

CALIFORNIA COASTAL COMMISSION

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Staff: Tiffany S. Tauber
Staff Report: July 26, 2002
Hearing Date: August 7, 2002
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 1-02-006

APPLICANT: LELAND ROCK

AGENT: Timberland Resource Consultants

PROJECT LOCATION: Along the Van Duzen River, from the Highway 101 bridge west to the river's junction with the Eel River, near Alton, Humboldt County. APNs 201-261-09 & 205-121-01.

PROJECT DESCRIPTION: Extract up to 100,000 cubic yards of sand and gravel, install and remove seasonal gravel truck crossings as needed over the low flow channel consisting of two railroad flat cars each, and stockpile up to 50,000 cubic yards of gravel in a 220-foot-wide by 535-foot-long upland area adjacent to the highway.

PLAN DESIGNATION: Agricultural Exclusive

species that cannot be mitigated, the Commission would be unable to find that gravel mining in future years was consistent with the Coastal Act.

The specific gravel extraction plan prepared by the applicant is currently being reviewed by the County of Humboldt Extraction Review Committee (CHERT), the local reviewing entity established by the County in coordination with development of the USCOE's LOP process for permitting gravel mining pursuant to Section 404 of the Clean Water Act. Under both the County of Humboldt's surface mining regulations and the LOP process, gravel mining entities are required to submit gravel pre-extraction plans for review by CHERT as a way of ensuring that gravel extraction each year does not exceed the annual replenishment of the site by the river, and that other potential resource impacts from gravel extraction are avoided.

This staff report recommends measures to prevent disturbances to both riverine and terrestrial habitat. The bar contains environmentally sensitive riparian vegetation areas. To prevent disturbance of such habitat, staff recommends that the Commission require that the gravel extraction activities be conditioned to avoid environmentally sensitive habitat areas and other locations where gravel extraction could have significant adverse impacts. In recognition of the fact that areas of the bar contain very young vegetation that has not developed to the point where it provides appreciable habitat value, and that the Coastal Act defines environmentally sensitive areas in such a way as to only include riparian vegetation with habitat value, the condition does not ban extraction in all areas containing vegetation, but only those areas where the riparian vegetation has reached a size and extent where there is an expectation of appreciable habitat values for nesting, forage and cover of wildlife being afforded.

In developing the recommended conditions, staff has considered the requirements imposed on the applicants by other regulatory agencies, including the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the California Department of Fish and Game, and the State Lands Commission.

As conditioned, staff believes that the proposed project is fully consistent with the Coastal Act.

STAFF NOTES:

1. Jurisdiction and Standard of Review

The proposed project is located within the Commission's area of original or retained jurisdiction. Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

project for Commission action even though the possibility remains that the Biological Opinion may not be finalized by August 7. Staff notes, however, that because the Commission's action must be based on conclusions and conditions which are actually adopted by the National Marine Fisheries Service in a final Biological Opinion, the staff would have to withdraw its recommendation if the Biological Opinion is not finalized by the time of the Commission hearing. Withdrawal of the staff recommendation would cause the Commission's action on the application to be continued to another Commission meeting.

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve Coastal Development Permit No. 1-02-006 pursuant to the staff recommendation.

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of the majority of the Commissioners present.

RESOLUTION TO APPROVE PERMIT:

The Commission hereby approves a coastal development permit, subject to the conditions specified below, for the proposed development on the grounds that, as conditioned, the development will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

3. Gravel Extraction Plan

A. PRIOR TO THE START OF ANY GRAVEL EXTRACTION OPERATIONS, the applicant shall submit, for the review and written approval of the Executive Director, a gravel extraction plan consistent with the terms and conditions of this permit and that contains the following:

- a. A gravel extraction plan of the 2002 gravel extraction operation containing cross-sections, maps, and associated calculations that accurately depict the proposed extraction area, demonstrates that the proposed extraction will be consistent with the extraction limits specified in Special Condition No. 4 below, and is prepared in conformance with Appendix C of U.S. Army Corps of Engineers, San Francisco District Letter of Permission Procedure, Gravel Mining and Excavation Activities in Humboldt County, No. LOP 96-1, dated August 19, 1996;
- b. A pre-extraction aerial photo of the site taken during the spring of the year of mining at scale of 1:6000 and upon which the proposed extraction activities have been diagrammed;
- c. A botanical survey prepared by a qualified biologist with experience in riparian and wetland vegetation mapping approved by the Executive Director, that maps all vegetation found in potential extraction areas of the site and highlights the location and extent of all vegetated areas containing woody riparian vegetation that is either (i) part of a contiguous riparian vegetation complex 1/16-of-an-acre or larger or (ii) one-inch-in-diameter at breast height (DBH) or greater. If the areas proposed for extraction are devoid of vegetation, the applicant may substitute the submittal of photographs (including aerial) that are sufficient in the opinion of the Executive Director to demonstrate that no vegetation exists in the proposed extraction areas in lieu of the botanical survey.
- d. A copy of the gravel extraction plan recommended by the County of Humboldt Extraction Review Team (CHERT), unless review by CHERT is not required by the County;
- e. A post-extraction survey of the prior year's mining activities (if any) conducted following cessation of extraction and before alteration of the extraction area by flow following fall rains, that includes the amount and dimension of material excavated from each area mined and is prepared in

35th percentile exceedance flow, the minimum skim floor elevation shall be set using one the following alternative methods:

- (1) The elevation corresponding to a two-foot vertical offset above the summer low flow water surface elevation, or
 - (2) The 35th percentile exceedance flow elevation as derived from a simple hydraulic modeling programs such as HEC-RAS®, used in conjunction with the current cross sections at the mining site, and including the cross section at the riffle location in vicinity to the mining site. The flow elevation shall be marked at the water's edge throughout the mining areas. A skim floor elevation lower than the level established by the above methods may be utilized if the permittee presents written evidence for the review and approval of the Executive Director that NMFS has concurred with the lower level;
- e. No gravel extraction shall be undertaken within 500 feet of a bridge or the length of a bridge, which ever is greater, and within 500 feet of any other structure (i.e., water intake, dam, etc.). Gravel removal may encroach within this setback, if as part of the gravel extraction plan to be submitted and approved by the Executive Director pursuant to Special Condition No. 3, the applicants submit written permission by owners of these structures and information demonstrating that the proposed encroachment will not adversely affect the integrity of the structures;
 - f. Mining shall not occur on areas of the gravel bar identified by NMFS as needing protection of hydraulic processes that create and maintain pools and riffles.
 - g. Extraction quantities shall not exceed the long term average sustained yield based on estimates of mean annual recruitment, as utilized by CHERT;
 - h. Gravel extraction operations shall not disturb or remove any of the riparian vegetation on the river banks;
 - i. Gravel extraction operations shall not disturb or remove any of the riparian vegetation on the gravel bar that is either: (1) part of contiguous riparian vegetation complex 1/16 acre or larger, or (2) one-inch-in-diameter at breast height (DBH) or greater;
 - j. Gravel extraction operations shall be conducted in a manner to avoid significant adverse effects to western snowy plover by complying with the requirements of Special Condition No. 5.

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2. Vehicle use in suitable habitat associated with gravel extraction operations shall be restricted to the daytime, between 0.5 hours before sunrise and 0.5 hours past sunset.

6. Extraction Season

Extraction may only be performed until October 15. All regrading required by Special Condition No. 7 must be completed by October 15.

7. Seasonal Site Closure

The excavation area must be regraded before October 15. Regrading includes: (a) filling in depressions created by the mining; (b) grading the excavation site according to prescribed grade; (c) sloping downward to the river channel; and (d) removing all seasonal crossings and grading out the abutments to conform with surrounding topography and removing all temporary fills from the bar.

8. Permit Termination Date

The gravel operations authorized by this permit shall terminate on October 15, 2002. Continued gravel operations after that date shall require a new coastal development permit.

9. Resource Protection

The gravel extraction and processing operations shall not disturb or remove any of the established riparian vegetation habitat along the banks of the river, nor any of the riparian vegetation areas on the gravel bar limited by Special Condition No. 4. No new haul roads shall be cut through the habitat. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete, oil or petroleum products, or other organic or earthen material from any gravel extraction or reclamation activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into river waters.

10. Permit Amendment

Any proposal to take more than the maximum permitted 100,000 cubic yards of materials, to take more than the amount of gravel sufficiently replenished by the river preceding high-flow season, to increase the size of the permitted area, to extract in a manner contrary to the extraction limitations set forth in Special Condition No. 4, to install gates or fences along access roads to the site and river, or to make any other changes to the approved operation shall require an amendment to this permit.

of Engineers. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

1. Site Description

During 2002, the applicant proposes to seasonally extract up to 100,000 cubic yards of river run sand and gravel from an area within the Commission's jurisdiction and stockpile gravel in adjacent upland areas along the north side of the lower Van Duzen River near its junction with the Eel River, west of the Highway 101 Bridge. The project includes stockpiling material at a stockpile location adjacent to the Highway 101 bridge, but no gravel processing is proposed. The applicant also proposes to place seasonal railroad flatbed crossings across low flow channels as needed to facilitate gravel transport and to reclaim extraction areas.

The Commission's jurisdiction over the overall project site is limited to the part of the river and adjoining areas west of the Highway 101 right-of-way. All of the work downstream of the Highway 101 bridge is within the Commission's retained jurisdictional areas. However, the overall project site extends up river from the Highway 101 bridge to include additional gravel mining outside of the coastal zone.

The proposed gravel extraction would occur in two areas extending across the mouth of the river to the northern property line. The gravel extraction area consists of a large gravel bar formed by the action of both the Van Duzen and Eel Rivers. The bar is largely exposed during low flow conditions during the dry season and largely submerged during high flow conditions in the winter. The project area excludes a dense riparian forest area located closer to Highway 101.

The proposed stockpile area is located adjacent to Highway 101 in an area that had previously been used as a construction staging area by Caltrans when it reconstructed the Highway 101 bridge. The site is bordered by the dense riparian forest except for the side adjacent to the highway. Existing access roads established for other purposes connect the stockpile area with the gravel bar and the railroad line.

The Eel River and its tributaries are ranked among the most significant anadromous fisheries in Northern California. Chinook salmon, coho salmon and steelhead trout are among the most important species with regard to commercial and sport fisheries. The project area and the lower Eel River are mainly utilized by the anadromous fish as a migration route to and from the upstream spawning grounds. In addition, the National

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In general, the riparian vegetation lining the lower Eel River is perhaps the single-most important element for the natural environment in the area. The riparian habitat provides habitat for most of the birds and mammals in the project area. The presence of two different kinds of riparian habitat, the North Coast Scrub and the North Coast black cottonwood forest, provide habitat for a greater number of wildlife species than a more uniform and simple habitat structure would.

The riparian zone along the river provides migration routes for wildlife. Over 200 different species of birds and 40 different species of mammals have been observed in the Eel River Delta, most of which utilize portions of the riparian corridor. In addition to its habitat value, the riparian corridor also provides water quality protection, stream bank stabilization through root penetration, and flood protection.

The project site is used by federally listed threatened and endangered species including coho salmon (*Oncorhynchus kisutch*), Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*), and the western snowy plover (*Charadrius alexandrinus nivosus*). The coho was listed by the federal government as a "threatened species" along the northern California and southern Oregon coastlines in May 1997 with critical habitat designated in May 1999. Chinook salmon was federally listed as "threatened" in September 1999 with critical habitat designated in February, 2000. Most recently, the steelhead trout was listed as "threatened" in June, 2000. The western snowy plover is a federally listed "threatened" species that has been observed roosting and nesting on gravel bars on the lower Eel River. The plover sitings on the Eel River have been in the months of April through early September, during the nesting season. The plovers establish their nests on the open gravel bars rather than in trees.

The Southern Oregon – Northern California Coasts Evolutionarily Significant Unit coho is currently a candidate for listing as an endangered or threatened species under the California Endangered Species Act (CESA). Other fish species in the river that are listed by the California Department of Fish and Game as "species of special concern" include coastal cutthroat trout (*Oncorhynchus clarki*), Pacific lamprey (*Lampetra tridentata*), and Green sturgeon (*Acipenser medirostris*). Special status species are those legally protected by state or federal endangered species laws, those under consideration for such protection or those of concern to state or federal resource agencies. Even though no special status species apart from the fish species mentioned above have been found at the site, the black cottonwood riparian forest areas at the site offer suitable habitat for a state listed endangered species, the willow flycatcher (*Empidonax traillii*), and four "species of special concern:" the black-shouldered kite (*Elanus caeruleus*), Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Dendroica petechia*), and yellow-breasted chat (*Icteria virens*).

The applicant has previously undertaken gravel extraction in the proposed area under a approved Coastal Development Permit (CDP 1-96-68), approved by the Commission on June 13, 1997. Coastal Development Permit 1-96-68 terminated on December 31, 2001.

Gravel mining operations on the Eel River now require the approval of a number of different local, state and federal agencies. The initiation of coordinated review began to change in 1991. That year, Humboldt County considered the granting of a gravel lease from the County owned bar at Worswick. To comply with environmental review requirements under CEQA, the County decided to prepare a Program Environmental Impact Report (PEIR) to describe and analyze the potential environmental effects resulting from the 13 gravel removal operations in the lower Eel River watershed. The document was certified in July 1992 and is intended to be incorporated by reference into future environmental documents prepared for individual gravel extraction projects in the area.

As part of that effort, the County initiated a comprehensive review of the status of County permits for each of the 13 operators to reach a final determination as to which operations were proceeding according to valid vested rights or County permits, and which ones required further review. The Department of Fish and Game also began to insist that the operators demonstrate that they had all necessary County approvals before the Department would issue annual Section 1603 Streambed Alteration Agreements.

As a result, information was documented about the significant cumulative adverse impacts of the gravel mining operations. The PEIR showed that little change in the bed occurred over the last 75 years. Annual monitoring as well as analysis of additional sources of historic bed elevations has further substantiated this. Most recently a comparison by the Corps of Engineers repeating cross sections at locations that were surveyed in 1969 showed little change in the last 30 years.

County of Humboldt Extraction Review Team (CHERT)

The County developed a strategy for controlling the cumulative impacts of the gravel operations on river bed degradation and bank erosion. At the heart of the strategy is an annual administrative approval of extraction plans that specifies the particular method and location of extraction. The primary mitigation measure recommended by the Program EIR is for the County to prepare a River Management Plan that includes, as a primary component, an annual monitoring program to make annual decisions on where and how much gravel can be removed from the lower Eel and Van Duzen Rivers without adversely affecting the river. As described in the Program EIR, the monitoring program was to be conducted by a consulting firm using funds provided by the gravel operators. The monitoring program would involve periodic biological surveys, creating cross-sections and thalweg profiles, and taking aerial photos and ground photos each year for each gravel operation. This information would be compiled and compared to data from previous years to determine gravel recruitment, changes in channel morphology and impacts on wildlife and fisheries. The implementation of this program is currently occurring through the Army Corps of Engineer's LOP process and the Humboldt County Interim Management Program. Much of this information is being collected by

of California Coastal (CC) chinook salmon as threatened and designation of critical habitat, and listing of Northern California (NC) steelhead as threatened. As a result of the listing of additional salmonid species and designation of critical habitat in 1999, the Corps requested reinitiation of Section 7 ESA consultation and NMFS prepared a revised Biological Opinion (May 1, 2000). In June, 2001, the Corps extended the expiration date of LOP 96-1 to October 31, 2001 and requested an amendment to the duration of the 2000 Biological Opinion which analyzed the extended duration of the proposed gravel extraction activities.

NMFS began working with the Corps, other agencies, and Humboldt County gravel operators and their consultants during the winter of 2001-2002 on a replacement LOP procedure anticipated to be in place for the 2002-2007 extraction seasons (LOP 2002-1). A draft LOP 2002-1 was circulated for public comment in May, 2002 at which time it became apparent to involved agencies that several issues could not be resolved prior to the 2002 mining season. As a result, the Corps decided to further extend LOP 96-1 through December 31, 2002 to provide an authorization process for the 2002 gravel mining season and again requested that NMFS amend the 2000 Biological Opinion to analyze the extended duration of LOP 96-1.

Commission staff received a copy of the Draft amended 2000 Opinion for the 2002 gravel extraction season on July 15, 2002. The amended Draft Opinion incorporates newly available information that was not previously analyzed in the 2000 Biological Opinion. In addition, the amended Draft Opinion incorporates changes to the project description and listed effects of gravel mining and extraction activities for the proposed extended duration of LOP 96-1. In the Draft amended Opinion, NMFS concludes that extending the LOP 96-1 procedures for gravel mining operations during 2002, "is still not likely to jeopardize the continued existence of Southern Oregon/Northern California (SONCC) coho salmon, Central California (CC) Chinook salmon, or Northern California (NC) steelhead, or destroy or adversely modify SONCC coho salmon designated critical habitat." NMFS and the Corps expect that a new LOP will be implemented prior to the 2003 gravel extraction season.

Proposed Listing of Coho Salmon Under California Endangered Species Act

On July 28, 2000, the California Fish and Game Commission (CFG) received a petition from the Salmon and Steelhead Recovery Coalition requesting that the coho salmon north of San Francisco (i.e., Southern Oregon / Northern California Coast Environmentally Significant Unit or "SONCC Coho ESU") be listed as an endangered species under the California Endangered Species Act (CESA). The petition described runs of coho as having declined 90 percent in the past 30 years, to stand at 1 percent of the historic levels. CFG subsequently forwarded the petition to the California Department of Fish and Game (CDFG) to review the petition and determine whether acceptance of the petition would be appropriate. On April 5, 2001, the CFG accepted the petition for listing, initiating a 12- to 14-month review period by CDFG in which appropriate

The applicant does not propose to perform any gravel processing, just stockpiling of the material for later shipment as unprocessed material. The stockpile site adjacent to the west side of the abutment to the Highway 101 bridge is 535 feet in length and 220 feet in width.

The applicant also proposes to install summer bridge crossings as needed to access areas of the extraction site. If a bridge becomes necessary depending on the location of the wetted, low flow channel, the applicant proposes to construct a crossing consisting of two 60-foot-long rail cars spanning the area to be crossed. Gravel from the surrounding area would be graded to form necessary abutments. The bridge would be constructed without fill material entering the wetted channel. At the end of the extraction season, the bridge would be removed off the site and the bar in the vicinity of the bridge would be regarded the reestablish pre-existing contours.

4. Protection of the Riverine Environment

The proposed project involves the surface mining extraction of sand and gravel from the Sandy Prairie landform of the lower Eel River using heavy mechanized equipment for grading and dredging operations. Several Coastal Act policies address protection of the portion of the river environment below the ordinary high water mark from the impacts of development such as gravel mining. These policies include Sections 30231 and 30233. Section 30231 applies generally to any development in riverine environments and other kinds of water bodies in the coastal zone. Section 30233 applies to any diking, filling, or dredging project in a river and other coastal waters. Gravel extraction within a river bed is a form of dredging within a wetland.

Section 30231 of the Coastal Act states, in applicable part:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes... shall be maintained and, where feasible restored...

Section 30233 of the Coastal Act provides as states, in applicable part:

(a) *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

...

live waters of the river which is habitat for threatened salmonid species. The proposed mining project would be located in areas that would avoid intrusion into these habitat areas and/or be performed at times when sensitive species were not nesting and/or utilizing the site for habitat. Descriptions of the habitats and their use by wildlife are found in the Findings Section 1, "Site Description," of this report.

Riparian Vegetation as Environmentally Sensitive Habitat

The Coastal Commission has previously determined in numerous permit actions that most forms of riparian vegetation are environmentally sensitive. The Commission has consistently conditioned permits for development near riparian woodlands along streams and rivers to avoid disturbances of riparian areas where mature vegetation exists.

Some of the riparian coastal scrub-shrub vegetation on the gravel bar is inundated during high flows and is often uprooted and scoured by river flows. The hydrodynamics of the river can cause the channel itself to migrate over time, which in time can eliminate more stands of riparian scrub vegetation from one year to the next. As a result, much of the vegetation is young, having only grown a season or several seasons since the time of the last inundation severe enough to remove the plants previously growing there.

Given that some of this riparian vegetation is very new and underdeveloped, it may not provide habitat values sufficient enough for the areas to be characterized as environmentally sensitive.

Section 30107.5 of the Coastal Act defines "environmentally sensitive area" as:

Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in the ecosystem and which could be easily disturbed or degraded by human activities and developments.

Under this definition, any area supporting a plant, animal, or habitat is environmentally sensitive if the area meets two main criteria: (1) the plant, animal, or habitat is either rare or of special value because of their unique nature or role in the ecosystem, and (2) the area could be easily disturbed or degraded by human activities and developments. The non-persistent scrub-shrub riparian areas clearly meet the second criterion in that the gravel extraction materials on the river bar, such as proposed by the applicant, can quickly obliterate any of this habitat the extraction activities comes in contact with. With regard to the first criterion, the riparian scrub-shrub vegetation is not rare, as it usually does not contain rare or endangered species and can be found extensively on the many gravel bars along North Coast waterways. However, such vegetation can be considered especially valuable and therefore also meet the second criterion. In general, riparian vegetation must grow to a certain size and mass before it can begin to contribute significantly to the river ecosystem. A willow sprig growing in isolation that has just

stated, Section 30233(a)(6) only allows the dredge or fill of open coastal waters for mineral extraction if the mineral extraction occurs outside of environmentally sensitive areas. Although the Corps can allow mineral extraction in an environmentally sensitive area so long as mitigation is provided, the Commission cannot allow mineral extraction within an environmentally sensitive area at all. Thus, the Corp's purpose in determining when mitigation should be required is not the same as determining when riparian vegetation reaches a level of growth and development such that it should be considered environmentally sensitive.

By requiring mitigation whenever a riparian vegetation area that is to be disturbed contains woody vegetation that is part of a contiguous 1/8-acre complex or is at least 2 inches DBH, the Corp's LOP indicates that vegetation at this level already is providing habitat value. Otherwise, if the vegetation were not providing habitat value there would be no need for mitigation. Therefore, the Commission finds that the riparian vegetation must reach a form of growth and development where it provides important habitat values at some point before the Corps threshold is reached. Acknowledgement of this fact is contained in the rest of the Corps standards which indicate that impacts to other woody vegetation not rising to the threshold level must also be described and submitted to the Corps and may require mitigation at the discretion of the Corps.

In discussions with CDFG staff, Commission staff has discerned that under average growing conditions, a willow tree that is one inch (1") in DBH or part of a contiguous 1/16-acre complex would likely have survived for one growing season. Given that riparian vegetation is only becoming established during the first growing season, the vegetation may not provide significant habitat value at this point. On the other hand, vegetation that has survived more than one growing season would be established and likely to be used by wildlife. Therefore, the Commission finds that the riparian scrub-shrub vegetation should be characterized as an environmentally sensitive area when the vegetation contains woody vegetation that is part of a contiguous complex of 1/16-acre or larger or is 1" or larger in DBH. In addition, by restricting extraction in vegetated areas that are essentially half as developed as the riparian vegetation for which mitigation is indicated under the Corps' LOP, the Commission will minimize the chances that any riparian vegetation providing significant habitat value will be disturbed by the proposed gravel extraction.

To ensure that mineral extraction proposed by the applicant is not performed within an area of environmentally sensitive riparian vegetation, thereby remaining an allowable use under Coastal Act Section 30233(a)(6), the Commission attaches Special Condition No. 4(h) and 4(i), which states that gravel extraction operations shall not disturb or remove any area of riparian vegetation growing on the river banks or on the gravel bar meeting either the aerial extent or plant girth criteria discussed above.

Another form of environmentally sensitive area that can potentially be found at the site are seasonal nesting sites of the western snowy plover. As noted previously, the Western

(a) Fisheries

As noted previously, the Eel River and its tributaries are ranked among the most significant anadromous fisheries in Northern California and include Coho salmon, Chinook salmon, and steelhead trout, all federally listed threatened species under the federal Endangered Species Act. The project area and the lower Eel River are important for these anadromous fish as a migration route to and from upstream spawning grounds. In addition, the lower Eel River supports summer rearing for juvenile salmonids, especially steelhead yearlings and fall Chinook sub-yearlings, and holding areas for adult summer steelhead as well as spawning and nursery habitat for marine fishes and invertebrates.

The impacts of gravel mining operations on sensitive fish species includes more than just the individual impacts of a particular gravel mining operation at one site. Often of greater significance is the cumulative adverse impacts on sensitive fish species from all of the various gravel mining operations occurring along the river. Accurately assessing significant adverse cumulative impacts of the various gravel mining operations on sensitive fish species can be a difficult task for any one operator to perform.

An assessment of the cumulative impacts of U.S. Army Corps of Engineers (Corps) permitted gravel mining operations along the lower Eel River on sensitive fish species does exist in the form of Biological Opinions issued by National Marine Fisheries Service (NMFS). These Biological Opinions are issued as a result of formal consultations between the Corps of Engineers and the NMFS pursuant to Section 7 of the Federal Endangered Species Act. As discussed previously in the "Background on Regulation of Eel River Gravel Mining" Finding, the Corps decided to extend LOP 96-1 (originally due to expire on October 31, 2001) through December 31, 2002 to provide an authorization process for the 2002 gravel mining season while a new LOP for subsequent gravel mining seasons is prepared. The Corps requested that NMFS amend the most recent (2000) Biological Opinion to analyze the extended duration of LOP 96-1.

NMFS has prepared a draft amended Biological Opinion for the extended duration of LOP 96-1 that incorporates newly available information that was not previously analyzed in the 2000 Biological Opinion regarding the effects of gravel mining and extraction activities on listed salmonids (see Exhibit No. 6). According to NMFS, gravel mining results in both short-term and long-term changes to channel form and function and such changes affect habitat function for listed salmonids. The draft amended Biological Opinion indicates that gravel mining could result in adverse impacts to listed salmonids from the input of fine sediment, reduced bar height and channel confinement, and a reduction of habitat complexity as a result of various gravel extraction related activities.

Construction and removal of channel crossings and the use of heavy equipment can adversely affect salmonids. Heavy equipment is required to operate in the wetted, low

Some individuals may be injured or killed during mining operations, or harmed by the resultant effects of gravel mining on habitat. However, the effects to listed salmonids from the short duration of the proposed action (year 2002 mining operations only) is not expected to rise to a population level effect and is not anticipated to reach the level where a reduction in the likelihood of both the survival and recovery of listed salmonids, at the Evolutionarily Significant Unit (ESU) scale, occurs. Also due to the short duration of the proposed action, it is not anticipated that SONCC coho salmon designated critical habitat will be adversely modified or destroyed.

Based on existing biological information, NMFS concludes that extraction of gravel during the summer months will not result in more than incidental take of threatened salmonid species and will not jeopardize their continued existence provided that extraction operations are conducted in the manner prescribed in a set of conditions attached to the Biological Opinion. To ensure that significant adverse impacts to salmonids from exceeding incidental take of listed species does not occur, the Commission incorporates within the standards of Special Condition Nos. 3, 4, 6, 7, and 11, the relevant Reasonable and Prudent Measures and Conservation Recommendations proposed by NMFS in their draft Biological Opinion.

To ensure that gravel extraction operations are designed in a manner that would retain channel form and function to protect the quality and quantity of salmonid habitat, the Commission attaches Special Condition No. 3, which establishes an administrative review process that requires the applicant to submit for the review and approval by the Executive Director, a gravel extraction plan that together with field surveys and site assessments, determines the volume of gravel recruitment over the preceding high-flow season and identifies areas where mining can occur without causing bed degradation or adverse impacts to listed salmonids or salmonid habitat. The applicant must demonstrate that the proposed extraction plan is consistent with all terms and conditions of the permit. The annual administrative review of the gravel extraction plan establishes a process for NMFS and CHERT to review specific extraction proposals and make recommendations to minimize impacts to listed salmonids and salmonid habitat. Special Condition No. 3(d) requires the applicant to submit a copy of the gravel extraction plan reviewed by CHERT. In their draft Biological Opinion, NMFS has indicated the importance of protecting hydraulic processes that create and maintain pools and riffles, which provide valuable salmonid habitat. Special Condition No. 4(f) requires that mining not occur on areas of the gravel bar identified by NMFS as requiring protection of hydraulic processes to create and maintain pools and riffles. In addition, the annual extraction review process will also ensure that any areas proposed for mining have been reviewed and approved by NMFS to meet this design standard.

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period. This condition further requires that the site is regraded in a manner that would not result in fish stranding or barriers to fish migration.

With regard to the potential significant impacts to salmonids, the installation of culverted fill crossings in the low flow channel or major secondary channels could also affect salmonids. Culverted fill crossings are prone to being blocked by debris in ways that can inhibit fish passage. Another crossing method commonly used in gravel extraction on Northcoast rivers and elsewhere is to create a crossing using 60-foot-long railroad flatcars placed side by side in a manner that completely spans the channel and does not require the placement of fill or culverts in the channel. As discussed above, temporary channel crossings are typically built at riffle locations, which provide important Chinook salmon spawning habitat and fish under the crossing could be crushed during installation or removal. Furthermore, heavy equipment used to place the crossing can cause disturbance to salmonids. Special Condition No. 11 sets forth criteria for proposed channel crossings including (a) that the crossing be of the railroad flatcar variety, consisting of one or two 90-foot-long rail cars placed side-by-side in a manner as to span the channel; (b) that crossing locations be determined on a site-specific basis and that special consideration be given to the placement of the channel crossings at riffles; and (c) that during construction and removal of temporary stream crossings of the wetted, low-flow channel, where possible and safe, a person wade into the crossing ahead of heavy equipment to scare any rearing salmonids out of the crossing area. To further minimize disturbance to salmonids from the noise and vibration associated with heavy equipment, the condition requires the presence of heavy equipment in the wetted low-flow channel to be minimized by limiting the number of heavy equipment crossings during each crossing installation or removal. A maximum of two crossing per installation or removal is allowed, although one crossing is preferred and heavy equipment is to be used in the wetted low-flow channel only for channel crossing installation and removal. The condition further requires that channel crossing removal be completed by October 15, 2002 prior to the onset of winter rains and the start of the salmonid migration period.

To prevent impacts to salmonids associated with loss of channel confinement, the Commission includes within the mining limitation standards of Special Condition No. 4 that the minimum skim floor depth (maximum extraction depth) be at the water level corresponding to the 35th percentile exceedence flow of the river as measured at the USGS stream level gauge nearest to the mining site.

As stated above, gravel mining operations on the river bed need to cease before the rainy season to prevent significant adverse impacts to fisheries, as the runs of the various species of anadromous fish up and down the river increase in the fall with the rise in river water levels and remain at high levels through the early spring. In recent Section 1603 Streambed Alteration Agreements issued for gravel extraction at the project site, the Department of Fish and Game has limited gravel extraction operations to June 1 through October 15 each year, which corresponds to the period when potential impacts to fisheries is lowest. The conditions of the NMFS Biological Opinion also require

annually), extraction without consideration of river morphology concerns could cause bed degradation and riverbank erosion.

Therefore, to ensure that the mineral extraction proposed by the applicant does not exceed the natural replenishment of gravel, degrade the riverbed, or induce bank erosion, the Commission attaches Special Condition No. 3 which establishes an administrative review process. The condition requires, in part, that the applicant submit for the review and approval by the Executive Director, a gravel extraction plan together with field surveys and site assessments that will determine the levels and volume of gravel recruitment over the preceding high-flow season and identify areas where mining can occur without causing bed degradation. The condition requires that the plan be consistent with the extraction limits set forth in Special Condition No. 4, including the restriction of subsection (g) which states that extraction quantities shall not exceed the long term average sustained yield based on estimates of mean annual recruitment as utilized by CHERT.

Other limitations imposed by Special Condition No. 4 will also ensure that the amount and location of mining will not lead to adverse bed degradation. Subsection (a) of the condition states that the applicants shall extract material only by gravel skimming, dry trenching, wetland pits, horseshoe-shaped deep skims, or alcove extractions as approved by the National Marine Fisheries Service and the Department of Fish and Game. Subsection (c) of the condition states that the excavation shall not occur in the active channel and shall be limited to areas that are a minimum of six (6) feet horizontally from the current water's edge. This requirement will ensure that disturbance of the active channel will be avoided. To further minimize the chances of bed degradation and stream bank erosion and its consequences to existing structures along the river, subsection (e) of the condition states that no gravel extraction shall be performed within 500 feet of a bridge or any other structure (i.e., water intake, dam, etc.). This restriction will reduce to a level of insignificance any potential impacts to bridges and other public facilities that might exist in the area.

The Commission finds that the mining plan and requirements imposed by Special Condition No. 3, together with the above-described extraction limitations imposed by Special Condition No. 4, will avoid significant adverse river bed degradation impacts from the project.

(c) Riparian Vegetation

As discussed previously under Findings Section 1 above, the project site contains North Coast riparian scrub habitat and North coast black cottonwood forest. North Coast riparian scrub habitat occurs on "islands" between the low flow channels and is the most extensive plant community at the project site. In addition, North Coast black cottonwood forest is found on the river banks outside of the extraction area. Thus, the proposed

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plover are susceptible to death or injury by humans driving, operating equipment, and otherwise using occupied plover habitat. Disturbance from noise and activity associated with gravel extraction, vehicle use, and pre-gravel extraction activities may adversely affect western snowy plovers by altering their feeding and breeding behavior, reducing the suitability of nesting habitat, masking essential warning signs of predators, and attracting potential scavengers/predators.

According to the USFWS, data from other portions of the western snowy plover's range suggest that activity and vehicle use in nesting and chick rearing habitat during low light and night conditions likely increases the risk of vehicle strikes to plovers, including adults. Activities associated with gravel extraction (including surveys for engineering, hydrology and biological resources) often need to be conducted prior to the initiation of gravel extraction activities. Because these pre-extraction activities require vehicular use and human presence in potential nest areas during the nest season, a potential exists to adversely affect the western snowy plover through direct harm or harassment. To minimize disturbance to the plovers from vehicle use and pre-extraction activities, the Commission attaches Special Condition No. 5(B) and 5(C). Special Condition No. 5(B) requires that daily plover surveys be conducted by a biologist approved by the USFWS prior to daily initiation of any pre-extraction activities that occur in suitable plover habitat. Should pre-extraction activities be required to occur near a nest within the 1,000-foot buffer, Condition No. 5(A) requires the surveying biologist to modify or halt activities as needed to prevent adverse impacts to the plover. Special Condition No. 5(C) restricts vehicle use on the gravel bars and haul roads to necessary uses, to minimum speeds, and to times of the day when there is sufficient daylight to prevent impact to the plovers.

In addition, Special Condition No. 5(A) requires that gravel extraction operations avoid western snowy plover habitat by either not commencing until after the nesting season (after September 15), or commencing only after a biologist approved by the USFWS has surveyed the site for three consecutive days and either found no plovers or nests, or has found some but will continue to conduct daily surveys to ensure a 1,000-foot buffer area is maintained around the nests that have been found. USFWS recommends this protocol to avoid disturbance of the western snowy plover, and the Commission incorporates the protocol into the extraction limitations referred to in Special Condition No. 4, subsection (j) and as further outlined in Special Condition No. 5. The requirement of Special Condition No. 3 that the applicant submit for the review and approval of the Executive Director, a gravel extraction plan consistent with the limitations of Special Condition Nos. 4 and 5 will establish a process that will ensure that gravel operations will not be performed in western snowy plover nesting sites or otherwise disturb this threatened species.

Therefore, as conditioned, the Commission finds that the project would not result in significant adverse impacts to western snowy plovers.

(3) Alternatives

The third test set forth by the Commission's dredging and fill policies is that the proposed dredge or fill project must have no feasible less environmentally damaging alternative. In this case, the Commission has considered the various identified alternatives, and determines that there are no feasible less environmentally damaging alternatives to the project as conditioned by Special Condition Nos. 1-10. A total of four possible alternatives have been identified, including: (1) the "no project" alternative; (2) obtaining sand and gravel from quarry operations; (3) obtaining sand and gravel from terrace deposits in the Eel River floodplain; and (4) modifying the proposed project. As explained below, each of these alternatives are infeasible and/or more environmentally damaging than the proposed project as conditioned.

(1) No Project Alternative

The no project alternative means that no gravel extraction would occur at the site. Without extraction from the site, an equivalent amount of sand and gravel materials would be obtained from other sources to meet regional demand for cement and concrete aggregate products for the construction of roads, buildings, and other development. Increasing production from other river bar extraction operations would have environmental impacts similar to or greater than the proposed project.

The proposed project is located in an area where gravel has historically been accumulated and mined. Mining in many other parts of the river where gravel does not accumulate could lead to changes in river geomorphology which, in turn, could cause a variety of adverse impacts such as increased sedimentation, the undermining of bridge supports, and bank erosion resulting in the loss of environmentally sensitive riparian habitat areas and/or adjacent agricultural lands.

As discussed below, obtaining additional sand and gravel terrace deposits from the valley floors of local rivers would also create adverse environmental impacts similar to or greater than the proposed project. The Commission therefore finds that the "no project" alternative is not a feasible less environmentally damaging alternative to the project as conditioned.

(2) Obtaining Sand and Gravel from Quarry Operations

Excavation from the river could be avoided if an equivalent amount of sand and gravel could be obtained from upland quarries. As discussed in the Final Program EIR on Gravel Removal from the Lower Eel River, certified by Humboldt County in 1992, there are few quarries in the vicinity where it would be economically feasible to obtain material of sufficient quality and quantity to that available at the project site. The substrate of nearby areas of Humboldt County are composed mostly of the Franciscan formation that is comprised of large masses of greywacke and sandstone interspersed with less

(d) Maintenance and Enhancement of Estuarine Habitat Values

The fourth general limitation set by Sections 30231 and 30233 is that any proposed dredging or filling project in coastal waters must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

As discussed in the section of this finding on mitigation, the conditions of the permit will ensure that the project will not have significant adverse impacts on water quality, riparian vegetation, rare and endangered species, stream morphology, fisheries, or other coastal resources. By avoiding impacts to coastal resources, the Commission finds that the project will maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Sections 30231 and 30233 of the Coastal Act.

The Commission thus finds that the project is an allowable use, that there is no feasible less environmentally damaging alternative, that no additional mitigation is required for the impacts associated with the dredging of coastal waters, and that estuarine habitat values will be maintained or enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30231 and 30233 of the Coastal Act.

6. Protection of Environmentally Sensitive Habitat Areas

Section 30240 of the Coastal Act states that environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values and that development in areas near such sensitive habitat areas shall be sited and designed to prevent significant adverse impacts to these areas.

As discussed above, in the section on the permissible use for the fill and dredge of wetlands, the proposed project will not significantly adversely affect environmentally sensitive habitat outside of the bankfull channel of the river. None of the riparian habitat along the banks of the river will be disturbed by the extraction operation itself. In addition, existing haul roads through the riparian areas will be used to truck gravel from the bar to the stockpiling and processing facility. No new haul roads are proposed to be cut through the riparian woodland. To ensure that no new haul roads are created through riparian woodland, the Commission attaches Special Condition No. 9 that requires that the proposed project not disturb or remove any of the established riparian vegetation at the site and prohibits the cutting of new haul roads through the habitat.

As conditioned, the Commission finds that the project is consistent with Section 30240 of the Coastal Act, as the project will avoid significant adverse impacts to the environmentally sensitive habitat area found on the site.

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through use (i.e., potential prescriptive rights or rights of implied dedication). Section 30212 requires in applicable part that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, such as when adequate access exists nearby or when the provision of public access would be inconsistent with public safety. In applying Sections 30210, 30211, and 30212, the Commission is limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential public access.

The project site is located between the first public road (Highway 101) and the sea (the Eel and Van Duzen Rivers are considered to be arms of the sea in this area).

Public access to the river is currently provided informally by the California Department of Transportation right-of-way adjacent to the highway. A driveway off of Highway 101 enables vehicles to drive along side the highway to the river's edge under and near the bridge. The driveway is located in the vicinity of the proposed stockpile area. The informal access way is used for fishing access, primarily in the winter months when anadromous fish are running. The area is also used for site seeing, recreational boating, wood collecting, off-road vehicle driving, nature study, and target practice.

The proposed project would not interfere with this access. The stockpile operation would be conducted in a manner that would maintain access through the area, even during the extraction season. Although the extraction operations would necessarily prevent access at the extraction sites themselves during the extraction season, the extraction season is limited to approximately two months of the year, during the summer months when fishing is at a low point.

Thus, the project will not significantly affect fishermen, canoeists, or other recreational boaters. Furthermore, gravel extraction operations have been occurring at the site for many years. The extraction authorized by this permit would not create any additional burdens on public access than have existed in the past. The project will not create any new demands for fishing access or other public access use.

Therefore, the Commission finds that the proposed project would not have a significant adverse effect on public access. The Commission finds that the project, as proposed without new public access, is consistent with the public access policies of the Coastal Act.

9. State Lands Commission Review

The project is located on the bed of the Eel River, a navigable river, between the ordinary high water marks. As such, the State of California may hold a public trust easement and other property interests at the site. Any such property interest would be administered by

received prior to preparation of the staff report. As discussed herein in the findings addressing the consistency of the proposed project with the Coastal Act, the proposed project has been conditioned in order to be found consistent with the policies of the Coastal Act. As specifically discussed in these above findings which are hereby incorporated by reference, mitigation measures which will minimize all adverse environmental impact have been required. These required mitigation measures include requirements that limit extraction to avoid environmentally sensitive habitat areas, rare and endangered species, migratory fish, and extractions that could lead to changes in river morphology. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

EXHIBITS:

1. Regional Location Map
2. Vicinity Map
3. Channel Crossing (Typical)
4. Public Notice - Extension of Letter of Permission Procedure No. LOP 96-1 to December 31, 2002, U.S. Army Corps of Engineers, June 12, 2002
5. Pre-Decision Draft, *Biological and Conference Opinion for the Letter of Permission Procedure for Gravel Mining and Extraction Activities within Humboldt County (LOP 96-1)*, Third Amendment, July, 2002
6. *Notice of Findings*, California Fish and Game Commission, California Regulatory Notice Register, April 27, 2001
7. Excerpt, 14 CCR §749.1 – *Exhibit C: Incidental Take Authorization Standards for In-Stream Gravel Extraction During the Candidacy Period for the Coho Salmon* (Fish and Game Code Section 2084 Take Regulations), California Department of Fish and Game, April 27, 2001

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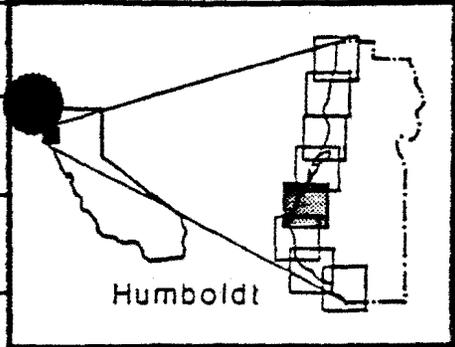
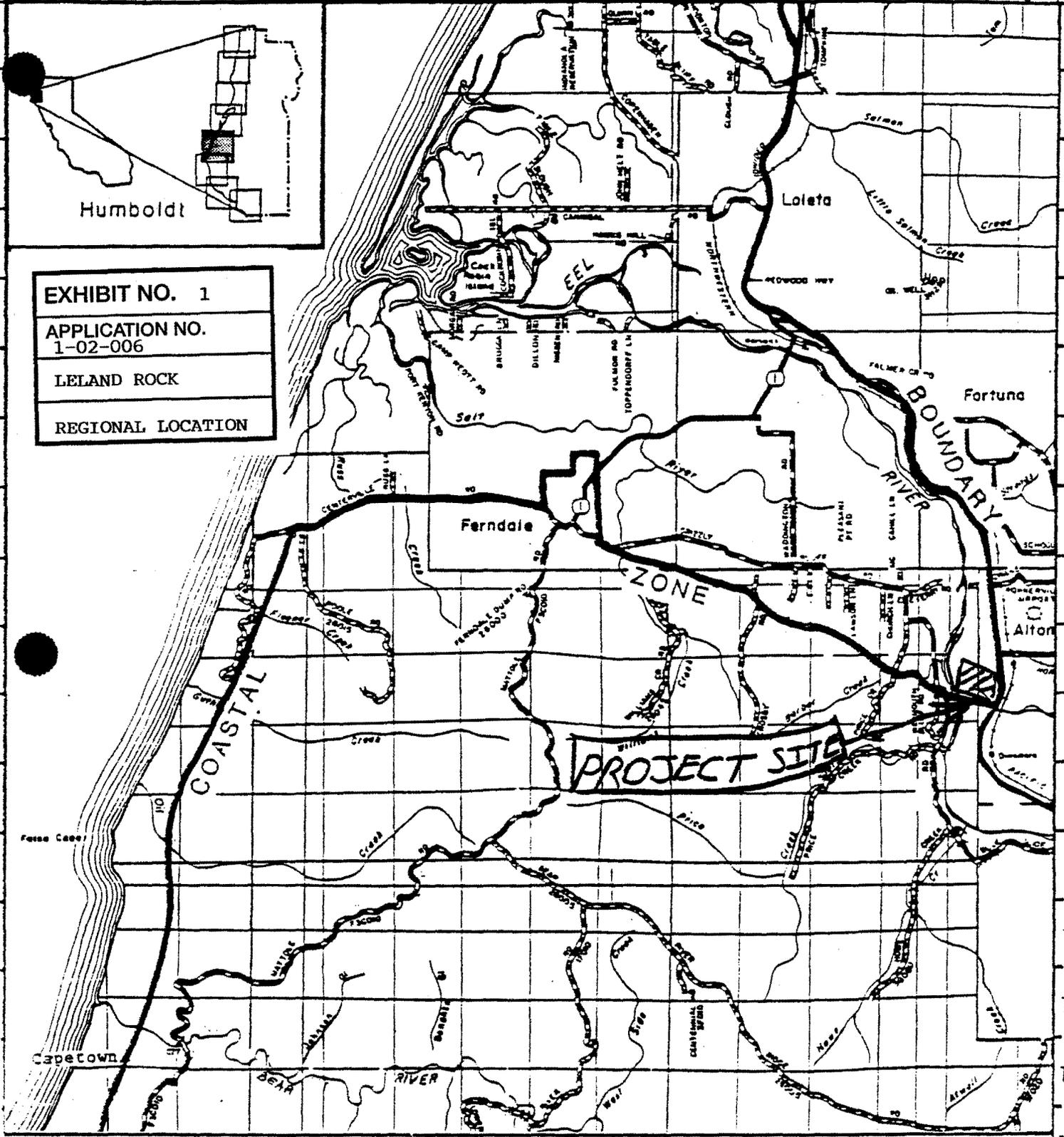


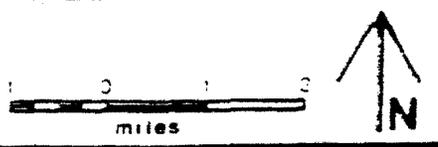
EXHIBIT NO. 1

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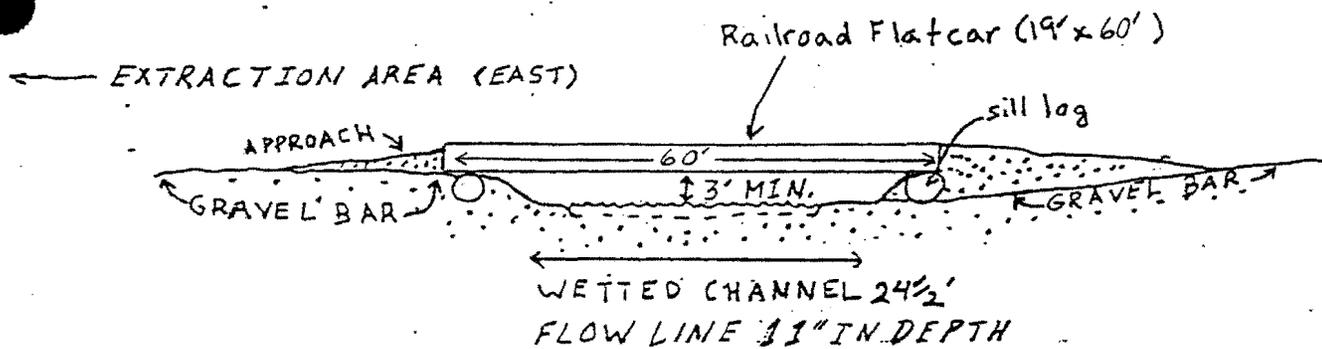
REGIONAL LOCATION

LOCATION MAP

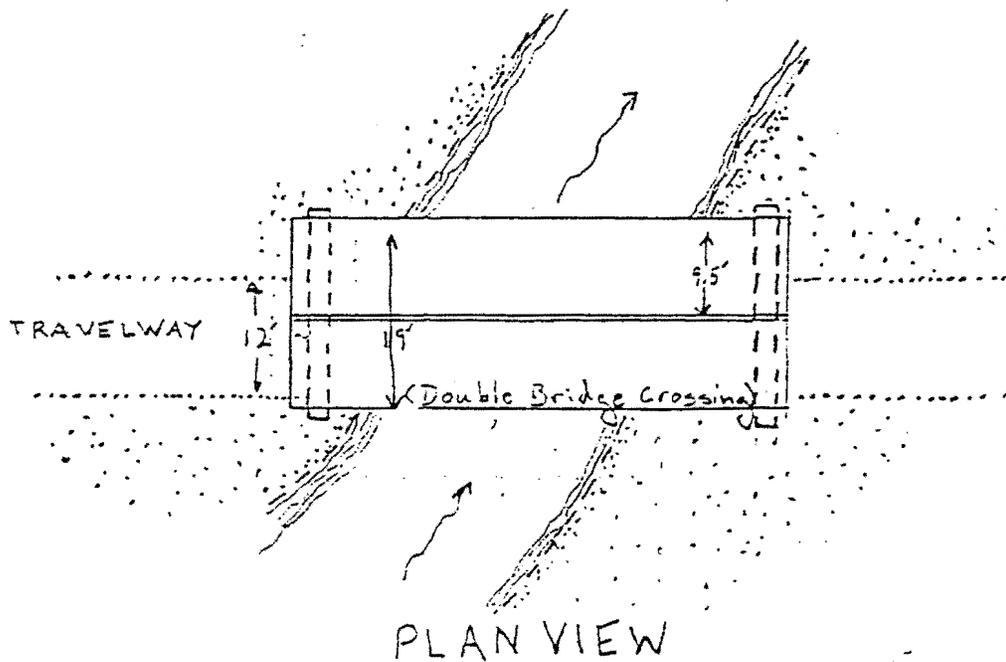


Typical Summer Bridge Crossing Dimensions

(Actual conditions existing during 1996 extraction season)



SECTIONAL VIEW



PLAN VIEW

EXHIBIT NO. 3
APPLICATION NO. 1-02-006
LELAND ROCK
CHANNEL CROSSING (TYPICAL)

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A.R. No. 151422SWR96AR51

Mr. Calvin Fong
Chief, Regulatory Branch
Department of the Army
San Francisco District, Corps of Engineers
333 Market St.
San Francisco, CA 94105-2197

EXHIBIT NO. 5
APPLICATION NO. 1-02-006
PRE-DECISION DRAFT, BIOLOGICAL AND
CONF. OPN. FOR LOP 96-1 (1 of 32)

Dear Mr. Fong:

This letter constitutes a third amendment to the May 1, 2000, Biological and Conference Opinion (Opinion) for the Letter of Permission Procedure for Gravel Mining and Excavation Activities within Humboldt County, California (LOP 96-1), (first amendment dated September 6, 2000; second amendment dated July 5, 2001). On June 27, 2002, the National Marine Fisheries Service (NMFS) received your request to amend the Opinion and Incidental Take Statement (ITS) for the LOP 96-1 procedure (letter from C. Fong, U.S. Army Corps of Engineers (Corps), to R. McInnis, NMFS, dated June 25, 2002). The following responds to your request to extend the duration of the proposed action, and to change the proposed action by eliminating the Security East gravel bar site on the Hoopa Valley Indian Reservation. This letter amends the May 1, 2000, Opinion, and enclosed as Attachment 1 is the amended ITS for implementation of LOP 96-1 during the 2002 gravel mining season.

Consultation History

As described in the May 1, 2000, Opinion, NMFS originally issued a July 17, 1997 biological opinion on the LOP 96-1 procedure. Subsequently, the Corps requested that consultation be reinitiated (July 23, 1999, letter and information packet, from C. Fong, Corps, to W. Hogarth, NMFS) based on designation of critical habitat, and the listing of additional salmonid species. This request resulted in the May 1, 2000, Opinion.

The Corps then requested (June 27, 2000 letter from C. Fong, Corps, to R. McInnis, NMFS) that the Opinion be amended to add an additional mining site, to better describe an existing mining site, and to clarify terms and conditions of the ITS. The Opinion was amended (September 6, 2000 letter from R. Lent, NMFS, to C. Fong, Corps), which included an amended ITS.

Although we expected that the Corps would issue a new LOP procedure for gravel mining activities, on June 29, 2001 the Corps extended the expiration date of LOP 96-1 to October 31, 2001, and requested an amendment to the duration of the 2000 Opinion. As described in LOP 96-1, the Corps included the option of extending the LOP authorization for up to one year past the original August 19, 2001 expiration date. The Corps utilized the extension option in order to

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on the effects of gravel mining on listed salmonid species, and their habitat. Additional information, (i.e., ongoing reviews by the Corps, contractors, and NMFS internal analysis,) was still being compiled during preparation of the second amendment. Although some of the additional information is now available for preparation of this third amendment, NMFS is still waiting for other additional information. When there is a gap in the information base, NMFS will formulate a biological opinion providing the benefit of the doubt to the species concerned with respect to such gaps in the information base [H.R. Conf. Rep. No. 697, 96th Cong., 2nd Sess. 12 (1979)]. Additional information shows that implementation of LOP 96-1 has the potential for effects to listed salmonids that were not analyzed in the 2000 Opinion. Continuation of LOP 96-1 until December 31, 2002 changes the project description, and effects of the action sections of the 2000 Opinion, as described in the following sections of this amendment. Additionally, there have been changes to the environmental baseline since the second amendment, which are described below.

Project Description

Extension

The Corps is proposing to increase the project duration by one additional mining season. Project duration is one component of the effects analysis described in the 2000 Opinion. Gravel mining results in changes to channel form and function, and these changes affect habitat function for salmonids as described in the "Effects of the Action" section. These channel and habitat changes occur at two different time-scales: (1) at the time of mining, or shortly after mining, and are evident after one season of mining operations, and (2) long-term simplification of habitat and loss of fundamental geomorphic features. NMFS expects that the increase in project duration will mainly increase the potential for effects that occur at the time or mining, or shortly after mining. Due to the relatively short project duration proposed by the extension, NMFS expects that there will be less potential for an increase in long-term effects. Additional information is utilized to more fully analyze and understand the potential for effects from the extension of project duration. This increase in the potential for effects is explained in the "Effects of the Action" section of this amendment.

Change in the Action Area

In its June 25, 2002 letter, the Corps states that its proposed action remains the same as for the 2001 gravel mining season with the exception of Security East Bar, which is not proposed for authorization by LOP 96-1 during the 2002 mining season. Security East Bar is located within the Hoopa Valley Indian Reservation, near the town of Hoopa, on the Trinity River. The Hoopa Valley Tribe has applied for an individual permit from the Corps for Security East Bar, and Tish Tang Number 8 Bar, which is also located on the Trinity River. Security East Bar is removed

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Alcove extractions may be authorized by LOP 96-1 during the 2002 mining season. This type of extraction is located on the downstream end of gravel bars, where naturally occurring alcoves form and may provide velocity refuge for juvenile salmonids during high flows, and potential thermal refuge for juvenile salmonids during the summer season. Alcove extractions are irregularly shaped to avoid disturbance of riparian vegetation, and are open to the low flow channel on the downstream end to avoid stranding salmonids. Alcoves are extracted to a depth above the water table, and are relatively small in area and volume extracted.

Gravel bar skimming and dry trenching are described in the 2000 Opinion. Gravel bar skimming is still expected to be authorized by LOP 96-1 for many sites within the action area. Based on CHERT and interagency preliminary site visits, dry trenching is expected to be used more extensively in 2002 than in previous years of LOP 96-1. In addition to the sites described in the 2000 Opinion, dry trenching may be proposed during 2002 at the Cook's Valley site on the South Fork Eel River, at the Leland Rock site on the Van Duzen River, and at Larabee and Truck Shop bars on the Eel River.

Biological Monitoring Requirements of LOP 96-1

The biological monitoring requirements of LOP 96-1, as described in the 2000 Opinion, were completed after three years of project implementation. The physical monitoring (e.g., cross sections and aerial photos) are on-going requirements of LOP 96-1. Cross sections, aerial photos, and pre- and post-extraction site visits will continue to be used to monitor compliance, and in some cases, may be used to monitor the effectiveness of project design features at minimizing the incidental take of listed salmonid species.

Status of the Species

This amendment addresses the following Federally listed species, and designated critical habitat:

- Southern Oregon/Northern California Coast (SONCC) coho salmon (*Oncorhynchus kisutch*): threatened; 62 FR 24588 (May 6, 1997). Designated critical habitat: 64 FR 24049 (May 5, 1999).
- California Coastal (CC) Chinook salmon (*Oncorhynchus tshawytscha*): threatened; 64 FR 50394 (September 16, 1999).
- Northern California (NC) steelhead (*Oncorhynchus mykiss*): threatened; 65 FR 36074 (June 7, 2000).

All three species and the associated designated critical habitat are found within the action area,

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conditions by reducing gravel bar heights, with further loss of channel confinement, which has aggravated fish passage problems, as seen in the stranding of adult Chinook salmon during the fall of 2001. The potential for stranding of adult Chinook salmon at this site was not fully analyzed in the 2000 Opinion.

As stated above, stranding of adult Chinook salmon during upstream spawning migration occurred in the lower Van Duzen River, a tributary to the Eel River, in 1996 and 2001. In November 1996, stranding resulted in the mortality of thirty adult Chinook. An estimated 250-300 adult Chinook continued migrating following re-connection of the channel through the aggraded reach in 1996. On November 12, 2001, a total of 133 CC Chinook died as a result of stranding in the lower Van Duzen River. Based on the number of females, an estimated 333,000 eggs were lost from the population. (Scott Downie, CDFG Memo, 2001). The majority of spawning adults return as age 4 fish. Assuming a 30% survival rate (Groot and Margolis 1998) of each life stage (egg, fry, smolt; 1, 2, and 3 year old), loss of these adults resulted in loss of a potential 240 adults or 120 females. In 2001, following excavation and re-connection of the thalweg, more than 1,000 Chinook continued migrating up the Van Duzen River (Scott Downie, CDFG, personal communication).

Myers et al. (1998) reported that in 1965, CDFG estimated the Eel River watershed contributed 55,000 (62%) of the 88,000 Chinook for the California portion of the ESU. Although strong negative trends in the fall-run Chinook in the Eel River were identified and population estimates for Chinook in the Eel River watershed were less than 5,000 individuals (Myers et al. 1998), current estimates of Chinook populations are unavailable. However, record numbers of adult Chinook were reported 2001 in the Eel River; in the Van Duzen River, and its tributary Yager Creek, in the Mattole River, (Scott Downie, CDFG, personal communication), as well as in the Mad River and Redwood Creek (Michael Sparkman, CDFG, personal communication). In addition, out migrant data from upper Redwood Creek indicates a high number of young-of-year Chinook during 2002. As of June 30, and with approximately 6 more weeks of sampling, a total of 217,455 individuals had been collected compared with 123,633 individuals in 2001 and 120,692 individuals in 2000 (Mike Sparkman, CDFG, personal communication).

The mortality of 133 adult Chinook in the Van Duzen River may represent loss of 10% of the spawning population of the Van Duzen River in 2001, assuming, based on CDFG observations, that approximately 1200 adults successfully migrated. Using the same method of analysis, an estimated escapement in the Van Duzen River of 2,187 individuals is predicted in 2005 compared with potential 2,427 if the stranding had not occurred.

Lower Mad River

Increased width-to-depth ratio has been documented in the gravel mining reach of the Mad River.

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The 2000 Opinion described that heavy equipment is allowed in the wetted, low flow channel only to construct and remove channel crossings, and that the use of heavy equipment in the low flow channel may result in the death of few juvenile salmonids due to the implementation of project design features. In order to better understand how channel crossings are constructed and removed, and the potential effects of these activities to listed salmonids, NMFS observed channel crossing construction and removal over the past few years. NMFS observed that heavy equipment may need to cross the channel more than once per construction and removal of each channel crossing.

In addition, the California Department of Fish and Game (CDFG) has observed Chinook salmon redds built under, or very near to, channel crossing locations on the Mad River in September and October of 2001 (J. Froland, CDFG, pers. comm. 2001). Temporary channel crossings are typically built at riffle locations, which are also locations where Chinook salmon build redds and spawn (spawning activity may begin as early as September, and peaks during November and December). Redds located near channel crossings may be subjected to a pulse of fine sediment from crossing removal. Due to the cover the temporary bridges provide, Chinook salmon may be attracted to spawn under or near the temporary bridges, and redds may experience direct crushing by crossing removal. Food for juvenile salmonids is also more abundant in riffle locations, and juvenile salmonids use riffles and the areas upstream and downstream of riffles extensively. More restrictive timing and location of crossings are necessary to minimize the potential effects of channel crossings on juvenile salmonids, and to Chinook redds constructed in the early fall months.

Disruption of Holding and Migration Patterns by Heavy Equipment Noise and Vibration Disturbance

Although fish (young-of-year steelhead in particular) have been observed during the day in the vicinity of operating heavy equipment (used to install a summer dam), increased numbers have been observed in the same vicinity during the day in the absence of operating equipment (D. Ashton, NMFS, pers. comm. 2002). This observation suggests that operation of heavy equipment may have an effect on juvenile salmonids not previously analyzed in the 2000 Opinion, and the potential for a decrease in juvenile habitat utilization (i.e., juveniles displaced from more favorable habitat into less favorable habitat) exists from the disturbance caused by heavy equipment operation.

Salmonid Stranding on Extraction Bars

An increased risk of juvenile and adult salmonid stranding is associated with trenching and bar skimming, as these extraction areas may become inundated during adult fall migration. An increased risk of juvenile salmonid stranding is associated wetland pits, horseshoe shaped deep skims, trenching, and bar skimming. Wetland pits minimize the risk of juvenile stranding by their

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Elevated Turbidity/Sediment

Recent NMFS analysis has shown (B. Cluer, NMFS, unpublished data, 2002) that the introduction of sediment entrained from a skimmed gravel bar surface has more influence on potential Chinook spawning success than was previously considered. Reduction in channel confinement as a result of gravel bar skimming results in inundation of a skimmed bar at lower and earlier flows. Sediment entrained from the skimmed bar has the potential to affect Chinook salmon redds located downstream of and adjacent to gravel mining sites, during the critical Chinook salmon spawning period of November and December, as described in the "Impacts to Spawning Habitat" section below.

The entrainment of fine sediment from skimmed surfaces is derived from the loss of surface armor as described in the 2000 Opinion. However, the effect of this sediment being mobilized during lower flow events in November and December, due to decreased bar heights, was not discussed. In the absence of gravel extraction, gravel bars would be expected to rebuild their height through sediment deposition until a mature bar height is reached. Gravel bar skimming that reduces bar height increases the probability and frequency that gravel bars will become inundated during typical November and December flows, during the peak time which is important for Chinook salmon spawning success. Sediment entrained from skimmed gravel bars during this period has the potential to affect Chinook spawning success as described below.

The published daily suspended sediment load estimations by the USGS on the Mad River, Eel River, Van Duzen River, and the South Fork Eel River show a significant increase in slope near the daily average flow that is exceeded approximately 35% of the time in the historic record of daily flows for each river. The Trinity river also show a significant increase at the 30 to 40% exceedance flow, based on the USGS recorded suspended sediment data. Therefore, in order to minimize the effect of sediment from a skimmed bar surface, skim floor elevations should be greater than the elevation of the flow that represents the significant increase in sediment transport. Once the stream flow has reached the 35 to 40% exceedance flow, the extra volume of sediment mobilized from the skimmed bars will be a much smaller percentage of the total sediment, resulting in a reduced effect than if the sediment was mobilized at a lower flow.

Impacts to Spawning Habitat

As discussed in the 2000 Opinion, and under the "Elevated Turbidity/Sediment" and "Mortality During Active Mining" sections above, Chinook salmon redds located in the action area may be adversely affected in a number of ways by gravel mining activities. Short-term impacts to spawning habitat from gravel mining can occur by a flush of fine sediment onto spawning substrate or the redd itself, by the disturbance of redds caused by channel crossing location and removal, by changes to substrate size, and by increased redd scour due to increased bed mobility. Long term impacts to salmonid habitat from gravel mining occurs by reducing the size of

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first flow (1000 cfs) in which bed material was noted in the gaged record. For these reasons, NMFS thinks that the minimum one-foot vertical offset required by LOP 96-1 may not be sufficient in most cases to minimize effects to Chinook salmon spawning habitat that result from loss of channel confinement and bar inundation at lower and earlier flows.

Impacts to Migratory, Rearing and Holding Habitat

Gravel extraction has the potential to impact migratory, rearing and holding habitat in many ways, as discussed in the 2000 Opinion. In particular, gravel bar skimming increases the width-to-depth ratio of river channels, decreases channel confinement during rising fall and early winter flows, and changes the hydraulic function of gravel bars to create and maintain pools and riffles. Increased width-to-depth ratio in the gravel mining reach of the Mad River, and decreased channel confinement in the Van Duzen River are described in the "Environmental Baseline" section of this amendment.

Adult salmonid migration begins as early as September, and continues into the winter months. Chinook spawning begins as early as September and peaks in November and December. During the fall and early winter months gravel bars have not had time to replenish from the previous season of mining. A minimum depth over riffles at flows that fish use for spawning and migration need to be maintained in order to allow for adult passage and spawning success. NMFS thinks that an average of 18 inches of flow depth over a riffle is needed to minimize gravel mining effects to spawning and migration. LOP 96-1 states that a minimum vertical offset of one-foot between the low flow water surface elevation and the skim floor must be maintained. The minimum one-foot vertical offset required by LOP 96-1 does not typically provide the average of 18 inches of flow depth over a riffle, nor does it result in a confined channel during rising fall/early winter flows. A confined channel in the fall and early winter months is needed to minimize effects to spawning, migration, rearing and holding habitat.

Using a simplified riffle geometry, the minimum water depth required at the riffle thalweg is 28 inches to maintain the 18-inch average depth through the riffle transect (NMFS unpublished data 2002). Measurements on the Mad River indicate that a riffle thalweg depth of 28 inches corresponds with 1000 cfs, the flow that is exceeded 33% of the time. This flow corresponds with initiation of bed material, the development of the top of the silt band, the significant increase in suspended sediment load, and the optimum amount of spawning area.

CC Chinook salmon, NC steelhead, and SONCC coho salmon rear in the lower river systems where gravel extraction occurs. Chinook salmon use the lower river reaches in the vicinity of gravel extraction for rearing more extensively than the other listed salmonid species. Due to their life history requirements, Chinook salmon must increase in size and weight during juvenile rearing before out-migration in June in order to survive once they reach the ocean. The gravel extraction method of skimming alternate (point) and mid-channel bars prevents the natural

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and include simplification of habitat and loss or reduction of fundamental geomorphic features. Project effects relative to SONCC coho salmon, CC Chinook salmon, and NC steelhead freshwater life history stages (i.e. spawning, migration, rearing and holding) are discussed in the above sections, and summarized below.

Spawning

Short-term impacts to Chinook salmon spawning habitat from gravel mining include the introduction of fine sediment onto spawning substrate, or the redd itself, in November and December. Fine sediment from one additional season of gravel mining will incrementally decrease the quality and quantity of Chinook salmon spawning habitat, which would lead to a reduction in Chinook spawning success.

Migration

Gravel bar skimming reduces bar heights which are needed to confine the channel during rising fall and early winter flows. Reduced bar height, and reduced channel confinement, can occur after one season of mining operations, and may decrease the quality of adult salmonid migratory habitat at riffle locations.

Rearing and Holding

Channel confinement and the hydraulic control provided by a confined channel, is necessary to create and maintain pools and riffles. Pools provide habitat for adult holding, and juvenile rearing and feeding. Riffles provide habitat for juvenile rearing and feeding. Reduction in channel confinement and an increase in width to depth ratio can occur after one season of mining operations. LWD also provides rearing and holding habitat, and a reduction in LWD is also expected to occur after one season of mining operations. It is expected that a reduction in the quantity and quality of rearing and holding habitat will occur due to the extended duration of one additional mining season.

Adherence to project design features minimizes some of the effects of the proposed action on listed salmonid species. However, even with the inclusion of project design features, NMFS expects harm to listed salmonids from the effects that result in a decrease in the quantity and quality of spawning, migratory, rearing, and holding habitat. The potential for increased width-to-depth ratio, loss of channel confinement in fall and early winter, reduction in the hydraulic control provided by gravel bars necessary to create and maintain pools and riffles, an increase in fine sediment introduced from skimmed surfaces during the critical Chinook spawning season of November and December, and loss of LWD recruitment, can all occur after one season of mining operations. The long-term habitat impacts caused by gravel mining include decreased pool depths, increased low-flow channel widths, reduced sinuosity and channel confinement, reduced sediment sorting processes, channel margin simplification, and reduced sediment delivery to downstream habitats. NMFS expects that long-term impacts would result after many seasons of gravel mining operations.

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which is issued to applicants utilizing the LOP procedure, so that all applicants are aware of the new requirements.

If you have any questions please call Ms. Leslie Wolff of the Arcata Field Office at (707) 825-5172.

Sincerely,

Rodney R. McInnis
Acting Regional Administrator

Enclosures (Attachment 1 - Amended ITS; Attachment 2 - Habitat Mapping Protocol)

cc:

Jane Hicks, U.S. Army Corps of Engineers
Kelley Reid, U.S. Army Corps of Engineers
Carl Harral, California Department of Fish and Game
Randy Brown, U.S. Fish and Wildlife Service
Kirk Girard, County of Humboldt Planning Department
Doug Jager, CHERT
Randy Klein, CHERT
Bill Trush, CHERT
Andre Lehre, CHERT

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impacts to salmonid habitat correspond with these impaired behavior patterns, NMFS is describing the amount or extent of take anticipated from the proposed action in terms of limitations on habitat impacts. The NMFS expects that physical habitat impacts will be: consistent with the areas described in Table 1 below, compliant with the project design features of LOP 96-1 and this incidental take statement, and within the expected effects of gravel mining operations as described in the 2000 Opinion, and this amendment.

Table 1. For each river, gravel bar sites are listed from the most upstream site to the most downstream site, and are not necessarily contiguous. The length of each site is measured along the center line of the stream, adjacent to each bar. Data was provided by Humboldt County Planning Division (April 26, 2000), except for the Cook's Valley site and the Fort Seward site where data was provided by the Corps (June 27, 2000), and the McKnight site, where data was provided by the Corps (June 25, 2001). Note that the experimental extraction on Christie Bar which began prior to this amendment is not covered by this ITS. Christie Bar is included in Table 1 only for potential mining plans that may begin implementation after issuance of this ITS.

Stream	Length (feet)	Gravel Bar Site Name
Lower Eel	3646	McCann to Scotia Bars (near the town of Scotia)
	4160	McCann to Scotia Bars
	8340	McCann to Scotia Bars
	8398	McCann to Scotia Bars
	4844	McCann to Scotia Bars
	7900	Dyerville Bar
	2830	Hauck Bar
	1117	Hansen Bar
	1754	Upper Sandy Prairie Bar
	3507	Canevari - Sandy Prairie Bar
	2160	Lower Sandy Prairie Bar
	3413	Warswick Bar
	2807	Singley Bar (downstream of Fernbridge)
	Lower Mad	2786
965		Emmerson Bar
2550		Emmerson Bar
278		Blue Lake Bar
4270		Blue Lake Bar
3345		Christie Bar
2021		Johnson Bar
2219		Essex Bar
3327	Johnson-Spini Bar	

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appropriate to minimize take of SONCC coho salmon, CC chinook salmon and NC steelhead.

The Corps shall:

1. Ensure that channel form and function are retained, thereby minimizing declines in the quality or quantity of salmonid habitat.
2. Ensure that measures that minimize adverse effects to listed species and designated critical habitat are implemented as part of the LOP 96-1 procedure.
3. Ensure that measures that minimize impacts to listed salmonids are reviewed and approved by NMFS and other involved agencies before implementation.
4. Begin to track changes to salmonid habitat quality and quantity in the vicinity of gravel extraction sites.

D. Terms and Conditions

The Corps, and its permittees, must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

- RPM 1. Ensure that channel form and function are retained, thereby minimizing declines in the quality or quantity of salmonid habitat.
- a. All projects authorized under LOP 96-1 must continue to undergo the annual comprehensive hydrologic and geomorphic review, with associated recommendations, provided by CHERT.
 - b. Ensure that extraction quantities do not exceed the long term average annual sustained yield, based on estimates of mean annual recruitment, as utilized by CHERT.
 - c. NMFS shall participate in the review and recommendation process in order to provide concurrence that CHERT recommendations, and the applicant's mining plans, are consistent with the effects analysis, and incidental take statement of this amendment. To meet this condition, NMFS requires: that we receive copies of all pre- and post-extraction information, including cross sections and aerial photos; that a mutually agreeable date is scheduled between CHERT, the Corps and NMFS for site reviews, or a five working day notice of when the site review is scheduled to occur is provided to NMFS; and, that we provide concurrence with CHERT recommendations that deviate from LOP 96-1 project design features, or

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surface elevations, adjacent habitat types, and other relevant indicators at the specific site. Utilizing analysis and relevant evaluation criteria, CHERT may recommend a vertical offset that is less than or greater than the stated two foot minimum, but deviation below the two foot minimum vertical offset shall require concurrence by NMFS prior to permitting by the Corps. NMFS anticipates few reductions to the minimum vertical offset value of two feet.

Table 2 - The flow in the table represents the flow in which a significant amount of suspended sediment begins to move (the upward inflection point on the suspended sediment vs. flow rate curve)

USGS Stream Gage	Flow Exceeded 35% of Time
Mad River near Arcata	950-1000 cfs
Lower Eel at Scotia	3500-3800 cfs
Van Duzen near Bridgeville	470-500 cfs
South Fork Eel near Miranda	850 -900 cfs
USGS Stream Gage	Flow Exceeded 40% of time
Trinity River at Hoopa	3000 - 4000 cfs

- b. Consideration shall be given to protection of hydraulic processes that create and maintain pools and riffles. Protect gravel bar function by minimizing extraction on the upstream one-third of gravel bars, and by maintaining channel confinement necessary to protect pool maintenance processes.
- c. Implement a change in the season of channel crossing construction and removal in order to minimize impacts to juvenile salmonids, and early fall adult spawning salmonids, and their redds. Channel crossing construction shall not begin until June 15 for all rivers throughout the action area, except the Trinity River, where channel crossing construction can begin June 1. Channel crossing removal shall be completed by September 15 for the Mad and South Fork Eel rivers to protect any early redds from increased fine sediment, and to minimize the attraction to spawn near, or under temporary bridges. Channel crossing removal shall be completed by October 15 for all other river systems. Consideration shall be given to

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- c. Ensure that NMFS reviews and approves requests for fisheries enhancement projects that modify excavation procedures before being authorized by the Corps.

RPM 4. Begin to track changes to salmonid habitat quality and quantity in the vicinity of gravel extraction sites.

- a. Ensure that applicants perform the habitat mapping, described in Attachment 2.
- b. Riffle crest elevations, as measured at the thalweg, and tied to the survey datum are required adjacent to, and upstream and downstream of each gravel mining site. Riffle crest elevations shall be measured within the gravel extraction reach (or zone), and distances upstream and downstream of the gravel extraction area equal to half the gravel extraction reach. If gravel mining sites are contiguous, then riffle crests shall be measured throughout the contiguous mining reach.
- c. Redd surveys consisting of visual observation shall be conducted biweekly from October 1 through December 30. Redd surveys shall be conducted within the gravel extraction reach (or zone), and distances upstream and downstream of the gravel extraction area equal to half the gravel extraction reach. If gravel mining sites are contiguous, then the redd survey shall be conducted throughout the contiguous mining reach. The location of redds shall be mapped on aerial photos and geographically referenced (i.e., GPS or survey datum). Flagging or other visual identification shall be used to mark location of redds on the ground so follow-up surveys can determine persistence and identification of new redds. If stream conditions do not allow for effective or safe surveys, then the conditions of the stream shall be recorded (turbidity and flow) and surveys shall resume as soon as conditions improve. A redd survey report shall be submitted by January 15, 2003 and shall contain the following items:
 - i) Date and time of survey; name of surveyor(s)
 - ii) Stream and weather conditions at time of survey
 - iii) Number of new redds observed, by location (geographic coordinates and marked on aerial photos); habitat call for location of redds (e.g., pool tail crest, riffle crest)
 - iv) Number of old redds persisting and location
 - v) Number of fish observed, by species, per redd location, and fish condition observed (e.g., active spawning, pre-spawn mortality, spawned

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Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information.

The NMFS believes the following conservation measures are consistent with these obligations, and therefore should be implemented by the Corps:

1. The Corps, in conjunction with NMFS and other involved agencies, should begin to develop additional updated monitoring protocols, that begin to answer questions regarding changes in habitat quantity and quality in the vicinity of gravel extraction operations. An important relationship to begin to monitor is that between river stage and discharge that is required to overtop skimmed gravel bar surfaces.
2. The Corps shall continue to work with NMFS, and other involved agencies on the LOP procedure for 2003-2007.
3. Educational signing regarding the importance of LWD for salmonids should be placed at access roads owned, controlled, or utilized by the gravel operators. In addition, in order to protect LWD deposited on mined gravel bars, all access roads owned or controlled by gravel operators should be gated and locked to reduce access.

In order for NMFS to be kept informed of the actions minimizing or avoiding effects or benefitting listed species or their habitats, NMFS requests notification of the implementation of the conservation recommendations.

Reinitiation of Consultation

This concludes formal consultation on the actions and processes described in the LOP 96-1 procedure. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the extent of incidental take is exceeded, or is expected to be exceeded; (2) new information reveals effects of the agency action may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR § 402.16). In instances where the amount of incidental take is exceeded, consultation shall be reinitiated immediately.

Attachment 2 - Salmonid Habitat Mapping Protocol

Trend monitoring of habitat shall identify the type, quantity, and quality of salmonid habitat present in the vicinity of and influenced by commercial gravel extraction, as well as monitor its availability over time. The hydraulic geometry of the active channel creates the habitat conditions which salmonids use throughout their freshwater life cycle (upstream spawning migration and holding; redd forming; and juvenile rearing and holding). Trend monitoring shall require a different approach than the previously used CDFG Habitat Level III typing technique (CDFG California Salmonid Stream Habitat Restoration Manual.) This monitoring is intended to describe and quantify available habitat present on the pre and post season extraction aerial photographs at each extraction site to determine trends in the salmonid habitat following both the periods of annual bed material movement and replenishment, and annual extraction. Habitat parameters shall be linked by NMFS personnel to pre and post season cross-sections of extraction sites. NMFS shall be provided copies of both the pre and post season cross sections, and aerial photographs.

To initiate the monitoring and prior to field observations, an experienced fisheries biologist shall examine the spring aerial photographs using a stereoscope and delineate locations of moderate to high quality rearing habitat for juvenile salmonids, and holding and spawning habitat for upstream migrating adults. Habitat units for 0+, 1+, and 2+ steelhead shall be used as a surrogate for habitat use by other salmonids throughout the year. Habitat units shall be delineated on the photographs using polygons. Each polygon shall be assigned a tracking number, and the number shall be used to link field data to the aerial photograph. Specific habitat features to be described and measured shall include: habitat type, dimension, depth, velocity, substrate, etc. Dimensions are to be developed in conjunction with NMFS personnel. Field data for each polygon shall be entered into a spreadsheet of an appropriate data base (NMFS shall provide concurrence on the choice of data base). Cool water refuge shall be identified underwater, mapped and temperatures recorded. The area of each polygon shall be calculated in square feet, however, the dimension and shape of the habitat shall also be defined. The habitat data shall be entered into a spreadsheet or database program such as Excel or Access.

Continuous temperature monitoring in 2002, both in the vicinity of an extraction bar and in an unmined reach shall be used to compare the diel fluctuations in temperature and be related to actual habitat use throughout the summer and during the 24-hour cycle of temperature change. Previous temperature monitoring in the vicinity of gravel extraction operations did not have a reference site for comparison so the information is observational only and is insufficient to demonstrate that there is no difference in temperature in the vicinity of unmined and mined gravel bars.

Both a hard and electronic copy of a report shall be provided to the Corps and to NMFS by December 31. The report shall contain in the description of available habitats, species observed,

EXHIBIT NO. 6
APPLICATION NO. 1-02-006
NOTICE OF FINDINGS, CAL. FISH & GAME
COMM., CAL. REG. NOTICE REGISTER

rs ("Corps") regarding a fine in Riverside County th the California Endan-") pursuant to Fish and . On March 9, 2001 the lum (1-6-00-F-715.2) in on (1-6-00-F-715) speci- lertaken by the project

acts of the project to the state-listed and federally-listed threatened reptile, desert tortoise (*Gopherus agassizii*). If the Department determines that the federal biological opinion is consistent with CESA, the applicant will not be required to obtain an incidental take permit (Fish and Game Code Section 2081) for project impacts to this species.

DEPARTMENT OF FISH AND GAME

PUBLIC INTEREST NOTICE

CESA CONSISTENCY DETERMINATION FOR RAMONA AIRPORT IMPROVEMENT PROJECT, SAN DIEGO COUNTY, CALIFORNIA

The Department of Fish and Game ("Department") received a request, on April 16, 2001 from the project applicant, Federal Aviation Administration ("FAA"), that consultations between the U.S. Fish and Wildlife Service ("Service"), the Department, and the U.S. Army Corp of Engineers ("Corps") regarding a proposed Ramona Airport Improvement Project in San Diego County be considered consistent with the California Endangered Species Act ("CESA") pursuant to Fish and Game Code Section 2080.1. On March 16, 2001 the Service issued a biological opinion (1-6-98-F-833.3-R1) to supplement the original biological opinion (1-6-98-F-46) specifying measures to be undertaken by the project applicant to mitigate any impacts of the project to the federally-listed endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*; shrimp) and the state-listed threatened, federally-listed endangered Stephen's kangaroo rat (*Dipodomys stephensi*; SKR). If the Department determines that the federal biological opinion is consistent with CESA, the applicant will not be required to obtain an incidental take permit (Fish and Game Code Section 2081) for project impacts to this species.

FISH AND GAME COMMISSION

NOTICE OF FINDINGS

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of Section 2074.2 of the Fish and Game Code, the California Fish and Game Commission, at

its April 5, 2001, meeting in Monterey, accepted for consideration the petition submitted to list coho salmon (*Oncorhynchus kisutch*) north of San Francisco as endangered. Pursuant to subdivision (a)(2) of Section 2074.2 of the Fish and Game Code, the aforementioned species is hereby declared a candidate species as defined by Section 2068 of the Fish and Game Code.

Within one year of the date of publication of this notice of findings, the Department of Fish and Game shall submit a written report, pursuant to Section 2074.6 of the Fish and Game Code, indicating whether the petitioned action is warranted. Copies of the petition, as well as minutes of the April 5, 2001, Commission meeting, are on file and available for public review from Robert R. Treanor, Executive Director, Fish and Game Commission, 1416 Ninth Street, Box 944209, Sacramento, California 94244-2090, phone (916) 653-4899. Written comments or data related to the petitioned action should be directed to the Commission at the aforementioned address.

Fish and Game Commission

Robert R. Treanor
Executive Director

April 17, 2001

FISH AND GAME COMMISSION

NOTICE OF RECEIPT OF PETITION

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of Section 2073.3 of the Fish and Game Code, the California Fish and Game Commission, on October 25, 2000, received a petition from the Milo Baker Chapter of California Native Plant Society to uplist the North Coast Semaphore Grass (*Pleuropogon hooverianus*) from threatened to an endangered species. At present, the North Coast Semaphore Grass is known from only four sites: two sites within Mendocino County, one site in Sonoma County and one site in Marin County. The North Coast Semaphore Grass is associated with wet, grassy areas within redwoods and mixed hardwood forests and along wet edges of forests.

Pursuant to Section 2073 of the Fish and Game Code, on October 31, 2000, the Commission transmitted the petition to the Department of Fish and Game for review pursuant to Section 2073.5 of said Code. The Department's evaluation and recommendation relating to the petition was received by the Commission at its April 5, 2001, meeting in Monterey. Interested parties may contact Ms. Sandra Morey, Chief, Habitat Conservation Planning Branch, Department of Fish and Game, at telephone (916) 653-4875

installing, operating and maintaining facilities or stream features designed to eliminate or minimize barriers to fish migration and fish rescue operations is authorized pursuant to Section 783.1(c), Title 14, CCR.

(6) Extraction of Gravel Resources.

Incidental take of coho salmon resulting from the extraction of gravel resources in a stream or river, is authorized for the coho candidacy period provided that such activities are conducted in accordance with the measures specified in Exhibit C.

(7) Water Diversions.

Incidental take of coho salmon resulting from diversion of water, for any purpose, is authorized during the candidacy period, subject to the following conditions:

(A) Existing unscreened diversions may continue in operation through the candidacy period. Upon any future determination by the commission that coho salmon shall be added to the list of threatened or endangered species, incidental take for such diversions must be authorized under Fish and Game Code Section 2081(b) or be determined exempt from the permitting requirement under Fish and Game Code Section 2080.1.

(B) Diversions approved and constructed after the effective date of this section shall be screened and shall meet the Department of Fish and Game Fish Screening Criteria (dated June 19, 2000) included in this regulation as Exhibit D.

(C) Existing fish screens that are repaired, upgraded, or reconstructed during the candidacy period must meet the Department of Fish and Game Fish Screening Criteria (dated June 19, 2000) included in this regulation as Exhibit D.

(8) Department of Fish and Game Streambed Alteration Agreements.

Incidental take of coho salmon during the candidacy period is authorized for any project carried out in compliance with section 1601 or 1603 of the Fish and Game Code, for which a Lake or Streambed Alteration Agreement (Agreement) has been entered into between the department and the party undertaking the activity, provided that:

(A) any measures identified by the department as necessary to protect coho salmon are incorporated into the signed Agreement and are fully implemented by the party undertaking the activity; and

(B) the project otherwise complies with other relevant provisions of this section. Projects that will involve the extraction of mineral resources shall also comply with subsection (a)(6), and projects involving water diversions shall also comply with subsection (a)(7) of Section 749.1, Title 14, CCR.

(9) Pacific Lumber Company Habitat Conservation Plan.

Incidental take of coho salmon resulting from activities within the Plan and Permit Area described as Covered Activities in the "Habitat Conservation Plan for the Properties of The Pacific Lumber Company, Scotia Pacific Holding Company, and Salmon Creek Corporation, February 1999", is authorized during the candidacy period insofar as activities are conducted in accordance with the relevant Operating Conservation Plans.

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EXHIBIT C**Incidental Take Authorization Standards
For In-Stream Gravel Extraction
During The Candidacy Period For Coho Salmon**

1. A gravel extraction plan including design features, mitigation measures, and enhancement recommendations that minimize impacts to salmonids shall be prepared by the operator and submitted to the Department for review and approval before extraction may begin. The maximum amount permitted to be removed shall be no more than the amount of sand and gravel that is annually replenished in the proposed extraction area, and cumulative extraction quantities shall be consistent with the long-term average annual sustained yield based on estimates of mean annual recruitment.
2. Extraction of gravel shall be accomplished by "skimming" or grading of gravel from bars above the low water channel unless another technique is approved in advance by the Department. The gravel bars shall be sloped from the bank down towards the thalweg and downstream to avoid stranding of salmonids. No holes or depressions shall be allowed to remain in the extraction area. No extraction of the streambanks shall be allowed.
3. Low flow channel confinement shall be maximized by utilizing the low flow silt line, where available, in designing the vertical offset. The silt line measurement shall be taken on or before July 15th of any year unless an alternate date is approved, in advance, by the Department. The vertical offset shall be at least one foot. A larger vertical offset, as determined by the Department, may be necessary to maximize the low flow channel confinement.
4. Gravel bar stability shall be protected by minimizing extraction on the upstream one-third of gravel bars. No extraction shall be allowed in riffle sections. The Department shall review proposed gravel extraction plans during an annual site inspection and make specific recommendations to protect salmonid habitat.
5. Channel crossing construction shall not begin before June 15. Removal of channel crossings shall be completed by September 30. If temporary culverts are installed, they will be installed in such a manner so that they will not impede the passing of fish up and down stream.
6. Large woody debris (LWD) shall be stockpiled before gravel extraction begins and redistributed on the gravel bar after the extraction site has been reclaimed at the end of the extraction season. To the extent possible, vehicular access onto gravel mining sites shall be controlled to minimize the loss of LWD from firewood collectors.
7. Trees exceeding 1 inch DBH shall not be removed, and clumps of smaller trees shall not be removed except by prior approval of the Department. The disturbance or removal of vegetation shall be minimized, shall not exceed that necessary to complete operations and shall be limited to areas where extraction has occurred within the past two years.
8. The project shall comply with Section 1601 or 1603 of the California Fish and Game Code, and a Lake or Streambed Alteration Agreement shall be obtained from the Department. Any measures identified by the Department as necessary to protect coho salmon shall be incorporated into the signed agreement and shall be fully implemented.

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