DEPARTMENT OF THE ARMY PERMIT

REGIONAL GENERAL PERMIT FOR COMMERCIAL GRAVEL MINING IN THE CHETCO RIVER CURRY COUNTY, OREGON (RGP-7)

PERMIT NO.: NWP-2008-00071

EFFECTIVE DATE: July 15, 2011

EXPIRATION DATE: July 15, 2016

ISSUING OFFICE: U.S. Army Corps of Engineers, Portland District

This general permit authorizes commercial gravel mining activities within the Chetco River, Curry County, Oregon subject to the terms and conditions contained herein. This general permit is issued upon the recommendation of the Chief of Engineers as provided by 33 CFR 325.2(e)(2), pursuant to Section 404 of the Clean Water Act (P.L. 95-217) and Section 10 of the Rivers and Harbors Act of 1899.

1. PROJECT LOCATION: This RGP is geographically limited to the portion of the Chetco River from river mile 3.0 (head of the estuary reach) to river mile 11 in Curry County, Oregon. Specific project locations within this 8 mile stretch are identified below and shown on the Location Map and Figures 1 through 4.

1) Freeman Bar site: Includes several sites which are located on the north and south banks of the Chetco River between river miles 4.5 and 5.5. The sites are located in Sections 34 and 35 of Township 40 South, Range 13 West. (See Figure 1).

2) South Coast Lumber site: This site includes two adjacent river bars (the lower bar on the north bank and the upper bar on the south bank) at about river mile 7.0 of the Chetco River. The site is located in Sections 24 and 25 of Township 40 South, Range 13 West. (See Figure 2).

3) 2nd Bridge Bar (aka Fitzhugh Bar) site: This site is located just upriver from the bridge that crosses over the Chetco River at about river mile 10.2. This site is located in Section 12 of Township 40 South, Range 13 West. (See Figures 3 and 4).

2. PROJECT DESCRIPTION:

A. Extraction Strategy. Extraction from the identified Project locations will be allowed to occur under the conditions listed below only after the **reserve volume** is met. The **reserve volume** is the annual volume of material that must be recruited into the system in any given year in order for extraction to occur. The reserve volume provides for maintenance of the existing gravel bars within the lower Chetco River. Other criteria, such as a cap on removal volumes above the reserve and bar-specific volume allocations, provide opportunities for habitat improvement.

i. Excavation will follow an annual cycle, provided the annual reserve volume of 26,000 cubic yards (cy) is met. If the 26,000 cy annual reserve volume is not met, it accumulates each year until the influx is sufficient to exceed 26,000 cy per year (e.g., if the reserve volume is not met in year 1, it is added to the 26,000 reserve volume required for year 2 [26,000 cy x 2 = 52,000 cy]. The total for the two years must exceed 52,000 cy for harvest to occur. If the 52,000 cumulative reserve volume is not met in two years, 3 x 26,000 = 78,000 cy must be met before harvest can occur in the third year, etc.).

ii. If a 5 year influx event occurs (118,000 cy or more gravel recruited), the 26,000 cy maintenance reserve volume will still be subtracted from the Parker Equation estimated recruitment volume to determine the total amount of aggregate available for extraction from the system. However, neither the 80 percent cap nor the bar-specific allocations (47:47:6) will apply to the 5-year event scenario. Aggregate volumes available for extraction from specific locations will be determined by the amount of aggregate that recruits to the extraction location (based on pre-harvest surveys) and the application of appropriate bar form retention criteria.

iii. <u>Extraction percentage above the reserve volume</u>: To provide the opportunity for habitat improvements within the Chetco River system, extraction will be limited to 80 percent of the sediment recruited into the system after accounting for the maintenance reserve volume. Annual extraction volumes shall not exceed annual recruitment volumes for that same year after taking into account the 26,000 cy reserve, the 80 percent cap, and bar form retention criteria. The 80 percent cap does not apply to the 5-year influx event.

iv. Considerations for aggregate extraction will begin with the 2011 Gravel Year. Aggregate recruited into the Chetco River system during the 2009 and 2010 Gravel Years will not be factored into the amount available for extraction during the 2011 in-water work season. A Gravel Year is defined as April 1(of the previous year) through March 31.

v. In any given year under the RGP where recruitment exceeds the reserve volume, but the operators choose not to remove any material determined to

be available for extraction, that amount may be carried over into the next year. Under this scenario, the reserve from the eligible year in which no mining occurred will be added to the reserve for the following year (26,000 + 26,000 = 52,000 cy cumulative reserve) and subtracted from the cumulative recruitment volumes, and so on as described in 2.A.i. above. The resulting volume of material will then be subject to the 80 percent cap to determine the amount of material available for extraction.

vi. In any given year under the RGP where recruitment exceeds the reserve and some extraction occurs, the operators may not carry over into a future extraction year any authorized amounts they do not pull from the system in that year.

B. Bar Retention Strategies: Under the RGP, gravel mining would be authorized to occur over a five-year period at the identified project locations using the bar form method described below. As part of the Adaptive Management Strategy, the specific requirements may be modified prior to extraction based on site specific conditions.

- Bar Removal.
  - i. Head of bar. Protect the upper 1/3 of the bar from any excavation activities. The protective armor layer and any vegetation should not be disrupted.
  - ii. Lateral Buffer. The undisturbed set-back area between the low flow channel and the active mining area should be no less than 20% of the active channel width or be set based on site specific conditions. The protective armor layer should not be disrupted and the vegetation should be planted or allowed to naturally establish.
  - iii. Excavated backwater length. The maximum excavated backwater length is 2/3 of the bar feature, but this area must incorporate the head slope and side slope of the backwater area.
  - iv. Excavated backwater head slope. This portion of the excavated area should be no steeper than 10:1 (horizontal to vertical). This is the transition between the protected head of bar and the bottom of the backwater and must be contained entirely in the backwater area.
  - v. Excavated backwater side slopes. This portion of the excavated area should be no steeper than 4 to 1 (horizontal to vertical). This is the transition between the lateral buffer area and the excavated backwater bottom and must be contained entirely in the backwater area.
  - vi. Excavated backwater depth. The maximum depth will be equal to the low flow elevation at the downstream end. The backwater area will be sloped to prevent fish entrapment.

C. Bar Allocations: The following bar-specific allocation of harvested aggregate will apply: 47% for Freeman Rock; 47% for Tidewater Contractors; and 6% for South Coast Lumber Company. This annual default allocation means that no more than 47% of the annual allotment will come from Freeman or Tidewater bars, individually, and no more than

6% from the South Coast Lumber Company bar. However, a deviation from this default per bar allocation schedule for any given year can be approved by the Review Team pursuant to the Adaptive Management Strategy described in Section 3.

D. General Construction Requirements.

Equipment and Access: The type of equipment used to excavate the sand and gravel includes paddlewheel scrapers, excavators, and front-end loaders. Dump trucks are generally used to haul material to the upland stockpile site or processing facility. Temporary crossings of the Chetco River by means of a flatcar bridge may be necessary to access the gravel bar at some locations. In these situations the only in-water river crossing would be for installation and removal of the bridge. Native material from authorized excavation areas may be used to form footings at either end of the bridge. Temporary crossings of dry channels may include a stabilized low water ford or the installation of culverts to allow for fish passage if the water level rises during the removal season. All temporary crossings, including temporary fill material, will be removed at the end of the construction season within the approved in-water work window.

Vehicle Staging: Vehicle staging areas will be designated for cleaning, maintenance, refueling, and monitoring for petroleum leaks and repairs. These staging areas will be no closer than 150 feet from any stream, waterbody, or wetland unless otherwise approved in writing by the Corps. All equipment will be cleaned prior to the start of each excavation season and as needed during the season. Wash and rinse water must not be discharged into the waterways, unless adequately treated. Each day prior to leaving the staging area to perform excavation activities, vehicles will be inspected for fluid leaks with any detected leaks repaired before leaving the staging area. Documented inspections will be logged in a record that is available to the Corps upon request.

Stockpiles: No material will be stockpiled below the ordinary high water mark.

Stormwater management: To minimize the amount of sediment released to the Chetco River and the effects to the quality of stormwater runoff from upland processing activities, operators shall take measures to effectively manage such runoff to limit its impacts on the system. Such measures shall be made in accordance with Oregon Department of Environmental Quality requirements. (Note: Permittees will be subject to National Pollutant Discharge Elimination System [NPDES] 1200-A general permits issued by DEQ which require the turbidity of stormwater released from upland sites to be less than 160 Nephelometric Turbidity Units [NTUs]).

In-water Work Window: All in-water work shall be conducted during the listed in-water work window, as applicable, unless otherwise approved by the Corps and Oregon Department of State Lands (ODSL), and coordinated with the National Marine Fisheries Service (NMFS) and Oregon Department of Fish and Wildlife (ODFW). (Refer to ODFW *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources* found at the following link:

http://www.dfw.state.or.us/lands/inwater/Oregon_Guidelines_for_Timing_of_%20InWater_Work2008.pdf)

Gravel Bar Plantings: In order to stabilize the bars and provide riparian shade, planting will occur at any bare areas adjacent to side channels and at the protected head of bar and lateral buffer areas. Planting must occur at least 60 days prior to the anticipated high water to promote establishment prior to inundation. Alternative locations for the plantings may be evaluated if it is shown that planting on the gravel bars is not viable. Planting will be:

1) Live willow stakes, harvested from relatively straight, disease- and insect-free branches;
2) A minimum of 18 inches in length and between ¾ to 3 inches in diameter;
3) In a density of approximately 1 stake every 2 to 5 square feet; and
4) Planted vertically to a depth of approximately 80% of the length of each stake below the bar surface.

3. ADAPTIVE MANAGEMENT

Adaptive management will allow the Review Team to modify project design features if warranted by site-specific conditions. The determination of whether modifications to the project design are appropriate would be based on the evaluation of a pre-harvest plan and any changes that have occurred to the physical and biological characteristics of the river in the vicinity of the extraction site. Adaptive management helps maintain flexibility by recognizing uncertainties exist and gives the agencies latitude to improve the project design features by moving towards the desired outcome of minimal effects to the aquatic and terrestrial ecosystem.

a. Annual Data Requirements. The following activities will be conducted each year:

1. Flow data will be collected at the USGS Chetco River gaging station (14400000) during the period of April 1 through March 31 (Gravel Year). The Parker equation will then be used in conjunction with the flow data to determine that year's annual gravel recruitment volume for the system.

2. If the annual recruitment volume is greater than 26,000 cy, extraction is allowed during the upcoming season.

3. Bedload sampling will be conducted twice each year (subject to available funding) at the USGS Chetco River gaging station until 10 measurements have been obtained. The purpose of this sampling is to develop an independent sediment rating curve for future use in determining annual recruitment volumes.

b. Pre-excavation evaluation. If appropriate triggers are met and gravel extraction is allowed to occur, the following is required:

1. A pre-harvest survey will be conducted by the permittee at least 30 days before initiation of gravel extraction to determine the amount of gravel deposited on a specific removal location (survey requirements are described below). The survey will be provided to the Review Team, along with an extraction plan.

2. The Review Team will conduct a pre-harvest site visit to evaluate bar specific conditions and determine if modifications to the bar form retention criteria or other project design criteria are warranted.

3. Following the pre-harvest site visit, the Review Team will establish extractable volumes for each site (based on recruitment volumes within the system, pre-harvest surveys, and site specific bar conditions). Annual extraction volumes shall not exceed annual recruitment volumes for that same year after taking into account the 26,000 cy reserve, the 80% percent cap, and bar form retention criteria.

Survey requirements are as follows:

1. A registered surveyor shall perform the survey. Survey accuracy shall be +/- 0.1 foot unless an alternate level of accuracy is agreed to by the Review Team.
2. The survey report shall include the following: a full topographic survey; the desired scale is 1 inch = 100 feet, with a contour interval of 1 foot. Section drawing should be 1 inch = 60 feet horizontal, and 1 inch = 6 feet vertical.
3. The survey will extend longitudinally from one pool-riffle complex below extraction to one pool-riffle complex above extraction.
4. The survey will extend laterally to the extents of the flood-prone area, defined as an elevation twice the maximum depth as measured at the 100-year floodplain or other marked identified by the Review Team.
5. Elevation data should reference a standard geodetic datum (NGVD 29 or NAD 83. *etc.).*
6. The survey will reference at least one permanent benchmark. The benchmark should be set near a roadway utility pole, or other public works infrastructure, or near a permanent site improvement such as a gate or driveway.
7. The topographic map shall include:
    a. Date and time of survey data.
    b. North arrow.
    c. Survey baseline with monument elevations location and description.
    d. Streambanks and floodplains within the survey area.
    e. Direction of stream flow.
    f. Limits of gravel extraction and access area.
    g. Multiple ground points to accurately define the channel bottom and the shape of the banks and floodplain, including submerged sections.
    h. The water surface elevation at the time of the survey.

The **extraction plan** will include any proposed deviation from the approved permit with respect to access and other construction methods. The plan will also include the survey

information that shows how much was recruited at the specific location proposed for gravel extraction, and the proposed bar form.

The **Review Team** will consist of representatives of the following agencies: the Corps of Engineers, NMFS, U.S. Fish and Wildlife Service, Environmental Protection Agency, ODSL, ODFW, ODEQ, and Oregon Department of Land Conservation and Development (DLCD). Representatives of the gravel industry or other private individuals will not participate as members of the Review Team. Representatives of the gravel industry will participate in the pre-harvest site visits to answer questions regarding the proposed extraction plans or other issues as may arise.

c. Post excavation report. The post-excavation report will be provided to the Review Team by December 31 of the year excavation occurred and will contain the following:

1. Pre-extraction surveys.
2. Photos from established photo points with pictures taken before, during, and after excavation.
3. Post-extraction surveys conducted no more than 30 days after the completion of operations for the season.
4. A report on volumes extracted during the season.
5. A status report on restoration activities conducted during the excavation season, if any. Restoration activities include plantings within the gravel bar or at alternatively approved locations.

d. Multi-year Evaluation. In order to evaluate the effects of the proposed action on the Chetco River system during the course of the five-year permit life and to assist the regulatory and resource agencies in making an informed decision regarding the need for modifications to the RGP, the following will occur:

1. At year four, a system wide LIDAR (Light Detection and Ranging) analysis shall be flown along the entire lower Chetco River (RM 0 to RM 12) to evaluate longitudinal elevations, bank conditions, evaluate triggers, determine/evaluate adverse affects, and make adjustments if warranted.
2. At year 5, conduct point bar analyses at the same locations identified in the USGS Chetco River sediment transport study (Wallick, J.R., Anderson, S.W., Cannon, Charles, and O'Connor, J.E., 2009, Channel change and bed-material transport in the lower Chetco River, Oregon: U.S. Geological Survey Open-File Report 2009–1163, 83 p.).

e. Other. Another item that may be considered under the adaptive management process is an in-field study to determine a more accurate in-situ bulk density value for converting mass to volume. For the Chetco River sediment transport study, the USGS used a value of 2.1 metric tons per cubic meter or 1.6 metric tons per cubic yard. Questions were raised as to the appropriateness of the USGS values when compared to the value of 1.33 tons per cubic yard that is used by the ODSL for purposes of determining royalty payments. This number,

however, accounts for pore spaces added to the material during loading and unloading. The USGS values (which were developed for in-situ material) and the resulting volume calculations will be used until in-field studies are conducted to identify a more appropriate 'Chetco specific' in-situ bulk density value.

4. RESTORATION OPPORTUNITIES. The following restoration actions will be conducted by the Gravel Industry in the Chetco River system during the five-year life of the RGP. These projects were identified based on the field examination of the river and subsequent discussions of how existing habitats might be enhanced, restored, or created to the benefit of overwintering salmonid species. The Jack Creek Restoration project will be completed as early in the permit cycle as is practicable. Development of the enhancement projects will be coordinated with the review team and the team will approve final enhancement plans prior to construction.

a. **Jack Creek Restoration Project**: The property area is owned by Freeman Trust and is currently being used as agricultural pasture land. The project is located at the confluence of the Chetco River and Jack Creek. Biologists have identified this area as significant rearing and overwintering habitat for juvenile salmonids. The project would be conducted by Freeman Rock. The proposed enhancement project creates a high flow channel paralleling Jack Creek for the purpose of providing coho and Chinook overwintering habitat. The Jack Creek Restoration Project will be accomplished by digging a natural looking channel parallel to Jack Creek designed to inundate with water during high flow from the Chetco.

b. **Social Security Bar Restoration Proposal:** The property is owned by the Department of State Lands and is currently an active river gravel bar used for recreational purposes primarily associated with fishing. The restoration project will be completed by either Freeman Rock or Tidewater and material removed will count against their annual allocation from recruitment studies. This restoration project has three specific actions. The first is to create overwintering habitat for salmonids by constructing an alcove at the lower end of the bar. The second action is to remove some of the aggregate material building on the bar to allow continued recreational use by fisherman porting their drift boats. The third action is to enhance the side channel to create overwintering habitat for salmonids, and increase sinuosity of the bar. A license from Department of State Lands may be required if material recovered from the site is used as an article of commerce. The party undertaking this project will obtain any such necessary license authorization from the Department of State Lands prior to project initiation.

5. CONDITIONS

a. **Inwater Work Window**. All in-water work shall be conducted during the listed in-water work window, as applicable, unless otherwise approved by the Corps of Engineers. (Refer to Oregon Department of Fish and Wildlife (ODFW)

"Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources", June 2008 or most current version). The work window for the Chetco River above Tide Rock is July 15 through September 30.

b. **Cultural Resources and Human Burials-Inadvertent Discovery Plan.** Permittees shall immediately cease all ground disturbing activities and notify the Portland District Regulatory Branch if at any time during the course of the work authorized, human burials, cultural items, or historic properties, as identified by the National Historic Preservation Act and Native American Graves and Repatriation Act, are discovered and/or may be affected. The Permittee shall follow the procedures outlined below:

- Immediately cease all ground disturbing activities.
- Notify the Portland District Regulatory Branch. Notification shall be made by fax (503-808-4375) as soon as possible following discovery but in no case later than 24 hours. The fax shall clearly specify the purpose is to report a cultural resource discovery.
- Follow up the fax notification by contacting the Corps representative (by email and telephone) identified in the permit letter.
- Notify the Oregon State Historic Preservation Office (503-986-0674).

Failure to stop work immediately and until such time as the Corps has coordinated with all appropriate agencies and complied with the provisions of 33 CFR 325, Appendix C, the National Historic Preservation Act, Native American Graves and Repatriation Act and other pertinent regulations, could result in violation of state and federal laws. Violators are subject to civil and criminal penalties.

c. **Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

d. **Spill Containment/Control Plans**. To minimize the impact of a contaminant spill, the permittee shall prepare a spill containment and control plan to include notification procedures, specific cleanup and disposal instructions for different products, a description of quick response containment and cleanup supplies that will be available on the site, proposed methods for disposal of spilled materials and contaminated soils, and employee training for spill containment.

e. **Hazardous, Toxic, and Waste Materials**. Petroleum products, chemicals, fresh cement, construction debris, or other deleterious waste materials shall not be allowed to enter waterways or wetlands.

f. **Fish Passage**. The activities authorized by this general permit, including the construction of temporary crossings, must not restrict fish passage.

g. **Restoration Projects**. Development of the enhancement projects will be coordinated with the Review Team; approval of the detailed design plans must be obtained prior to construction.

h. **Jack Creek Restoration Project**.

1. Within 1 year of the issuance of this RGP, Freeman Rock shall submit detailed design plans to the Review Team.

2. Provided the detailed design plans have been approved by the Review Team, the Jack Creek Restoration Project shall be constructed no later than 3 years following issuance of this RGP.

i **Social Security Bar Restoration Project**.

1. Within 3 years of the issuance of this RGP, the party responsible for implementation of the Social Security Bar project shall be identified and detailed design plans submitted to the Review Team.

2. Provided the detailed design plans have been approved by the Review Team, the Social Security Bar Restoration Project shall be constructed no later than 5 years following issuance of this RGP.

j. **General Conservation Measures**.

i. Gravel removal operations shall be limited to the daylight hours;

ii. Operators shall not divert streams to create an inactive channel for gravel extraction purposes;

iii. Operators shall avoid removal of instream roughness elements, such as large woody debris and large boulders, during gravel extraction activities, and those that are disturbed shall be replaced or restored.

k. **Navigation**.

i. No activity may cause more than a minimal adverse affect on navigation.

l. **Endangered Species Act (ESA) Compliance**. All activities authorized under this general permit must implement and adhere to all of the Reasonable and Prudent Measures and Nondiscretionary Terms and Conditions contained in the National Marine Fisheries Service Biological Opinion dated June 28, 2011. (Attachment 1)

m. **Water Quality.** All activities authorized under this general permit must comply with the conditions of the 401 Water Quality Certification issued by the Oregon Department of Environmental Quality on January 28, 2011. (Attachment 2)

n. **Coastal Zone Management.** All activities authorized under this general permit must comply with the conditions of the concurrence letter issued on October 18, 2010, by the Oregon Department of Land Conservation and Development to ensure consistency with the Oregon Coastal Management Program. (Attachment 3)

o. **Inspection of the Project Site.** The permittee shall allow representatives of the Corps to inspect the authorized activity to confirm compliance with the general permit terms and conditions. A request for access to the site will normally be made sufficiently in advance to allow a property owner or representative to be on site with the Corps representative conducting the inspection.

LIMITS OF THIS AUTHORIZATION

a. This general permit does not obviate the need to obtain other Federal, state or local authorizations required by law.
b. This general permit does not grant any property rights or exclusive privileges.
c. This general permit does not authorize any injury to the property or rights of others.
d. This general permit does not authorize interference with any existing or proposed Federal project.

LIMITS OF FEDERAL LIABILITY

In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
d. Design or construction deficiencies associated with the permitted work.
e. Damage claims associated with any future modification, suspension, or revocation of this permit.

REEVALUATION OF PERMIT DECISION

The District Engineer may reevaluate this general permit at any time, and, if appropriate, suspend, modify, or revoke this permit as provided in 33 CFR 325.7.

This general permit will be reviewed annually to determine whether the projects authorized by this general permit result in no more than minimal effects, both individually and cumulatively, and to ensure that the terms and conditions of this permit are being observed. The District Engineer will invite the participation of other interested federal and state agencies in this review. If this review concludes that changes in permit terms or conditions are warranted, modification of the permit will be proposed as provided in 33 CFR 325.7, including public notice and opportunity for comment.

Activities authorized under this general permit that are under construction or under contract for construction in reliance upon this authorization will remain authorized provided the activity is completed within 12 months of the date of this general permit's expiration, modification or revocation, unless the District Engineer has exercised his discretionary authority to modify, suspend, or revoke the authorization of a specific project in accordance with Corps regulations.

EXPIRATION OF THIS AUTHORITY

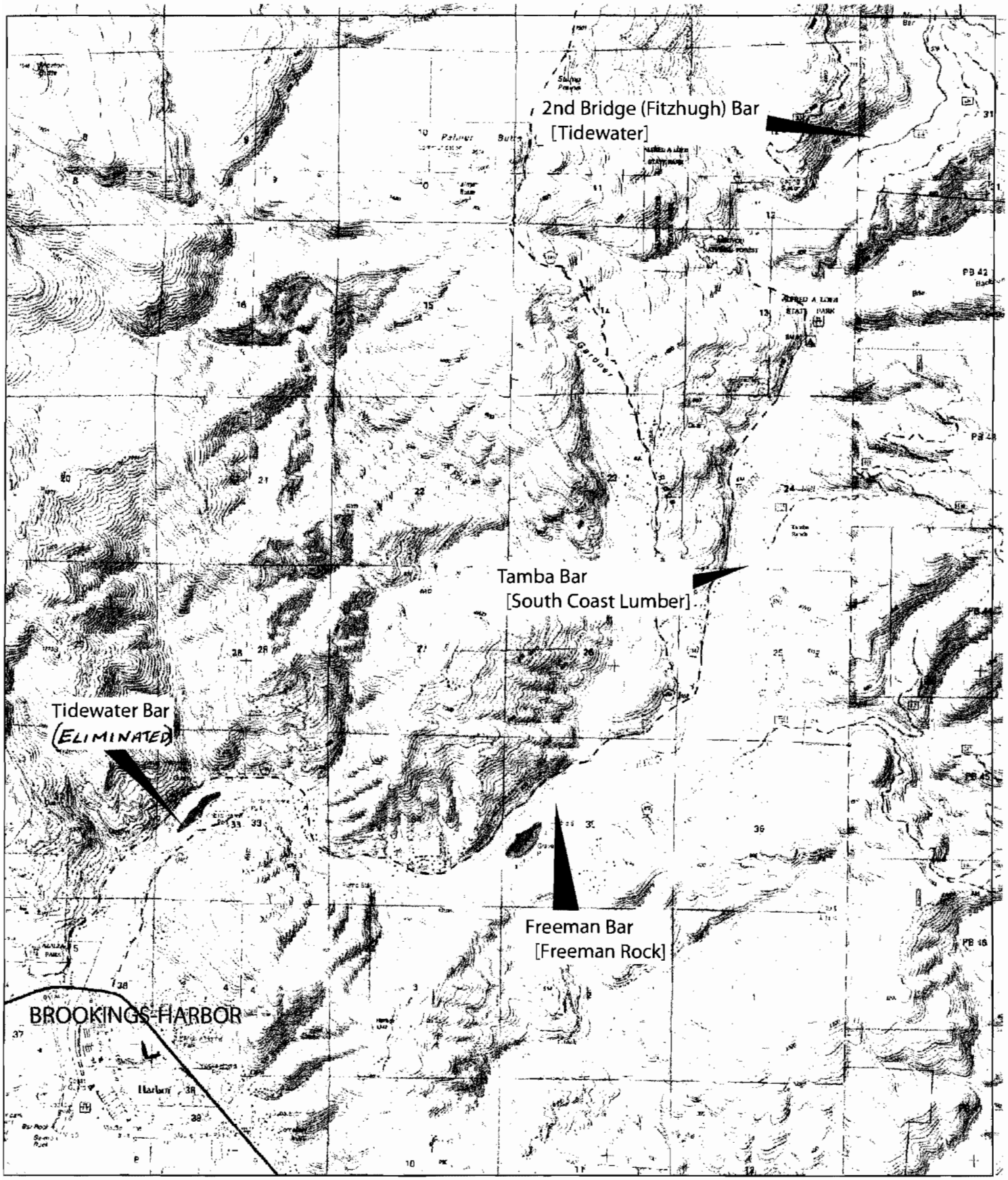
This general permit will expire five years from the date on which it becomes effective, unless it is extended prior to that date.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

STEPHAN A. CAPPS
LTC, EN
Deputy Commander

John W. Eisenhauer, P.E.
Colonel, Corps of Engineers
District Commander

14 July 2011
(Date)



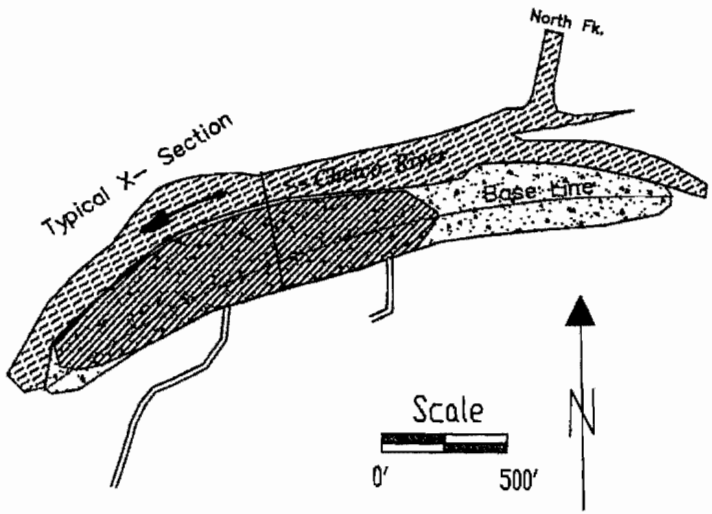
LOCATION MAP

Freeman Rock Chetco River Operation

Bar Removal: Typical Diagram

SECTION 35&34, T40S, R13W W.M. CURRY COUNTY, OREGON

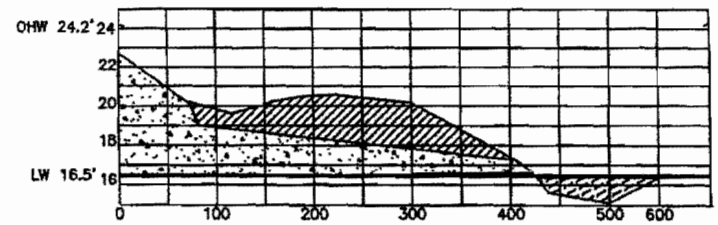
Typical Plan View



Legend

- Gravel Bar
- Removal Area
- Water
- Haul Route

Typical Cross Section View



Exaggerated Scale: Vertical Scale is 1"=24'
Horizontial Scale is 1"=180'

Legend

- Removal Area
- Water
- OHW High Water Level
- LW Low Water Level

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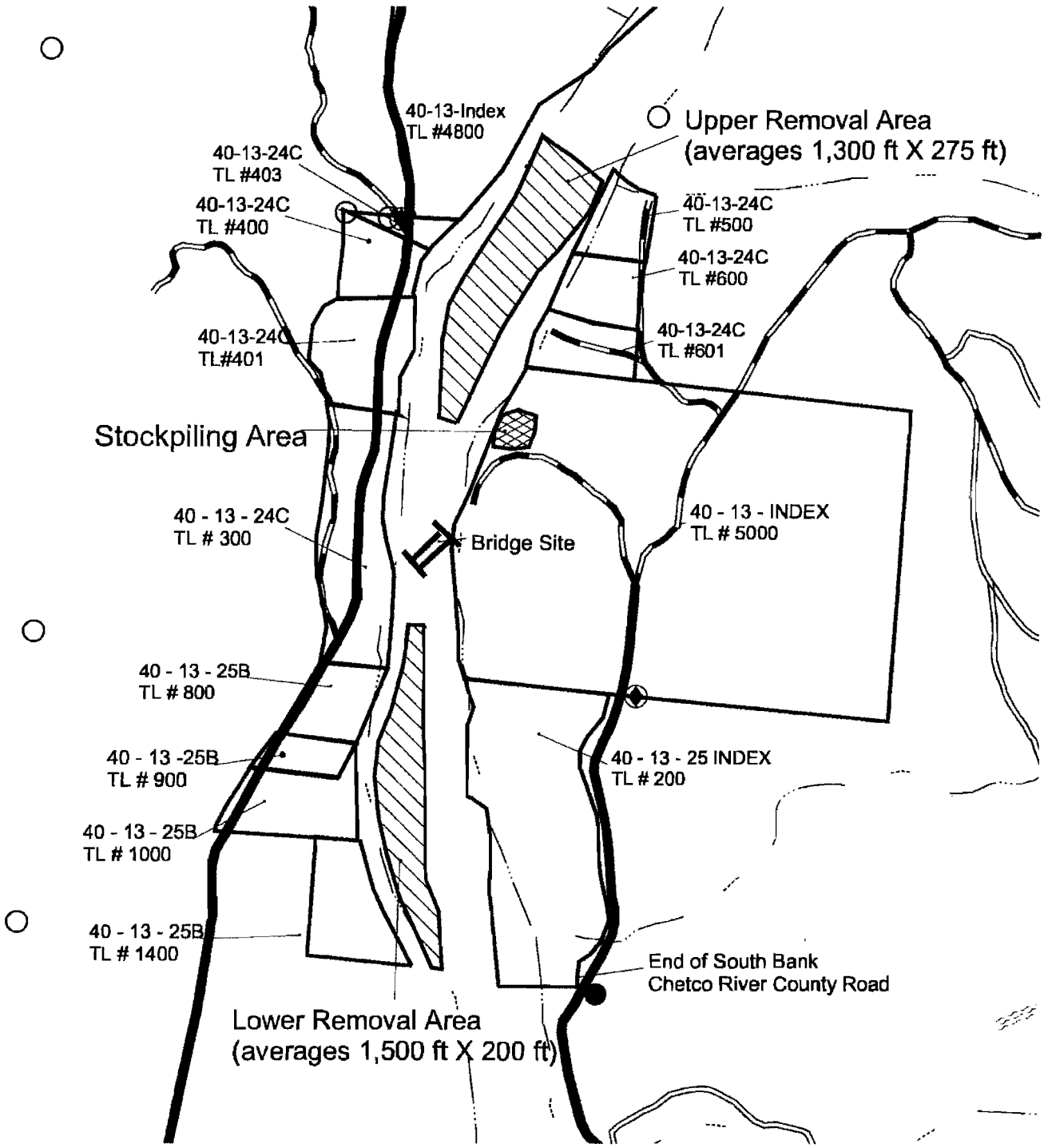
FIGURE 1

South Coast Lumber Company

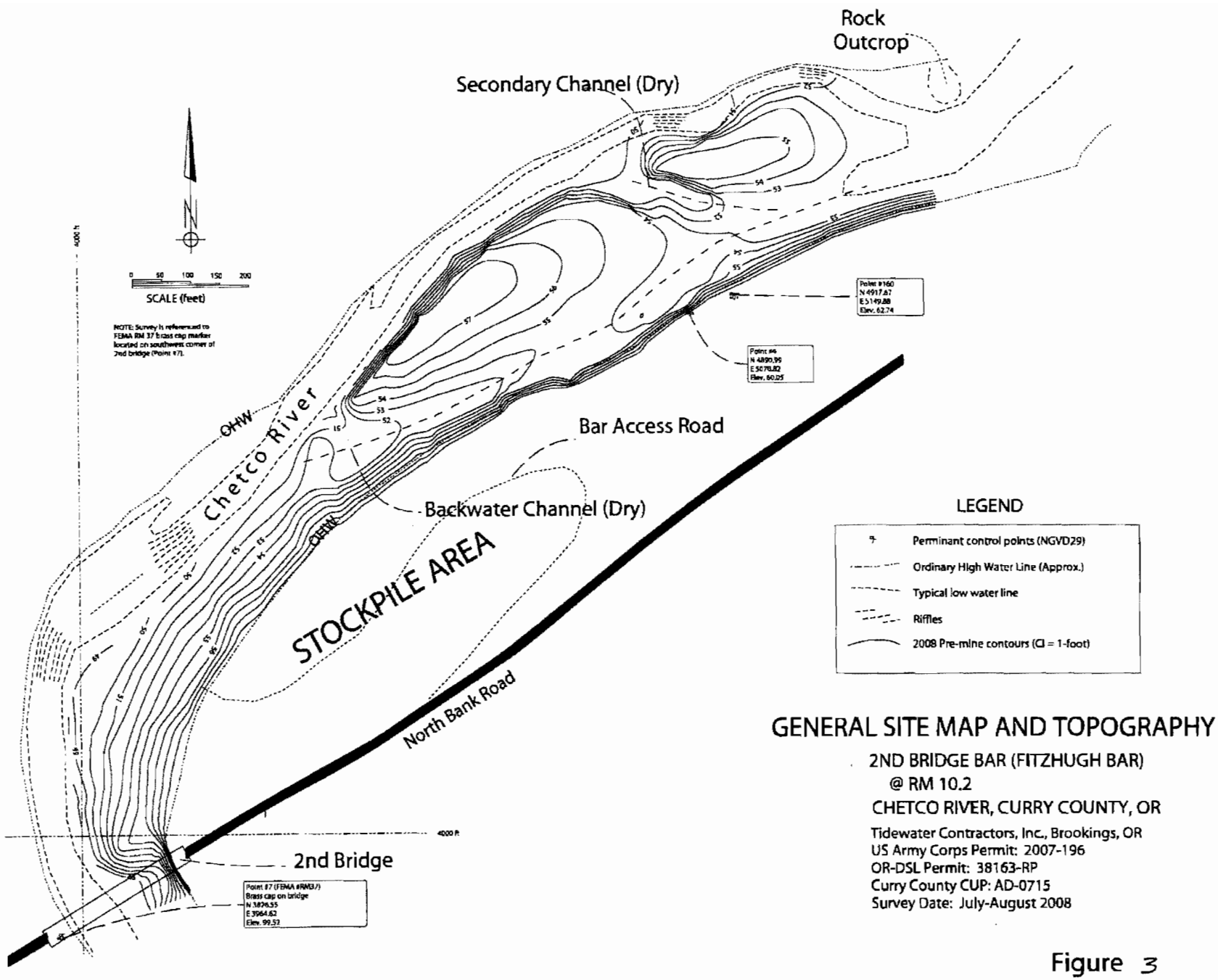
Site map for gravel removal operations

Sections 24 & 25, T40S, R13W, W.M.



Scale: 1 inch = 600 Feet

Figure 2

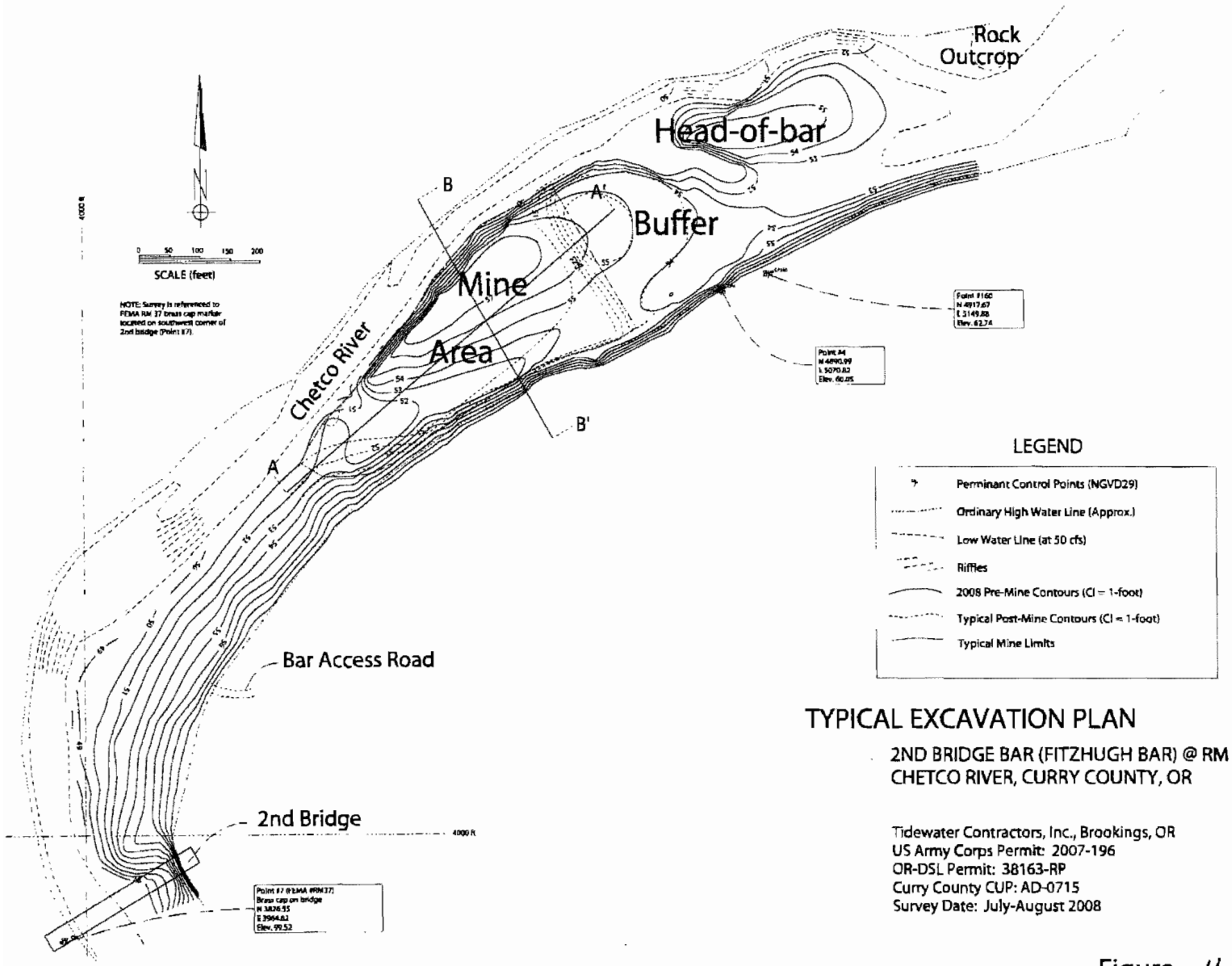


GENERAL SITE MAP AND TOPOGRAPHY

2ND BRIDGE BAR (FITZHUGH BAR)
@ RM 10.2
CHETCO RIVER, CURRY COUNTY, OR

Tidewater Contractors, Inc., Brookings, OR
US Army Corps Permit: 2007-196
OR-DSL Permit: 38163-RP
Curry County CUP: AD-0715
Survey Date: July-August 2008

Figure 3



TYPICAL EXCAVATION PLAN

2ND BRIDGE BAR (FITZHUGH BAR) @ RM 10.2
CHETCO RIVER, CURRY COUNTY, OR

Tidewater Contractors, Inc., Brookings, OR
US Army Corps Permit: 2007-196
OR-DSL Permit: 38163-RP
Curry County CUP: AD-0715
Survey Date: July-August 2008

Figure 4

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 No:
2011/00058

June 28, 2011

Kevin Moynahan
Chief, Regulatory Branch
Portland District, Corps of Engineers
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Endangered Species Act Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Conservation Recommendations for the Regional General Permit for Gravel Mining in the Chetco River (6th field HUC#s 171003120109 and 171003120111), Curry County, Oregon (Corps No.: NWP 2008-00071)

Dear Mr. Moynahan:

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 issuing a Army Corps of Engineers' (Corps) regional general permit under your regulatory authority found in section 404 of the Clean Water Act and in section 10 of the Rivers and Harbors Act. In this Opinion, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of Southern Oregon/Northern California Coasts (SONCC) coho salmon (*Oncorhynchus kisutch*) or result in the destruction or adverse modification of designated critical habitat for SONCC coho salmon. The NMFS also concluded that the proposed action is not likely to adversely affect eulachon (*Thaleichthys pacificus*), southern green sturgeon (*Acipenser medirostris*), or critical habitat designated for southern green sturgeon. The effects of this action would all occur outside the geographic range of the proposal to designate critical habitat for eulachon.

The five-year regional general permit includes numerous features to reduce adverse effects on listed species and critical habitat, such as reserve volumes, bar form retention requirements, individual bar allocations, and habitat enhancement actions. Any deviation or failure to comply with these protective requirements may constitute a modification of this action that has an effect to listed species or critical habitat not considered in this Opinion and thus may require reinitiation of this consultation. In addition, an extension or renewal of the permit beyond the five-year term will require reinitiation of this consultation, or a new consultation.

ATTACHMENT 1

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As required by section 7 of the ESA, NMFS is providing an incidental take statement with the Opinion. The incidental take statement (ITS) describes reasonable and prudent measures NMFS considers necessary or appropriate to minimize the impact of incidental take associated with this action. The ITS sets forth nondiscretionary terms and conditions, including reporting requirements, which the Corps and your applicants 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's prohibition against the take of listed species. Exceeding the specified level of take in the ITS will also trigger reinitiation of this consultation.

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 five conservation recommendations to avoid, minimize, or otherwise offset potential adverse effects on EFH. Three of these conservation recommendations are a subset of the ESA take statement's 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.

If the response is inconsistent with the EFH conservation recommendations, the Corps must explain why the recommendations will not be followed, including the scientific 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, we request that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

If you have questions regarding this consultation, please contact Chuck Wheeler, fisheries biologist in the Southwest Oregon Habitat Branch of the Oregon State Habitat Office, at 541.957.3379.

Sincerely,

for William W. Stelle, Jr.
Regional Administrator

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Endangered Species Act Biological Opinion

and

Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Conservation Recommendations

for the

Regional General Permit for Gravel Mining in the Chetco River
(6th field HUC#s 171003120109 and 171003120111)
Curry County, Oregon
(Corps No.: NWP 2008-00071)

Lead Action Agency:	U. S. Army Corps of Engineers
Consultation Conducted By:	National Marine Fisheries Service Northwest Region
Date Issued:	June 28, 2011
Issued by:	for William W. Stelle, Jr. Regional Administrator
NMFS No.:	**2011/00058**

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INTRODUCTION

This document contains a biological opinion (Opinion) that was 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.[1] It also contains essential fish habitat (EFH) conservation recommendations prepared by NMFS 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 (Data Quality Act) (44 U.S.C. 3504 (d)(1) and 3516), and underwent pre-dissemination review. The administrative record for this consultation is on file at the Southwest Oregon Habitat Branch in Roseburg, Oregon.

Background and Consultation History

On January 13, 2011, NMFS received a biological assessment (BA) from the Portland District of the U.S. Army Corps of Engineers (Corps) along with a letter requesting formal consultation on the potential effects of authorizing a Regional General Permit (RGP) to mine gravel at three sites in the Chetco River. The request was made pursuant to sections 7(a)(2) of the ESA and 305(b)(2) of the MSA. The Corps proposed to issue a five-year RGP under its regulatory authority found in section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act to remove gravel from three sites in the Chetco River near Brookings, Oregon.

The Corps concluded that the project is likely to adversely affect Southern Oregon/Northern California Coasts (SONCC) coho salmon (*Oncorhynchus kisutch*), an ESA-listed species, SONCC coho salmon critical habitat, and designated EFH. The Corps concluded that the proposed action is not likely to adversely affect eulachon (*Thaleichthys pacificus*), southern green sturgeon (*Acipenser medirostris*), or critical habitat designated for southern green sturgeon. The effects of this action would all occur outside the geographic range of the proposal to designate critical habitat for eulachon.

On August 24, 2007, NMFS issued an Opinion (refer to NMFS Nos.: 2007/00688, 2007/03134) for a two-year permit to mine gravel at two of the sites. On August 27, 2008, NMFS issued an Opinion (refer to NMFS No.: 2007/05167) for a one-year permit to mine gravel at the third site. The Corps issued these short-term permits to allow time for the U.S. Geological Survey (USGS) to complete studies of gravel recruitment to the Lower Chetco River, which would inform the Corps on managing gravel extraction on a watershed basis. The operators mined gravel at one of the sites in 2007 and two of the sites in 2008. NMFS received monitoring reports for these operations. The operators complied with the opinions' terms and conditions and did not exceed the extent of take.

On July 26, 2010, the Corps initiated consultation for a RGP covering operations at these sites. The NMFS issued an Opinion for that action on September 3, 2010. The Corps reevaluated the proposed action, determined that changes in the proposed action were necessary, and requested

[1] 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.

withdrawal of the completed opinion on November 5, 2010. As a result, no gravel extraction occurred during the 2010 season. The NMFS concurred with the Corps request and withdrew the opinion and incidental take statement on November 19, 2010.

Description of the Proposed Action

The proposed action is the Corps' issuance of a RGP for five years under section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act to remove gravel from three sites in the Chetco River between river miles (RM) 4 and 11. The sites are: (1) The Freeman Rock, Inc. (Freeman) location between RM 4.5 and RM 5.5; (2) the South Coast Lumber Company (SCL) location between RM 7 and 8; and (3) the Tidewater Contractors, Inc. (Tidewater) location (Fitzhugh bar) between RM 10 and 11. The project includes (1) reserve volumes, (2) bar form retention requirements, (3) individual bar allocations, (4) general construction details, (5) an adaptive management strategy, (6) a monitoring plan, and (7) enhancement actions.

Reserve Volumes. On March 31 of each year, the Corps will estimate the amount of gravel recruited past the USGS Chetco River gauging station (14400000) since April 1 of the previous year. The Corps will base the gravel available for extraction on the amount recruited within the previous year. The first 26,000 cubic yards (cy) of gravel recruited into the Lower Chetco River will be reserved from extraction as a maintenance reserve. Extraction will not occur during years when less than 26,000 cy recruits past the USGS stream gage at RM 10.5. A group of technical representatives[2] calculated the 26,000 cy reserve volume per year for the Chetco River system using information derived from Wallick *et al.* (2009).

According to the resource agencies, the reserve volume constitutes the annual volume of material recruited into the lower Chetco River necessary to maintain the existing condition of all gravel bars in the lower 11 miles. If the 26,000 cy reserve volume is not met one year, the deficit will be carried over to the next year until the cumulative influx is sufficient to exceed 26,000 cy per year. The total for the two years must exceed 52,000 cy for harvest to occur. If the 52,000 cy cumulative reserve volume is not met in two years, the deficit will be carried over to the third year, *etc.*

The 26,000 cy maintenance reserve preserves the current condition; therefore, to allow for improvement and recovery, the proposed action leaves a recovery reserve volume over and above the maintenance reserve. The recovery reserve allows operators to only extract up to 80% of the volume over the maintenance reserve. Thus, at least 20% of the volume over the maintenance reserve that recruits to the lower Chetco River will remain instream to improve habitat features.

If a five-year influx event occurs, (118,000 cy or more) the 26,000 cy maintenance reserve volumes will continue to apply, but the 20% recovery reserve will not (i.e. 92,000 cy of gravel may be extracted). When an event this large occurs, the extractions will be limited by the bar

[2] This group consisted only of representatives from the Corps of Engineers, National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Oregon Department of State Lands, and Oregon Department of Land Conservation and Development.

- Space – The amount of space does not appear significantly changed from historic conditions.
- Spawning gravel – Spawning only occurs in Jack Creek. Spawning gravel in Jack Creek does not appear significantly changed from historic conditions.
- Water temperature – The Chetco River in the action area is on ODEQ's 303(d) list for stream temperature (ODEQ 2006). The listing was based on data from 2000 and 2001 where 96 days had a 7-day-average maximum temperature greater than 64.4°F. Water exits the Kalmiopsis Wilderness area warmer than ODEQ standards, but riparian vegetation conditions and width/depth ratios in the action area exacerbate this condition during summer months.
- Water quality – The Chetco River is moderately impaired for phosphates, excess nutrients and high temperatures from urban and agricultural runoff (Maguire 2001). These issues contribute to high algal growth and anoxic conditions in the estuary during summer months (Maguire 2001).
- Water quantity – The Chetco River is water quality limited for flow modification (ODEQ 2006). The cities of Harbor and Brookings withdraw municipal water from the lower five miles of the Chetco River.
- Water velocity – Bank stabilization and loss of sinuosity have likely increased water velocities in the action area, however no data exists to verify this.
- Safe passage – The action area does not contain any natural or artificial barriers or structures that impede or delay migrating SONCC coho salmon. However, the condition of safe passage has been impaired in the action area due to a loss of stream complexity and sinuosity, and an increase in width to depth ratio.
- Substrate – Substrate in the action area consists of gravel, cobbles, and sands, with a small percentage of fines. The combination is unlikely different from historic properties.

While the status of critical habitat in the action area is degraded and limited in conservation value, the critical habitat trend seems to be accelerating since 2005. No other widescale changes have occurred to upstream land use and no other major natural perturbations have occurred, so changes in gravel mining are likely to account for most of these improvements. Since 2005, Tidewater has not extracted gravel from the estuary. While the estuary is still deeper and has lost intertidal habitat as described above, aerial photos indicate the estuary upstream of the Highway 101 Bridge is improving. Gravel extraction methods on the Freeman and Fitzhugh bars changed prior to the 2007 extraction season. Operations on the Freeman bar in 2007 and 2008 and operations on the Fitzhugh bar in 2008 implemented methods to retain bar form during extraction. Neither company operated in 2009 or 2010. Adequate data do not exist to quantitatively determine the changes in geomorphic conditions between 2007 and present, but site visits indicate retaining bar form in 2007 and 2008, and not operating in 2009 and 2010, likely led to benefits in width/depth ratios and pool depths adjacent to the extraction sites.

In summary, the lower portion of the estuary is a highly modified environment, featuring several degraded PCEs. The upper portion of the estuary is improving, but remains degraded with respect to several PCEs, most limiting are cover/shelter, food resources, water temperature, and water quality. The riverine portion of the action area also has several degraded PCEs, with cover/shelter being considerably most limiting, and water temperature a concern. The recent positive trend is accelerating due to changes in gravel mining, including no operations in 2009

River since the early 1900s, with extraction peaking in the 1970s and 1980s, though documentation of removal volume is poor (Wallick *et al.* 2009). Gravel extraction likely exceeded estimated influx since at least the 1970s, up until 2008. Between 1976 and 1980, approximately 183,000 cy per year were extracted (Wallick *et al.* 2009). Reliable records of extraction begin in 2000. The amount of gravel extracted from the Chetco River between 2000 and 2008 averaged 76,600 cy per year, which is 23,700 cy per year more than what the Parker equation (Parker 1990a, 1990b) estimated entered during that time (Table 3). The operators did not extract in 2009 or 2010. The USGS will not calculate the amount recruited for 2011 until after the end of the gravel year (March 31).

Table 3. Volume of gravel removed from each Chetco River bar between 2000 and 2010 with Parker Equation estimations of influx, all numbers in cubic yards (USGS 2010).

Year	Estuary Bar	Freeman Bar	South Coast Lumber Bar	Fitzhugh Bar	Extracted Total	Parker Estimate
2000	26,124	73,815		0	99,939	51,874
2001	0	48,865	5,000	0	53,865	1,396
2002	0	48,595	5,000	0	53,595	37,448
2003	35,161	51,420	10,000	12,011	108,592	59,896
2004	31,687	36,616	8,700	13,083	90,086	47,550
2005	0	54,000	9,500	0	63,500	41,150
2006	0	102,230	0	14,450	117,680	136,583
2007	0	61,196	0	0	61,196	67,600
2008	0	30,089	0	11,197	41,286	32,858
2009	0	0	0	0	0	52,900
2010	0	0	0	0	0	27,900
Total	92,972	506,826	38,200	51,741	689,739	476,355

Conditions of each PCE in the action area are:

- Cover/shelter – The Chetco River is water quality limited for habitat modification (ODEQ 2006). Fish habitat, particularly the structural elements of overwintering habitat, are lacking throughout the system.[21] The ODFW (2008) convened a panel of experts to identify limiting factors for the coho salmon population who identified limited lowland habitat complexity, loss of floodplain connectivity, and access to off-channel habitat due to stream downcutting and diking. The NMFS considers the poor condition of the cover/shelter PCE as the main limitation on conservation value of critical habitat in the action area.
- Food – Bank stabilization and the loss of 23 acres of intertidal habitat above the Highway 101 Bridge has significantly reduced food resources. Food resources above the estuary appear unchanged from historic conditions.
- Riparian vegetation – Riparian vegetation in the action area below RM 8 has been significantly reduced by agricultural uses, commercial and residential development, and bank stabilization.

[21] Chetco River Gravel Mining Workshop expert panel discussion, November 30 and December 1, 2009.

Juvenile SONCC coho salmon prefer intertidal habitat (Bottom *et al.* 2005) while in the estuary because of its high productivity. Past impacts significantly modified the estuarine portion (lower 2.5 miles) of the action area from its historical condition. The amount of intertidal habitat (between 1.5 feet below mean sea level and 5 feet above) above the Highway 101 Bridge decreased from 53 acres to 30 acres between 1939 and 2008.[20] The Corps erected jetties in 1957, which stabilized and deepened the mouth of the river. The Corps and Port of Brookings/Harbor built a boat basin and marina in the late 1950s and expanded it through the 1960s and 1970s. The modifications eliminated most of the functional tidal marsh, shallow water habitats, and vegetation in favor of deeper water and banks stabilized with riprap. The jetties also eliminated formation of the seasonal sand bar that transformed the estuary into a freshwater lagoon in the summer. Since the 1950s, the Corps, Port of Brookings/Harbor and other private entities stabilized nearly all of the rest of the shoreline of the lower estuary with riprap. Gravel removal operations (described in detail below), particularly those in the estuary, exacerbated the loss of shallow water by removing bed material faster than it accumulated. These actions have resulted in severely degraded PCEs in the estuary, particularly cover/shelter, food, and water quality.

The geomorphic condition of the Chetco River in the action area influences the baseline condition of many of the PCEs, including cover/shelter, water quality, food, riparian vegetation, space, substrate, water temperature, water velocity, and safe passage. In the absence of substrate removal, the Chetco River would be aggrading between RM 3 and 6 in response to Holocene sea level rise (Wallick *et al.* 2009). However, base elevations of this reach lowered up to six feet between 1977 and 2008 (Wallick *et al.* 2009). Wallick *et al.* (2009) studied the Chetco River and documented changes in several geomorphic parameters between current and past conditions. Some conclusions from that report with implications to the baseline conditions of PCEs in the action area are:

- The overall vertical trend of the Chetco River has been bed lowering (page 37).
    - The entire estuary is about 1.5 feet on average lower now than it was in 1939, with some areas as much as 6.5 feet lower (page 33).
    - Between RM 3 and 7.5, the current channel is consistently 3 to 6 feet lower than in 1977 (page 34).
    - The channel at RM 10.5 has experienced periods of aggradation and degradation, but has overall lowering (page 36).
- The Chetco River experienced a large decrease in bar (and bare gravel) area along the entire study area between 1939 and 2008, with most change between RM 6.5 and the mouth (page 37).
- Between RM 2.5 and 5, sinuosity decreased from 1939 to 2008 (page 20).
- Since 1939, the river channel has generally increased low flow stream width, particularly between RM 5 and 6.5 (page 20).

The past and present impacts of human activities have altered the geomorphic condition of the Chetco River in the action area. Gravel extraction is one of many factors likely responsible for these changes (Wallick *et al.* 2009). Several companies have extracted gravel from the Chetco

[20] E-mail from Jim O'Connor, USGS, to Chuck Wheeler, NMFS (December 9, 2009)(providing bathymetry data on the Chetco River estuary).

complexity and elevated temperatures, and are unlikely to survive to smolt because of a lack of overwintering habitat.[19]

Even though the recent trend in habitat is positive, limiting factors in the action area still lead to poor fitness and low survival of SONCC coho salmon juveniles. They decrease the chances that the juveniles survive between the time they emerge from the gravel until they smolt and leave the estuary. When they emerge from the gravels, juvenile SONCC coho salmon begin searching for food and unoccupied territories (Sandercock 1991). They may move great distances upstream (Tripp and McCart 1983) or downstream (Chapman 1962). Juvenile SONCC coho salmon move out of tributaries into the lower Chetco River each year searching to maximize their growth and survival to smolt stage. They leave tributaries in the summer because the tributaries lack cover to protect them from predators and to avoid elevated temperatures. They also leave in the winter because the tributaries lack large wood and other structural elements that protect them from high flows. Once in the mainstem, conditions are also poor, and returning to tributaries is difficult. Moving into the mainstem exposes them to the limiting factors in the action area (over-wintering habitat, water quality, water temperature and estuarine habitat).

Under these environmental conditions (*i.e.* exposure to environmental stressors including low channel complexity, low large wood levels, poor estuarine habitat, and degraded water quality), individual juvenile SONCC coho salmon rearing in the action area are stressed. Stress may lead to reductions in biological reserves, altered biological processes, increased disease susceptibility, and altered performance of individual fish (*e.g.* growth, osmoregulation, survival). There are limits to an individual's ability to compensate for stresses. Exceeding those limits will lead to injury or death of that individual. Adding additional environmental stressors to the already poor environmental baseline increases the probability of injury and death.

Critical Habitat within the Action Area

As described in detail below, the current status of SONCC coho salmon critical habitat in the action area is poor but on a recent positive trend. Past and present impacts have led to degraded critical habitat PCEs in the action area. However, natural recovery processes have resulted in a recent positive trend in PCEs due to the reforms and regulation of forestry management, gravel mining, and the county planning and permitting processes. Furthermore, the positive trend in critical habitat seems to be accelerating since 2005 due to changes in gravel mining.

Past and present impacts from gravel mining, timber harvest, agriculture, water withdrawals, residential development, and road building have degraded the following PCEs in the action area: (1) Cover/shelter; (2) food (only in the estuary); (3) water quality; (4) riparian vegetation; (5) water temperature; and (6) water quantity. The lack of cover/shelter throughout the action area (and to a much lesser extent, high water temperature, poor water quality, and lack of estuarine food resources) is limiting the conservation value of critical habitat in the action area.

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[18] Snorkel surveys in the lower Chetco River by Chuck Wheeler, NMFS (August 26, 2008).

[19] Presentation of Todd Confer, Oregon Department of Fish and Wildlife at the Regional Gravel Symposium (December 1, 2009).

they moved (Maguire 2001). Beaver were also abundant in the lower-river and estuary and likely contributed to habitat complexity and overwintering habitat (Maguire 2001).

Unpaved road surfaces increase the availability of fine sediments to streams which increases sedimentation. Sedimentation and the number of roads are listed by Maguire (2001) as limiting factors because the Chetco Coastal Area and the Middle Chetco River mainstem rank second (94%) and third (87%), respectively, for the highest density of road crossings among a total of 48 subwatersheds throughout all Oregon south coast basins. Sedimentation negatively affects the food availability and spawning gravel PCEs. Jetties have greatly altered the mouth of the Chetco River as well as how the estuary functions as habitat for salmon migrating to the ocean. Before construction of the jetties, the Chetco River formed a sand bar in the late summer creating a lagoon with connections to tributaries and wetlands (Maguire 2001). Almost all of the streambanks of the estuary have been stabilized with riprap.

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). The previous opinions written for gravel mining actions are listed in the background section above. The effects of those actions, as well as, other non-gravel projects are incorporated in the discussion below.

Species within the Action Area

Within the action area, SONCC coho salmon abundance exhibits the same trends and status as the population in general. The current status of the species within the action area is poor due to the effects of past human activities. However, natural recovery of their habitat due to reforms and regulation has resulted in a recent positive trend in the number of spawners seen by ODFW. Past and present human activities that have adversely affected SONCC coho salmon in the action area include impacts from gravel mining, timber harvest, agriculture, water withdrawals, urban development, residential development, and road building. These impacts have led to degraded baseline conditions reflected in poor aquatic habitat complexity, low quantities of large wood, degraded water quality, and disconnected and fragmented riparian vegetation. Factors limiting recovery of SONCC coho salmon according to ODFW and the watershed council that apply to the action area are juvenile over-wintering habitat, estuarine water quality, water temperature, and estuarine habitat. Juvenile overwintering habitat is the primary limiting factor.

Adults only migrate through the mainstem Chetco River portion of the action area and are likely not exposed to the baseline conditions long enough to significantly affect survival or reproductive fitness. The Jack Creek portion of the action area is used for spawning. Juveniles spend up to a year rearing in the action area. Juvenile SONCC coho salmon rear in the mainstem Chetco during the summer,[17][18] but these fish are likely in poor condition due to low channel

[17] E-mail from Carl Page, Chetco River Watershed Council, to Chuck Wheeler, NMFS (June 21, 2010)(discussing snorkel surveys in the lower Chetco River).

Table 2. Types of sites and essential physical and biological features designated as PCEs, for SONCC coho salmon.

Primary Constituent Elements		Species Life History Event
Site	**Site Attribute**	
Spawning and juvenile rearing areas	Cover/shelter Food (juvenile rearing) Riparian vegetation Space Spawning gravel Water quality Water temperature Water quantity	Adult spawning Embryo incubation Alevin growth and development Fry emergence from gravel Fry/parr/smolt growth and development
Adult and juvenile migration corridors	Cover/shelter Food (juvenile) Riparian vegetation Safe passage Space Substrate Water quality Water quantity Water temperature Water velocity	Adult sexual maturation Adult upstream migration and holding Fry/parr/smolt growth, development, and seaward migration
Areas for growth and development to adulthood	Ocean areas – not identified	Nearshore juvenile rearing Subadult rearing Adult growth and sexual maturation Adult spawning migration

Chetco River. The critical habitat unit at issue here is the designated critical habitat for SONCC coho salmon within the Chetco River watershed (HUC# 1710031201). The SONCC coho salmon considered in this Opinion migrate through the action area and use the mainstem Chetco for juvenile rearing. Only the Jack Creek portion of the action area is used for spawning, not the mainstem Chetco River. The PCEs that support these life history stages are water quality, water quantity, cover/shelter, food, riparian vegetation, space, spawning gravel, substrate, water temperature, water velocity, and safe passage.

As discussed in the introduction to the status of the species, critical habitat was equally severely impacted by timber harvest, road building, development, and gravel mining. As also discussed above, natural recovery of habitat has resulted in a recent positive trend in PCEs due to the reforms and regulation mentioned above.

Spawning areas are naturally limited in the Chetco River because the only reaches where stream and sediment size allow for spawning to occur are between RM 42 and 49 on the mainstem and within the lower portions of larger tributaries. The amount and quality of over-wintering habitat is poor due to a lack of large wood in tributaries and the mainstem (Maguire 2001). Historically, large floating wood jams changed location on lower Chetco River gravel bars, scouring holes as

risk. The number of annual spawners is less than 500 but is stable or increasing which equates to a moderate extinction risk in the population decline criterion. The catastrophic population decline criterion shows a low risk of extinction because there is no indication of decline in the last four generations. The ratio of annual spawners to the amount of intrinsic potential (IPkm[15]) in the Chetco River is less than one, which equates to a high extinction risk in the spawner density criterion. Extinction risk due to hatchery influence is moderate because there are no hatchery operations for coho salmon in the Chetco River but ODFW reports some straying from adjacent hatchery operations.[16]

Table 1. Viability assessment of the Chetco River SONCC coho salmon population as described by the Technical Recovery Team (Williams *et al.* 2008) and low risk threshold criteria.

Criterion	Extinction Risk Determination	Rationale	Low Risk Threshold
Population Size per generation	High Risk	Population size per generation between 150 and 300 adults	Generation size > 2,500
Population Decline	Moderate Risk	Annual spawners less than 500 but now stable and likely increasing	Annual run size > 500 and no apparent decline last two generations
Catastrophic Population Decline	Low Risk	No apparent catastrophic decline in last four generations	Not apparent
Spawner Density	High Risk	Annual spawners divided by IPkm is less than one	≥ 33 spawners per IPkm
Hatchery Influence	Moderate Risk	No operations in Chetco River, but strays reported	Hatchery fraction <5%

Status of the Critical Habitat. Climate change, as described in the introduction above, is likely to adversely affect the overall conservation value of designated critical habitats in the Pacific Northwest. It may have beneficial effects in certain circumstances. The adverse effects are likely to include, but are not limited to, depletion of cold-water habitat and other variations in quality and quantity of tributary spawning, rearing and migration habitats and estuarine areas. High winter storm flows associated with climate change are likely to increase annual sediment influxes which may benefit stream structure and complexity.

The NMFS reviews the status of critical habitat affected by the proposed action by examining the condition and trends of the PCEs throughout the designated area. PCEs consist of the physical and biological features identified as essential to the conservation of the listed species in the documents that designate critical habitat (Table 2).

[15] The intrinsic potential of habitat suitable for coho salmon expressed in kilometers as modeled by Williams *et al.* 2006.

[16] Conversation with Russ Stauff and Todd Confer, Oregon Department of Fish and Wildlife (December 14, 2006)(discussing coho salmon abundance in the Chetco River).

addition, low water levels stopped the trap in mid-May while the coho salmon smolt outmigration likely lasts to mid-June.

According to ODFW,[14] limiting factors for SONCC coho salmon in the Chetco River watershed are low gradient spawning habitat and over-wintering habitat, with estuarine water quality also a concern. The South Coast Watershed Council's watershed analysis (Maguire 2001) states the limiting factors to fish production in the Chetco River appear to be water temperature (due to reduced shade, especially in tributaries), fine sediment transport and storage (due to roads in tributary watersheds), number of roads, and estuary habitat.

Population Viability Criteria. The Chetco River is in the northern sub-stratum of the coastal sub-basins strata. Williams *et al.* (2006) separated historical populations of SONCC coho salmon into three categories (functionally independent, potentially independent, and dependent populations) based on their relative persistence and degree of isolation. Williams *et al.* (2006) found the historical Chetco River population was functionally independent. The size and location of the Chetco River makes it an important link between the Rogue River SONCC coho salmon populations and the Northern California SONCC coho salmon populations. The Chetco River SONCC coho salmon population was the only functionally independent population between the Smith River in California and the Rogue River in Oregon. The Chetco River is one of only two historically functionally independent populations within the northern coastal sub-stratum.

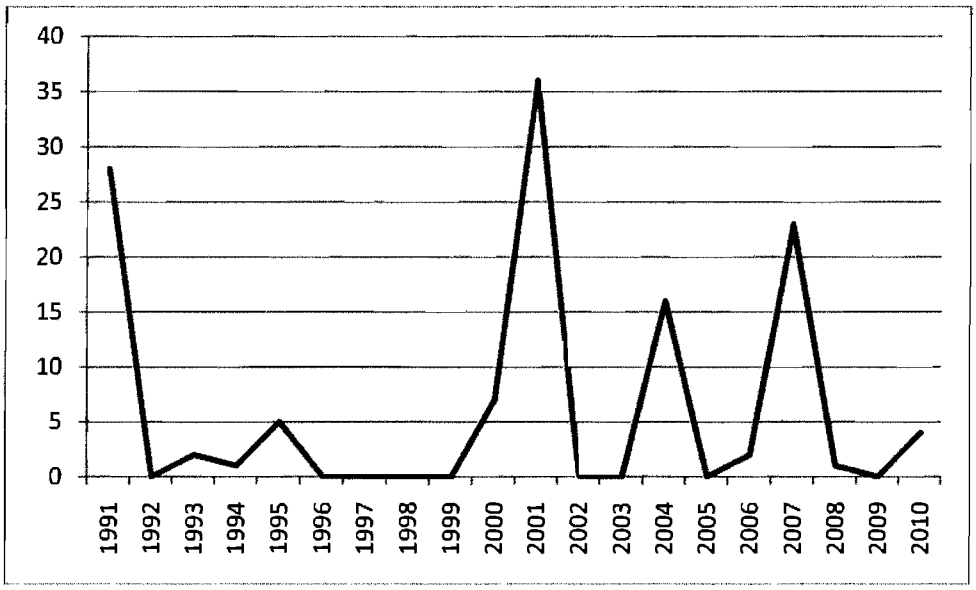
The TRT developed a framework for assessing viability of SONCC coho salmon (Williams *et al.* 2008). This framework is intended to provide a viability assessment for determining viable salmonid populations (VSP). The primary purpose of the document is to produce biologically based viability criteria to guide the establishment of recovery goals. Sufficient quantitative data was not available to complete a risk assessment for the entire SONCC coho salmon species, including the Chetco River population. The effect of the action on the viability of the population is useful in evaluating any change in risk to the population's survival and recovery.

The SONCC viability framework incorporates five criteria intended as surrogates for the basic concepts of viability; that is, abundance, productivity, diversity, and spatial structure (Williams *et al.* 2008). The five criteria are: (1) Effective population size/total population size, (2) population decline, (3) catastrophic population decline, (4) spawner density, and (5) hatchery influence. Data on the last four generations of coho salmon informs this assessment and several of the criteria. The TRT established extinction thresholds for high, moderate and low risk with the ultimate goal of achieving low risk for each category. Viability assessment for the Chetco River population is difficult due to poor data availability. The best available information is the ODFW spawner counts during Chinook salmon surveys, however those counts are an underestimate. NMFS believes ODFW's estimate of 50 to 100 spawners per year is the most accurate estimate.

According to the viability assessment (Table 1), the overall extinction risk of the Chetco River is high. The total population size of Chetco River coho salmon is three times the annual return to account for a full generation. A total population of 150 to 300 fish equates to a high extinction

[14] Telephone conversation with Steve Mazur, Oregon Department of Fish and Wildlife (August 31, 2005)(discussing limiting factors of coho salmon in the Chetco River).

Figure 1. Number of coho salmon spawners in the Chetco River observed by ODFW during Chinook salmon spawning counts (ODFW unpublished data).



Estimates of the historical population size of SONCC coho salmon in the Chetco River vary widely, but all demonstrate the collapse in abundance. The historic population has been estimated to be as high as approximately 68,000 adults.[9] In contrast, a panel discussion of fisheries professionals estimated a historic population between 5,000 and 8,000.[10] The ODFW Chinook salmon spawning surveys recorded fewer than 37 coho salmon returning in any given year.[11] If ODFW's highest estimate of spawners (100) is correct, the number of spawners is 2% of the lowest of the historical population estimates (5,000).

Little information is available for juvenile SONCC coho salmon in the Chetco River, as well. Juveniles were found at only two locations and at very low densities within the basin during snorkeling surveys conducted in 2003 and 2004 (Jepsen and Rodgers 2004, Jepsen 2006). In a trapping operation on Jack Creek between March 9 and May 10, 2007, ODFW captured 69 out-migrant coho salmon smolts.[12] Operation of this trap between March 13 and May16, 2008 caught 163 coho salmon smolts.[13] The trap did not provide enough data for ODFW to make estimates of the total outmigration for either year, but it is likely four to five times the number caught. In

[9] E-mail from Tom Nickelson, Retired Oregon Department of Fish and Wildlife, to Chuck Wheeler, NMFS (December 10, 2005)(discussing the historical size of the Chetco River SONCC coho salmon population).

[10] Chetco River Watershed Council Fisheries Professionals Panel Discussion, Jim Waldvogel, Oregon and California Sea Grant Programs (July 25, 2006)(discussing the historical size of the Chetco River SONCC coho salmon population).

[11] E-mail from Mark Lewis, Oregon Department of Fish and Wildlife, to Chuck Wheeler, NMFS (June 9, 2010) (reporting coho salmon observed during ODFW Chinook salmon surveys in the Chetco River, Curry County, Oregon).

[12] E-mail from Todd Confer, Oregon Department of Fish and Wildlife, to Chuck Wheeler, NMFS (July 26, 2007) (reporting the number of juvenile coho salmon observed during trapping operations on Jack Creek in 2007).

[13] E-mail from Steve Mazur, Oregon Department of Fish and Wildlife, to Chuck Wheeler, NMFS (June 9, 2010) (reporting the number of juvenile coho salmon observed during trapping operations on Jack Creek in 2008).

The Chetco River is capable of supporting rearing and migration of SONCC coho salmon through RM 42 and spawning, rearing, and migration from RM 42 to RM 49. The first few miles of tributaries to the lower Chetco River, such as Eagle Creek, Emily Creek, Jack Creek and the North Fork Chetco River, are also capable of supporting SONCC coho salmon spawning and rearing. Adult SONCC coho salmon enter the Chetco River from October to December and spawn from November through January. Downstream juvenile SONCC coho salmon migration typically occurs from April through June.[6] SONCC coho salmon smolts likely begin downstream migration in March and April and pass through the estuary in May or June (USACOE 1975).

Chetco River coho salmon were historically "a fair sized run" (USFS 1996). Local residents described coho salmon in the Chetco River as formerly abundant and the target of a net fishery (Maguire 2001). Coho salmon extensively used lower tributaries with estuarine tributary Tuttle Creek noted as having particularly large runs of coho salmon. The USFS (1996) characterized Chetco River coho salmon as greatly diminished from historic levels and relatively scarce.

The current coho salmon population in the Chetco River basin is extremely low. Chinook salmon spawning surveys conducted by the Oregon Department of Fish and Wildlife (ODFW) document occasional presence of coho salmon because run timing is similar for both species in the basin[7]. Chinook salmon surveys are limited to the lower half of the basin below Quail Prairie Creek, which misses some coho salmon spawning grounds. From 1991 to 2009, ODFW counted 121 coho salmon in the Chetco River basin (Figure 1). The ODFW estimates current coho salmon abundance in the Chetco River at 50 to 100 spawning fish annually.[8]

Figure 1 indicates a likely increase in coho salmon spawners over the last 20 years. Even with this increase, the Chetco River population is likely close to or even still under its depensation threshold of 135 fish, as determined by Williams *et al.* (2008). Depensation, where a decrease in breeding population directly leads to a reduction in production of eggs or offspring, can occur in small populations such as the Chetco River. As a result, population growth rates decrease due to density dependent factors such as failure to find mates. Depensation can accelerate a population towards extinction (Williams *et al.* 2008). Or, in the case of an increasing population such as the Chetco River, depensation reduces its rate of recovery. Once a population escapes the effects of depensation, recovery rates will increase.

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[6] Oregon Department of Fish and Wildlife data. Available online at: http://rainbow.dfw.state.or.us/nrimp/information/timing/Timing_Rogue.htm

[7] Although the counts represent the best available data, researchers were looking for Chinook salmon and may not have consistently recorded coho salmon sightings; as a result, they likely underestimated the number of coho salmon returning.

[8] Conversation with Russ Stauff and Todd Confer, Oregon Department of Fish and Wildlife (December 14, 2006)(discussing coho salmon abundance in the Chetco River).

Status of the Species. The SONCC coho salmon species extends from Cape Blanco in southern Oregon, to Punta Gorda in northern California (Weitkamp *et al.* 1995). The status of coho salmon coast wide, including SONCC coho salmon, was formally assessed in 1995 (Weitkamp *et al.* 1995). Three subsequent status review updates have been published by NMFS, two addressing all west coast coho salmon species (NMFS 1996, Good *et al.* 2005), and one specifically addressing the Oregon Coast and SONCC coho salmon species (NMFS 1997).

SONCC coho salmon populations continued to be depressed relative to historical numbers, and there are strong indications that breeding groups have been lost from many streams within their historical range. Risk factors identified in previous status reviews, including severe declines from historical run sizes, the apparent frequency of local extinctions, long-term ESU-level trends that are clearly downward, and degraded freshwater habitat and associated reduction in carrying capacity continue to be of concern (Good *et al.* 2005).

The SONCC coho salmon technical recovery team (SONCC-TRT) identified 45 historical populations, grouped into six "diversity sub-strata," based on consideration of historical distribution, geographic isolation, dispersal rates, genetic data, life history information, population dynamics, and environmental and ecological diversity (Williams *et al.* 2006).

Williams *et al.* (2008) tried to assess the viability of the SONCC coho salmon evolutionary significant unit (ESU) but found the lack of data prohibited the use of a quantitative approach. They found almost no data with which to assess the status of any of the populations of coho salmon in the SONCC coho salmon ESU. Although few data exist for the species, the information available indicated the component populations were in decline and strongly suggested the ESU was at risk consistent with the status reviews by Weitkamp *et al.* (1995) and Good *et al.* (2005).

Chetco River. Over the last century, the Chetco River has been severely impacted by timber harvest, road building, rural and urban development, and gravel mining. Timber harvest and road building in the 1910s and again in the 1950s and 1960s (Maguire 2001) was poorly regulated, resulting in widespread degradation of aquatic systems. Gravel extraction, which began early in the twentieth century, peaked the 1970s and 1980s with as many as 15 companies operating per year. These operations extracted millions of cubic yards of gravel with 700,000 cubic yards extracted between 1976 and 1980 alone (Wallick *et al.* 2009). Urban and rural development resulted in lost riparian forests and riprapped banks in the lower basin, most of which occurred between 1950 and the 1980.

As described in detail below, the status of the Chetco River SONCC coho population as a whole has suffered in response to the habitat changes. However, natural recovery processes have resulted in a recent positive trend in habitat due to reform and regulation of forestry management (in the 1990s), gravel mining (in 1994 by the State of Oregon and in 2006 by the Corps), and the county planning and permitting processes. The status of the population has also begun to trend positive in response to improving habitat. The number of spawners counted by ODFW in the 2000s is double what was counted in the 1990s (see Figure 1 below).

If the action under consultation is likely to jeopardize the continued existence of an ESA-listed species, or destroy or adversely modify critical habitat, NMFS must identify any reasonable and prudent alternatives for the action that avoid jeopardy or destruction or adverse modification of critical habitat and meet other regulatory requirements (50 CFR 402.02).

Status of the Species and Critical Habitat

The summary that follows describes the status of SONCC coho salmon and its designated critical habitat. More detailed information on the status and trends of these listed resources, and their biology and ecology, can be found in the listing regulations and critical habitat designations published in the Federal Register at 70 FR 37160 (6/28/05; 70 FR 37160) and 64 FR 24049 (5/5/99), respectively.

It is likely that climate change will play an increasingly important role in determining the abundance of ESA-listed species, and the conservation value of designated critical habitats, in the Pacific Northwest. During the last century, average regional air temperatures increased by 1.5°F, and increased up to 4°F in some areas (USGCRP 2009). Warming is likely to continue during the next century as average temperatures increase another 3°F to 10°F (USGCRP 2009). Overall, about one-third of the current cold-water fish habitat in the Pacific Northwest is likely to exceed key water temperature thresholds by the end of this century (USGCRP 2009).

Precipitation trends during the next century are less certain than for temperature but more precipitation is likely to occur during October through March and less during summer and more of the winter precipitation is likely to fall as rain rather than snow (ISAB 2007, USGCRP 2009). Where snow occurs, a warmer climate will cause earlier runoff so stream flows in late spring, summer, and fall will be lower and water temperatures will be warmer (ISAB 2007, USGCRP 2009).

Higher winter stream flows increase the risk that winter floods in sensitive watersheds will damage spawning redds and wash away incubating eggs (USGCRP 2009). Earlier peak stream flows will also flush some young salmon and steelhead from rivers to estuaries before they are physically mature, increasing stress and the risk of predation (USGCRP 2009). Lower stream flows and warmer water temperatures during summer will degrade summer rearing conditions, in part by increasing the prevalence and virulence of fish diseases and parasites (USGCRP 2009). Other adverse effects are likely to include altered migration patterns, accelerated embryo development, premature emergence of fry, and increased competition and predation risk from warm-water, non-native species (ISAB 2007). Higher winter flows induced by climate change will, however, likely increase the influx of sediment into streams, including into the Chetco River, which may benefit stream structure and complexity.

The earth's oceans are also warming, with considerable inter-annual and inter-decadal variability superimposed on the longer-term trend (Bindoff *et al.* 2007). Historically, warm periods in the coastal Pacific Ocean have coincided with relatively low abundances of salmon and steelhead, while cooler ocean periods have coincided with relatively high abundances (Scheuerell and Williams 2005, Zabel *et al.* 2006, USGCRP 2009). Ocean conditions adverse to salmon and steelhead may be more likely under a warming climate (Zabel *et al.* 2006).

Two other species listed under the ESA occur in the action area, however NMFS found the project is not likely to adversely affect them or their critical habitat (Appendix A). The NMFS listed southern eulachon as threatened under the ESA on March 18, 2010 (75 FR 13012). The NMFS has not issued protective regulations for southern eulachon, however NMFS proposed to designate critical habitat on January 5, 2011 (76 FR 515). The NMFS listed southern green sturgeon as threatened under the ESA on April 7, 2006 (71 FR 17757), designated critical habitat on November 9, 2009 (74 FR 52300), and issued protective regulations on June 2, 2010 (75 FR 30714). This Opinion will not address these species further.

ENDANGERED SPECIES ACT BIOLOGICAL OPINION

Section 7(a)(2) of the ESA requires Federal agencies to consult with NMFS 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. The Opinion that follows records the results of the interagency consultation for this proposed action. The incidental take statement provided after the Opinion specifies: (1) The impact of any taking of threatened or endangered species that will be incidental to the proposed action; (2) reasonable and prudent measures that NMFS considers necessary and appropriate to minimize such impact, and (3) nondiscretionary terms and conditions (including, but not limited to, reporting requirements) that must be complied with by the Federal agency, applicant (if any), or both, to carry out the reasonable and prudent measures.

To complete the jeopardy analysis presented in this Opinion, NMFS reviewed the status of each listed species[4] considered in this consultation, the environmental baseline in the action area, the effects of the action, and cumulative effects (50 CFR 402.14(g)). From this analysis, NMFS determined whether effects of the action were likely, in view of existing risks, to appreciably reduce the likelihood of both the survival and recovery of the affected listed species.

This biological 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 ESA to complete the following analysis with respect to critical habitat.[5] NMFS considered the status of the entire designated area of the critical habitat impacted by the proposed action, the environmental baseline in the action area, the likely effects of the action on the function and conservation role of the affected critical habitat, and cumulative effects. NMFS used this assessment to determine whether, with implementation of the proposed action, critical habitat would remain functional, or retain the current ability for the primary constituent elements (PCEs) to become functionally established, to serve the intended conservation role for the species.

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[4] An "evolutionarily significant unit" (ESU) of Pacific salmon (Waples 1991) and a "distinct population segment" (DPS) (Policy Regarding the Recognition of District Vertebrate Population; 61 FR 4721, Feb 7, 1996) are both "species" as defined in section 3 of the ESA.

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

habitat) for SONCC coho salmon in the Chetco River. The team may require modifications as necessary to achieve this.

The NMFS relied on the foregoing description of the proposed action, including all features identified to reduce adverse effects, to complete this consultation. To ensure that this Opinion remains valid, the action agency or applicant must keep NMFS informed of any changes to the proposed action.

Failure to maintain reserve volumes, bar form retention requirements, individual bar allocations, or to follow general construction details or conduct timely monitoring, provide timely reporting, or implement enhancement actions, may constitute a modification of this action that has an effect to listed species or critical habitat not considered in this Opinion and thus may require reinitiation of this consultation.

Interdependent and interrelated actions exist with this project. Both Tidewater and Freeman have processing facilities. Freeman's facilities are adjacent to their gravel mining site at RM 4.5. Tidewater's facilities are located at RM 2. The operators haul gravel from the bars to their respective facilities. The gravel can be sold without processing, but more often, it is crushed and made into concrete or asphalt and shipped from the locations. All of the operations in these areas, including crushers, concrete mixers, asphalt batch plants, dump trucks, and all of the stockpile areas are interdependent with and interrelated to the proposed action.

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). The action area is defined as the Chetco River from the upstream end of the Fitzhugh gravel bar (RM 11) downstream through the river and estuary to RM 0, which is the confluence with the Pacific Ocean. The action area extends to RM 0 because the proposed action will remove hard, competent rock that would transport eventually naturally to the mouth of the Chetco River and deposit in the Pacific Ocean. The action area includes the operators processing facilities at RM 2 and 4.5. The action area also encompasses the lower 0.4 miles of Jack Creek because enhancement actions included as a part of the proposed action will happen there. The action area occurs in sixth field HUC#s 171003120109 and 171003120111.

The action area provides habitat for adult and juvenile SONCC coho salmon migration, adult spawning, and juvenile rearing habitat. Only the portion of the action area in Jack Creek provides spawning habitat. The NMFS listed SONCC coho salmon as threatened under the ESA on June 28, 2005 (70 FR 37160, previously listed on May 6, 1997 [62 FR 24588]), critical habitat was designated on May 5, 1999 (64 FR 24049) and protective regulations were issued under section 4(d) of the ESA on June 28, 2005 (70 FR 37160, previously issued on July 18, 1997 [62 FR 38479]). The action area is also designated as EFH for various life stages of groundfish (PFMC 2005), coastal pelagics (PFMC 1998), and Pacific salmon (PFMC 1999) and may adversely affect EFH for those species.

- When gravel extraction occurs, the operators will conduct a post-harvest survey (using the pre-harvest survey requirements) no more than 30 days after the completion of operations for the season.
- The operators will compile a post-excavation report and provide it to NMFS and the Corps by December 31 each year excavation occurs. The report will contain the following:
  - Pre-extraction surveys.
  - Pictures taken once a week from established photo points during the removal season.
  - Post-extraction surveys.
  - A report on volumes extracted during the season.
  - A status report on enhancement actions conducted during the excavation season, if any.
- The Corps will complete a multi-year evaluation during the fourth extraction year which will include:
  - A system-wide LIDAR (Light Detection and Ranging) analysis.
  - A size analysis of surface and subsurface particle at the same locations identified in the Chetco River sediment transport study (Wallick 2009).

In addition, the Corps may commission a certified geologist to sample bedload at the USGS Chetco River gauging station to obtain ten measurements (subject to available funding).

Enhancement Actions. The Corps will require the gravel operators to implement the following enhancement actions in the Chetco River system of the RGP. The operators will complete all in-water work between July 15 and September 30 unless otherwise approved by the Corps and NMFS.

- Social Security Bar. This project will create overwintering habitat for SONCC coho salmon by constructing an alcove and enhancing a side channel at Social Security bar. The operators will create the alcove by removing material from the downstream end of the bar. The operators will enhance the side channel by removing material from the existing side channel at the upper end of the bar. The applicants will submit design drawings to the annual implementation team prior to the end of year 3 of the RGP. The applicants will implement this action prior to the end of the permit.
- Jack Creek high flow channel. Freeman will construct a high flow channel paralleling Jack Creek to provide SONCC coho salmon overwintering habitat. The channel parallel to Jack Creek will inundate with water during high flow from the Chetco River. Freeman will submit a plan design within one year of RGP issuance. After gaining approval from the annual implementation team, Freeman will construct the project no later than three years from RGP issuance.

The applicants will coordinate development of these projects with the annual implementation team. The annual implementation team will approve final plans prior to construction. In evaluating final plans for the two enhancement projects, the annual implementation team will ensure the projects meet their intended purpose of improving a limiting factor (overwintering

- Stakes that are a minimum of 18 inches in length and between three-quarters and three inches in diameter.
- A density of approximately one stake every two to five square feet.
- Vertical orientation to a depth of approximately 80% of the length of each stake below the bar surface.
- Alternatively, with approval from the annual implementation team, the operators may place willow wattles.

- In-situ bulk density. Wallick *et al.* (2009) used a value of 2.1 metric tons per cubic meter or 1.6 metric tons per cubic yard for the bulk density of Chetco River sediment in the gravel bar. Bar specific sampling by trained personnel may result in refinement of that number.

Adaptive Management Strategy. The adaptive management strategy will allow the annual implementation team to modify project design features if site-specific conditions warrant and if there is agreement between the resource agencies that the modifications will improve physical and biological characteristics of the lower Chetco River. The annual implementation team will base the determination of whether modifications are appropriate on the evaluation of a pre-harvest plan and any changes that have occurred to the physical and biological characteristics of the river and extraction sites. Adaptive management helps maintain flexibility by recognizing that uncertainties in gravel recruitment and deposition exist and gives the annual implementation team the ability to modify project design features provided that the modifications will be beneficial to listed species and their habitats

Monitoring Plan. The Corps will ensure the following monitoring activities occur annually:

- The Corps will collect flow data at the USGS Chetco River gauging station (14400000) during the period of April 1 through March 31, and use the Parker Equation (Parker 1990a, 1990b) to estimate gravel recruitment.
- In years where gravel extraction is proposed, the operators will conduct a pre-harvest survey at least 30 days before initiation of gravel extraction. Survey requirements are as follows:
  - A registered surveyor will perform the survey. Survey accuracy will be +/- 0.1 foot, unless the annual implementation team agrees to an alternate level of accuracy.
  - The survey will extend longitudinally from one pool-riffle complex below extraction to one pool-riffle complex above extraction.
  - The survey will extend laterally to the extents of the flood-prone area, defined as an elevation twice the maximum bankfull depth at a riffle crest (or at an alternative point set by the annual implementation team).
  - Elevation data will reference a standard geodetic datum (NGVD 29 or NAD 83, *etc.*).
  - The survey will reference at least one permanent monument. The monument should be set outside the active floodplain, near a roadway utility pole, or other public works infrastructure, or near a permanent site improvement such as a gate or driveway.

- Unextracted volume. If volume is available to extract in a year and some extraction occurs, the operators may not carryover any authorized volume they do not extract from the system that year.
- Extraction plan. The extraction plan will include survey information that shows how much gravel was recruited at the specific location proposed for gravel extraction, the proposed design of extraction, and any proposed deviation from the default project design features.
- Equipment and access. The operators will use paddlewheel scrapers, excavators, and front-end loaders to excavate sand and gravel. Dumptrucks are generally used to haul material to the upland stockpile site or processing facility.
- Stockpiles. The operators will not stockpile material below the ordinary high water mark.
- Temporary crossings. Temporary crossings of the Chetco River with a flatcar bridge may be used to access gravel bars at some locations. The only in-water river crossing will be for installation and removal of the bridge. Native material from authorized excavation areas may be used to form footings and ramps at each end of the bridge. If a temporary crossing of a dry channel is necessary, the operator will construct a low water ford or install culverts to provide fish passage if water levels rise during the removal season. The operators will remove all temporary crossings, including temporary fill material, by the end of the approved in-water work window.
- Vehicle staging and cleaning. Operators will designate vehicle staging areas for cleaning, maintenance, refueling, and monitoring for petroleum leaks and repairs. These staging areas will be no closer than 150 feet from the ordinary high water line of any stream, waterbody, or wetland unless otherwise approved in writing by the Corps. The operators will steam-clean all equipment prior to the start of each excavation season and as needed during the season. Wash and rinse water will not discharge into waterways, unless adequately treated. Each day prior to leaving the staging area to perform excavation activities, operators will inspect vehicles for fluid leaks and repair them before leaving the staging area. The operators will document all inspections, log them in a record, and make them available to the Corps.
- Stormwater management. To minimize the amount of sediment released into the Chetco River from upland processing activities, operators will meet Oregon Department of Environmental Quality (ODEQ) requirements. These requirements are specified in the National Pollutant Discharge Elimination System (NPDES) 1200-A general permit which each operator is subject to. The turbidity of stormwater released from the upland sites has to be less than 160 Nephelometric Turbidity Units.
- Spill prevention and response. The NPDES permits also require implementation of a spill prevention and response plan to minimize the potential of a contaminant spill and the size of a spill if one were to occur.
- In-water work window. The operators will complete all in-water work between July 15 and September 30 unless otherwise approved by the Corps and NMFS.
- Gravel bar plantings. In order to stabilize the bars and provide shade to water edges, the operators will plant bare areas adjacent to side channels and at the protected head of bar and lateral buffer areas. Planting will occur at least 60 days prior to anticipated high water. As part of the adaptive management procedures, the operators may plant in alternative locations if approved by the implementation team. Planting will include:
    - Live willow stakes, harvested from relatively straight, disease- and insect-free branches.

form retention requirements described below and the amount of gravel that recruits to the extraction locations. NMFS estimates that there is 67 percent probability that a five year influx event will occur over the course of five years of the proposed permit's duration.

Bar Form Retention. To retain the hydraulic control exerted by bars on the stream channel, the operators will retain the form and function of bars by using the following restrictions:

- Head of bar buffer. The operators will protect the upstream third of the bar from any excavation activities.
- Lateral buffer. An undisturbed setback area between the low flow channel and the active mining area will be no less than 20% of the active channel width.
- Excavated backwater length. Not greater than two-thirds of the bar feature, and will include the head slope and side slope of the backwater.
- Excavated backwater depth. The maximum depth will be equal to the low flow elevation at the downstream end. The backwater area will be sloped to prevent fish entrapment.
- Excavated backwater head slope. No steeper than 10 to 1 (horizontal to vertical).
- Excavated backwater side slopes. No steeper than 4 to 1 (horizontal to vertical).

In addition, when sufficient gravel influx occurs to allow extraction, an annual implementation team[3] will conduct a pre-harvest site visit to evaluate existing bar conditions. The annual implementation team will establish extractable volumes for each site based on recruited volumes within the system, pre-harvest surveys, and site specific bar conditions. The implementation team will also determine if site-specific conditions warrant modifications to the bar form retention criteria under the adaptive management procedures.

Individual Bar Allocations. As a default position, the Corps will allocate gravel extraction by location to 47% for Freeman, 47% for Tidewater, and 6% for SCL. An operator may not be able to extract their full volume allotment due to low recruitment at their location or bar size constraints. The implementation team may deviate from this per bar allocation for any given year as part of the adaptive management process when the modifications improve physical and biological characteristics of the lower Chetco River. If a five-year influx event occurs, individual bar allocations do not apply, though the bar form retention restrictions will continue to apply.

General Construction Details. The RGP describes the proposed action with the following features:

- Volume carryover. If the maintenance reserve volume is exceeded, but the operators choose not to remove material available for extraction, that amount may be carried over into the next year.

[3] The annual implementation team will consist of representatives from the Corps of Engineers, National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Oregon Department of State Lands, and Oregon Department of Land Conservation and Development.

and 2010. However, the environmental baseline is still limiting the recovery of SONCC coho salmon.

Effects of the Action

Effects of the action refers to 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. 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.

The effects of the proposed action on species and critical habitat will last longer than the five year permit term, and NMFS has taken into account the reasonably certain longer-term effects of the action, including the post-action impacts on geomorphic conditions and the beneficial effects of enhancement actions. There is insufficient data to precisely predict how long the effects of gravel extraction on the rate of recovery will persist. However, using its best professional judgment, and informed by data about the average annual rate of gravel recruitment (66,000 cy); the likelihood of high influx years (67% probability of >118,000 cy within five years); the likelihood of extended drought years (two 2-year periods in recorded history 1976-1977 and 1991-1992); and information about climate change, NMFS is reasonably certain that by looking at the effects during the permit term plus three years post-action, it is possible to make a well-informed judgment about the long-term recovery rate and whether the effects of the action will result in jeopardy of the species and/or destruction or adverse modification of critical habitat. Thus, while NMFS has considered all effects to the extent they are reasonably certain to occur, it has focused its analysis on an 8-year period beginning with the issuance of the RGP.

Effects on the Environment

Geomorphic Conditions. A direct relationship exists between the amount of gravel removed from a stream and its geomorphic conditions. A dynamic balance between the amount of water flowing in the channel, the amount and size distribution of sediment delivered from upstream sources, the composition of the bed and banks, and the type and quantity of vegetation on the banks controls geomorphic conditions of a stream (Federal Interagency Working Group 2006). Modifying any of these components, results in channel adjustments until a new equilibrium is achieved (Lane 1955). Sediment removal disturbs the equilibrium within a stream channel by intercepting materials moving within a dynamic system and triggers changes in the streams' physical characteristics as it regains the balance between supply and transport (Federal Interagency Working Group 2006). The following are some of the more predictable and widely observed morphological changes initiated by sediment removal: (1) Increased width/depth ratio; (2) bank erosion; (3) altered sediment transport; (4) decreased sinuosity; and (5) altered sediment sorting processes (Federal Interagency Working Group 2006). Sediment removal does not just affect the channel around the extraction site. It reduces the supply of material to downstream bars, which will diminish in size because the stream still transports sand and gravel from those bars (Dunne *et al.* 1981). Reducing the supply of material to the estuary is of particular concern,

because gravel bars there are intertidal habitat. Intertidal areas are productive invertebrate habitat.

The proposed action extracts gravel and therefore will affect the dynamic balance of geomorphic conditions in the lower Chetco River. Affecting that balance will slow the recent positive trend of habitat recovery. However, the protections afforded by the proposed action, including the maintenance reserve, recovery reserve, bar form retention, and allotment requirements will ensure the recent recovery trend of geomorphic conditions remains positive. Increased gravel fosters the development of stream features such pools, riffles, and eddies that are associated with stable stream banks and narrower, curved stream channels. The rate of geomorphic condition recovery will be faster than prior to 2009 because operators will remove less gravel and will remove it in a manner to protect geomorphology. But the rate will be slower than the natural rate of recovery that occurred in 2009 and 2010 when no gravel removal occurred, and that would occur in the absence of the proposed action.

While the rate of geomorphic recovery under the proposed action will be slower than would otherwise occur without mining, the protections ensure maintenance of a positive trend. The reserve volumes guarantee that sufficient gravel remains in the river to allow for maintenance of current conditions and provide for improvement at the reach level. Bar form retention will protect the parts of the gravel bars performing the natural physical processes of the river. Allotment requirements will ensure that site level impacts will not be concentrated at any single extraction location. Implementing these proposed elements will allow natural stream processes to deposit gravel on bars throughout the lower 11 miles of the Chetco River. The gravel deposition will create undercut banks, deep pools, and other fluvial features that slow down water velocity during high flows and provide complex channel conditions. In addition, gravel bar plantings are designed to increase shade and stabilize gravel bars. Therefore, the habitat will continue to improve and the population limiting factors will continue to subside.

Chemical Contamination. Operation of construction equipment creates the potential for introduction of fuel and lubricants into the stream or into the adjacent riparian zone. In sufficient quantities, these substances can injure or kill aquatic organisms. Proposed conservation measures including vehicle staging, cleaning, and the implementation of a spill control and prevention plan will minimize the probability, magnitude, and extent of accidental chemical contamination. Potential fuel and lubricants sources include small drips/leaks and large spills. A few drops (up to an ounce) of contaminants may drip/leak from the equipment at each of the extraction locations each year. The resulting effect will be so mild in intensity and short in duration that meaningful measurement, detection, or evaluation are not possible because of the low volume of contaminants and the high volume and velocity of the stream. The probability of a large spill is so small due to the best management practices NMFS cannot reasonably expect one to occur.

In-water Equipment Operation Including a Temporary Bridge. At times, the operators need to cross the river channel to access gravel bars. Instead of repeated and frequent crossings with dump trucks, the operators will place a flatcar temporarily as a bridge. To install and remove the flatcar, operators need to drive heavy equipment across the Chetco River up to four times each year at each location (for a maximum of 12 crossings per year). Operators will construct footings on each end of temporary bridges with a few yards of gravel bar material. The

footings may encroach on the low flow channel. The operators will remove or smooth out material used for the footings of the bridge after the bridge removal. This work affects a small area of stream channel, but will not alter the geomorphology of the channel and will not be detectable after the first fall storm that inundates the area. Construction of temporary bridge footings is not likely to result in suspended sediment plumes because of the small volume of material moved and the low level of fines within it.

Enhancement Actions. The proposed action includes implementation of two enhancement actions during the five-year term of the RGP, which will improve the major limiting factor (overwintering habitat) within the riverine portion of the action area. The annual implementation team will approve final design of the two projects, to ensure that they meet their intended purpose. The actions will create an alcove and a side channel, and enhance a second side channel. These actions will occur above the water surface elevation. Construction of this nature is likely to produce some short-term impacts such as localized suspended sediment plumes. However, all post-construction effects will be beneficial.

Suspended Sediment. Temporary bridge installation, stream crossings by heavy equipment, enhancement actions, upland processing facilities, and bar mining will all produce suspended sediment plumes at various times during the five-year duration of the RGP. Plumes from installing temporary bridge footings, stream crossings by heavy equipment, and enhancement actions will be short-lived (up to an hour) and localized (less than one hundred feet). Plumes from bar surfaces disturbed by extraction are likely to last the duration of the first storm or two. However, monitoring reports have shown these plumes do not measurably exceed an upstream control sample. For the interrelated and interdependent upland processing facilities, the 1200-A permit limits turbidity of stormwater released from the upland sites to less than 160 nephelometric turbidity units at the outfall. Plumes from upland processing facilities occur during fall and winter storms and will last the duration of each rainstorm. However, adhering to the 1200-A permit, concentrations in the Chetco River adjacent to the outfalls will be so mild in concentration that meaningful measurement, detection, or evaluation are not possible. This is due to the volume and velocity of water flowing in the river versus the volume from the outfall.

Effects on Listed Species

Geomorphic Conditions. A direct relationship exists between geomorphic conditions within the lower Chetco River, limiting factors, and the carrying capacity of the action area. As geomorphic conditions improve, limiting factors subside, and the carrying capacity increases. The carrying capacity of a stream reach is the number of fish that can survive within it. When the number of juvenile SONCC coho salmon exceeds carrying capacity of the action area, the excess fish die prior to outmigrating to the ocean. A suite of environmental factors including geomorphic conditions determines carrying capacity of a stream (Bjornn and Reiser 1991). Changing one or more of the factors will change carrying capacity (Bjornn and Reiser 1991). For the Chetco, the lack of juvenile over wintering habitat is the primary limiting factor. As habitat improves, limitations reduce, carrying capacity increases, thus enhancing the number of juveniles that can survive (Hays *et al.* 1996).

The proposed action results in slowing the recovery rate of geomorphic conditions, which slows improvement of carrying capacity, and population viability attributes such as population abundance. However, the protections afforded by the proposed action (maintenance reserve, recovery reserve, bar form retention, and allotment requirements) ensure the positive trend in carrying capacity continues. The reserves will ensure that enough gravel remains in the system to maintain and improve stream features that provide forage and overwintering habitat for juveniles. Thus, NMFS is reasonably certain the population will continue the positive trend toward recovering viability objectives.

Chemical Contamination. Petroleum-based contaminants, such as fuel, oil, and some hydraulic fluids, contain polycyclic aromatic hydrocarbons (PAHs) which can kill salmonid fish at high levels of exposure and can cause lethal and sublethal adverse effects to aquatic organisms (Neff 1985, Hatch and Burton 1999). Because probability of a large spill occurring is not reasonable and the intensity and duration of any resulting effect from small drips/leaks will be so mild that meaningful measurement, detection, or evaluation are not possible, chemical contamination from the proposed action is not likely to injure or kill juvenile SONCC coho salmon.

In-water Equipment Operation Including a Temporary Bridge. The heavy equipment crossings to install and remove flatcar bridges will disturb an area approximately 10 feet wide, by 50 feet long (the width of the low flow channel). Anytime heavy equipment enters water where fish are present, the potential for injury or death is present. The operators typically choose to cross the stream at the most shallow point. Habitat where equipment will be driving is low quality for SONCC coho salmon. The routes will be in water that is less than two feet deep, with no flow obstructions and uniform substrate. There are no pools, overhanging vegetation, large wood or any other features that attract SONCC coho salmon to these areas. While there are no special features to attract SONCC coho salmon juveniles to the crossing areas, their presence is not discountable. At some point during the twelve crossings per year, a few juveniles are likely to be present. Furthermore, since no other cover is present, startled juveniles may hide in the interstitial spaces of gravel and cobbles where the equipment is driving, thus increasing their chance of being injured.

Considering the amount of habitat affected (500 square feet) per crossing, the low abundance of SONCC coho salmon juveniles, the low value of affected habitat, the number of crossings per year (12), and the probability of juveniles being crushed (low but not discountable), heavy equipment crossings are likely to expose only a small number of SONCC coho salmon juveniles per year to an increase in likelihood of injury, with death of only a few individuals over the term of the permit.

Enhancement Actions. The enhancement actions treat the limiting factor of overwintering habitat. Creation of overwintering habitat will decrease the influence of this limiting factor and increase survival and carrying capacity of SONCC coho salmon. The resulting effects will increase abundance of SONCC coho salmon in the Chetco River. The project on Jack Creek will be particularly beneficial because the creek likely produces more SONCC coho salmon than any other tributary or the Chetco River mainstem.

Some rearing juveniles are likely to encounter suspended sediment plumes, but the duration and concentrations are unlikely to be high enough and long enough to elicit an adverse response. Because these enhancement actions will occur above the water line, direct injury and death of individuals is not reasonably certain to occur.

Suspended Sediment. Increases in suspended sediment concentrations as low as 17 milligrams per liter (mg/l) can increase inflammation of the gills and lead to respiratory stress, when juvenile SONCC coho salmon are exposed for periods as short as four hours (Berg and Northcote 1985). Increases in suspended sediment concentrations as low as 30 mg/l can result in behavioral responses (*e.g.*, changes in territorial behavior) of juvenile SONCC coho salmon exposed to suspended sediment pulses for periods as short as four hours (Berg and Northcote 1985). Increases in suspended sediment at a concentration of 53.5 mg/l for a 12-hour period caused physiological stress and changes in behavior in SONCC coho salmon (Berg 1983). Suspended sediment concentrations at 1200 mg/l for a 96-hour period killed juvenile SONCC coho salmon (Noggle 1978).

Suspended sediment concentrations generated by activities conducted under the RGP are unlikely to exceed the effects threshold for injury as described above (17 mg/l for four hours). Plumes from installing temporary bridge footings, stream crossings by heavy equipment, and enhancement actions are unlikely to last four hours. Concentrations of plumes from interrelated and interdependent upland processing facilities and bar mining will not be measurable or detectable compared to background levels when they occur. Therefore, suspended sediment plumes are not likely to injure or kill juvenile SONCC coho salmon.

Summary of Effects to SONCC Coho Salmon. Heavy equipment crossings will increase the likelihood of injury of a small number of juveniles and is reasonably likely to kill a few juveniles in the mainstem Chetco River over the term of the permit. Chemical contamination and suspended sediment plumes are unlikely to injure or kill SONCC coho salmon. Short-term effects of the two enhancement actions are unlikely to kill or injure individuals.

The effects of gravel removal associated with the proposed action are reasonably certain to slow the rate in improvement of geomorphic conditions, habitat features, coho salmon limiting factors (such as overwintering habitat), and coho salmon juvenile survival. Thereby the project will slow improvement of SONCC coho salmon carrying capacity and abundance. However, the protective measures of the proposed action ensure the recent positive trend in carrying capacity remains positive. Therefore, NMFS is confident that the abundance of juveniles in the action area will increase over the five-year term of the permit and the associated term of effects. Also, the long-term effects of the enhancements will be wholly beneficial and will further improve survival, carrying capacity, and abundance. Although the current status of the population is poor and growth may be slow at first (Liermann and Hilborn 2001), the depensation threshold is low (135 adults) and the fecundity of coho salmon is high (2,500 to 5,000 eggs per female, Beacham 1982, Sandercock 1991). Therefore, even small improvements in carrying capacity will quickly translate into improved population viability. Only a couple more successful pairs of spawners will produce enough offspring to survive to adulthood and exceed the depensation level.

Critical Habitat within the Action Area

The action area is in the Chetco River 5th field watershed (HUC# 1710031201), designated as critical habitat for SONCC coho salmon, which provides habitat to support successful adult spawning, juvenile rearing, and adult and juvenile migration. The expected effects of the project on PCEs designated for SONCC coho salmon are:

1. Cover/shelter (rearing and migration). Removing gravel will slow the natural rate of improvement in the cover/shelter PCE. However, project design features ensure improvement in geomorphic conditions will continue and benefit the cover/shelter PCE by increasing channel complexity and high flow refuge. The enhancement actions and gravel bar plantings will benefit this PCE.
2. Food (rearing and migration). Removing gravel will slow the natural rate of improvement in the food PCE. However, project design features ensure improvement in geomorphic conditions will continue and increase intertidal habitat in the estuary above the Highway 101 Bridge. Because intertidal habitats are the most productive estuary type for food resources, available food for SONCC coho salmon juveniles will likely improve.
3. Riparian vegetation (rearing and migration). The project will not significantly affect riparian vegetation in the action area.
4. Space (spawning, rearing, and migration). The project will not significantly affect space in the action area.
5. Spawning gravel (spawning). The project will not significantly affect spawning gravel in the action area.
6. Water quality (spawning, rearing, and migration). With the exception of water temperature (addressed below), the project will not significantly affect water quality in the action area. Because probability of a large spill occurring is not reasonable and the intensity and duration of any resulting effect from small drips/leaks will be so mild that meaningful measurement, detection, or evaluation are not possible, chemical contamination from the proposed action is not likely to affect the water quality PCE.
7. Water quantity (rearing and migration). The project will not affect water quantity in the action area.
8. Safe passage (migration). Removing gravel will slow the natural rate of improvement in the safe passage PCE. However, project design features ensure improvement in geomorphic conditions will continue and benefit channel complexity, sinuosity, width to depth ratio, and high flow refuge. These elements provide juvenile SONCC coho salmon places to hide from high water velocities during winter flows and protects them from washing out to the ocean prematurely.
9. Substrate (migration). Gravel excavation removes substrate, but will not alter the character and consistency of the substrate. Newly exposed substrate will provide the same benefits as that removed.
10. Water temperature (migration). Removing gravel will slow the natural rate of improvement in the water temperature PCE. However, project design features ensure improvement in geomorphic conditions will continue and benefit the water temperature PCE by reducing the width to depth ratio, particularly between the Highway 101 Bridge and RM 6.5. A lower width to depth ratio decreases the amount of solar radiation received during summer months, thereby reducing heating.

11. Water velocity (migration). The project will not significantly affect water velocity in the action area.

By extracting gravel, the proposed action will negatively affect the dynamic balance between sediment load and habitat conditions in the lower Chetco River. Upsetting the balance will adversely affect the recent trend toward improvements to cover/shelter, food, safe passage, and water temperature PCEs. Although the proposed action will reduce the rate of improvement, the protections afforded by the maintenance reserve, recovery reserve, bar form retention, and allotment requirements will ensure the trend remains positive.

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). Cumulative effects that reduce the capacity of listed species to meet their biological requirements in the action area increase the risk that the effects of the proposed action on the species or its habitat will result in jeopardy of the species and/or destruction or adverse modification of critical habitat (NMFS 1999).

After examination of the biological assessment and additional queries to the applicant and Corps, the NMFS was unable to identify any future non-Federal activities in the action area. Accordingly, NMFS is not aware of any cumulative effects within the meaning of 50 C.F.R. 402.02 that will cause effects to SONCC coho salmon or their designated critical habitat within the action area.

Synthesis and Integration of Effects

Species

The action area includes the SONCC coho salmon population in the Chetco River basin. The Chetco River population is at a high risk for extinction. The TRT criteria for total population size and spawner density place this population in the high risk category. Additionally, the viability criteria for historical trends in population decline and hatchery influence are at a moderate risk classification, and for catastrophic population decline are at a low risk classification.

The effects of the action in the Chetco Basin, when considered in human and natural contexts, will have a small adverse effect on the Chetco River population of SONCC coho salmon. Heavy equipment crossings of the Chetco River are reasonably likely to kill a few juveniles over the term of the permit, impacting only an insignificant fraction of the juvenile population.

When considered in the context of the existing geomorphic conditions in the Chetco River, gravel extraction under the proposed action will have adverse effects on the Chetco River population of SONCC coho salmon through impacts to habitat conditions. These effects include impacts to width/depth ratio; bank erosion; sediment transport; channel sinuosity; and sediment sorting processes for some stream reaches. The effects associated with gravel extraction in the proposed action are reasonably certain to slow the rate at which geomorphic and habitat

conditions recover along with attendant positive responses in SONCC coho salmon carrying capacity and population viability attributes such as population abundance.

However, NMFS does not believe that this amounts to an appreciable reduction in the likelihood of survival and recovery. There will be only a slight delay in the recovery of the Chetco River population and only limited impacts on the likelihood of survival. Significant protective measures built into the proposed action, such as the maintenance and recovery reserves, will ensure the current positive trend in habitat conditions continues. These measures will allow improvement in status of stream features such pools, riffles, and eddies that are associated with stable stream banks and narrower, more sinuous stream channels which provide shelter, feeding and rearing habitat for juvenile salmonids. These measures will allow improvements in the status of limiting factors to continue, increasing carrying capacity in the Chetco River basin and enhancing juvenile survival rates. The protective measures, by allowing for improvements in habitat conditions, allow improved carrying capacity and ensure that the population will continue to trend toward recovering viability objectives.

In addition, the proposed action includes enhancement projects, which in the short-term will have minor impacts to a few individuals, but in the long-term will have beneficial effects at the population scale. These actions will create and enhance alcoves and side channels. The long-term effects of the enhancements will further improve survival, carrying capacity, and abundance by improving the major limiting factor (overwintering habitat) within the riverine portion of the action area.

Also, natural processes each winter after the permit term ends will provide large influxes of gravel, with corresponding benefits to the species and rapid positive impacts to the recovery rate trajectory. Based on the last 43 years of hydrograph data and gravel recruitment, it is reasonably certain that when extraction ends, natural recruitment will begin depositing gravel at an average rate of 66,000 cy per year, with a 67 percent probability that a high influx year (118,000 cy or more) will occur in any five year period. . The effects may persist with prolonged drought years; however,the longest drought streak was two years, occurring twice (1976-1977 and 1991-1992).

Moreover, although the current status of the population is poor and growth may be slow at first (Liermann and Hilborn 2001), the depensation threshold is low (135 adults) and the fecundity of coho salmon is high (2,500 to 5,000 eggs per female, Beacham 1982, Sandercock 1991). Therefore, even small improvements in carrying capacity will quickly translate into improved population viability. Only a couple more successful pairs of spawners will produce enough offspring to survive to adulthood and exceed the depensation level. The population has demonstrated overall growth over the last two decades despite significant continuous gravel extraction. It is likely that the absence of gravel extraction over the last two years has resulted in improved habitat condition and increased carrying capacity in the system, although monitoring data is not yet available to quantify these trends. NMFS therefore believes it is unlikely that the proposed action will significantly reduce the Chetco River population's capacity to escape the effects of depensation.

In addition, a slowed increase in carrying capacity does not expose this population to greater risk from a stochastic event. Small populations are at higher risk of significant changes in population

abundance as a result of stochastic events. However, based on 43 years of data, the Chetco River SONCC coho salmon population has been exposed to, and survived, stochastic events despite abundances lower than current abundances of the population. A stochastic event, of a greater magnitude than those occurring over the past 43 years, is not reasonably expected to occur over the period of effect of this action. Because the proposed action will allow for improvement in the status of factors currently limiting the Chetco population, increase carrying capacity and population abundance, the Chetco River population will be at less risk from exposure to stochastic events similar in magnitude to those experienced over the last 43 years. Climate change may pose some higher risks to the species, but it could also result in higher winter storm flows with potential positive effects in the Chetco River. Although NMFS has not relied on the potential positive effects in reaching its conclusions (due to the inapplicability of the precautionary approach to uncertain positive benefits), it is worth noting that higher flows would likely increase the influx of sediment, which may further mitigate the adverse effects of gravel removal and accelerate geomorphic recovery of the Chetco River basin.

At the scale of the Chetco River population of SONCC coho salmon, NMFS believes that the protective measures of the proposed action, and other factors as discussed above, will maintain the recent improvement in habitat conditions, which will contribute to improvements in the carrying capacity, and sustain continued population growth into the future. While slowing the natural rate of improvement, the protective measures of the project will ensure improved juvenile survival and increased abundance of the Chetco River SONCC coho salmon population. At the population level, the proposed action allows for continued population growth and does not prevent attainment of low risk viability criteria.

Although the Chetco population is geographically important to the ESU, because we conclude that the proposed action, considered in the context of the baseline and cumulative effects, will not appreciably reduce the likelihood of survival or of recovery of the Chetco River population, we also conclude that it will not jeopardize the ESU.

Critical Habitat

The effects from extracting gravel will negatively affect several PCEs in the action area (cover/shelter, food, safe passage, and water temperature) which have already been negatively affected by past anthropogenic activities. The proposed action will not prevent the recovery of these PCEs, but will delay their recovery.

More specifically, with the proposed action the current ability for PCEs to become functionally established will improve, though improvement will occur at a slower rate than if there were no action. NMFS does not believe that the slowed rate is a concern for survival or recovery; the delay will only be slight because the impacts of gravel removal are likely to be short-term as a result of the hydrology of the Chetco River, and project design features to minimize the magnitude and duration of effects.

There are numerous significant protective measures built into the proposed action that will directly minimize impacts on PCEs, and will ensure the positive trend in their functionality is maintained. In particular, the maintenance and bar form retention requirements will allow

increased formation of bars and stream features, which improve width to depth ratios and increase stream sinuosity, creating pools and eddies that provide shelter for juvenile coho salmon. For example, project design features ensure improvement in geomorphic conditions will continue and benefit the cover/shelter PCE by increasing channel complexity and high flow refuge. Project design features ensure improvement in geomorphic conditions will continue and increase intertidal habitat in the estuary above the Highway 101 Bridge. Because intertidal habitats are the most productive estuary type for food resources, available food for SONCC coho salmon juveniles will likely improve. Project design features also ensure improvement in geomorphic conditions will continue and benefit channel complexity, sinuosity, width to depth ratio, and high flow refuge. These elements provide juvenile SONCC coho salmon places to hide from high water velocities during winter flows and protects them from washing out to the ocean prematurely. Additional project design features ensure improvement in geomorphic conditions will continue and benefit the water temperature PCE by reducing the width to depth ratio, particularly between the Highway 101 Bridge and RM 6.5, and increasing shade. A lower width to depth ratio decreases the amount of solar radiation received during summer months, thereby reducing heating. Consequently, although the proposed action will reduce the rate of improvement, the protections afforded by the maintenance reserve, recovery reserve, bar form retention, allotment requirements, and gravel bar planting will ensure the trend remains positive.

In addition, the proposed action includes enhancement projects which, over the longer term, are reasonably certain to improve the cover/shelter PCE, decreasing the influence of the overwintering habitat limiting factor and increasing the conservation value of action area for SONCC coho salmon.

Also, natural processes each winter after the permit term ends will provide large gravel influxes of gravel, with corresponding habitat benefits and rapid positive impacts to the recovery rate trajectory. Based on the last 43 years of hydrograph data and gravel recruitment, it is reasonably certain that when extraction ends, natural recruitment will begin depositing gravel at an average rate of 66,000 cy per year, with a 67 percent probability that a high influx year (118,000 cy or more) will occur in any five year period. Although drought years may slow these influxes, historical data suggests that this is likely to be infrequent and last no more than two years.

Although the proposed action will adversely affect several PCEs by slowing their natural rate of improvement within the action area, at the watershed scale, the protective measures of the project will ensure a positive trend in PCE improvement continues. NMFS is confident that because the proposed action allows continued improvement of PCEs in the action area it will not appreciably diminish the value of critical habitat for the conservation of the species at the watershed level. Consequently, since the proposed action will not appreciably diminish the value of critical habitat for the conservation of the species at the watershed level, the proposed action does not diminish the value of the critical habitat at the designation level. Critical habitat will remain functional, or retain the current ability for the PCEs to become functionally established, to serve the intended conservation role for the species. Consequently, the action is not likely to result in the destruction or adverse modification of SONCC coho salmon critical habitat.

Conclusion

After reviewing the status of SONCC coho salmon and its designated critical habitat, the environmental baseline for the action area, the effects of the proposed action, and cumulative effects, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of SONCC coho salmon and is not likely to destroy or adversely modify designated critical habitat for SONCC coho salmon.

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 NMFS as 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. Harass is defined by Fish and Wildlife Service as an intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, 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. 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 prohibited under the ESA, provided that such taking is in compliance with the terms and conditions of an incidental take statement.

Amount or Extent of Take

The effects of the proposed action will occur in areas within the active stream channel when adult and juvenile SONCC coho salmon are likely to be present. The action area is juvenile and adult migration habitat, adult spawning habitat, and juvenile rearing habitat in poor condition. The action area is essential to all these life stages. The project will result in death and injury of juvenile SONCC coho salmon from heavy equipment crossing the stream to install temporary bridges. The project will also result in slowing the improvement of SONCC coho salmon carrying capacity and abundance. This take will occur within the active stream channel of the Chetco River from RM 0 to RM 11. Incidental take within that area meeting the terms and conditions of this incidental take statement will be exempt from the taking prohibition.

Heavy equipment crossings will likely result in the death of a few juveniles over the permit cycle. Monitoring the actual number of fish killed or injured by equipment is impractical due to the flow in the river, size of fish, and the difficulty of accomplishing such a task. The NMFS also cannot precisely predict the number of fish reasonably certain to be killed due to adverse effects of slowing the improvement of carrying capacity and abundance. The relationship between gravel influx, geomorphic conditions, carrying capacity, survival, and abundance is not quantifiable due to lack of data. The abundance of fish occurring within the action area is a function of habitat quality, competition, predation, and the interaction of processes that influence genetic, population, and environmental characteristics. These biotic and environmental processes interact in ways that may be random or directional, and may operate across broad temporal and

spatial scales. Furthermore, there are no methods available to monitor this death and injury because it will occur throughout the year over eleven miles of stream.

Because monitoring the number of fish injured or killed is not possible, NMFS uses a causal link established between the activities and the likely effects to the listed species to describe the extent of take as a numerical level of habitat disturbance. Here, the best available indicator for the extent of take is the area of gravel bar disturbed relative to the amount of gravel removed. By analyzing monitoring reports from Freeman in 2007 and Tidewater in 2008, NMFS roughly estimates that no more than 0.2 acres of gravel bar need to be disturbed for every 1,000 cubic yards of gravel harvested. In addition to being the most practical and feasible indicator to measure, area of gravel bar disturbed per unit of gravel removed is proportional to the adverse effects of this project. A relatively small amount of removal may have a large effect if the depth is minimal and it is spread out over a large area. Also, because extraction occurs in three dimensions (square area plus depth), the area of gravel bar disturbed per unit of gravel removed is closely related to the intensity of activity, yet is distinct from the total amount of gravel removed. Thus, area of gravel bar disturbed per unit of gravel removed will remain proportional to the amount of take, regardless of the level of annual extraction allowed by the proposed action.

In the accompanying Opinion, NMFS determined that this level of anticipated take is not likely to result in jeopardy to the species. The area of gravel bar disturbed per unit of gravel extracted (0.2 acres per 1,000 cubic yards harvested) is a threshold for reinitiating consultation.

Reasonable and Prudent Measures

The following measure is necessary and appropriate to minimize the impact of incidental take of listed species due to the proposed action.

The Corps shall:

1. Minimize incidental take during gravel extraction activities by using best management practices.
2. Minimize incidental take during enhancement activities by using best management practices during in-water work.
3. Ensure completion of a monitoring and reporting program to confirm that the take exemption for the proposed action is not exceeded, and that the terms and conditions in this incidental take statement are effective in minimizing incidental take.

Terms and Conditions

The measures described below are non-discretionary, and must be undertaken by the Corps and must become binding conditions of any permit or grant issued to the applicant, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require an applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant

document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps or applicant must report the progress of the action and its impact on the species to NMFS as specified in the incidental take statement.

1. To implement reasonable and prudent measure #1 (gravel extraction), the Corps shall ensure the following:
   a. Reserve Volumes. Operators will not extract more than 80% of the volume greater than 26,000 cy recruited past the USGS stream gage during the previous year as estimated by the USGS using the Parker Equation (Parker 1990a, 1990b), unless a 5-year influx event occurs (i.e., recruitment of 118,000 cy or more).
   b. Adaptive Management Strategy. The annual implementation team will only modify project design features when the modifications improve physical and biological characteristics of the lower Chetco River.

2. To implement reasonable and prudent measure #2 (other enhancement activities), the Corps shall ensure the following:
   a. The annual implementation team will approve design of the enhancement projects prior to implementation.
   b. Implement only those parts of the proposed enhancement actions determined by the annual implementation team to provide benefit to the physical and biological conditions of the Lower Chetco River.

3. To implement reasonable and prudent measure #3 (monitoring), the Corps shall ensure that NMFS receives a monitoring report by December 31 every year from each operator with the following information:
   a. Project Identification.
      i. Permittee name, permit number, and project name.
      ii. Project location by 6th field HUC and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.
      iii. Corps contact person.
      iv. Starting and ending dates for work completed.
   b. Habitat Conditions. Photos of habitat conditions at the project site before, during, and after project completion.
      i. Include general views and close-ups showing details of the project and project area.
      ii. Label each photo with date, time, project name, photographer's name, and a comment about the subject.
   c. Project Data. Include the following specific project data in the annual monitoring report:
      i. Pre- and post-extraction surveys adhering to Federal Interagency Working Group (2006).
      ii. Volume of gravel extracted.
      iii. Extent of area disturbed by gravel extraction.
      iv. Pollution control. A summary of pollution and erosion control inspections, including any erosion control failure, contaminant release and correction effort.

v. Gravel bar plantings. Number, type, and location of plantings.
vi. The number of stream crossings by heavy equipment.
vii. Any incidence of observed injury or mortality of listed species.
viii. The status of enhancement actions.

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. The following recommendations are discretionary measures that are consistent with this obligation and therefore should be carried out by the Corps:

1. The Corps should coordinate with the permittees and NMFS to develop methods to make the sand and gravel that the Corps removes from the Chetco River when it maintains the navigation channel available for commercial reuse. This material is commercially viable and obtaining it from the dredge would have less impact to fisheries resources than bar extraction.
2. The Corps should continue to lead coordination efforts with all state and federal agencies involved in gravel permitting to refine the interagency cooperative process for development of future gravel mining RGPs.

Please notify NMFS if the Corps carries out any of these recommendations so that we will be kept informed of actions that are intended to improve the conservation of listed species or their designated critical habitats.

Reinitiation of Consultation

Reinitiation of formal consultation is required and shall be requested by the Federal agency or by NMFS where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If the amount or extent of taking specified in the incidental take statement is exceeded; (b) if new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent not previously considered; (c) if the identified action is subsequently modified in a manner that has an effect to the listed species or designated critical habitat that was not considered in the Opinion; or (d) if a new species is listed or critical habitat is designated that may be affected by the identified action (50 CFR 402.16).

The ITS specifies that the area of gravel bar disturbed per unit of gravel extracted (0.2 acres per 1,000 cubic yards harvested) is a threshold for reinitiating consultation. In addition, failure to maintain reserve volumes, bar form retention requirements, and individual bar allocations, or to follow general construction details or provide timely reporting, may constitute a modification of this action that has an effect to listed species or critical habitat not considered in this Opinion and thus may require reinitiation of this consultation. Further, extension or renewal of the permit beyond the five-year term will require reinitiation or a new consultation.

To reinitiate consultation, contact the Oregon State Habitat Office of NMFS, and refer to the NMFS Number assigned to this consultation (2011/00058).

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 proposed actions, which 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 habitats, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects on 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.

The Pacific Fishery Management Council (PFMC) described and identified EFH for groundfish (PFMC 2005), coastal pelagic species (PFMC 1998), and Chinook salmon, coho salmon, and Puget Sound pink salmon (PFMC 1999). The proposed 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 25 species of groundfish and coastal pelagics, and two species of Pacific salmon (Table 4).

Table 4. Species with designated EFH found in waters of Oregon and Washington.

Groundfish Species	Blue rockfish (*S. mystinus*)	Rougheye rockfish (*S. aleutianus*)	Flathead sole (*Hippoglossoides elassodon*)
Leopard shark (*Triakis semifasciata*)	Bocaccio (*S. paucispinis*)	Sharpchin rockfish (*S. zacentrus*)	Pacific sanddab (*Citharichthys sordidus*)
Soupfin shark (*Galeorhinus zyopterus*)	Brown rockfish (*S. auriculatus*)	Shortbelly rockfish (*S. jordani*)	Petrale sole (*Eopsetta jordani*)
Spiny dogfish (*Squalus acanthias*)	Canary rockfish (*S. pinniger*)	Shortraker rockfish (*S. borealis*)	Rex sole (*Glyptocephalus zachirus*)
Big skate (*Raja binoculata*)	Chilipepper (*S. goodei*)	Silvergray rockfish (*S. brevispinus*)	Rock sole (*Lepidopsetta bilineata*)
California skate (*R. inornata*)	China rockfish (*S. nebulosus*)	Speckled rockfish (*S. ovalis*)	Sand sole (*Psettichthys melanostictus*)
Longnose skate (*R. rhina*)	Copper rockfish (*S. caurinus*)	Splitnose rockfish (*S. diploproa*)	Starry flounder (*Platyichthys stellatus*)
Ratfish (*Hydrolagus colliei*)	Darkblotched rockfish (*S. crameri*)	Stripetail rockfish (*S. saxicola*)	
Pacific rattail (*Coryphaenoides acrolepsis*)	Grass rockfish (*S. rastrelliger*)	Tiger rockfish (*S. nigrocinctus*)	**Coastal Pelagic Species**
Lingcod (*Ophiodon elongatus*)	Greenspotted rockfish (*S. chlorostictus*)	Vermillion rockfish (*S. miniatus*)	Northern anchovy (*Engraulis mordax*)
Cabezon (*Scorpaenichthys marmoratus*)	Greenstriped rockfish (*S. elongatus*)	Widow Rockfish (*S. entomelas*)	Pacific sardine (*Sardinops sagax*)
Kelp greenling (*Hexagrammos decagrammus*)	Longspine thornyhead (*Sebastolobus altivelis*)	Yelloweye rockfish (*S. ruberrimus*)	Pacific mackerel (*Scomber japonicus*)
Pacific cod (*Gadus macrocephalus*)	Shortspine thornyhead (*Sebastolobus alascanus*)	Yellowmouth rockfish (*S. reedi*)	Jack mackerel (*Trachurus symmetricus*)
Pacific whiting (Hake) (*Merluccius productus*)	Pacific Ocean perch (*S. alutus*)	Yellowtail rockfish (*S. flavidus*)	Market squid (*Loligo opalescens*)
Sablefish (*Anoplopoma fimbria*)	Quillback rockfish (*S. maliger*)	Arrowtooth flounder (*Atheresthes stomias*)	
Aurora rockfish (*Sebastes aurora*)	Redbanded rockfish (*S. babcocki*)	Butter sole (*Isopsetta isolepsis*)	**Salmon**
Bank Rockfish (*S. rufus*)	Redstripe rockfish (*S. proriger*)	Curlfin sole (*Pleuronichthys decurrens*)	Coho salmon (*O. kisutch*)
Black rockfish (*S. melanops*)	Rosethorn rockfish (*S. helvomaculatus*)	Dover sole (*Microstomus pacificus*)	Chinook salmon (*O. tshawytscha*)
Blackgill rockfish (*S. melanostomus*)	Rosy rockfish (*S. rosaceus*)	English sole (*Parophrys vetulus*)	

The ESA portion of this document describes the adverse effects to SONCC coho salmon habitat from this project. While some of the other EFH species spend more time in the action area than SONCC coho salmon, the ESA analysis of effects to SONCC coho salmon habitat is relevant to EFH. However, effects to these species may be greater than analyzed above. Based on information provided by the action agency 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 designated EFH:

1. Cover/shelter. Improvements in geomorphic conditions due to project design features will benefit cover/shelter by increasing channel complexity and high flow refuge. However, the rate of improvement will be slower than if no extraction occurred. The enhancement actions will benefit cover/shelter.
2. Food. Improvements in geomorphic conditions are likely to increase intertidal habitat in the estuary above the Highway 101 Bridge. Because intertidal habitats are the most productive estuary type for food resources, available food resources will improve. However, the rate of improvement will be slower than if no extraction occurred.
3. Water quality. With the exception of water temperature (addressed below), the project will not significantly affect water quality in the action area. Because probability of a large spill occurring is not reasonable and the intensity and duration of any resulting effect from small drips/leaks will be so mild that meaningful measurement, detection, or evaluation are not possible, chemical contamination from the proposed action is not likely to affect water quality.
4. Safe passage. Improvements in geomorphic conditions will benefit channel complexity and high flow refuge. These elements provide fish places to hide from high water velocities during winter flows and protects them from washing out to the ocean prematurely. However, the rate of improvement will be slower than if no extraction occurred. The enhancement actions will benefit safe passage.
5. Substrate. Gravel excavation removes substrate, but will not alter the character and consistency of the substrate. Newly exposed substrate will provide the same benefits as that removed.
6. Water temperature. Improvements in geomorphic conditions due to project design features will benefit water temperature by reducing the width to depth ratio, particularly between the Highway 101 Bridge and RM 6.5. A lower width to depth ratio decreases the amount of solar radiation received during summer months, thereby reducing heating. However, the improvement will be slower than if no extraction occurred.

Essential Fish Habitat Conservation Recommendations

The NMFS believes that the following five conservation measures are necessary to avoid, mitigate, or offset the impact of the proposed action on EFH. Three of these conservation recommendations are a subset of the ESA terms and conditions.

1. Gravel Extraction. Minimize adverse effects from gravel extraction activities by applying permit conditions as stated in Term and Condition 1 in the accompanying Opinion.
2. Enhancement Activities. Minimize adverse effects from other enhancement activities by applying permit conditions as stated in Term and Condition 2 in the accompanying Opinion.
3. Monitoring. Ensure completion of a monitoring and reporting program to confirm the project is meeting the objective of limiting adverse effects from permitted activities, as stated in Term and Condition 3 in the accompanying Opinion.

4. Dredge Spoils. The Corps should coordinate with the permittees and NMFS to develop methods of removing sand and gravel from the Corps dredging ship when it maintains the navigation channel. This material is commercially viable and removing it from the ship may have less impact to fisheries resources than bar extraction.
5. Permitting Process. The Corps should lead coordination efforts with all state and federal agencies involved in gravel permitting to refine the interagency cooperative process for development of future gravel mining RGPs.

Statutory Response Requirement

Federal agencies are required to provide a detailed written response to NMFS' EFH conservation recommendations within 30 days of receipt of these recommendations [16 U.S.C. 1855 (b)(4)(B)]. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse affects of the activity on EFH. If the response is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations. The reasons must include the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

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.

Supplemental Consultation

The Corps 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(k)].

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) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section addresses these Data Quality Act (DQA) components, documents compliance with the DQA, and certifies that this Opinion has undergone pre-dissemination review.

Utility: Utility principally refers to ensuring that the information contained in this document is helpful, serviceable, and beneficial to the intended users.
The Opinion in this document concludes that the proposed Chetco River RGP will not jeopardize SONCC coho salmon or result in the adverse modification of SONCC coho salmon critical habitat. Therefore, the Corps can authorize this action in accordance with its authority under

section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act. The intended users are the Corps and their permittees.

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

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.

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 the 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.

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APPENDIX A: EFFECTS DETERMINATION FOR SOUTHERN EULACHON AND SOUTHERN GREEN STURGEON.

This appendix was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402 and agency guidance for preparation of letters of concurrence. The Corps concluded that the proposed action is not likely to adversely affect (NLAA) southern eulachon, southern green sturgeon, or southern green sturgeon designated critical habitat. The applicable standard to find that a proposed action is NLAA listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial.[22] Discountable effects cannot be reasonably expected to occur. Insignificant effects are so mild that the effect cannot be meaningfully measured, detected, or evaluated. Beneficial effects are contemporaneous positive effects without any adverse effect to the listed species or critical habitat, even if the long-term effects are beneficial. The NMFS reviewed the information provided by the Corps and their applicant, as well as reviewed existing information for the action area in order to make this conclusion, and concludes that the action, as proposed, is NLAA southern eulachon, southern green sturgeon, and designated critical habitat for southern green sturgeon. Refer to the Opinion for a description of the proposed action and action area.

Species and Critical Habitat in the Action Area

Southern eulachon inhabit several riverine and estuarine systems along the west coast and population sizes vary between these systems. The ODFW has confirmed the existence of southern eulachon in the Chetco River.[23] Willson *et al.* (2006) lists the Chetco River as a spawning population. Southern eulachon adults may be present in the estuary from June to November at low abundance. Adults return to the estuary and freshwater from December to May, with peak entry and spawning in February and March (WDFW and ODFW 2001). Spawning occurs in the rivers and tributaries just upstream from the estuary. Eggs hatch in 20 to 40 days (Smith and Saalfeld 1955, Parente and Snyder 1970, Berry and Jacob 1998, and Langer *et al.* 1977). As soon as eggs hatch, the stream quickly carries larvae downstream to the ocean or estuary in a matter of hours or days (Parente and Snyder 1970, Samis 1977, and Howell 2001) where they feed on phytoplankton and zooplankton. Estuarine larvae grow from April through August and, as soon as they have the ability, disperse to the ocean. The Chetco River estuary is not proposed critical habitat for southern eulachon.

Subadult and adult southern green sturgeon use the Chetco River estuary as habitat for growth and development to adulthood and for adult and subadult feeding. Southern green sturgeon are known to congregate in coastal waters and estuaries, including non-natal estuaries. Beamis and Kynard (1997) suggested that southern green sturgeon move into estuaries of non-natal rivers to feed. Data from Washington studies indicate that southern green sturgeon will only be present in estuaries from June until October (Moser and Lindley 2007). While in the Chetco River estuary, they likely seek out the deepest habitats to rest during low tides and feed on invertebrates in

[22] U.S Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). 1998. Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences. March, 1998. Final. pp. 315.

[23] E-mail from Todd Confer, Oregon Department of Fish and Wildlife, to Jeff Young, NMFS (June 14, 2010) (Providing data for estuary sampling in Southwest, OR).

shallow water during high tides. The Chetco River estuary is not designated critical habitat for southern green sturgeon.

Effects on Listed Species

The Opinion detailed effects of the action on the environment, including; (1) Slowing the rate of improvement of geomorphic conditions, (2) potential chemical contamination; (3) potential injury due to in-water equipment use; and (4) increased overwintering habitat from enhancement actions.

The NMFS concludes that all effects of the action, as proposed, are insignificant or discountable and are therefore NLAA southern eulachon, southern green sturgeon, proposed southern eulachon critical habitat, and designated southern green sturgeon critical habitat. The effects on geomorphic conditions will be insignificant because: (1) Individuals spend little time in the action area; (2) the magnitude of effect on habitat features beneficial to these species will be small; and (3) geomorphic conditions will improve each year during the permit cycle. The effects from small contaminant drips/leaks will be insignificant because: (1) The low volume of contaminant; (2) the high volume of water in the river; and (3) the short duration individuals of these species spend in the action area. The effects of a large contaminant spill are discountable because the probability of a large spill occurring is not reasonably likely. The effects from heavy equipment use are discountable because neither species will be in the river near the crossing sites when operators install the bridges. The short-term effects of the enhancement actions are discountable because neither species will be in the river near the sites when constructed. The long-term effects of the enhancement actions are wholly beneficial.

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January 28, 2011

Ms. Judy Linton
U.S. Army Corps of Engineers
ATTN: CENWP-OP-GE
1600 Executive Parkway, Suite 210
Eugene, OR 97401

RE: Modified 401 Water Quality Certification for Chetco River Gravel Removal Region General Permit – USACE #2008-00071

Dear Ms. Linton:

The Department of Environmental Quality (DEQ) has reviewed the modified U.S. Army Corps of Engineers (USACE) Regional General Permit (RGP) application materials #2008-00071 [Department of State Lands (DSL) permit #44250-RF]. The permittees, Freeman Rock, Inc., Tidewater Contractors, Inc., and South Coast Lumber, propose to remove during 2011 through 2016 from in-stream gravel bars at approximately River Mile (RM) 4.5 to 5.5, 7.0 to 8.0, and 10.2 on the Chetco River, near the City of Brookings, in Curry County, Oregon (Sections 34 & 35, T40S/R13W), (Sections 24 & 25, T40S/R13W), and (Section 12, T40S/R13W).

Background and Project Description: A 401 Water Quality Certification (WQC) and association Evaluation and Findings Report were issued on September 21, 2010 for the proposed activities. However, USACE requested on October 28, 2010 that DEQ consider a modification of the proposal. Following re-evaluation, DEQ has prepared a modified Findings Report and 401 WQC that invalidates that previously issued.

Individual USACE permits have been sought by the applicants for gravel removal at the proposed bars as well as other bars. Individual 401 WQCs, supported by a DEQ Evaluation and Findings Report, were last issued for Freeman Rock, Inc. (USACE #2006-00927) and Tidewater Contractors, Inc. (USACE #2007-00196) for the above associated locations on August 27, 2007, and expired on August 26, 2009.

The modified RGP proposal allows removal of gravel, by these three permittees, for commercial purposes, from three locations within the Chetco River, from 2011 through 2016, in the event that adequate influx of gravel has been determined to have occurred annually. Specific parameters and limitations have been established that include: reserve volumes; bar form retention requirements; by bar allocations; general construction details (during gravel removal); an adaptive management strategy; a monitoring plan, and enhancement actions. Details of each of these were provided in the USACE RGP Public Notices and minor revisions were offered in the USACE Biological Assessment. DEQ considered the final version with modifications included in the Description of Proposed Project in Section 4 of the DEQ Evaluation and Findings Report (attached).

The Chetco River is classified as water quality limited under the Clean Water Act on Section 303(d) list of impaired waterbodies for the parameters of: Flow Modification; Habitat Modification; Temperature; and with potential concern for the parameter of Alkalinity.

The above listed parameters impair the following beneficial uses in the Chetco River: Water Supply (Public, Private, Industrial); Livestock Watering; Irrigation; Fish and

ATTACHMENT 2

Aquatic Life (Anadromous Fish Passage; Salmon and Steelhead Spawning; Salmon and Trout Rearing and Migration; Resident Fish and Aquatic Life; Cold-Water Aquatic Life); Wildlife and Hunting; Fishing; Boating; Water Contact Recreation; Aesthetic Quality; Hydropower; and Commercial Navigation & Transportation.

DEQ's Evaluation and Findings Report on the proposed RGP (attached) describes the development of a Regional General Permit (RGP) through a multi-agency and industry team, analyzes potential water quality and beneficial use impacts as a result of the proposal, and finds that 401 WQC conditions are required to protect water quality and beneficial uses.

DEQ does not anticipate any long-term violations of state water quality standards, including Oregon Administrative Rule (OAR) 340-041-0004, Antidegradation Policy for Surface Waters, provided the conditions which follow are incorporated into the USACE permit and implemented by the permittees.

CONDITIONS

1. **Duration of Certificate**: This 401 Water Quality Certification (WQC) expires five years from the date of issuance of the USACE Regional General Permit. A new 401 WQC must be obtained prior to any substantial modification of the USACE permit. Prior to evaluating any subsequent gravel removal at these sites for 401 WQC, DEQ must receive with adequate time to review all required reporting (e.g., surveying, monitoring, planting establishment photo documentation, additional data collection, and adaptive management evaluations).

2. **Implementation of project as described:** The permittees must operate to meet the requirements of the RGP as outlined in the Description of Proposed Project in Section 4 of the DEQ Evaluation and Findings Report (attached) that includes: Reserve Volumes; Bar Form Retention; Bar Allocations; General Construction Details; Adaptive Management Strategy; Monitoring Plan; and Enhancement Actions, and all conditions of this 401 WQC.

    a. As part of the annual review team, DEQ will provide technical assistance to permittees and their staff on implementation of monitoring and reporting requirements, best management practices and other pollution prevention and control techniques, and spill containment, cleanup and notification requirements per this 401 WQC.

    b. This WQC is invalid if the project is operated in a manner not consistent with the project description contained in the DEQ Evaluation and Findings Report, including additional data collection for which funding has not yet been confirmed.

    b. Failure to comply with the conditions of this certification may subject the applicant to revocation, civil penalties or other administrative or judicial action.

3. **Turbidity:** All practical Best Management Practices (BMPs) on disturbed banks and bars and within the stream must be implemented to minimize turbidity. Any activity that causes turbidity to exceed 10% above natural stream turbidities is prohibited except as specifically provided below.

a. **Monitoring:** Turbidity monitoring shall be conducted and recorded as described below. Monitoring shall occur each day during daylight hours when gravel removal from bars, in-stream placement of temporary bridges, or any other in-water work is being conducted. A properly and regularly calibrated turbidimeter is required.

   i. Representative Background Point: a sample must be taken every four hours at a relatively undisturbed area approximately 100 feet upcurrent from disturbing activities to establish background turbidity levels for each monitoring cycle. Background turbidity, location, time, date, and tidal stage must be recorded prior to monitoring downcurrent.

   ii. Compliance Point: Monitoring shall occur every four hours approximately 200 feet down current from the disturbing activities and be compared against the background measurement. The turbidity, location, time, date, and tidal stage must be recorded for each sample.

b. **Compliance:** Results from the compliance points must be compared to the background levels taken during each monitoring interval. Exceedances are allowed as follows:

MONITORING WITH A TURBIDIMETER		
ALLOWABLE EXCEEDANCE TURBIDITY LEVEL	ACTION REQUIRED AT 1ST MONITORING INTERVAL	ACTION REQUIRED AT 2ND MONITORING INTERVAL
0 to 5 NTU above background	Continue to monitor every 4 hours	Continue to monitor every 4 hours
5 to 29 NTU above background	Modify BMPs & continue to monitor every 4 hours	Stop work after 8 hours at 5-29 NTU above background
30 to 49 NTU above background	Modify BMPs & continue to monitor every 2 hours	Stop work after 2 hours at 30-49 NTU above background
50 NTU or more above background	Stop work	Stop work

If an exceedance over the background level occurs, the permittees must modify the activity and continue to monitor every two or four hours as specified above. If an exceedance over the background level continues after the second monitoring interval, the activity must stop until the turbidity levels return to background. If, however, turbidity levels return to background at second monitoring level due to implementation of BMPs or natural attenuation, work make continue with appropriate monitoring as above.

If an exceedance occurs at: 50 NTU or more over background; 30 NTU over background for 2 hours; or 5-29 NTU over back ground for 8 hours, the activity must stop immediately for the remainder of that 24-hour period.

c. **Reporting:**

   i. In the event of a turbidity exceedance of 50 NTU or more above background levels, the permittees must immediately notify all drinking water intake operators within a mile of the disturbance.

   ii. Copies of daily logs for turbidity monitoring must be available to DEQ, USACE, NMFS, and ODFW upon request and submitted to DEQ

by December 31 of each year following extraction.

iii. The log must include: background NTUs, compliance point NTUs, comparison of the points in NTUs, location, time, and tidal stage for each reading. Additionally, a narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions. An example log form is attached to assist permittees in complying with these monitoring requirements.

d. **BMPs to Minimize In-stream Turbidity:**

i. Sequence/Phasing of work – The permittees must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances;

ii. Equipment control - All excavation and relocation of material by machinery must be completed so as to minimize turbidity. All practicable techniques such as employing an experienced equipment operator, not dumping partial or full buckets of material into the wetted stream, adjusting the volume, speed, or both of the load, or by using alternate equipment shall be implemented;

iii. Machinery will not drive into the flowing channel, except for the single occasions each season to place and then remove a temporary bridge structure, in the event it is required;

iv. Excavated material will 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; and,

v. Use of containment measures such as silt curtains, geoblocks, geotextile fabric, and silt fence will be implemented and properly maintained in order to minimize in-stream sediment suspension and resulting turbidity.

4. **Erosion Control:** While each permittee is required to obtain and comply with an NPDES 1200-A permit for processing facilities discharges, erosion control is also required at gravel bars during gravel removal. The permittees are referred to DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005, at: http://www.deq.state.or.us/wq/stormwater/escmanual.htm, for technical assistance in choosing and implementing effective erosion control measures to prevent sediment and other pollutants from entering waters of the state uncontrolled. The following erosion control measures (and others as appropriate) must be implemented during gravel removal and transport to processing facilities:

a. Filter bags, sediment traps or catch basins, vegetative strips, berms, Jersey barriers, fiber blankets, bonded fiber matrices, geotextiles, mulches, wattles, sediment fences, or other measures used in combination shall be used to prevent movement of soil from banks or bars into waterways or wetlands;

b. An adequate supply of materials needed to control erosion must be maintained at the project construction site;

c. To prevent stockpile erosion, use compost berms, impervious materials or other equally effective methods, during rain events or when the stockpile site is not moved or reshaped for more than 48 hours;

d. Erosion control measures must be inspected and maintained daily, or more frequently as necessary, to ensure their continued effectiveness and must remain in place until all exposed soil is stabilized;

   i. If monitoring or inspection shows that the erosion and sediment controls are ineffective, mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.

   ii. Remove sediment from erosion and sediment controls once it has reached 1/3 of the exposed height of the control.

e. Flag or fence off avoided wetlands and newly planted areas to protect from disturbance and/or erosion.

f. Excavated material must be placed on upland or bar areas, outside the influence of rising water, with stable slopes and appropriate protection around the circumference to prevent materials from moving into waterways or wetlands; and,

g. Sediment from disturbed areas or in any way able to be tracked by vehicles onto pavement must not be allowed to leave the site in amounts that would reasonably be expected to enter waters of the state and impair water quality. Placement of clean aggregate at all construction entrances to roadways, and other BMPs such as truck or wheel washes if needed, will be used when earthmoving equipment will be leaving the sites and traveling on paved surfaces.

5. **Spill & Incident Prevention and Reporting**:

a. Adequate spill response materials (e.g., straw matting/bales, geotextiles, booms, diapers, and other absorbent materials, shovels, brooms, containment bags) must be maintained with ready access at vehicle staging areas and permittees and staff must be trained to effectively deploy them.

b. In the event that petroleum products, chemicals, or any other deleterious materials are discharged into state waters, or onto land with a potential to enter state surface or ground waters, the discharge must be promptly reported to:

   i. The Oregon Emergency Response Service (OERS, 1-800-452-0311); and,

   ii. All drinking water intake operators within a mile downstream of the spill.

   iii. Containment and cleanup must begin immediately and be completed as soon as possible.

c. If the project operations cause a water quality problem which results in distressed or dying fish, the permittees must immediately: cease operations; take

appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, ODFW, NMFS and USFWS, as appropriate.

6. **Vegetation Protection and Restoration:** Riparian, wetland, and shoreline vegetation in the authorized project area must be protected from unnecessary disturbance to the maximum extent practicable through:

   a. Minimization of project and impact footprint;

   b. Designation of staging areas and access points in open, upland areas;

   d. Fencing and other barriers demarking construction areas; or

   e. Use of alternative equipment.

   If authorized work results in unavoidable vegetative disturbance; riparian, wetland and shoreline vegetation must be successfully reestablished to function for water quality benefit at pre-project levels or improved, at the completion of authorized work.

7. **Planting and Enhancement Actions Success:**

   a. By December 31st of each year following extraction and planting, the permittees must submit:

      i. Photo documentation of conditions in the bar buffer areas prior to planting and after planting per the requirements the Description of Proposed Project in Section 4.3.8 of the DEQ Evaluation and Findings Report (attached). A measured reference, such as a yardstick, must be included in the photos such that compliance with required distances can be confirmed; or,

      ii. Photo documentation of conditions prior to and after installing plantings per direction of the annual review team, in the event that the prescribed plantings are determined to be ineffective.

   b. By August 1st of the year following extraction and planting, and each subsequent year until 2017, the permittees must submit photo documentation of successful planting establishment.

   c. Prior to implementing proposed enhancement actions, the permittees must consult with DEQ and other relevant agencies on design and implementation of proposed actions.

   d. If DEQ determines that water quality impairments may result from specific actions, additional conditions may be applied as an addendum to this 401 WQC. Conditions may include specific methods or techniques and additional BMPs or monitoring.

   e. If DEQ determines that water quality functions are not adequately replaced or in the

event planting establishment or enhancement measures fail, additional planting or enhancement/restoration actions may be required as mitigation. DEQ will determine these additional actions with input from other relevant agencies and the permittees and issue necessary conditions as an addendum to this 401 WQC.

8. A copy of this WQC letter must be kept on the job site and readily available for reference by the applicants and their personnel and any contractors, USACE, DEQ, NMFS, USFWS, ODFW, DSL, DLCD, OSP and other appropriate state and local government inspectors.

9. DEQ reserves the option to modify, amend or revoke this 401 WQC, as necessary, in the event new information indicates that the project activities are having a significant adverse impact on state water quality or beneficial uses.

10. DEQ requires site access upon request.

11. The permittees must notify the DEQ of any change in the ownership, scope, or construction methods of the project subsequent to certification.

If USACE or the permittees are dissatisfied with the conditions contained in this certification, a hearing may be requested. Such request must be made in writing to DEQ's Office of Compliance and Enforcement at 811 SW 6th Avenue, Portland Oregon 97204 within 20 days of the mailing of this certification.

DEQ hereby certifies that this project complies with the Clean Water Act and state water quality standards, if the above conditions are strictly adhered to. If you have any questions, please contact Alexandra Liverman at 503.229.6030.

Sincerely,

Sally Puent,
Water Quality Manager
Northwest Region

T:AL.certlint.08-71.ChetcoRGP.mod.final

Attachments: DEQ 401 Evaluation and Findings Report
DEQ Antidegradation Evaluation
Example turbidity monitoring form

cc: Applicant
Permittees
Bob Lobdell, DSL (Salem)
Chuck Wheeler, NMFS (Roseburg)
Janine Castro, USFWS (Portland)
Yvonne Vallette, EPA (Portland)
Patty Snow, ODFW (Salem)
Juna Hickner, DLCD (Salem)
commenters
adjacent landowners

4. DESCRIPTION OF PROPOSED PROJECT

The proposal is to remove gravel for commercial purposes from three locations within the Chetco River from 2011 through 2016 and includes the following specific parameters and limitations: reserve volumes; bar form retention requirements; by bar allocations; general construction details (during gravel removal); an adaptive management strategy; a monitoring plan, and enhancement actions. Details of each of these are provided below.

4.1 Reserve Volumes

After March 31 of each permitted year, USACE will predict the amount of gravel recruited past the USGS Chetco River gauging station (14400000) at RM 10.5 from April 1 of the previous year to March 31. A determination of the gravel available for extraction will be based on the amount recruited within the previous year, as determined using the methodology described in Wallick et al, 2010. The first 26,000 cubic yards (cy) of gravel recruited into the Lower Chetco River will be reserved from extraction as a maintenance reserve. Extraction will not occur during years when less than 26,000 cy recruits past the USGS stream gage. This 26,000 cy reserve volume per year was developed by the multi-agency technical group for the Chetco River system using information derived from the USGS Chetco Report (Wallick et al., 2010). This reserve volume constitutes the annual volume of material recruited into the lower Chetco River necessary to maintain the existing condition of the gravel bars.

When the reserve volume has been met, operators may extract up to 80% of the recruited volume over 26,000 cy recruited past the USGS stream gage. This leaves at least 20% of the volume over the maintenance reserve to remain in stream to improve habitat features in the lower Chetco River.

If the 26,000 cy reserve volume is not met one year, the deficit will be carried over to the next year until the cumulative influx is sufficient to exceed 26,000 cy per year. The total for the two years must exceed 52,000 cy for harvest to occur. If the 52,000 cy cumulative reserve volume is not met in two years, the deficit will be carried over to the third year, etc.

If the 26,000 cy reserve volume is met, but the operators choose not to remove any of the gravel allowable for extraction, the surplus can be carried over to the following year, subject to the reserve volume and 80 % limitation. However, once extraction occurs, operators may not carry over into a future extraction any authorized amounts that they did not remove during that year.

If a 5 year influx event occurs (118,000 cy or more gravel recruited), the 26,000 cy maintenance reserve volume will still be subtracted from the Parker Equation estimated recruitment to determine the total amount of aggregate available for extraction from the system. However, neither the 80% cap nor the bar-specific allocations (47:47:6) will apply to the 5-year event scenario. Aggregate volumes available for extraction from specific locations will be determined by the amount of aggregate that recruits to the extraction location (based on pre-harvest surveys) and the application of appropriate bar form retention criteria.

For extraction in 2011, USGS will calculate the approximate cubic yardage transported in 2011. If the amount exceeds the 26,000 cy reserve, the reserve will be subtracted from the total transported

and, unless there has been a 5 year influx or greater event, the 80% limitation will be applied to the remainder to determine an amount of transported gravel available for extraction in 2011.

4.2 Bar Form Retention

To retain the hydraulic control exerted by bars on the stream channel, the operators will retain the form and function of bars by using the following restrictions:

4.2.1 Head of bar buffer - The operators will protect the upper third of the bar from any excavation activities.
4.2.2 Lateral buffer - The undisturbed setback area between the low flow channel and the active mining area will be no less than 20% of the active channel width.
4.2.3 Excavated backwater length - Not greater than 2/3 of the bar feature, and will include the head slope and side slope of the backwater.
4.2.4 Excavated backwater depth - The maximum depth will be equal to the low flow elevation at the downstream end. The backwater area will be sloped to prevent fish entrapment.
4.2.5 Excavated backwater head slope - No steeper than 10:1 (horizontal to vertical).
4.2.6 Excavated backwater side slopes - No steeper than 4:1 (horizontal to vertical).

When sufficient gravel influx occurs, the annual review team may conduct a pre-harvest site visit to evaluate existing bar conditions. The annual review team will establish extractable volumes for each site based on recruited volumes within the system, pre-harvest surveys, and site specific bar conditions. The review team will also determine if site specific conditions warrant modifications to the bar form retention criteria under the adaptive management process described below in Section 4.5.

4.3 Bar Allocations

Gravel available for extraction is allocated by location at the rates of: 47% for Freeman; 47% for Tidewater; and 6% for South Coast Lumber. However, permittees may not be able to extract their full volume allotment due to low recruitment amount at their location or bar size constraints. The review team may deviate from this per bar allocation for any given year as part of the adaptive management process described below in Section 4.5.

4.4 General Construction Details

Proposed gravel removal actions are constrained by the following features:

4.3.1 Extraction plan - An extraction plan at each location will include the survey information that shows how much gravel was recruited at the specific location proposed for gravel extraction, the proposed design of extraction, any proposed deviation from the default project design features.
4.3.2 Equipment and access - The permittees will use paddlewheel scrapers, excavators, and front-end loaders to excavate sand and gravel. Dump trucks are generally used to haul material to the upland stockpile site or processing facility.
4.3.3 Temporary crossings - Temporary crossings of the Chetco River with a flatcar bridge may

be used to access gravel bars at some locations. The only in-water river crossing will be for installation and removal of the bridge. Native material from authorized excavation areas may be used to form footings and ramps at each end of the bridge. If a temporary crossing of a dry channels is necessary, the operator will construct a low water ford or install culverts to provide fish passage if water levels rise during the removal season. The permittees will remove all temporary crossings, including temporary fill material, by the end of the approved in-water work window.

4.3.4 Vehicle staging and cleaning - Permittees will designate vehicle staging areas for cleaning, maintenance, refueling, and monitoring for petroleum leaks and repairs. These staging areas will be no closer than 150' from the ordinary high water line of any stream, waterbody, or wetland unless otherwise approved in writing by USACE (with input from DEQ as needed). The permittees will steam-clean all equipment prior to the start of each excavation season and as needed during the season. Wash and rinse water will not discharge into waterways. Each day prior to leaving the staging area to perform excavation activities, permittees will inspect vehicles for fluid leaks and repair them before leaving the staging area. The permittees will document all inspections, log them in a record, and make them available to USACE and DEQ upon request.

4.3.5 Stockpiles - No material will be stockpiled below the ordinary high water mark.

4.3.6 Stormwater management - To minimize the amount of sediment released to the Chetco River from upland processing activities, permittees will meet DEQ requirements. These requirements are specified in the National Pollutant Discharge Elimination System (NPDES) 1200-A general permit that each permittee is subject to. The turbidity of stormwater released from the upland sites has to be less than 160 Nephelometric Turbidity Units (NTUs).

4.3.7 Spill Prevention and Response - The NPDES permits also require implementation of a spill prevention and response plan to minimize the potential of a contaminant spill and the size of a spill if one were to occur at a processing site.

4.3.8 In-water work window - The permittees will complete all in-water work between July 15 and September 30 unless otherwise approved in writing by NMFS and ODFW.

4.3.9 Gravel bar plantings - In order to stabilize the bars and provide shade to water edges, the permittees will plant bare areas adjacent to side channels and at the protected head of bar and lateral buffer areas. Planting will occur at least 60 days prior to anticipated high water. Permitees may plant in alternative locations or using alternate methods if approved by the review team as part of the adaptive management procedures. Planting will include:

4.3.9.1 Live willow stakes, harvested from relatively straight, disease- and insect-free branches;

4.3.9.2 Stakes that are a minimum of 18 inches in length and between ¾ to 3 inches in diameter;

4.3.9.3 A density of approximately 1 stake every 2 to 5 square feet; and

4.3.9.4 Vertical orientation to a depth of approximately 80% of the length of each stake below the bar surface.

4.5 Adaptive Management Strategy

The adaptive management strategy will allow the annual review team to modify project design features (including allowable extraction volumes, bar form retention requirements, and by bar

allocations), if site specific conditions warrant, and offer technical assistance on development and implementation of enhancement actions. The review team will consist of representatives from USACE, NMFS, USFWS, EPA, DSL, ODFW, DLCD, and DEQ. Representatives of the gravel industry may participate in the pre-harvest site visits to answer questions regarding the proposed extraction plans or other issues as may arise. The annual review team will base the determination of whether modifications are appropriate on the evaluation of a pre-harvest plan and any changes that have occurred to the physical and biological characteristics of the river and extraction sites. Adaptive management helps maintain flexibility by recognizing that uncertainties in gravel recruitment and deposition exist and gives the annual review team the ability to modify project design features when the modifications maintain or improve physical and biological characteristics of the lower Chetco River.

4.6 Monitoring Plan

The following activities will occur annually:

4.6.1 USACE will collect flow data at the USGS Chetco River gauging station (14400000) at RM 10.5 during the period of April 1 through March 31, and use the Parker Equation (Parker 1990a, 1990b) to predict gravel recruitment.

4.6.2 A qualified geologist will sample bedload twice annually (subject to available funding) at the USGS Chetco River gauging station until 10 measurements have been obtained.

4.6.3 In years where gravel extraction occurs, the permittees will conduct a pre-harvest survey at least 30 days before initiation of gravel extraction. Survey requirements are as follows:

4.5.6.1 A registered surveyor will perform the survey. Survey accuracy will be +/- 0.1 foot, unless the annual review team agrees to an alternate level of accuracy.

4.5.6.2 The survey will extend longitudinally from one pool-riffle complex below extraction to one pool-riffle complex above extraction.

4.5.6.3 The survey will extend laterally to the extents of the flood-prone area, defined as an elevation twice the maximum bankfull depth at a riffle crest (or at an alternative point set by the annual review team).

4.5.6.4 Elevation data will reference a standard geodetic datum (NGVD 29 or NAD 83. etc.).

4.5.6.5 The survey will reference at least one permanent monument. The monument should be set outside the active floodplain, near a roadway utility pole or other public works infrastructure, or near a permanent site improvement such as a gate or driveway.

4.6.4 When gravel extraction occurs, the permittees will conduct a post-harvest survey (using the pre-harvest survey requirements) no more than 30 days after the completion of operations for the season.

4.6.5 The permittees will compile a post-excavation report and provide it to the review team agencies by December 31 each year excavation occurs. The report will contain the following:

4.6.5.1 Pre-extraction surveys.
4.6.5.2 Photos from established photo points with pictures being taken once a week during the removal season.
4.6.5.3 Post-extraction surveys.
4.6.5.4 A report on volumes extracted during the season.
4.6.5.5 A status report on restoration activities conducted during the excavation season, if any.

4.5.6 Multi-Year Evaluation – During the fourth gravel extraction season the following analyses will be conducted. These analyses will allow the review team to evaluate the effects of the proposed action on the Chetco River system during the course of the five-year permit life, and will assist the review team in making an informed decision regarding the need for modifications to the RGP. A gravel extraction season occurs even if no aggregate is removed. These analyses will be funded by the permittees and final results must be provided to DEQ no later than March 1st of the year the fifth gravel extraction season occurs.

4.5.6.1 A system wide LIDAR (Light Detection and Ranging) analysis must be flown along the entire Lower Chetco River (RM 0 to 12) to evaluate: longitudinal elevations; bank conditions; appropriateness of reserve volumes; and adverse impacts, to determine if adjustments to the RGP elements are warranted. LIDAR must be flown during low flow periods (no earlier than June in typical years). The LIDAR flight must be conducted in a manner that ensures the resulting data can be compared to the previous LIDAR.

4.5.6.2 Collect particle size samples from the surface and subsurface of gravel bars sampled in 2008. Sample locations are identified in the USGS Chetco River sediment transport study (Wallick, et al, 2010) See page 32 for methods and Table 4 for sampling sites). Data collection must occur during low flows (August – September).

4.7 Enhancement Actions

The permittees will implement enhancement actions in the Chetco River system during the term of the RGP. Actions currently proposed include:

4. 7.1 Social Security Bar. This project will create overwintering habitat for coho salmon by constructing an alcove and enhancing a side channel at social security bar. The permittees will create the alcove by removing material from the downstream end of the bar. The permittees will enhance the side channel by removing material from the existing side channel at the upper end of the bar.
4. 7.2 Jack Creek. Freeman Rock, Inc. will construct a high flow channel paralleling Jack Creek to provide coho salmon overwintering habitat. The channel parallel to Jack Creek will inundate with water during high flow from the Chetco River.

The annual review team will approve the enhancement projects and develop the final project design features. The purpose of these projects is to treat the most limiting factor (overwintering habitat) for coho salmon in the Chetco River. Any part of the proposed enhancement actions determined not to provide benefit to the physical and biological conditions of the streams will not occur.

5. ISSUANCE OF PUBLIC NOTICE

USACE issued a Public Notice of the proposal jointly with DSL on March 5, 2010. The notice was revised and re-issued on June 7, 2010 and again on July 27, 2010, both inclusive of DEQ's 401 WQC Public Notice in accordance with Oregon Administrative Rule (OAR) 340-048-0032.

On August 11, 2010, DEQ received a request for a public hearing on the proposed 401 WQC from the Northwest Environmental Defense Center (NEDC). On August 25, 2010, DEQ issued a public notice announcing the public hearing to be held in Brookings Oregon on September 7, 2010, with comments due by September 10, 2010. The comment deadline was subsequently extended to September 17, following a request by NEDC.

On September 21, 2010, issued a final Evaluation and Findings Report and 401 WQC, together referred to as the 401 decision. However, USACE requested modification of the 401 decision on October 28, 2010. DEQ prepared a draft modified 401 decision and published it for public comment from November 8, 2010 to December 8, 2010.

All public comments that were received during the comment periods and public hearing, which DEQ determined to be relevant to water quality and beneficial uses, have been summarized. A table assigning numbers to commenters has been included as an Appendix to this document. Comments are discussed within Section 7 of this document and are attributed to commenters using the assigned numbers.

6. APPLICABLE WATER QUALITY REGULATIONS AND DEQ EVALUATIONS

Oregon's water quality regulations are contained in Oregon Administrative Rules (OAR) Chapter 340, Divisions 40 through 56 and 71. Division 40 contains the state's groundwater standards. Division 41 entitled "Water Quality Standards: Beneficial Uses, Policies, and Criteria for Oregon" contains the surface water standards, and is the most significant with respect to Section 401 certification evaluation of a proposed project. The requirements and standards set forth in Division 41 were adopted to comply with the surface water quality protection provisions of both state and federal law. The water quality standards in Division 41 are composed of three elements: beneficial uses, water quality criteria (both narrative and numeric), and the antidegradation policy.

6.1 Protection of Beneficial Uses

Both Oregon Law and the federal Clean Water Act are structured to require that water quality be protected and maintained so that existing and potential beneficial uses of public waters are not impaired or precluded by degraded water quality. The regulatory approach used is to:

1. Identify beneficial uses that are recognized as significant with regard to water quality

Oregon
Theodore R. Kulongoski, Governor

Oregon Coastal Management Program
Department of Land Conservation and Development
635 Capitol Street, Suite 150
Salem, Oregon 97301-2540
Phone (503) 373-0050
FAX (503) 378-6033
www.oregon.gov/LCD/OCMP

December 15, 2010

Mr. Kevin Moynahan
Chief, Regulatory Branch
Portland District
US Army Corps of Engineers
PO Box 2946
Portland, OR 97208-2946

RE: Chetco RGP Supplemental Consistency Determination

Dear Mr. Moynahan:

Thank you for your letter of Nov. 9, 2010, informing the Oregon Department of Land Conservation and Development (DLCD) of proposed changes to the U.S. Army Corps of Engineers (Corps) *Regional General Permit (RGP) for Commercial Gravel Mining in the Chetco River*. DLCD has reviewed the proposed changes and has determined that the proposed activities are not subject to the supplemental coordination provision of 15 CFR § 930.46.

15 CFR § 930.46(a) provides that:

> *For proposed Federal agency activities that were previously determined by the State agency to be consistent with the management program, but which have not yet begun, Federal agencies shall further coordinate with the State agency and prepare a supplemental consistency determination if the proposed activity will affect any coastal use or resource substantially different than originally described.*
>
> *Substantially different coastal effects are reasonably foreseeable if: (1) The Federal agency makes substantial changes in the proposed activity that are relevant to management program enforceable policies; or (2) There are significant new circumstances or information relevant to the proposed activity and the proposed activity's effect on any coastal use or resource.*

The Corps submitted a determination to DLCD in August of 2010 that the proposed RGP is consistent to the maximum extent practicable with the Oregon Coastal Management Program (OCMP). DLCD concurred in a letter dated October 18, 2010. DLCD's concurrence was based on the proposed project's compliance with Oregon's enforceable policies, as demonstrated by authorizations from the Oregon Department of Environmental Quality and Curry County, and a pending parallel General Authorization from the Department of State Lands. The Corps has not yet issued the RGP, thus the proposed project has not yet begun.

ATTACHMENT 3

DLCD's concurrence corresponded to the proposed activities described in the Corps' July 27, 2010, public notice. As stated in your Nov. 9 letter, the Corps proposes two changes and provides one clarification to the RGP:

1. Considerations for aggregate extraction will begin with the 2011 gravel year, and aggregate recruited into the Chetco River system during the 2009 and 2010 gravel years will not be factored into the amount available for extraction during the 2011 gravel year (change);
2. The Jack Creek large wood restoration project will not occur (change); and
3. The Review Team will consist solely of agency representatives; private members will not participate as team members (clarification).

DLCD has determined that the above changes will not affect any coastal use or resource substantially differently than originally described. The project location remains the same, as does the manner in which the project will be carried out, including the extraction strategy, bar retention strategies, bar allocations, general construction requirements, and adaptive management provisions. The proposed changes regarding the start date for extraction considerations and the related restoration action are not substantial changes relevant to OCMP enforceable policies, and do not present significant new circumstances or information about the proposed activity's effects on costal uses or resources. Thus, DLCD has determined that the proposed activities do not require a supplemental consistency determination.

The CZM condition contained in DLCD's Oct. 18, 2010, concurrence letter remains in effect:

> **Mandatory CZM Condition**
> Authorization for a project in Oregon's coastal zone under this *Regional General Permit for Gravel Mining in the Chetco River* is valid only if required permits or other authorizations are obtained from Curry County, the Department of State Lands, and the Department of Environmental Quality before work is initiated under the permit. All conditions placed on an authorization or permit by the local government or state agencies are incorporated by reference into the Oregon Coastal Management Program's conditions for consistency concurrence.

If you have any questions regarding this determination or the consistency review process, please contact me at 503-373-0050 ext. 253 or by e-mail at: *juna.hickner@state.or.us*

Sincerely,

Juna Hickner
Coastal State-Federal Relations Coordinator

cc: Judy Linton (Corps)
Bob Lobdell (DSL)
Alex Liverman (DEQ)
Patty Snow (ODFW)
Chuck Wheeler (NMFS)
Janine Castro (USFWS)
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Commenters

Oregon
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RECEIVED
By

October 18, 2010

Mr. Kevin Moynahan
Chief, Regulatory Branch
Portland District
US Army Corps of Engineers
PO Box 2946
Portland, OR 97208-2946

Project: **Regional General Permit for Commercial Gravel Mining in the Chetco River**
Agency: **US Army Corps of Engineers**
Location: **Chetco River, River Mile 3 to 11, Curry County**
Description: **Issuance of a five-year (2010 through 2015) Regional General Permit to remove gravel from three sites in the Chetco River.**

Dear Mr. Moynahan:

The Oregon Department of Land Conservation and Development (DLCD) has reviewed the U.S. Army Corps of Engineers (Corps) *Regional General Permit (RGP) for Commercial Gravel Mining in the Chetco River* for consistency with Oregon's Coastal Management Program (OCMP). The proposed Regional General Permit authorizes commercial gravel mining activities at three specific sites within the Chetco River in Curry County, Oregon. The proposed RGP is subject to consistency review pursuant to Section 307 of the Coastal Zone Management Act (CZMA) and attendant regulations of 15 CFR Part 930 because it would have reasonably foreseeable effects on uses and resources within the state's coastal zone (as indicated by previous Public Notices issued by the Corps). Because the preparation of the proposed general permit is a "function[] performed by...a federal agency in the exercise of its statutory responsibilities," the proposed general permit falls within the definition of federal agency activity as described in 15 CFR § 930.31.

Consistency Determination
The Corps' consistency determination references or contains the following supporting documents: 1) Revised Joint U.S. Army Corps of Engineers and Department of State Lands Public Notice, issued July 27, 2010; 2) Biological Assessment for the Proposed Regional General Permit for Gravel Mining on the Chetco River, Curry County, Oregon, revised July 23, 2010; and 3) Endangered Species Act Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Conservation Recommendations for

the Regional General Permit for Gravel Mining in the Chetco River, dated September 3, 2010. Although Oregon's Administrative Rules at OAR 660-035-0030(6)(b) require a federal agency to provide DLCD with environmental assessments or environmental impact statements if applicable, federal regulations at 15 CFR § 930.37 clearly prohibit state agencies from requiring federal agencies to submit NEPA documents for purposes of consistency review.

Public Notice

DLCD issued three public notices on the project, dated March 12, 2010 (corresponding with the initial Corps/DSL Joint Public Notice), June 4, 2010 (corresponding with the Corps' Biological Assessment), and Sept. 24, 2010 (corresponding with the final Corps/DSL Joint Public Notice and the Corps' consistency determination). DLCD received one comment in response to the March 12 notice, and three comments in response to the Sept. 24 notice. One commenter requested responses to a series of questions; DLCD's responses are incorporated into this consistency decision.

DLCD Federal Consistency Review

The CZMA requires federal agency activities affecting any coastal use or resource within a state's coastal zone to be consistent to the maximum extent practicable with the enforceable policies of the state's federally approved coastal management program.

Oregon's federally approved program is a "networked" coastal management program that integrates authorities of local governments and other state agencies as the "enforceable policies" of the OCMP. As such, the enforceable policies of the OCMP include: 1) the statewide planning goals; 2) the applicable acknowledged city or county comprehensive plan and land use regulations; and 3) selected state agency authorities (e.g. those governing removal-fill, proprietary leasing, water quality, and fish & wildlife protections). While a federal agency is not required to obtain state or local permits or other approvals unless required by provisions of federal law other than the CZMA, consistency review requires a federal agency to demonstrate that its proposed activity will meet the substantive requirements of a state's enforceable policies. One way to demonstrate this is to obtain applicable state and local permits or approvals.

In this case, the statewide planning goals do not apply directly. Where the Land Conservation and Development Commission has approved, or "acknowledged," a local comprehensive land use plan, the local government applies the goals through the comprehensive plan and land use regulations. Because Curry County has an acknowledged plan, DLCD relies on Curry County (*See* ORS 197.175) and networked state agencies (*See* ORS 197.180) to issue any required authorizations to ensure goal compliance.

As noted above, federal agencies are not required to obtain local and state approvals unless required by provisions of federal law other than the CZMA. For this RGP, provisions of the Clean Water Act require the Corps to obtain a § 401 water quality certification. The Corps received this certification from the Oregon Department of Environmental Quality (DEQ) on September 21, 2010, subject to eleven conditions. The Corps is also working with the Department of State Lands (DSL) as DSL develops a state General Authorization that will be parallel to the RGP and that will incorporate DSL's statutory authorities and requirements.

Permittees under the RGP will be required to receive this GA or an individual authorization from DSL. Additionally, the Corps has worked with Curry County to ensure the project is consistent with the Curry County Comprehensive Plan and land use regulations. Curry County has indicated that two of the sites covered under the RGP are "grandfathered" in as nonconforming uses, while the third site has a conditional use approval.

Representatives from the Oregon Departments of State Lands, Environmental Quality, Fish and Wildlife, and Land Conservation and Development worked collaboratively with representatives from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Environmental Protection Agency to develop the framework for the proposed RGP. The RGP describes the allowed extraction strategy, which includes a reserve volume that must be met for extraction to occur. It contains bar retention strategies and general construction requirements, as well as a series of conditions including requirements concerning cultural resources; tribal rights; spill containment/control plans; hazardous, toxic and waste materials; fish passage; navigation; ESA compliance; water quality; coastal zone management; and project site inspection. The RGP also provides for adaptive management and restoration actions. The proposed activities and requirements of the RGP adequately address requirements of the state authorities incorporated within Oregon's Coastal Management Program, as demonstrated by DEQ's 401 certification, DSL's pending parallel General Authorization, and Curry County's approval.

Consistency Decision
With the incorporation of the following mandatory condition, the DLCD conditionally concurs with the Corps that the proposed Regional General Permit is consistent to the maximum extent practicable with the enforceable policies of the OCMP.

Mandatory CZM Condition
Authorization for a project in Oregon's coastal zone under this *Regional General Permit for Gravel Mining in the Chetco River* is valid only if required permits or other authorizations are obtained from Curry County, the Department of State Lands, and the Department of Environmental Quality before work is initiated under the permit. All conditions placed on an authorization or permit by the local government or state agencies are incorporated by reference into the Oregon Coastal Management Program's conditions for consistency concurrence.

Availability of Mediation
In accordance with federal regulations, DLCD hereby provides notification that should the Corps object to the above condition, the Department's decision shall be treated as an objection pursuant to 15 CFR § 930, Subpart C. The Corps shall immediately notify DLCD if the condition is not acceptable.

In the event the Corps has a serious disagreement with DLCD's coastal zone decision, the Corps may request mediation services provided by the Office of Ocean and Coastal Resource Management and the Secretary of the U.S. Department of Commerce, as provided for in 15 CFR § 930 Subpart G. DLCD or the Governor of Oregon may also request such mediation services.[1]

[1] In addition, the federal agency and other parties as defined in ORS 183.310(7) may request review of this coastal

If you have any questions or comments regarding this coastal zone management consistency finding or the consistency review process, please contact me at 503-373-0050 ext. 253 or by e-mail at: *juna.hickner@state.or.us*

Sincerely,

Juna Hickner
Coastal State-Federal Relations Coordinator

cc: Ms. Judy Linton, US Army Corps of Engineers
Ms. Kris Wall, NOAA Office of Ocean and Coastal Resource Management

zone decision by the Land Conservation and Development Commission pursuant to OAR 660-035-0040(11) and 660-035-0080(1). LCDC review of a petition does not preclude the Corps, DLCD, or the Governor from seeking Secretarial mediation under 15 CFR 930 Subpart G. A petition for LCDC review must be filed within fifteen (15) days of the Department's consistency decision.