unimpeded passage. The current status of the listed and proposed species, based upon their risk of extinction, has not significantly improved since the species was listed.

B. Environmental Baseline

The environmental baseline is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area covered by this Opinion is the Columbia River at river mile 65.5.

The biological requirements of the listed and proposed species are currently not being met under the environmental baseline. Their status is such that there must be a significant improvement in the environmental conditions they experience over those currently available under the environmental baseline. Any further degradation of these conditions would have a significant impact due to the amount of risk they presently face under the environmental baseline.

ANALYSIS OF EFFECTS

A. Effects of Proposed Action

The mainstem Columbia River is an important migration route for numerous species of anadromous fish. Information from the Columbia River indicates that during migration, juvenile fall chinook salmon are typically found in shallow, nearshore habitats (Dawley et al. 1986). Steelhead juveniles are normally found mid-river during migration (Dawley et al. 1986). Juvenile salmonid species such as spring chinook and coho salmon and up-river steelhead usually move down river relatively quickly and in the main channel; this aids in predator avoidance (Gray and Rondorf 1986). Fall and summer chinook salmon are found in nearshore, littoral habitats and are particularly vulnerable to predation (Gray and

Rondorf 1986). Juvenile salmonids (chinook and coho salmon and cutthroat trout) utilize backwater areas during their outmigration (Parente and Smith 1981). In addition, the presence of predators may force smaller prey fish species into less desirable habitats, disrupting foraging behavior and resulting in less growth (Dunsmoor et al. 1991).

When a salmon stock suffers from low abundance, predation can contribute significantly to its extinction (Larkin 1979). Providing temporary respite from predation may contribute to increasing Pacific salmon (Larkin 1979). A substantial reduction in predators will generally result in an increase in prey (in this case, salmonids) abundance (Campbell 1979). Gray and Rondorf (1986), in evaluating predation in the Columbia River Basin, state: "The most effective management program may be to reduce the susceptibility of juvenile salmonids to predation by providing maximum protection during their downstream migration."

Over-water Structures

Predator species such as northern pikeminnow (*Ptychocheilus oregonensis*) and introduced predators such as largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), black crappie (*Pomoxis nigromaculatus*) white crappie (*P. annularis*) and, potentially, walleye (*Stizostedion vitreum*) (Ward et al. 1994, Poe et al. 1991, Beamesderfer and Rieman 1991, Rieman et al. 1991, Petersen et al. 1990, Pflug and Pauley 1984, and Collis et al. 1995) may utilize habitat created by over-water structures (Ward and Nigro 1992, Pflug and Pauley 1984) such as piers, float houses, floats and docks. However, the extent of increase in predation on salmonids in the lower Columbia River resulting from over-water structures is not well known.

Major habitat types utilized by largemouth bass include vegetated areas, open water and areas with cover such as docks and submerged trees (Mesing and Wicker 1986). During the summer, bass prefer pilings, rock formations, areas beneath moored boats, and alongside docks (Bill Monroe, *The Oregonian*, May 21, 1997). Colle et al. (1989) found that, in lakes lacking vegetation, largemouth bass distinctly preferred habitat associated with piers, a situation analogous to the Columbia River. Marinas also provide wintering habitat for largemouth bass out of mainstem current velocities (Raibley et al. 1997). Bevelhimer (1996), in studies on smallmouth bass, indicates that ambush cover and low light intensities create a predation advantage for predators and can also increase foraging efficiency. Wanjala et al. (1986) found that adult largemouth bass (*Micropterus salmoides*) in a lake were generally found near submerged structures suitable for ambush feeding.

Black crappie and white crappie are known to prey on juvenile salmonids (Ward et al. 1991). Ward et al. (1991), in their studies of crappies within the Willamette River, found that the highest density of crappies at their sampling sites occurred at a wharf supported by closely spaced pilings. They further indicated that suitable habitat for crappies includes pilings and riprap areas. Walters et al. (1991) also found that crappie were attracted to in-water structures and recommended placement of structures as attractants in lake environs.

Ward (1992) found that stomachs of northern pikeminnow in developed areas of Portland Harbor contained 30% more salmonids than those in undeveloped areas, although undeveloped areas contained more northern pikeminnow.

There are four major predatory strategies utilized by piscivorous fish: Running down prey; ambushing prey; habituating prey to a non-aggressive illusion; or stalking prey (Hobson 1979). Ambush predation is probably the most common strategy; predators lie-in-wait, then dart out at the prey in an explosive rush (Gerking 1994). Predators may use sheltered areas that provide slack water to ambush prey fish in faster currents (Bell 1991).

Light plays an important role in defense from predation. Prey species are better able to see predators under high light intensity, thus providing the prey species with an advantage (Hobson 1979). Petersen and Gadomski (1994) found that predator success was higher at lower light intensities. Prey fish lose their ability to school at low light intensities, making them vulnerable to predation (Petersen and Gadomski 1994). Howick and O'Brien (1983) found that in high light intensities prey species (bluegill) can locate largemouth bass before they are seen by the bass. However, in low light intensities, the bass can locate the prey before they are seen. Walters et al. (1991) indicate that high light intensities may result in increased use of shade-producing structures.

The effect of over-water structures is the creation of a light/dark interface that allows ambush predators to remain in a darkened area (barely visible to prey) and watch for prey to swim by against a bright background (high visibility). Prey species moving around the structure are unable to see predators in the dark area under the structure and are more susceptible to predation. Constructing the dock 10.5 feet above the ordinary high water mark allows for more light penetration. This will minimize the susceptibility of juvenile salmonids to piscivorous predation resulting from this project.

In addition to piscivorous predation, in-water structures (tops of pilings) also provide perching platforms for avian predators such as double-crested cormorants (*Phalacrocorax auritis*), from which they can launch feeding forays or dry plumage. Their high energy demands associated with flying and swimming create a need for voracious predation on live prey (Ainley 1984). Cormorants are underwater pursuit swimmers (Harrison 1983) that typically feed on mid-water schooling fish (Ainley 1984), but they are known to be highly opportunistic feeders (Derby and Lovvorn 1997; Blackwell et al. 1997; Duffy 1995. Double-crested cormorants are known to fish cooperatively in shallow water areas, herding fish before them (Ainley 1984). Krohn et al. (1995) indicate that cormorants can reduce fish populations in forage areas, thus possibly affecting adult returns as a result of smolt consumption. Because their plumage becomes wet when diving, cormorants spend considerable time drying out feathers (Harrison 1983) on pilings and other structures near feeding grounds (Harrison 1984). The piles proposed to support the dock structures will potentially provide for some usage by cormorants. Placement of anti-perching devices on the top of the pilings would preclude their use by any potential avian predators (This is a requirement of this consultation. Refer to terms and conditions in the Incidental Take Statement section).

Riparian Alteration

Riparian habitats are one of the most ecologically productive and diverse terrestrial environments (Kondolf et al. 1996, Naiman et al. 1993). Vegetation in riparian areas influences channel processes through stabilizing bank lines and providing large woody debris, terrestrial food sources rather than autochthonous food production, and regulating light and temperature regimes (Kondolf et al. 1996, Naiman et al. 1993).

The riparian area in the vicinity of the proposed project has been substantially altered by prior activities. The proposed riparian project will improve habitat conditions for salmonids by increasing habitat complexity. Habitat complexity will be increased with the placement of large woody debris and the planting of native vegetation (Placement of large woody debris is a requirement of this consultation. Refer to terms and conditions under the Incidental Take Statement section).

Pipeline Placement

The water complexes that are most important to juvenile salmon will be directionally drilled, if technically feasible, to avoid impacts to the areas. The other stream and wetland crossings will have minimal impacts to the environment due to the best management practices (e.g. erosion control measures, timing, and area minimization).

B. Critical Habitat

As described in previous sections of this Opinion, the USG's construction of a wallboard manufacturing plant and associated components may affect essential features of the proposed critical habitat of SR sockeye salmon, UCR steelhead, UCR spring chinook salmon, SR spring/summer chinook salmon, SR fall chinook, LCR chinook salmon, UWR chinook salmon, SR steelhead, LCR steelhead, MCR steelhead, UWR steelhead, and CR chum. The dock may provide habitat for predaceous fish, thereby inhibiting safe passage for juvenile salmonids. The proposed design configurations should minimize any impacts resulting from the project. The bank planting in addition to the large woody debris placement portion of the proposed project should improve habitat conditions and offset any alteration to critical habitat from the dock structure and placement of riprap along the bank.

C. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "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." For the purposes of this analysis, the action area encompasses the area around the proposed project (Columbia River mile 65.5). Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes. NMFS knows of no non-Federal actions that are reasonably certain to occur that may take listed salmonids within the action area.

CONCLUSION

The NMFS has determined that, based on the available information, the USG's construction of a wallboard manufacturing plant and associated components is not likely to jeopardize the continued existence of SR sockeye salmon, UCR steelhead, UCR spring chinook salmon, SR spring/summer chinook salmon, SR fall chinook, LCR chinook salmon, UWR chinook salmon, SR steelhead, LCR steelhead, MCR steelhead, UWR steelhead, CR chum, SW/CR coastal cutthroat trout, or SW/LCR coho salmon, nor will it result in the destruction or adverse modification of proposed critical habitat of

the SR sockeye salmon, UCR steelhead, UCR spring chinook salmon, SR spring/summer chinook salmon, SR fall chinook, LCR chinook salmon, UWR chinook salmon, SR steelhead, LCR steelhead, MCR steelhead, UWR steelhead, or CR chum.

The NMFS reached this conclusion based on: (1) The fact that the dock will be built at a height to allow light underneath it and has been located far away from the shoreline in waters deeper than 20 feet so as not to increase effectiveness by predatory fish species, which could impair the biological requirement for increased migration survival by juvenile fish; (2) predatory bird prevention devices will be placed on the top of each pile; (3) all in-water work will be conducted during the Oregon Department of Fish and Wildlife's in-water work period, a time when the least amount of listed fish will be present in the project area; and (4) the bank work will improve riparian areas by planting native vegetation and placing large woody debris.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patters such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement (ITS) specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts, and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures. An ITS does not apply to candidate or proposed species. While effects on SW/LCR coho salmon and SW/CR sea-run cutthroat trout were considered in this Biological Opinion, the reasonable and prudent measures and terms and conditions set forth in this ITS do not apply to SW/LCR coho salmon and SW/CR sea-run cutthroat trout. Should either of these species become listed in the future, this ITS would become effective for these species upon adoption of this conference opinion as a biological opinion.

The measures described below are non-discretionary. They must be implemented by the action agency so that they become binding conditions necessary in order for the exemption in Section 7(o)(2) to apply. The COE has a continuing duty to regulate the activity covered in this incidental take statement. If the COE fails to adhere to the terms and conditions of the incidental take statement, and/or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of Section 7(o)(2) may lapse.

Amount or Extent of the Take

Notwithstanding the NMFS' conclusion that the subject proposed project is not expected to jeopardize the continued existence of SR sockeye salmon, UCR steelhead, UCR spring chinook salmon, SR spring/summer chinook salmon, SR fall chinook, LCR chinook salmon, UWR chinook salmon, SR steelhead, LCR steelhead, MCR steelhead, UWR steelhead, CR chum, SW/CR coastal cutthroat trout, or SW/LCR coho salmon, there may be short-term impacts and NMFS anticipates that there would be more than a negligible likelihood of incidental take of these species from some of the actions. The subject action, however, as described in the Biological Opinion, is expected to result in a low level of incidental take of listed and proposed species in the proposed action area. Effects of the action such as these are largely unquantifiable, but are not expected to be measurable as long-term effects on the species' habitat or population levels. Therefore, even though the NMFS expects an incidental take to occur as a result of the action covered by this Biological Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the listed and proposed species themselves. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the BA, the NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the action covered by this Biological Opinion.

Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to further minimize the likelihood of incidental take of the species covered by this Opinion.

1. As a condition of the permit, the Corps shall require USG to implement measures to reduce avian predation on juvenile salmon.

2. As a condition of the permit, the Corps shall require USG to improve shoreline habitat complexity.

Terms and Conditions

To minimize the likelihood of incidental take of listed salmonid species which may result from proposed future actions, the COE shall implement the following terms and conditions. The individual projects covered by this Biological Opinion must also comply with the terms and conditions of all required state, Federal, and local permits.

1. To reduce avian predation on juvenile salmon, USG shall install predatory bird prevention devices (cones pointed up) on the top of each pile.

2. To improve shoreline habitat complexity, USG shall work with the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and NMFS to develop a plan (e.g. keying in root wads in the base of the revetment in four to six locations) and implement it within 1 year of this consultation.

Reinitiation of Consultation

Reinitiation of consultation is required if: (1) The amount or extent of taking specified in the incidental take statement, above, is exceeded; (2) the action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Biological Opinion; (3) new information or project monitoring reveals effects of the action that may affect listed species in a way not previously considered; or (4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR § 402.16).

If you have any questions, please contact Michelle Day of my staff in the Oregon State Branch Office at (503) 231-6938.

Sincerely,

William Stelle, Jr.
Regional Administrator

REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the sources of data, information and references used in developing this Biological and Conference Opinion in addition to that submitted by the COE. (Note: there are additional references on page 5.)

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