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Staff:	Jim Baskin
Staff Report:	May 31, 2007
Hearing Date:	June 15, 2007
Commission Action:	

STAFF REPORT: PERMIT AMENDMENT

APPLICATION NO.:	**1-06-008-A1**
APPLICANT (S):	**Reservation Ranch and Affiliates**
AGENT:	Zack Larson
PROJECT LOCATION:	Along the north bank of the lower Smith River estuary, approximately 1.5 miles upstream from the river's mouth with the Pacific Ocean, Del Norte County; APN 103-010-01.
DESCRIPTION OF PROJECT PREVIOUSLY APPROVED:	*Smith River Estuary Enhancement Pilot Project* – Enhance estuarine habitat for juvenile anadromous fish species through excavation by alcove trenching of approximately 7,900 cubic yards of sand and gravel and place large woody debris holding and cover structures along the lower downstream 500-foot length of point bar and adjoining floodplain areas alongside the Reservation Ranch Gravel Bar in the Smith River.
DESCRIPTION OF AMENDMENT REQUEST:	Modify special condition to previously-granted permit to construct anadromous stream restoration and enhancement improvements by amending the

	completion deadline to allow for the remaining portions of the project to be completed during the summer-winter of 2007 subject to the all other performance standards and mitigation measures set forth in the conditions of approval for the original permit.
PLAN DESIGNATION:	Resource Conservation Area (RCA).
ZONING:	Designated Resource Conservation Area – Estuary, Riparian Vegetation RCA-2(e)(r).
LOCAL APPROVALS RECEIVED:	Del Norte County Use / Coastal Development Permit No. UP9043, granted for a five-year term on June 9, 2006, expiring February 1, 2010.
OTHER APPROVALS RECEIVED:	State Lands Commission trust lands review; and California Department of Conservation – Office of Mine Reclamation reclamation plan review.
OTHER APPROVALS REQUIRED:	Del Norte County Use / Coastal Development Permit No. UP9043 annual mining plan authorization for 2007 season; California Department of Fish and Game Sec. 1603 Streambed Alteration Agreement; and U.S. Army Corps of Engineers Letter of Modification to Permit No. 28222N.
SUBSTANTIVE FILE DOCUMENTS:	*Smith River Gravel Study*, California Department of Water Resources, January, 1974; *Programmatic Mitigated Negative Declaration for Gravel Extraction on the Lower Smith River and Rowdy Creek*, County of Del Norte, July, 2000; *Biological Opinion – U.S. Army Corps of Engineers Letter of Permission Procedure to Permit Gravel Mining in Del Norte County, California*, National Marine Fisheries Service, September, 2003; *Letter of Permission Procedure for Gravel Mining and Extraction Activities in Del Norte County, California*, U.S. Army Corps of Engineers LOP 2003-2, March 26, 2004; and *Reservation Ranch Estuary Enhancement Project* (Hydro-Geomorphic Stability Analysis), Rocco Fiori GeoSciences, July, 2006.

SUMMARY OF STAFF RECOMMENDATION

The staff recommends that the Commission approve with conditions, the requested amendment to the coastal development permit originally granted for sand and gravel extraction for the primary purpose of fish and wildlife habitat improvement. The proposed amended project would further extend the timeframe in which efforts to restore the diversity of aquatic habitats along the lower reaches of the Smith River previously authorized by the Commission in October 2006 may be completed. The original 2006 permit (CDP No. 1-06-008, Reservation Ranch and Affiliates, Applicant) authorized riparian/wetland restoration and enhancement activities for improving in-stream and riparian habitat for juvenile and adult coho, steelhead and coastal cutthroat trout along the lower reaches of the Smith River in northwestern Del Norte County. The work entails gravel extraction for the purposes of enhancing side channel and alcove fish habitat conditions on and adjacent to an exposed point bar situated on the northern bank of the lower Smith River.

The proposed project amendment would modify Special Condition No. 2 of the original permit to extend the project completion deadline by one year to allow for performance of the habitat enhancement work at "Estuary Enhancement Site 2 – Side Channel." that was not conducted prior to the original completion deadline of December 31, 2006.

Staff believes that the amended project, with modification and reimposition of Special Condition No. 2 and reimposition of the other four special conditions attached to the original permit, is consistent with the policies of Chapter 3 of the Coastal Act. These other four special conditions require that: (1) the project be conducted as described in the various project application materials, including the project narrative, site plan, extraction cross-sectional diagrams, and mitigation and monitoring program; (2) conditional restrictions on conducting any enhancement work performed after October 15 be restricted to only those times during the fall and winter months when river flows are confined to the low flow channel and when no precipitation is either occurring or is forecasted; (3) the applicant, prior to commencement of the enhancement work, to provide for the Executive Director's review, a copy of the streambed alteration agreement reached with the California Department of Fish and Game.; and (4) a copy of the Clean Water Act Section 404 permit issued by the U.S. Army Corps of Engineers authorizing the original restoration and enhancement work be provided to the Executive Director prior to the commencement of the restoration and enhancement construction activities.

As conditioned, the revised project would continue to conform to the requirements of Section 30236 that permitted new development involving channelization, damming, or other substantial alteration of rivers and streams: (a) be primarily for "the improvement of fish and wildlife habitat," one of the limited number of allowable uses for such fluvial system alterations; and (b) incorporate the best mitigation measures feasible. In addition,

the expanded stream habitat restoration and enhancement work would not result in significant adverse impacts, directly or cumulatively to public access, coastal water quality, or exposure and/or instigation of geologic instability, and would continue to conform with the requirements of Sections 30210-14, 30230 and 30231, and 30353 of the Coastal Act, respectively.

The motion to adopt the staff recommendation of approval with conditions is found on page 5.

STAFF NOTES:

1. Procedural Note.

Section 13166 of the California Code of Regulations states that the Executive Director shall reject an amendment request if: (a) it lessens or avoids the intent of the approved permit; unless (b) the applicant presents newly discovered material information, which he or she could not, with reasonable diligence, have discovered and produced before the permit was granted.

The Executive Director has determined that the proposed amendment would not lessen or avoid the intent of the conditionally approved permit and subsequent permit amendment. On October 13, 2006, Coastal Development Permit No. 1-06-008 (Reservation Ranch and Affiliates, Applicant) was approved by the Commission with five special conditions intended to assure consistency with the provisions of the Coastal Act for protecting, environmentally sensitive habitat areas coastal water quality. Special Condition No. 2 set a deadline for completion of the authorized enhancements of December 31, 2006, with limitations or performing work after October 15, 2006 to ensure that development would not be occurring in the river channel during high flow periods when excavation would be hazardous and cause significant erosion and sedimentation impacts. The proposed amendment would extend the completion deadline to December 31, 2007, but retain the limitations of the condition regarding performing work after October 15th. Thus, even though work would be allowed to occur over another year, the development would continue to be restricted so as to avoid seasonal high flows consistent with the Commission's original intent in imposing Special Condition No. 2. In addition, the habitat restoration and enhancement impetus of the development would not change and the other project limitations and performance standards established under the original permit and determined adequate for reducing the effects of the development in and on adjoining ESHA would not to reduced or otherwise altered. Therefore, the development as amended to allow for construction of the authorized streambed and floodplain rehabilitation work along the lower reaches of Smith River in 2007 would conform to the policies and standards of the Coastal Act with respect to designing and siting development so as to be compatible with environmentally sensitive habitat areas and to protect such areas from the significant degrading impacts of new development.

Therefore, for the reasons discussed above, the Executive Director has determined that the proposed amendment would not lessen or avoid the intent of the conditionally approved permit and has accepted the amendment request for processing.

2. Commission Jurisdiction and Standard of Review.

The site of the proposed surface mining project is on and adjacent to the Reservation Ranch Gravel Bar alongside the perennial low-flow channel of the Smith River, 1½ mile upstream of its mouth with the Pacific Ocean. The County of Del Norte has a certified LCP, but the project site is located in an area subject to the public trust within the Coastal Commission's area of original or retained jurisdiction. Therefore, the standard of review that the Commission must apply to the development is the Chapter 3 policies of the Coastal Act.

3. Scope.

This staff report addresses only the coastal resource issues affected by the proposed permit amendment, provides recommended special conditions to reduce and mitigate significant impacts to coastal resources caused by the development as amended in order to achieve consistency with the policies of the Coastal Act, and provides findings for conditional approval of the amended development. All other analysis, findings, and conditions related to the originally permitted development, except as specifically affected by this proposed permit amendment and addressed herein, remain as stated within the findings for the original permit approval adopted by the Commission on October 13, 2006, and included as Exhibit No. 5 of this report.

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 Amendment No. 1-06-008-A1 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 amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve with Conditions:

The Commission hereby approves the proposed permit amendment and adopts the findings set forth below, subject to the conditions below, on the grounds that the development with the proposed amendment, as conditioned, 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 all feasible mitigation measures and alternatives have been incorporated to substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See attached.

III. SPECIAL CONDITIONS:

Note: Special Condition Nos. 1, 3, 4, and 5 of the original permit are reimposed as conditions of this permit amendment without any changes and remain in full force and effect. Special Condition No. 2 of the original permit is modified below and reimposed as a condition of Permit Amendment No. 1-06-008-A1. Deleted wording within the modified special conditions is shown in ~~strikethrough~~ text, new condition language appears as **bold double-underlined** text. For comparison, the text of the original permit conditions are included in Exhibit No. 5.

2. Extraction Season

Mineral extraction and related habitat enhancement activities authorized by Coastal Development Permit **Amendment** No. 1-06-008**-A1** must be completed by December 31, ~~2006~~ **2007**. Any extraction and habitat enhancement operation conducted after October 15, ~~2006~~ **2007** shall be subject to the following conditions:

- All work shall cease if flows in the lower Smith River exceed 2,900 cubic-feet-per second (cfs), as measured by the California Department of Water Resources stream gauge affixed to the Dr. Fine Bridge Highway 101 crossing (DRF). Work may not recommence until flows recede to below 2,900 cfs;
- All work shall cease upon the onset of precipitation at the project site and shall not recommence until the predicted chance of rain is less than 50% for the Crescent City area portion of the Redwood Coast segment of the National Weather Service's forecast for Northwestern California;
- The excavation work site shall be winterized between work cessation periods by installing of stormwater runoff and erosion control barriers around the perimeter of each active excavation site to prevent the entrainment of sediment into coastal waters.

- No excavated materials may be stored on the gravel bar; and
- Adequate stocks of stormwater runoff and erosion control barrier materials shall be kept onsite and made available for immediate use.

III. FINDINGS AND DECLARATIONS.

The Commission hereby finds and declares as follows:

A. Site Description and Project History.

The project site comprises an approximately ¼-mile reach of the 100-year floodplain of the lower Smith River together with the downstream portion of the Reservation Ranch Gravel Bar, located about 1½ miles upstream from the ocean mouth of the Smith River in Del Norte County (see Exhibit Nos. 1 and 2). The Reservation Ranch Bar is one of five gravel bars that are located within the coastal zone along the lower reaches of the Smith River. The Smith River enters the Pacific Ocean about 3.5 miles south of the Oregon border. The river has the greatest annual discharge per square mile of any major California basin. The run-off is estimated at 2.9 million acre-feet annually. The river has no exports of surface water, and therefore it has come to be known as one of the cleanest and most pristine rivers in California, especially on its upper reaches. The lower Smith River flows in a roughly south-southeast to north-northwest direction through the Smith River Plain, a large uplifted marine terrace consisting of the Tertiary- to Quaternary-aged Battery and St. George Formations. This broad alluvial floodplain is extensively used for agriculture.

The project site is within the Commission's retained permit jurisdiction and is not governed by the certified LCP. Lands adjacent to the project site have land use plan designations of Prime Agriculture and Resource Conservation Area (AE, RCA), implemented through a Designated Resource Conservation Area – Estuary, Riparian Vegetation, (RCA-2 (e)(r)) zoning district.

In its present configuration, the perennial main channel of the Smith River runs along the south to southwestern side of the Reservation Ranch Bar. From bank to bank, the river is about 600-700 feet wide in the area of Reservation Ranch Bar. However, during the summer and early fall months when low flow conditions prevail, the river is confined to a main channel of approximately 100 to 200 feet in width. The seasonal high-flow channel is dry during the summer and early fall seasons, and between rainfall events over the wet winter months.

Access to the gravel bar is currently via an unimproved gravel road that crosses the seasonal channel and ascends the riverbank to a levee road leading easterly to the southern terminus of Sarina Road. An approximately 3½-acre (750-foot-long x 200-foot-

wide) cleared and graded stockpiling area lies off of the access road approximately 250 feet from the riverbanks (see Exhibit Nos. 2 and 3).

The banks of the river are 10-20 high and are covered with well-established riparian vegetation dominated by a Sitka willow (Salix sitchensis) and red alder (Alnus rubra) plant community. These dominants are interspersed with tan oak (Lithocarpus densiflora) and firs (Abies sp.), with an understory composed primarily of Himalaya blackberry (Rubus discolor), California blackberry (Rubus ursinus), French broom (Genista monspessulana), coyote brush (Baccharis pilularis), and various forbs, ferns and upland grasses.

The riparian vegetation found on the gravel bar consists of two plant associations, a permanent palustrine scrub-shrub complex encompassing three contiguous acres along the northeastern side of bar. In addition, six acres of non-persistent palustrine scrub-shrub complex occur in four discrete areas on the northwest, east, and southeast sides of the bar. These areas range in size from approximately ½-acre to 2½ acres in size and contain riparian vegetation, chiefly small Sitka willows (Salix sitchensis), with ½-inch to one-inch stem diameters-at-breast-height (see Exhibit No. 3).

The property owner has mined the Reservation Ranch Gravel Bar only sporadically in recent years, with approximately 20,000 cubic yards extracted during the 1988, 1990, and 1995 seasons (see CDP Nos. 1-88-036, 1-90-062, and 1-95-049, respectively). Past volumetric assessments (Larue, 1997, 1998, 1999) indicate that in previous years, in excess of 60,000 cubic yards of material was available within the proposed extraction area. However, due to the low rainfall over the last four years and the lack of large precipitation events that result in flood-stage sediment-mobilizing flows, very little replenishment of sand and gravel materials has occurred along the lower Smith River gravel bars, including the subject Reservation Ranch Bar site. As a result of this lack of replenishment, further skimming of the exposed gravel bar would compromise the channel's width-to-depth proportions setting the stage for significant changes in river morphology that could lead in turn to further impacts to sensitive habitat areas in and along the river, and to adjacent farmlands.

Given the current lack of sand and gravel material replenishment on the exposed bar in sufficient quantities to justify a commercial extraction project, the applicant has let the site lie fallow for much of the last decade. Since 2004, the property owner has been approached by anadromous fish habitat advocates seeking to conduct habitat restoration and the improvement of fish and wildlife habitat along the lower river. Plans to undertake a habitat enhancement project by the Friends of Cal-Ore Fish in 2005, similar to that currently proposed, were subsequently abandoned after pre-application consultations. However, in 2006, the property owners allied themselves with area fisheries restorationists to seek authorizations for conducting the habitat enhancement work that was the subject of original Coastal Development Permit No. 1-06-008. Unfortunately, due to an untimely delay in the securement of permits for project, only the

first phase of the project work was completed by year's end, necessitating the need for this permit amendment to allow for work to occur in 2007 to allow for completion of the second phase work.

B. Amendment Description.

The proposed project amendment would modify Special Condition No. 2 of the original permit to extend the project completion deadline by one year to allow for performance of the habitat enhancement work at "Estuary Enhancement Site 2 – Side Channel." that was not conducted prior to the original completion deadline of December 31, 2006.

As originally proposed the development entails a pilot fisheries habitat enhancement project to improve side-channel and lower point-bar holding and cover conditions along the northwestern side of Reservation Ranch Gravel Bar (see Exhibit No. 4). The applicants assert that the enhancements would provide deepwater habitat for rare and endangered salmonid fish species as they migrate through this reach of the river. Sand and gravel materials would be excavated to depths of less than three feet below the existing bar grade to deepen the lower bar and adjoining high flow channel to allow for greater tidal flux through these areas. In addition, large woody debris in the form of 10 to 15 root-wads and logs would be installed into the excavated areas to further enhance habitat conditions.

To accomplish these objectives, under the original permit application the applicants requested authorization for the phased removal of up to 7,900 cubic yards (yd^3) of river-run sand and gravel aggregates during the 2006 calendar year. The first phase, titled "Estuary Enhancement Site 1 – Alcove," completed in 2006, entailed extraction of roughly 6,792.3 yd^3 from a triangular-shaped 1.7-acre area comprising the lower third of the exposed, denuded gravel bar. The second phase proposed under the permit amendment request to be completed in 2007 would involve the further extraction of an additional 1,107 yd^3 from a 100-foot-wide area within a roughly 1,000 lineal-foot reach of the secondary high-flow channel downstream from the point-bar. As proposed under both the original and amended project applications, the excavations would be limited to a less than three-foot depth and emulate a natural river channel with average side slopes of 5H:1V, not to exceed 3H:1V, and with an average bottom width of eleven feet.

As was the case for the original permitted work, the roughly ¼-mile-long extraction area would first be separated from the live waters of the river by placement of anchored silt fencing and/or a short berm, constructed of gravel materials obtained from the exposed point-bar, adjacent along the edge of the perennial low-flow channel. Once in place, excavation utilizing a variety of heavy mechanized equipment including back-hoes, end-loaders, and excavators would be performed during the daily low tide period. Once the side channel and alcove have been formed to specifications, large woody debris in the form of root-wads and logs would be placed within the excavated areas. Upon completion of these in-stream habitat enhancements, the silt fencing and berm materials

would be removed from the edge of the restoration site on a low-low tide when the adjoining river area is naturally dewatered.

The proposed bar-trenching technique was suggested by and designed in consultation with the National Marine Fisheries Service (NOAA Fisheries). A further discussion of gravel extraction methods follows in Findings Section II.C, below.

The original project description also identified numerous mitigation measures, including a suite of best management practices (BMPs) developed by the California Stormwater Quality Association (CASWQA) to be utilized to prevent and minimize potential impacts to coastal water quality. These measures, proposed to be applied again under the amended project, include:

- Maintaining an onsite supply of absorbent pads to be placed on the impounded water while suspended sediment settles and before breaching occurs;

- Prohibitions on the storing of equipment fuel in or near the proposed extraction areas;

- Restricting the refueling of vehicles to off-site areas;

- Daily prior-to-commencement-of-work inspections and regular maintenance of vehicles to ensure no leakage of fuel or fluid onto the excavation site;

- Immediate notification of appropriate hazardous materials spill response agency personnel and the Department of Fish and Game if any accidental leaks or spills do occur;

- Use of water truck spraying of freshly disturbed soil areas continually during excavation, loading and general operations to minimize the effects of furtive windblown dust;

- Training of employees and subcontractors in the use of stormwater pollution prevention BMPs, including their implementation, inspection and maintenance; and

- Record-keeping of training given to Reservation Ranch employees and contractors.

Moreover, the proposed amended development would continue to be required under the extended U.S. Army Corps of Engineers' Letter of Permission to avoid potential water quality impacts, instigation of erosion of the bar or channel relocation during winter-spring higher flows, and to prevent the stranding of fish when the river level recedes in late spring through the use of the following "reasonable and prudent measures:"

- Hydrologic and geomorphic review, with associated recommendations provided by CDFG, NOAA Fisheries, the Del Norte County hydrologist, or County- and NOAA Fisheries-approved hydrologist retained by the applicant, based on a review of pre-extraction information, including cross sections, aerial photos, site reviews, and other information;

- Installing "no wood cutting" signs to prevent the pilfering of the large woody debris habitat enhancement structures;

- Grading all bar-skimmed or trenched areas with a minimum 2% slope downstream and toward the low flow channel and filling in all pits and depressions within the treatment area to minimize the likelihood of fish strandings; and

- Post-project monitoring of the effects of the extraction and habitat improvement project on river morphology and aquatic habitat, including channel cross-sectional analysis, fish counts, and other biological assessments.

The proposed amended project to extend the completion deadline by one year, requires a coastal development permit amendment from the Commission because the proposed mining and extraction activities are specifically enumerated in the Coastal Act definition of development that requires a permit amendment pursuant to Sections 30106 and 30600 of the Coastal Act and because the gravel bar is located within the Commission's area of original or retained permit jurisdiction (see Exhibit No. 3). As described in detail above, the project before the Commission calls for completing the second phase of in-stream fisheries habitat enhancement work unfinished in 2006, entailing the excavation of an additional remaining 1,107 cubic yards of sand and gravel materials from a 100-foot-wide area within a roughly 1,000 lineal-foot reach of the secondary high-flow channel downstream from the point-bar, and placing large woody debris, in the form of 10 to 15 root-wads and logs within the excavated reach.

All processing and stockpiling of the excavated materials proposed under the permit amendment would continue be performed away from the gravel bar and outside of the Coastal Commission's permit jurisdiction. The project requires a separate coastal development permit from Del Norte County for temporarily stockpiling and processing the materials at an upland portion of the applicants' property which was obtained in 2006. The local coastal development use permit for processing and stockpiling of materials at an upland location was approved by the County in June 8, 2005 for a term of five mining seasons, expiring on February 1, 2010. This local approval was not appealed to the Commission. In addition to securing requisite coastal development authorizations from the Commission, the applicants are in the process of obtaining an extension to their streambed alteration agreement from the California Department of Fish and Game for

their proposed amended extraction activities for the 2007 calendar pursuant to the requirements of the use permit.

C. Development within Coastal Rivers and Streams / Protection of Coastal Water Quality.

Section 30236 of the Coastal Act provides that:

> *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat*. [Emphases added.]

Section 30236 sets forth a number of different limitations on what projects may be allowed that cause substantial alteration of rivers and streams. For analysis purposes, a particular development proposal must be shown to be either: (1) for a necessary water supply project; (2) for certain specified flood control projects; or (3) primarily for fish and wildlife habitat improvement. In addition, the development must incorporate the best mitigation measures feasible.

With respect to the protection of water quality, the proposed development as amended involves the surface mining extraction of sand and gravel from the Smith River estuary utilizing 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 30230 and 30231. Both Sections 30230 and 30231 apply generally to any development in riverine environments and other kinds of water bodies in the coastal zone.

Coastal Act Section 30230 states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

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…

1. Project Impetus

The proposed amended development is not proposed as a water supply project and would have no effect on water supplies. In addition, the proposed amended development is not proposed as a flood control project and has not been shown to have any positive effect on actual flooding. Instead, the application presents the channelizations to be completed in 2007 as development for the improvement of fish and wildlife habitat.

The Commission finds that the prime objective of the amended development is indeed for the improvement of fish and wildlife habitat. This determination is based on the following facts unique to this permit request:

- The proposed extraction volume of 7,900 cubic yards is relatively small. A minimum annual excavation quantity of 20,000 cubic yards or more is usually necessary to ensure a gravel extraction enterprise is commercially viable;

- None of the excavated sand and gravel materials will be commercially sold. The materials will instead be used for repair and maintenance applications on the farm roads on the applicant's property;

- Other than permission to conduct the work on the Reservation Ranch property and in-kind donations of mechanized equipment to conduct the material extraction, the agent/contractor performing the excavation work will receive no monetary compensation for their work. Moreover, unlike other preceding similar proposals where the owner-applicant was the direct financial beneficiary from the revenue generated from the sale of the extracted materials, the agent/contractor is a third-party, public benefit non-profit organization funded exclusively by grant monies from natural resource trustee agencies and non-governmental fishery habitat advocacy groups;

- The project is part of a on-going coordinated regional effort to rehabilitate the Smith River watershed, which similar concurrent projects being pursued on Yontocket Slough, Rowdy Creek, and other major fish-bearing tributaries; and

- The project has been design in coordination with staff biologists from NOAA Fisheries, the California Department of Fish and Game, and University of California – Sea Grant Program.

Thus, based on the above-listed factors, the Commission finds that the primary purpose of the amended development will remain the improvement of fish and wildlife habitat. The Commission further finds that as the primary purpose of the stream channel development is the improvement of fish and wildlife habitat, the proposed amended development will remain consistent with the permissible use limitations of Sections 30230 and 30236 of the Coastal Act.

2. Inclusion of Best Mitigation Measures

The second test for development pursued under Section 30236 is whether the best mitigation measures feasible have been incorporated into the project.

Although the original and amended development are proposed for fishery restoration purposes, the proposed gravel extraction work could itself have adverse impacts on the riverine environment. Depending on the manner in which the gravel extraction / habitat enhancement project is conducted, the proposed development could have four potentially significant adverse effects on the natural environment of the lower Smith River. These impacts include: (a) direct and indirect impacts on fisheries; (b) alteration of the riverbed and increased bank erosion; (c) impacts on environmentally sensitive riparian vegetation; and (d) impacts to the water quality of the river. The potential impacts and their mitigation are discussed in the following sections:

(a) Fisheries

As noted previously, the Smith 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, as well as the whole of the Smith River estuary and tidewater reaches, are important for these anadromous fish as a migration route to and from upstream spawning grounds. In addition, the lower Smith 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 include more than just the direct gravel mining activities within or in proximity to the low flow channel or the individual impacts of a particular gravel mining operation at one site. Often of greater significance are the indirect effects of gravel mining on physical riverine form together with the cumulative adverse impacts on sensitive fish species from all of the various gravel mining operations occurring along the river. Accurately assessing significant adverse indirect and cumulative impacts of the various gravel mining operations on sensitive fish species and/or their habitat can be a difficult task for any one operator to perform.

An assessment of the significant adverse indirect and cumulative impacts of U.S. Army Corps of Engineers (USACE or "Corps") permitted gravel mining operations along the lower Smith River on sensitive fish species does exist in the form of Biological Opinions issued by National Marine Fisheries Service (NOAA Fisheries). These Biological Opinions are issued as a result of formal consultations between the Corps of Engineers and the NOAA Fisheries in consideration of a "Letter of Permission" (LOP) authorization process for in-stream gravel mining in Del Norte pursuant to Section 7 of the Federal Endangered Species Act. As discussed previously in Findings Section IV.C, the Corps issued LOP 2003-2 allowing for authorizing gravel mining through 2007, following the preparation of a Biological Opinion by NOAA Fisheries. LOP 2003-2 incorporates newly available information that was not previously analyzed in previous Biological Opinions regarding the effects of gravel mining and extraction activities on listed salmonids. According to NOAA Fisheries, gravel mining by trenching extraction methodologies, either by "wet trenching" within wetted low-flow channel areas, or by "dry trenching" on the exposed point-bar or within secondary high-flow channels as proposed by the applicant, can result in both short-term and long-term changes to channel form and function and such changes affect habitat function for listed salmonids directly and indirectly. The biological opinion identifies the following potential direct and indirect impacts from trenching:

Direct Effects:

- Increased turbidity and sedimentation associated with connecting the dry trench to the wetted channel, the installation and removal of diversion structures, and stream crossings by heavy equipment;

- Injury or death to individual fish from contact with heavy mechanized equipment during the installation and removal of stream crossing culverts or bridge spans;

- Death or injury and behavioral changes due to diversion of the perennial low flow channel;

- Decreased invertebrate production from change in habitat substrate composition; and

- Increased susceptibility to predation due to lack of cover in newly excavated areas.

Indirect Effects:

- Modifications to the amount and quality of fish habitat from bed degradation, bank erosion, channel and habitat simplification, and reduced effectiveness of geomorphic processes such as pool maintenance, sediment sorting, and sediment intrusion.

Although the amended development entails the extraction of gravel by trenching from within the active channel of the Smith River, most of the above-described potential impacts are not applicable to the proposed amended development, as they are primarily related to wet-trenching, or mining operations requiring the crossing or diversion of wetted channels. Accordingly, many of the potential impacts have been avoided through the design of the amended development, wherein the proposed extraction activities have been limited to a dry exposed point-bar and secondary channel areas for which no diversions or crossings of the wetted river portions would be involved. In addition, with regard to potential increases in predation, the amended development specifically calls for the placement of large woody debris structures to provide cover for salmonids from raptors and other predators.

However, notwithstanding these actions, the project work to reconnect the excavated trench to the wetted channel and the cumulative removal of river sediments remain as potential significant impacts to fish and other aquatic organisms. NOAA Fisheries staff have stated that gravel mining has the potential to result in elevated turbidity levels and increased sedimentation. Fine sediments can become entrained in runoff from excavated bar and channel surfaces, as trenching typically exposes finer sediment that would be typically be buried beneath coarser overlying materials along the immediate bat surface. According to NOAA Fisheries, increased sedimentation can adversely impact salmonid spawning habitat by filling pores spaces, which decreases hydraulic conductivity of the gravel, thus reducing the supply of oxygenated water to incubating eggs. NOAA staff have also indicated that sediment removal from streams can result in destruction of spawning, feeding, and resting habitats. Adverse biologic effects on listed fish species include reduced egg and alevin growth and success, reduced riparian vegetation and all associated aquatic benefits, reduced water quality, and mortality of juveniles.

To ensure that the mineral extraction proposed by the applicants under the amendment request does not degrade the habitat of threatened salmonid species, the Commission reimposes Special Condition No. 1 and attaches revised Special Condition No. 2. Special Condition No. 1 requires the applicant to conduct the amended gravel extraction and habitat enhancement project consistent with the restrictions and mitigation measures identified within the permit application materials, including the project description, site plans, mitigation and monitoring program and hydro-geomorphic stability evaluation. These measures include actions to reduce potential sedimentation and related turbidity to coastal waters

through the use of established water quality best management practices to be used in isolating the excavation area from the live river waters and watering to suppress furtive dust generated during gravel excavation and transport activities. Use of these BMPs would reduce the potential impacts to salmonids from water quality degradation to less than significant levels.

Revised Special Condition No. 2, amended to allow continued restoration and enhancement work in 2007, retains the time-out periods during times of high river flows when the work areas and access routes would become inundated as imposed under the original permit authorization. As a result of this restriction, the amended project work would not to be allowed to occur during periods in the fall and winter of 2007 when the river flows were equal to the "35^{th} percentile exceedance flow," corresponding to a discharge of 2,900 cubic-feet-per-second, the point when the river waters begin to rise out of the perennial low flow channel channels and spread laterally onto adjoining floodplain areas, allowing for interstitial soil particles to become entrained in river flows passing through the excavation sites. In addition, revised Special Condition No. 2 includes specific measures to be taken to winterize the excavation areas, including the removal of all mining equipment from the bar and secondary channel areas, all surfaces are left in a condition that would allow from free-draining of river waters, and all exposed soil areas be mulched.

With respect to the potential indirect cumulative impacts to fish habitat from removal of river sediments and channel reconfiguration, by constraining the location and scope of the proposed development, these potential adverse effects have similarly been limited to inconsequential levels. Unlike mining operations on other reaches of the river further upstream, the Reservation Ranch Gravel Bar site in located well within the intertidal prism where the potential bank destabilization or changes to the channel configuration of the river are largely muted. Moreover, the scale of the amended development is small, both in the overall quantity of material being proposed from extraction and the depth and width of the trench excavations. Based on visits to the project site by staff from NOAA Fisheries, CDFG, USFWS, and Corps, including credentialed biologists and hydrologists, these resource agency personnel have determined that the contribution to indirect and cumulative adverse effects to listed salmonid species from the proposed sediment removal and streambed alterations to be very minor and temporary, and would be offset many times over by the enhancements the project would provide to habitat conditions in the estuary.

To assure that impacts to fisheries from the removal of river sediments associated with the amended development are prevented, the Commission reimposes Special Condition No. 3. Special Condition No. 3 requires the applicant to limit the extraction volume to 1,107 cubic yards for the remaining second phase work and conduct the excavation pursuant to certain performance standards designed to

minimize impacts to channel, streambed, and bank stability, including limitations on where the excavations could be performed and prohibiting the grading of new access roads or the removal of major streamside and on-bar vegetation.

NOAA Fisheries also indicates that juvenile and adult salmonid stranding could occur as a result of certain extraction methodologies depending on how the methodology is implemented and the manner in which the extraction area is reclaimed and left following extraction. For example, trenching techniques could result in salmonid stranding once river waters rise following the end of the mining season and then subsequently drop during the following spring. The potential for salmonid stranding can be minimized by grading the excavations with a minimum 2% slope downstream and toward the main river channel, and by smoothing out all pits and depressions within the excavated area where fish might be trapped when river waters recede. These actions are both required as part of the "reasonable and prudent measures" identified in the NOAA Fisheries biological opinion attached to the Corps' LOP as conditions of approval and are proposed to be incorporated into the project by the applicant.

Based on the biological information collected as part of the FESA Section 7 consultation, NOAA Fisheries staff concludes that extraction of gravel during the 2004 through 2007 extraction seasons will not result in more than incidental take of threatened salmonid species and will not jeopardize their continued existence provided that: (a) the terms and limitations on gravel extraction activities of the incidental take statement included within the biological opinion for LOP 2003-2 are incorporated as conditions to the approval of any such mining operation; and (b) compliance with the additional "reasonable and prudent measures" specified in that document is similarly provided.

To ensure that significant adverse impacts to salmonids from exceedance of incidental take of listed species does not occur during authorized mining operations, the Commission incorporates within the standards of amended Special Condition No. 2 and reimposes Special Condition No. 3 requirements of the LOP 2003-2 and the reasonable and prudent measures recommended by NOAA Fisheries staff developed individually for this amended habitat enhancement project, which require that the permittee: (1) extract gravel only from downstream of the widest point of the bar, outside of the bar-head mining/alteration exclusion area and provide minimum vertical offsets from the low flow channel as appropriate; (2) only utilize "dry trenching" extraction techniques; and (3) provide for termination of project activities at the end of the 2007 mining season.

Therefore, the Commission finds that as conditioned, the proposed amended development incorporates the best mitigation measures feasible for avoiding and reducing significant direct, indirect and cumulative adverse impacts on sensitive fish species consistent with the requirements of Section 30236 of the Coastal Act.

(b) River Morphology

As discussed above, a potential major impact of gravel mining operations is degradation of the riverbed and erosion of the riverbanks. Such impacts can occur if the amount of gravel extracted from a particular part of the river over time exceeds the amount of gravel deposited on the site through natural recruitment—the downstream movement of sand and gravel materials. Bed degradation and bank erosion can also result from the manner in which gravel is extracted. For example, if gravel bars are skimmed too close to the low-water surface or are left with a very shallow slope, at higher flow stages the river will tend to spread across the bar, reducing the overall depth of flow and resulting in rapid channel migration or instigation of a multi-channel "braided" configuration. This is also true of watercourse reaches where aggradation of materials is a problem. Such sites tend to trap gravel that would otherwise move downstream, potentially trapping or impeding fish migration up and down the river.

Under the permit amendment request, the applicants propose to extract a maximum of 1,107 cubic yards during the 2007 extraction season, to be excavated under an extraction plan designed in consultation with NOAA Fisheries, USFWS, and CDFG staff. Although this remaining amount of gravel removal is small relative to the overall gravel mining activity historically along the Smith River (in excess of 300,000 cubic yards annually), extraction without consideration of river morphology concerns could cause bed degradation and riverbank erosion.

As discussed in the previous section, staff of NOAA Fisheries indicate that bar-skimming in times of low replenishment contributes to degradation of the riverbed. Alternative methods, such as horseshoe-shaped deep skims, limited "dry trenching" on mid-bar and secondary channel locations, and alcove extraction along downstream bar margins minimize degradation by maintaining the overall height and form of gravel bars, which in turn better confine river flows and maintain channel configuration. Therefore, to ensure that the amended mineral extraction proposed by the applicants does not degrade the riverbed by compromising channel confinement, the Commission includes within the requirements of Special Condition No. 1 a requirement that the extraction of materials be performed by the "dry trenching" technique identified in the permit application. This requirement will ensure that disturbance of the active channel that might result from other gravel extraction methodologies are avoided.

(c) Riparian Vegetation

As discussed previously under Findings Section IV(4)(a) above, the project site contains North Coast riparian scrub habitat North Coast riparian scrub habitat occurs on streambanks adjacent to the haul road and in patches along the upper

end of the bar. Thus, the proposed amended development has the potential to adversely affect environmentally sensitive riparian and emergent vegetation.

To prevent disturbances to riparian habitat, reimposed Special Condition No. 3 retains the requirement that the mining be performed, on the portions of the gravel bar that do not contain or are in close proximity to riparian vegetation with environmentally sensitive habitat characteristics. Reimposed Special Condition No. 3 also prohibits the disturbance of the streambank vegetation or the grading of any new haul roads through the riparian corridor. In this manner, disturbance to the environmentally sensitive riparian vegetation in the vicinity of the amended project will be avoided.

(d) Water Quality

If properly managed, the proposed amended development should not significantly adversely affect the river's water quality. However, gravel extraction operations in close proximity to an open stream course could adversely impact water quality, and ultimately the biological productivity and fisheries resources of the river. For example, pushing gravel materials or allowing sediment-laden water to drain from an excavation bucket into the river could degrade water quality and biological productivity by increasing the turbidity of the water. In addition, if not retained to allow settlement of suspended sediment, wash water from gravel processing activities could entrain soil materials which could result in sedimentation of coastal waters.

To prevent such occurrences, the Commission reimposes Special Condition Nos. 1 and 3, and attaches revised Special Condition No. 2. Special Condition No. 1 requires the applicant to conduct the amended development consistent with the runoff control plan measures identified in the permit application. These measures include actions to ensuring that sedimentation and turbidity impacts to the river associated with the segregation and reconnection of the excavated sites from the river's wetted channel are minimized. In addition, mining equipment is to be maintained and operated in such a manner as to not allow for release of petroleum products into the river, that spill clean-up materials be available on the worksite, and that operators and sub-contractors undergo spill contingency training. Revised Special Condition No. 2 also reimposes performance standards for when and how excavation work performed after October 15, 2007 through December 31, 2007 is to be conducted to avoid the entrainment of sediment into coastal waters during periods when the river flows reach the excavation areas. Reimposed Special Condition No. 3 requires the applicant to limit the mining activities to the exposed gravel bar and secondary channel areas and to avoid in-water activities that might result in sedimentation of the river, including a prohibition on the placing of any material into the river during gravel extraction activities.

Therefore, as conditioned, the amended development will avoid significant adverse impacts to coastal water quality of marine and estuarine areas consistent with Sections 30230, 30231, and 30236.

(e) Conclusion

The Commission finds, as conditioned herein, the proposed gravel extraction /habitat enhancement project as amended to be completed in calendar year 2007 is consistent with the requirements of Section 30236 of the Coastal Act, in that the best mitigation measures feasible have been incorporated into the development to minimize adverse environmental effects. The gravel extraction limitations and performance standards imposed through revised Special Condition No. 2 and reimposed Special Condition No. 3 are designed to prevent impacts to river morphology, riparian vegetation, threatened and endangered species, and water quality. Together with the provisions of reimposed Special Condition No. 1, requiring the applicant to conduct the gravel extraction consistent with and including all protective measures identified in the permit application documents, the amended development is conditioned to ensure that significant adverse impacts to the Smith River from the proposed gravel extraction operation will be avoided. Therefore, the proposed amended project as conditioned is consistent with the requirements of Sections 30230, 30231, and 30236 of the Coastal Act.

D. Public Access.

Coastal Act Section 30210 requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 requires in applicable part that development not interfere with the public's right of access to the sea where acquired 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.

The project site is located between the first public road (Fred Haight Drive) and the sea (the Smith River is considered to be an arm of the sea in this area). Accordingly, a public access finding is required for the project.

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.

Four shoreline access points presently exist within the coastal zone and the lower Smith River (i.e., downstream and west of the Dr. Fine or Highway 101 Bridge). From west to east, these access points are located at: (1) the southerly end of the mouth of the Smith River; (2) the Ship-a-Shore resort; (3) the southerly end of Sarina Road at the river's confluence with Rowdy Creek; and (4) the County-owned Smith River Fishing Access Point ¾ mile upstream of the project site near the Bailey Gravel Bar. There is no evidence of potential prescriptive rights within the project area.

Recreational use of the lower Smith River is extensive. The principal public access use of the project site that does occur is by fishermen who go out to the river channel for recreational fishing. Other public access and recreational uses of this stretch of the river include canoeing and kayaking. The prime fishing seasons occur during the wet months, when gravel extraction is not occurring. The peak canoeing and boating use takes places during the spring before the gravel extraction season begins. Thus, the amended development will not affect the bulk of access use by fishermen, canoeists, or other recreational boaters. The permit as amended to allow the authorized fish and wildlife habitat improvement project to continue in 2007 will also not create any new demands for fishing access or other public access use.

Therefore, for the reasons discussed above, the Commission finds that the amended development is consistent with the public access policies of the Coastal Act.

E. California Environmental Quality Act.

On June 9, 2006, as a companion action on Use / Coastal Development Permit No. UP9043, the County of Del Norte certified a mitigated negative declaration for the subject in-stream habitat enhancement project. In adopting this environmental document, the County tiered from and incorporated analyses contained in other environmental documentation prepared for the U.S. Army Corps Letter of Permission procedure and the County's in-stream surface mining program.

In Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the development as amended has been conditioned to be consistent with the policies of the Coastal Act. The findings address and respond to all public comments regarding potential significant adverse environmental effects of the

project that were received prior to preparation of the staff report. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the proposed development, as amended and conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

IV. EXHIBITS:

1. Location Map
2. Vicinity Map
3. Applicant Correspondence Requesting Permit Amendment
4. Project Narrative, and Mining Site Plan, and Cross-sections
5. Excerpt, Original Coastal Development Permit No. 1-056-008 Staff Report

APPENDIX A

STANDARD CONDITIONS

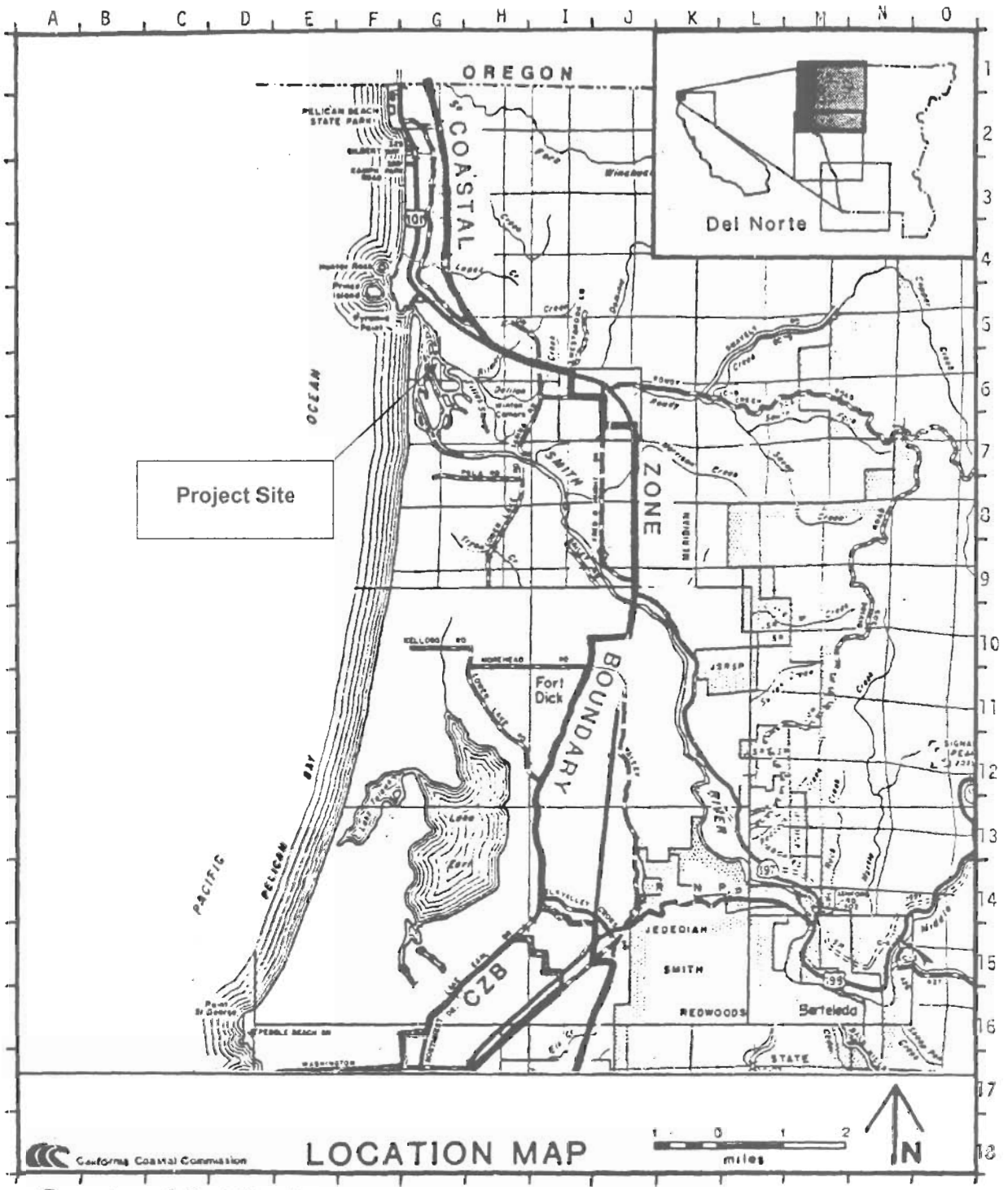
1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable amount of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



County of Del Norte

EXHIBIT NO. 1

APPLICATION NO.

1-06-008-A1

RESERVATION RANCH

LOCATION MAP

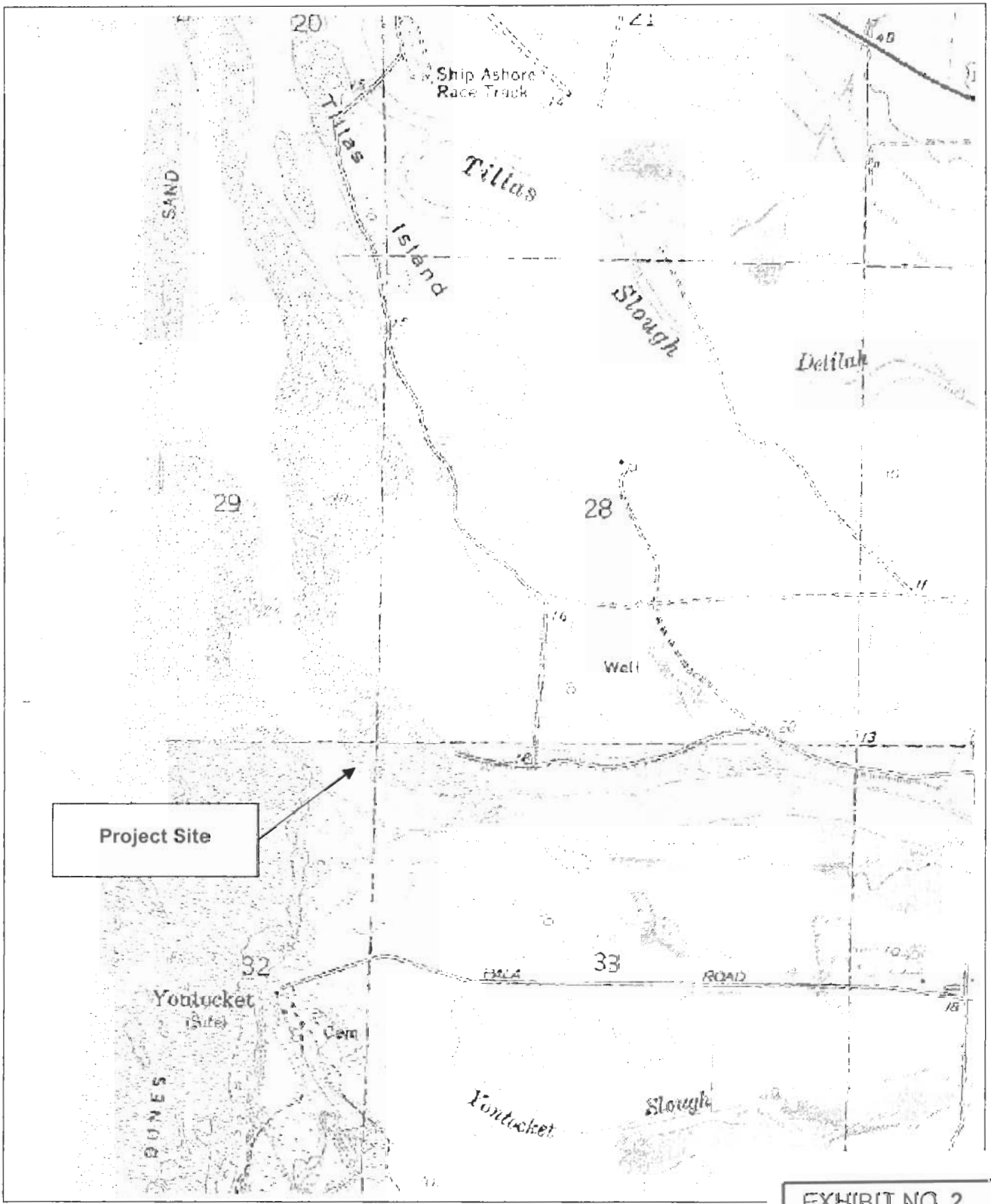


EXHIBIT NO. 2

APPLICATION NO.

1-06-008-A1

RESERVATION RANCH

VICINITY MAP

Reservation Ranch

March 16, 2007

RECEIVED
MAR 2 1 2007
CALIFORNIA
COASTAL COMMISSION

Jim Baskin
California Coastal Commission
North Coast District Office
710 E Street, Suite 200
Eureka, CA 95501

RE: Amendment to CDP No. 1-06-008

Dear Mr. Baskin,

Please find the Application for an Amendment to Coastal Development Permit (Application No. 1-06-008) for the Smith River Estuary Enhancement Pilot Project on Reservation Ranch property.

In 2006 Reservation Ranch completed Site 1 that included the removal of river sediments to form a tide channel on the Reservation Ranch Bar. Large redwood rootwads were installed along the channel margins of Site 1 to create "in-stream" habitat structure for salmon. Recent fisheries surveys conducted by biologists in March, 2007 have documented juvenile salmon using this new habitat.

This Amendment is for the completion of Site 2 as requested in the original CDP Application. Due to extenuating circumstances Site 2 was not completed in 2006. In light of the apparent success of Site 1 we anticipate similar results for Site 2.

If you have any questions please feel free to contact Zack Larson at (707) 954-1085.

Sincerely,

Signature on File

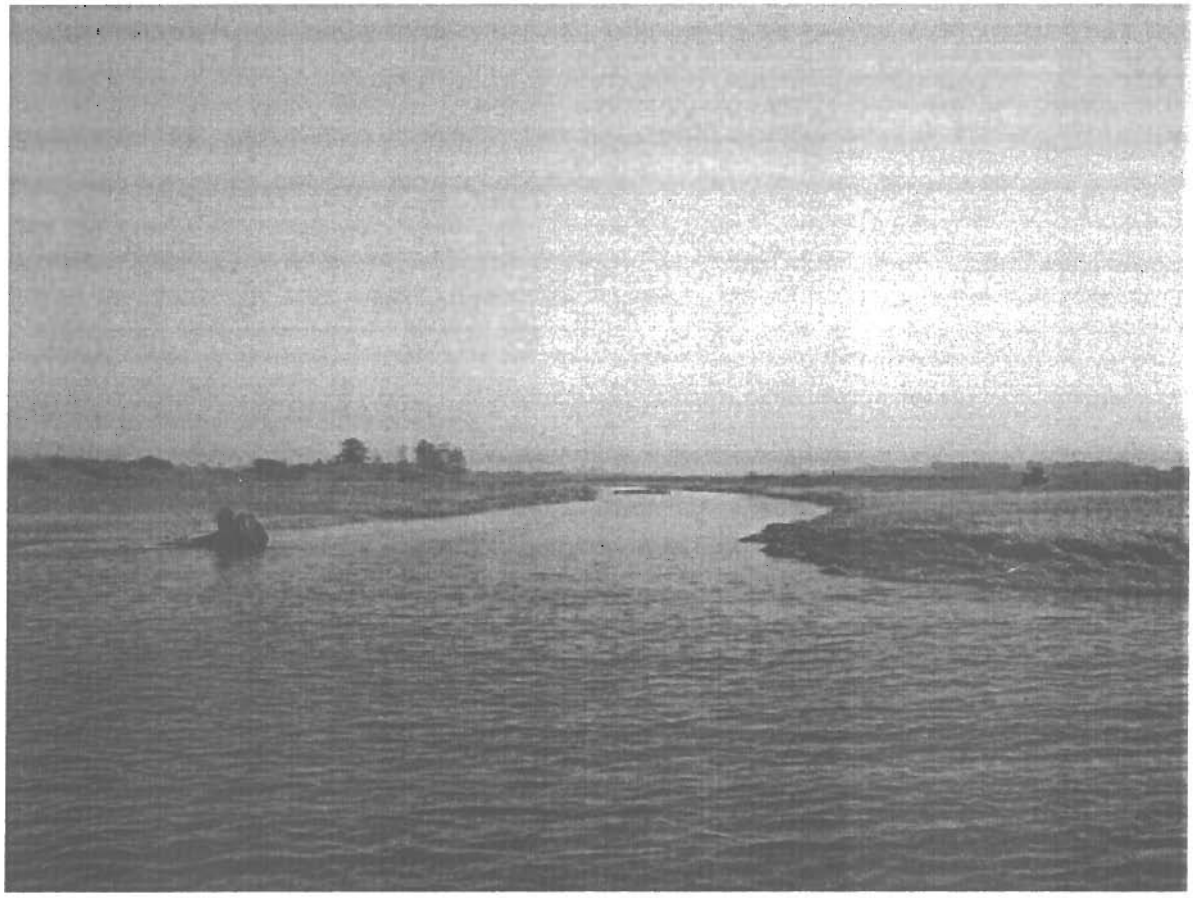
Steven Westbrook

EXHIBIT NO. 3
APPLICATION NO.
1-06-008-A1
RESERVATION RANCH
APPLICANT CORRESPONDENCE REQUESTING PERMIT AMENDMENT

P.O. BOX 75 • SMITH RIVER, CALIFORNIA 95567 • OFFICE PHONE (707) 487-3516 • FAX PHONE (707) 487-1131
P.O. BOX 248 / HIGHWAY 42, COQUILLE, OR 97423 • OFFICE PHONE (541) 396-2195 • FAX PHONE (541) 396-5661

Reservation Ranch Estuary Enhancement Project

July, 2006



Prepared for:
California Coastal Commission

Prepared by:
Rocco Fiori GeoSciences
P.O. Box 387
Klamath, CA 95548
(707) 482-1029

Zack Larson
Smith River Watershed Coordinator
586 G Street
Crescent City, CA 95531
(707) 464-4711

EXHIBIT NO. 4
APPLICATION NO.
1-06-008-A1
RESERVATION RANCH
PROJECT NARRATIVE, AND MINING SITE PLAN, AND CROSS-SECTIONS (1 of 10)

Reservation Ranch Estuary Enhancement Project

Prepared by Rocco Fiori, Professional Geologist #8066, and Zack Larson, Fisheries Biologist

Introduction

The Smith River estuary is the common denominator for juvenile anadromous fish originating throughout the Smith River Basin, fulfilling a critical life history role as the interface between fresh and salt-water environments. Rearing in the estuary allows juvenile anadromous fish to adapt physiologically for survival in the ocean while also providing an important opportunity to amass growth prior to saltwater entry. In addition, these tidal areas also serve as important habitats for invertebrates, wading birds, waterfowl and other wildlife.

Following the 1964 Flood levees constructed to protect agricultural lands greatly simplified the estuary and lower reaches of the Smith River. The proposed project intends to leverage the economic incentive of aggregate production for the enhancement and protection of estuary habitats evolving within the modified river/estuary system. Working with Dan Free (NOAA Geomorphologist) the project design has two basic elements: 1) a bar skim to remove coarse sediment depositing on a salt marsh that has been evolving since gravel removal operations in 1996; and 2) Secondary channel enhancements, where shallow trench excavations (depths < 3 feet) will be used to maximize the Mean Low Water tide flux through the length of 2 existing channels (Sites 2 and 3). Secondary channels will also be enhanced with placements of large wood (Sites 2, 3 and 4). See Figures 1-1 and 1-2 for oblique and plan views of the project design.

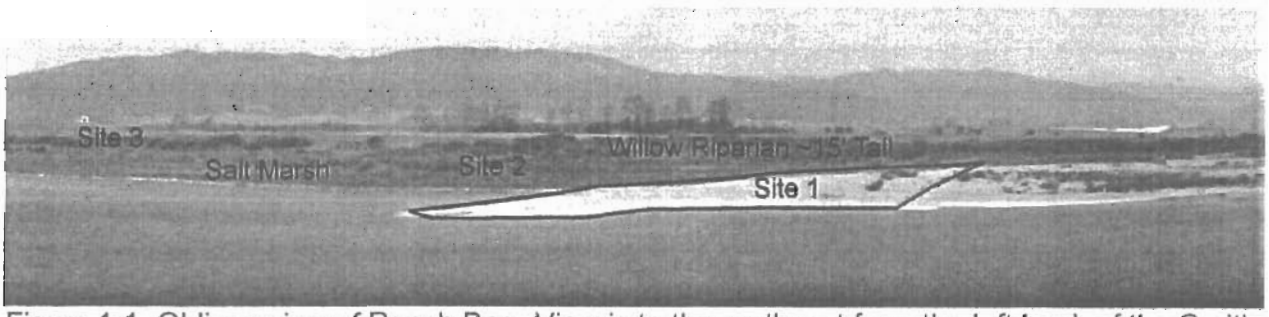


Figure 1-1. Oblique view of Ranch Bar. View is to the northeast from the left bank of the Smith River. Flow is from right to left, the main levee is beyond the willow riparian zone. Refer to text for treatment site discussion.

Background

An examination of historical maps and photographs reveals that the Smith River estuary is currently smaller and has less habitat complexity than what was present in the late 1800s and early 1900s (refer to Figures 1-2 to 2-9 for comparison). Fewer tidal sloughs and remnant channels exist, and consequently less habitat is available for juvenile salmonids to acquire energy reserves and undergo physiological changes needed for marine existence. Cover complexity in the form of large wood is also lacking in many of the off channel estuarine habitats.

The Reservation Ranch Bar (Ranch Bar) located in the tidally influenced reach of the lower Smith River is the downstream most bar, of 9 gravel bars, approved for aggregate extraction. Prior to levee construction and modern commercial aggregate extraction the Ranch Bar was an active point bar feature with active scour and deposition that limited vegetative cover on the

bar surface (Figures 2-2 to 2-7). Currently, the natural sediment regime and channel dynamics within the lower river have been altered by levee system confinement and commercial aggregate extraction at upstream sites (Figures 1-2, 2-8 and 2-9). In this new regime the downstream (distal) and interior portions of Ranch Bar tends to accumulate fine-grain, low-energy sediments that facilitate the development of salt marsh habitats that grades to willow riparian zones on higher surfaces (Figure 1-1). The upstream (proximal) and anterior portions of Ranch Bar continues to recruit coarse-grain, high-energy sediments, however, deposition occurs over a smaller area than in the past. This suggests the rate of gravel recruitment is probably much lower on the Ranch Bar now, compared to the earlier periods.

Project Effects on Channel Morphology and Stability

Channel morphology and stability can be affected by natural phenomena (floods, drought, fire, dune migration, earthquakes and tsunami) and human activities (mining, levees, grazing, water diversion, timber harvest, etc.) or the interaction of any combination of these factors. The goal of the proposed project is to enhance and protect the current trajectory of improving river/estuary habitat complexity by combining prudent gravel extraction with salmonid habitat restoration techniques.

The following measures and considerations were included as part of the project design process:

- **Bar and Riffle Stability**

  Site 1: To prevent headcutting that could potentially destabilize the bar and associated riffle, the bar skim will be placed at the distal end of the active bar with the extraction depth set to follow the adjacent tidally inundated surface. This elevation has been tested by several large magnitude floods and has remained stable; as evidenced by the development of a willow riparian along the bar interior (Figure 1-1 and 1-2). The excavated surface will be sloped to drain toward the river, extending from the mean low tide water surface elevation and 45 degrees from the main channel. This treatment will form an alcove favorable to juvenile salmonid rearing and prolong the life of the downstream salt marsh habitats. It is expected that this treatment will encourage the colonization of vegetation and associated salmonid invertebrate prey species and provide cover habitat for foraging salmonids, particularly juvenile chinook salmon.

  Sites 2-3: Secondary channel enhancement excavation depths will average1 foot below mean low tide, deeper sections averaging 3 feet below mean low tide will be localized to areas less than 200 ft^2 to add complexity and facilitate placement of large wood. Existing channels will be enhanced to make use of flow patterns influenced by bar stability and increasing flow resistance provided by evolving vegetation (Temmerman et al, 2005). Islas Slough (Site 4), a natural tidal marsh system with a main tidal slough channel and a network of smaller channels that drains the marshy surrounding lands will be enhanced by the placement of large wood. No excavation is planned for Site 4. These treatments will improve habitats important for juvenile salmonid rearing by adding cover and increasing the amount of off channel habitat.

- **Sediment Supply**

  An increased sediment supply could lead to deposition that would reduce the design life of the salt marsh and secondary channels. However, the continued demand for high quality aggregates, and associated commercial extraction from upstream sites, will likely result in low recruitment rates on the Ranch Bar. Additionally, we anticipate future bar

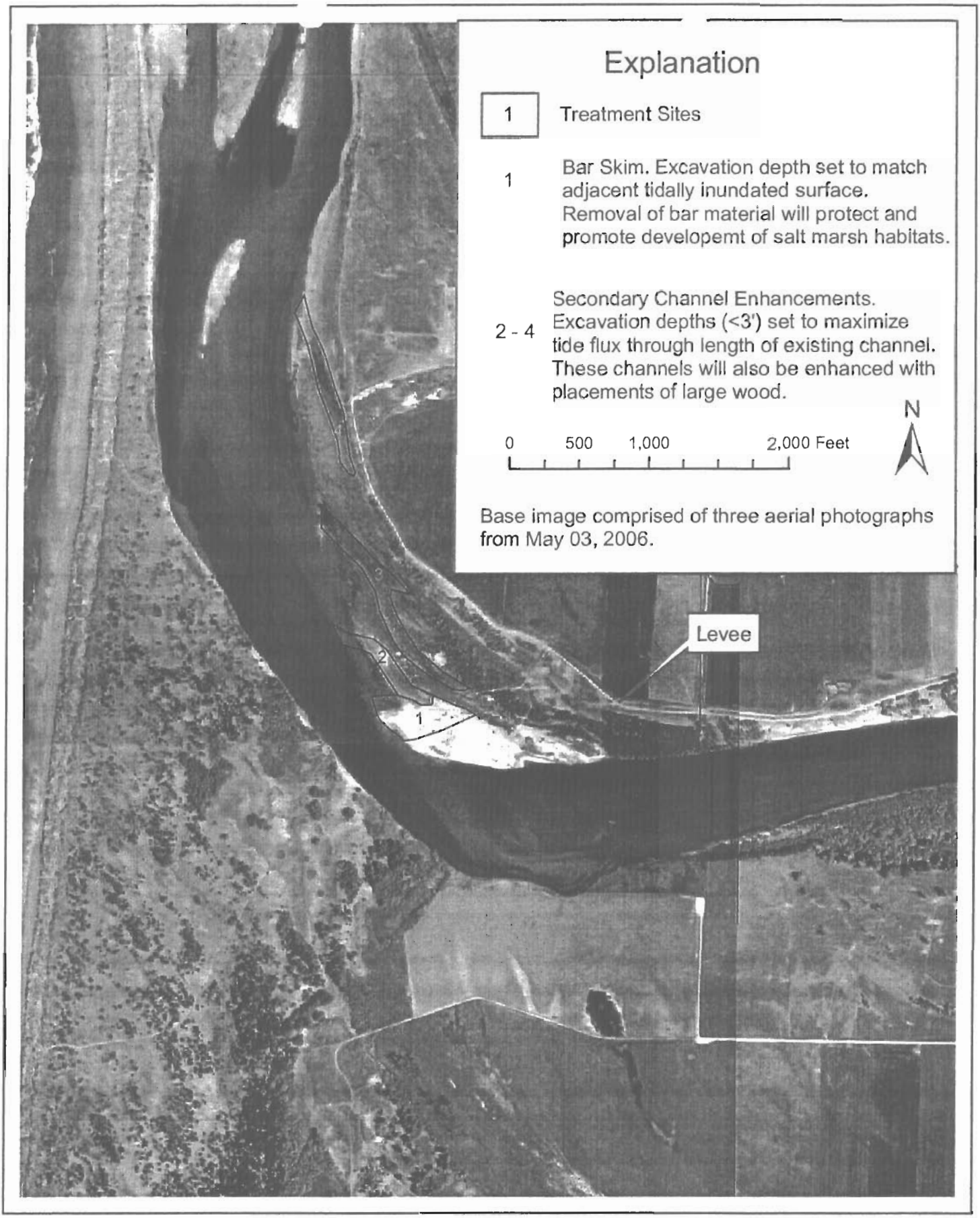


Figure 1-2. Reservation Ranch estuary enhancement plan view map.

4910

Regarding:	Reservation Ranch Bar Del Norte Gravel LOP 2003-2
Project Title:	Smith River Estuary Enhancement Pilot Project, 2006
Contact Person and Owner:	Steven Westbrook, Reservation Ranch PO Box 75 Smith River, CA 95567 (707) 487-3516
Additional Contact:	Zack Larson, Smith River Watershed Coordinator 586 G Street Crescent City, CA 95531 (707) 954-1085

1. INTRODUCTION

The amount of cover and slough habitat available to salmonids in the Smith River estuary is considerably less than it was historically (Gerstung 1997; Laird 2004; Quinones and Mulligan 2005). The Smith River estuary contains about half of its historical habitat area and consequently fewer habitats are available for juvenile salmonids. This is a pilot project to investigate the effectiveness of increasing the amount and diversity of slough and cover habits available in the estuary to assist in fish predator avoidance and survival. The proposed project will be located on and adjacent to an existing gravel mine site on Reservation Ranch property (APN# 103-010-01). Side channel enhancements will be located on the flood-prone surface and bar skimming will occur between the vegetation line and the summer low flow elevation of the Smith River estuary. The Ranch Bar is located approximately 2 miles from the mouth of the Smith River and was last mined by Reservation Ranch in 1996 (Fig.1). This project will comply with the Letter of Permission Procedure for Gravel Mining and Excavation Activities in Del Norte County (Gravel LOP 2003-2).

2.0 PROPOSED PROJECT

Three tidally influenced side channels will be enhanced by excavating river sediments and installing large rootwads and logs to provide rearing and cover habitat for salmonids. An additional area will be skimmed to encourage the colonization of emergent wetland vegetation. Less than 20,000 cubic yards of sediment, consisting of sand and gravel, will be removed to attain the desired elevations for skimmed surfaces and side channel dimensions. Channels will take advantage of hydrodynamic conditions associated with existing vegetation (Temmerman et al 2005). Channel dimensions (length, width, depth) will be scaled using hydraulic relationships between these dimensions, discharge of the tidal prism, channel-bed shear stress and other site conditions (e.g.Myrick and Leopold 1963; Nichols et al. 1991:and D'Alpaos et al. 2005). Channels will be designed to maximize inundation by mean high water (MHW) tidal flux recorded at the nearby tide

gage at Crescent City, California (NOAA/NOS/CO-OPS 2005). We anticipate the un-vegetated channels and inter-channel vegetated platforms will become self-maintaining. The project will comply with reasonable and prudent measures (RPM) described in Appendix F of LOP 2003-2.

2.1 Treatment Methods

Heavy equipment will collect sediment and dump trucks will transport material to storage areas located behind existing levees. Haul routes will use existing ranch roads and access points. Excavation sites will be isolated from the river by anchored silt fences. Sites excavated to depths below the adjacent water surface will be isolated by a sediment berm until treatment is completed. Excavation will occur during the daily low tide period. The excavation work window will be from June 15 until October 15.

2.1.1 Skimming (Bar-skimming)

The uppermost portion of the project area, indicated by "4" in Figure 1.

a. Skimming will occur no closer than 5 feet from the wetted edge of the Smith River and no closer than 300 feet from the upstream break. The area will be delineated by staking and flagging for equipment operators, with the approval of DFG and the contracted licensed geologist, prior to commencing work.
b. No more than 1,500 cubic yards of material will be removed by skimming.
c. Prior to material removal a survey of elevations will determine the desired post extraction elevations and contours.
d. Extracted material may be temporarily stockpiled on the bar and removed at a later time.
e. The skimmed area will be left smooth, free of depressions, and sloped toward the active river channel.
f. The elevation of the Skimmed bar will be no less than one foot above the adjacent water surface elevation of the Smith River.
g. The slope fo the extracted bar will be left at least a 1-2% grade.

2.1.2 Trenching (Side-channel enhancement)

Sites "1", "2" and "3", indicated in Figure 1 will be enhanced through shallow trenching operations and large woody debris placement.

a. No more than 18,500 cubic yards of material will be removed from these sites.
b. As- built Total Station control will be set to maximize side channel inundation by summer mean high water (MHW) and cross-section diamentions during the construction phase.
c. Large rootwads and logs will be or keyed into the substrate to naturally anchor each piece. The prefered orientaion for large rootwads will be to place the bole-end facing downstream to create the largest cover area and promote a hydraulically stable placement.
d. Side-channel planform will be fit to the site to take advantage of existing topographic features and vegetation patterns.

2.2 Materials Processing

Sediment removed for the Project will be stored behind existing levees on the Reservation Ranch Property.

2.3 Run-Off Control Plan

Standard construction Best Management Practices as described in the California Storm Water Best Management Practice Handbook will be implemented during the project. The handbooks provide descriptions of BMPs that can reduce soil erosion and pollutant discharges from the construction site. During the course of gravel extraction:

a. Runoff from the gravel operation at the Ranch Bar will be controlled to avoid entrance of turbid water or pollutants into the Smith River; berms will be constructed using extracted material along buffer strips that separate the main channel of the Smith River from the extraction areas.

b. A supply of absorbent pads will be maintained for temporary runoff control measures and pads will be placed on the impounded water while suspended sediment settles and before breaching occurs.

c. No equipment fuel will be stored on or near the proposed extraction areas. Refueling of vehicles will occur off-site (CA12, CA31, and CA32).

d. Vehicles will be maintained according to regulations and will be checked off-site on a daily basis to ensure no fuel or fluid leakage prior to commencing work (CA12, CA31, and CA32).

e. The installation of berms around main channel buffer areas will occur prior to extraction and will be removed after project completion.

f. If any leaks or spills occur, appropriate agency personnel and the Department of Fish and Game will be notified immediately (CA12, CA31, and CA32).

g. Dust Control: Wind blown dust will be controlled by frequent application of water to freshly disturbed soil areas. Water trucks will be used continually during excavation, loading and general operations to minimize the effects of windblown dust (ESC21).

h. Employees and subcontractors will receive proper training of BMPs including stormwater pollution prevention, implementation, inspection and maintenance of BMPs (CA40).

i. Reservation Ranch and contractors will maintain records of training (CA40).

2.4 Reasonable and Prudent Measures (RPMs)

RPM 1. Ensure that the annual pre-extraction planning process minimizes advers effects to listed species and designated critical habitat.

a. The project site has been visited and plans have been reviewed by agency representatives including but not limited to, DFG (Gary Flosi, Senior Fisheries Biologist, Michelle Gilroy Associate Regional Fisheries Biologist), USFWS

(Greg Gray, Greg Goldsmith), County of Del Norte (Randy Hooper, Planner), USACE (Carol Heidseik), and NOAA Fisheries (Dan Free, Fisheries Biologist, Margaret Tauzer, Hydrologist).

RPM 2. Ensure that measures tht aminimize adverse effects to listed species and designated crital habitat are implemented.

a. The Ranch Bar was last extracted in 1996. A complete "Total Station" survey will be conducted prior to commencement of work.
b. The 35% exceedence flow for the Smith River was 2,900 cfs in 2003. The proposed "skim-type" extraction will occur under guidance from NOAA to meet either the current 35% exceedence or 2 foot vertical offset criteria (~~see~~ ~~appendix~~).
c. Vegetation (willow posts) will be planted adjacent to the excavated side-channels to provide cover for salmonids using the new habitat. Large woody debris will be placed, half buried along the margins and in mid-channel areas of the new side-channels. The flow inundation frequency will be calculated and provided with pre-project cross sections.
d. Large woody debris will be placed partially buried along the side-channel margins and side channels.
e. No channel crossings will be necessary.
f. Not applicable
g. "No wood removal" signs will be posted at the Ranch Bar access road.

RPM 3. Ensure that the monitoring necessary to troack changes to salmonid habitat quality and quantity in the vicinity of gravel extraction sites is implemented.

3.0 MONITORING

3.1 Physical Monitoring

Topographic models and representative long-profiles and cross-sections will be produced from digital total station surveys with data processed using GIS software (ESRI, 2005). Horizontal and vertical control for the project site will be established at permanent benchmarks referenced to a National Geodetic Survey benchmark adjacent to the project area. Three survey phases will occur: 1) a pre-project survey to establish existing conditions for design calculations, layout and monitoring; 2) construction grade control; and 3) two post-construction effectiveness monitoring surveys will occur within 5 years of construction. Particle size distributions will be assessed at cross-sections using Wolman pebble counts (Wolman 1954).

Cross-sections, aerial photos and other monitoring requirements will be implemented consistent with the Del Norte County LOP 2003-2. effectiveness monitoring will be conducted at treatment sites to document ecological changes to treatment areas including vegetation establishment and salmonid use.

8.4.11

3.2 Biological Monitoring

Effectiveness monitoring will be conducted at treatment sites to document ecological changes to treatment areas including vegetation establishment and salmonid use. Snorkel surveys will be conducted during slack and ebbing tides from 1000 to 1600 hours. Surveys will occur weekly from May through July, 2007.Aquatic habitat will be mapped. Survey reaches of sloughs will be divided into 3 units (lower,middle,upper)for underwater observation. Two divers will conduct coordinated surveys in a downstream to upstream direction and record species observed and distance to cover (LWD/riparian). Quantitative sampling methods, method of bounded counts, will be used to estimate fish abundance allowing for comparisons between cover habitat areas (Moyer 2001, Hankin and Reeves 1988). A 15m beach seine will be used to collect weekly fish length and weight data from multiple sampling locations in the restored tide channels/sloughs. Fin clips will be applied to a subsample of captured salmonids to derive mark-recapture population estimates. Physical Parameters: Surface and bottom measurements of salinity (ppt), dissolved oxygen (mg/L) and temperature (°C) will be recorded in sites throughout the project area. We will utilize digital water quality meters and installed HOBO temperature recorders.

4.0 Proposed Work Schedule

Work is proposed to begin May 15, 2006, when pre-project cross-sectional surveys are planned. Fisheries monitoring is proposed to begin during May 2006. Construction will occur from June 15 through October 15,.2006, or during time periods permitted by regulatory agencies.

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ID 416

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EXHIBIT NO. 5
APPLICATION NO.
1-06-008-A1
RESERVATION RANCH
EXCERPTS, ORIGINAL COASTAL DEVELOPMENT PERMIT NO. 1-056-008 STAFF REPORT (1 of 31)

F9a

Filed: September 7, 2006
49th Day: October 26, 2006
180th Day: March 6, 2007
Staff: Jim Baskin
Staff Report: September 28, 2006
Hearing Date: October 13, 2006
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: **1-06-008**

APPLICANT (S): **Reservation Ranch and Affiliates**

AGENT: Zack Larson – Smith River Alliance

PROJECT LOCATION: Along the north bank of the lower Smith River estuary, approximately 1.5 miles upstream from the river's mouth with the Pacific Ocean, Del Norte County. APN 103-010-01.

PROJECT DESCRIPTION: *Smith River Estuary Enhancement Pilot Project* – Enhance estuarine habitat for juvenile anadromous fish species through excavation by alcove trenching of approximately 7,900 cubic yards of sand and gravel and place large woody debris holding and cover structures along the lower downstream 500-foot length of point bar and adjoining floodplain areas alongside the Reservation Ranch Gravel Bar in the Smith River.

PLAN DESIGNATION: Resource Conservation Area (RCA).

ZONING: Designated Resource Conservation Area – Estuary, Riparian Vegetation RCA-2(e)(r).

LOCAL APPROVALS RECEIVED:	Del Norte County Use / Coastal Development Permit No. UP9043, granted for a five-year term on June 9, 2006, expiring February 1, 2010.
OTHER APPROVALS RECEIVED:	State Lands Commission trust lands review; and California Department of Conservation - Office of Mine Reclamation reclamation plan review.
OTHER APPROVALS REQUIRED:	Del Norte County Use / Coastal Development Permit No. UP9043 annual mining plan authorization for 2006 season; California Department of Fish and Game Sec. 1603 Streambed Alteration Agreement; and U.S. Army Corps of Engineers Letter of Modification to Permit No. 28222N.
SUBSTANTIVE FILE DOCUMENTS:	*Smith River Gravel Study*, California Department of Water Resources, January, 1974; *Programmatic Mitigated Negative Declaration for Gravel Extraction on the Lower Smith River and Rowdy Creek*, County of Del Norte, July, 2000; *Biological Opinion – U.S. Army Corps of Engineers Letter of Permission Procedure to Permit Gravel Mining in Del Norte County, California*, National Marine Fisheries Service, September, 2003; *Letter of Permission Procedure for Gravel Mining and Extraction Activities in Del Norte County, California*, U.S. Army Corps of Engineers LOP 2003-2, March 26, 2004; and *Reservation Ranch Estuary Enhancement Project* (Hydro-Geomorphic Stability Analysis), Rocco Fiori GeoSciences, July, 2006.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission approve with conditions the coastal development permit for sand and gravel extraction for the primary purpose of fish and wildlife habitat improvement. The applicant proposes to extract gravel between late September and the end of December 2006, from a gravel bar and adjoining floodplain area along the lower Smith River from a site located approximately 1½ miles up from the river's mouth with the Pacific Ocean.

The applicants seek authorization to conduct gravel extraction for the purposes of enhancing side channel and alcove fish habitat conditions on and adjacent to an exposed point bar situated on the northern bank of the lower Smith River. The active channel of the river and floodplain areas along the Reservation Ranch Gravel Bar include environmentally sensitive habitat areas (ESHAs) that provides aquatic, intertidal, and emergent terrestrial habitat to a variety of fish and wildlife species and which could be easily disturbed or degraded by human activities and developments. In addition, the lower Smith River is a designated "recreational" reach under the Wild and Scenic Rivers Act, and is subject to a variety of water-oriented recreational use by boaters and anglers.

The major issues raised by the application entail the development's consistency with Sections 30236, 30240, and 30253 of the Coastal Act, in regard to whether: (a) the primary function of the proposed substantial alterations to a river is for the improvement of fish and wildlife habitat; (b) all feasible mitigation measures have been incorporated into the project; (c) uses are limited to those dependent upon the riverine resources of the area which do not result in disruption of the habitat; (d) the project has been designed to prevent impacts that would significantly degrade adjacent ESHA and would be compatible with the continuance of such habitat and recreational areas; and (e) the development would assure geologic stability and structural integrity and neither create nor contribute significantly to erosion, geologic instability, or destruction of the project site or the surrounding area.

Unlike other gravel extraction operations proposed on other reaches of the river, the proposed development is being pursued by the Smith River Alliance, a grant-funded, local not-for-profit organization whose charter specifically identifies the long-term protection, restoration, and stewardship of the natural resources in the Smith River watershed as the primary mission of the group. Additionally, while permission to use the site and an in-kind contribution of heavy equipment is being proffered by the owner's of the site, the Reservation Ranch and Affiliates would not receive any fiduciary compensation for the gravel removed in creating the habitat improvements. Moreover, the specific gravel extraction plan proposed by the applicant was prepared in close consultation with the staff of the National Marine Fisheries Services, for the expressed purpose of improving habitat conditions for juvenile salmonids.

With respect to inclusion of all feasible mitigation measures, under the U.S. Army Corps of Engineers (USACE or "Corps") Letter of Permission process for permitting gravel mining and other extraction activities in Del Norte County pursuant to Section 404 of the Clean Water Act, the project represents a "Class B" non-commercial extraction activity. As such, the project is subject to the same detailed biological and geophysical evaluations, extraction performance standards, and post-project monitoring requirements as industrial aggregate products extraction projects.

Measures to prevent disturbances to both riverine and terrestrial habitat, as set forth generally in the LOP, as formulated specifically for this project, and as have been

identified by Commission staff, have been incorporated into the project's design and/or are recommended as conditions of permit approval.

Special Condition No. 1 requires the applicant to conduct the project as described in the various project application materials, including the project narrative, site plan, extraction cross-sectional diagrams, and mitigation and monitoring program. Special Condition No. 2 imposes other specific operational timing, performance standards, and mitigation measures to be employed to protect coastal water quality and prevent disturbance of adjacent riverine and riparian vegetation environmentally sensitive habitat areas in proximity to the excavation sites where habitat enhancement activities are to be conducted. Special Condition No. 2 further requires that specific site stabilization work be undertaken between the authorized work periods to prevent impacts to coastal water quality during no-work periods when the river rises. In addition, Special Condition No. 3 restricts the enhancement work to those times during the fall and winter months when river flows are confined to the low flow channel and when no precipitation is either occurring or is forecasted. Special Condition No. 4 requires the applicant, prior to commencement of the enhancement work, to provide for the Executive Director's review, a copy of the streambed alteration agreement reached with the California Department of Fish and Game.

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 North Coast Regional Water Quality Control Board, 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.

The motion to adopt the Staff Recommendation for approval with conditions is found on page 5.

STAFF NOTES:

1. Jurisdiction and Standard of Review

The site of the proposed surface mining project is on and adjacent to the Reservation Ranch Gravel Bar alongside the perennial low-flow channel of the Smith River, 1½ mile upstream of its mouth with the Pacific Ocean. The project is located in areas subject to the public trust within the Coastal Commission's area of original or retained jurisdiction (see Exhibit No. 3). Therefore, the standard of review that the Commission must apply to the development is the Chapter 3 policies of the Coastal Act.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

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. 1-06-008 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 a majority of the Commissioners present.

Resolution to Approve Permit:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned 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.

II. STANDARD CONDITIONS: See attached.

III. SPECIAL CONDITIONS:

1. Scope of Approved Development

A. This Coastal Development Permit authorizes: (a) the excavation and removal of 6,792.3 cubic yards of sand, gravel, and cobble aggregate materials by bar-trenching grading technique from "Estuary Enhancement Site 1 – Alcove;" (b) the excavation and removal of 1,107 cubic yards of sand, gravel, and cobble aggregate materials by bar-trenching grading technique from "Estuary

Enhancement Site 2 – Side Channel;" (c) the installation of rootwads and logs within the Site 1 and 2 excavated alcove and side channel areas as "large woody debris" holding habitat cover enhancement, as further detailed and conditioned, in the following documents:

- Project Description Narrative, Coastal Development Permit Application No. 1-06-008, Zack Larson, submitted to California Coastal Commission – North Coast District Office February 10, 2006, attached to this staff report as Exhibit No. 4, pages 1 through 7, inclusive;
- *Reservation Ranch Bar Estuary Enhancement Project 2006 Pre-Extraction Survey Cross-Sections*, Rocco Fiori GeoSciences for the Del Norte County Resource Conservation District, dated August 15, 2006, revised September 5, 2006, attached to this staff report as Exhibit No. 4, pages 8 through 15, inclusive; and
- *Reservation Ranch Estuary Enhancement Project* (Hydro-geomorphic Stability Analysis), Rocco Fiori GeoSciences, dated July, 2006, attached to this staff report as Exhibit No. 5.

B. The permittee shall undertake the removal, excavation, stockpiling, and habitat enhancement activities as proposed in accordance with the above-listed plans and shall implement all associated monitoring and mitigation measures contained and described therein. Any proposed changes to the plans shall be reported to the Executive Director. No changes to the project shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. <u>Extraction Season</u>

Mineral extraction and related habitat enhancement activities authorized by Coastal Development Permit No. 1-06-008 must be completed by December 31, 2006. Any extraction and habitat enhancement operation conducted after October 15, 2006 shall be subject to the following conditions:

- All work shall cease if flows in the lower Smith River exceed 2,900 cubic-feet-per second (cfs), as measured by the California Department of Water Resources stream gauge affixed to the Dr. Fine Bridge Highway 101 crossing (DRF). Work may not recommence until flows recede to below 2,900 cfs;
- All work shall cease upon the onset of precipitation at the project site and shall not recommence until the predicted chance of rain is less than 50% for the Crescent City area portion of the Redwood Coast segment of the National Weather Service's forecast for Northwestern California;
- The excavation work site shall be winterized between work cessation periods by installing of stormwater runoff and erosion control barriers around the perimeter

of each active excavation site to prevent the entrainment of sediment into coastal waters.

- No excavated materials may be stored on the gravel bar; and
- Adequate stocks of stormwater runoff and erosion control barrier materials shall be kept onsite and made available for immediate use.

3. Extraction Limitations and Performance Standards

Extraction of material shall be subject to the following limitations and performance standards:

a. The permittee shall extract no more than 7,800 cubic yards of gravel from the site;

b. Excavation shall not occur in the active channel (area where water is flowing unimpeded through the river channel);

c. The upstream end of the bar (head) shall not be mined or otherwise altered by gravel extraction operations. The minimum head of the bar shall be defined as that portion of the bar that is from the widest point of the bar to the upstream end of the bar that is exposed at summer low flow;

d. Gravel extraction operations and habitat enhancement work shall not disturb or remove any of the riparian vegetation on the river banks. No new haul roads shall be cut through the habitat;

e. 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; and

f. 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 habitat enhancement activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into river waters.

4. Streambed Alteration Agreement

PRIOR TO THE START OF ANY GRAVEL EXTRACTION OPERATIONS, the permittee shall submit a copy of any necessary Section 1603 Streambed Alteration Agreement or other approval required by the Department of Fish and Game for the project for the 2006 gravel extraction season. The applicant shall inform the Executive Director of any changes to the project required by the Department of Fish and Game. 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.

5. U.S. Army Corps of Engineers Approval

PRIOR TO THE START OF ANY GRAVEL EXTRACTION OPERATIONS, the permittee shall submit a copy of the permit issued by the U.S. Army Corps of Engineers granting approval for the project for the 2006 gravel extraction season, or a Letter of Permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the Army Corps 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.

A. Site Description and Project History.

The project site comprises an approximately ¼-mile reach of the 100-year floodplain of the lower Smith River together with the downstream portion of the Reservation Ranch Gravel Bar, located about 1½ miles upstream from the ocean mouth of the Smith River in Del Norte County (see Exhibit Nos. 1 and 2). The Reservation Ranch Bar is one of five gravel bars that are located within the coastal zone along the lower reaches of the Smith River. The Smith River enters the Pacific Ocean about 3.5 miles south of the Oregon border. The river has the greatest annual discharge per square mile of any major California basin. The run-off is estimated at 2.9 million acre-feet annually. The river has no exports of surface water, and therefore it has come to be known as one of the cleanest and most pristine rivers in California, especially on its upper reaches. The lower Smith River flows in a roughly south-southeast to north-northwest direction through the Smith River Plain, a large uplifted marine terrace consisting of the Tertiary- to Quaternary-aged Battery and St. George Formations. This broad alluvial floodplain is extensively used for agriculture.

The project site is within the Commission's retained permit jurisdiction and is not governed by the certified LCP. Lands adjacent to the project site have land use plan designations of Prime Agriculture and Resource Conservation Area (AE, RCA), implemented through a Designated Resource Conservation Area – Estuary, Riparian Vegetation, (RCA-2 (e)(r)) zoning district.

In its present configuration, the perennial main channel of the Smith River runs along the south to southwestern side of the Reservation Ranch Bar. From bank to bank, the river is about 600-700 feet wide in the area of Reservation Ranch Bar. However, during the summer and early fall months when low flow conditions prevail, the river is confined to a

main channel of approximately 100 to 200 feet in width. The seasonal high-flow channel is dry during the summer and early fall seasons, and between rainfall events over the wet winter months.

Access to the gravel bar is currently via an unimproved gravel road that crosses the seasonal channel and ascends the riverbank to a levee road leading easterly to the southern terminus of Sarina Road. An approximately 3½-acre (750-foot-long x 200-foot-wide) cleared and graded stockpiling area lies off of the access road approximately 250 feet from the riverbanks (see Exhibit Nos. 2 and 3).

The banks of the river are 10-20 high and are covered with well-established riparian vegetation dominated by a Sitka willow (Salix sitchensis) and red alder (Alnus rubra) plant community. These dominants are interspersed with tan oak (Lithocarpus densiflora) and firs (Abies sp.), with an understory composed primarily of Himalaya blackberry (Rubus discolor), California blackberry (Rubus ursinus), French broom (Genista monspessulana), coyote brush (Baccharis pilularis), and various forbs, ferns and upland grasses.

The riparian vegetation found on the gravel bar consists of two plant associations, a permanent palustrine scrub-shrub complex encompassing three contiguous acres along the northeastern side of bar. In addition, six acres of non-persistent palustrine scrub-shrub complex occur in four discrete areas on the northwest, east, and southeast sides of the bar. These areas range in size from approximately ½-acre to 2½ acres in size and contain riparian vegetation, chiefly small Sitka willows (Salix sitchensis), with ½-inch to one-inch stem diameters-at-breast-height (see Exhibit No. 3).

The property owner has mined the Reservation Ranch Gravel Bar only sporadically in recent years, with approximately 20,000 cubic yards extracted during the 1988, 1990, and 1995 seasons (see CDP Nos. 1-88-036, 1-90-062, and 1-95-049, respectively). Past volumetric assessments (Larue, 1997, 1998, 1999) indicate that in previous years, in excess of 18,000 cubic yards of material was available within the proposed extraction area. However, due to the low rainfall over the last four years and the lack of large precipitation events that result in flood-stage sediment-mobilizing flows, very little replenishment of sand and gravel materials has occurred along the lower Smith River gravel bars, including the subject Reservation Ranch Bar site. As a result of this lack of replenishment, further skimming of the exposed gravel bar would compromise the channel's width-to-depth proportions setting the stage for significant changes in river morphology that could lead in turn to further impacts to sensitive habitat areas in and along the river, and to adjacent farmlands.

Given the current lack of sand and gravel material replenishment on the exposed bar in sufficient quantities to justify a commercial extraction project, the applicants has let the site lie fallow for much of the last decade. Since 2004, the property owner has been approached by anadromous fish habitat advocates seeking to conduct habitat restoration

and the improvement of fish and wildlife habitat along the lower river. Plans to undertake a habitat enhancement project by the Friends of Cal-Ore Fish in 2005, similar to that currently proposed, were subsequently abandoned after pre-application consultations.

B. Project Description.

The applicant propose a pilot fisheries habitat enhancement project to improve side-channel and lower point-bar holding and cover conditions along the northwestern side of Reservation Ranch Gravel Bar (see Exhibit No. 4). The applicants assert that the enhancements would provide deepwater habitat for rare and endangered salmonid fish species as they migrate through this reach of the river. Sand and gravel materials would be excavated to depths of less than three feet below the existing bar grade to deepen the lower bar and adjoining high flow channel to allow for greater tidal flux through these areas. In addition, large woody debris in the form of 10 to 15 root-wads and logs would be installed into the excavated areas to further enhance habitat conditions.

To accomplish these objectives, the applicants request authorization to remove up to 7,900 cubic yards (yd^3) of river-run sand and gravel aggregates during the 2006 calendar year from: (a) a roughly triangular-shaped 1.7-acre area comprising the lower third of the exposed, denuded gravel bar (6,792.3 yd^3); and (b) a 100-foot-wide area within a roughly 1,000 lineal-foot reach of the secondary high-flow channel downstream from the point-bar (1,107 yd^3). As proposed, the excavations would be limited to a less than three-foot depth and emulate a natural river channel with average side slopes of 5H:1V, not to exceed 3H:1V, and with an average bottom width of eleven feet.

The roughly ¼-mile-long extraction area would first be separated from the live waters of the river by placement of anchored silt fencing and/or a short berm, constructed of gravel materials obtained from the exposed point-bar, adjacent along the edge of the perennial low-flow channel. Once in place, excavation utilizing a variety of heavy mechanized equipment including back-hoes, end-loaders, and excavators would be performed during the daily low tide period. Once the side channel and alcove have been formed to specifications, large woody debris in the form of root-wads and logs would be placed within the excavated areas. Upon completion of these in-stream habitat enhancements, the silt fencing and berm materials would be removed from the edge of the restoration site on a low-low tide when the adjoining river area is naturally dewatered.

The proposed bar-trenching technique was suggested by and designed in consultation with the National Marine Fisheries Service (NOAA Fisheries). A further discussion of gravel extraction methods follows in Findings Section II.C, below.

The proposed project description also identifies numerous mitigation measures, including a suite of best management practices (BMPs) developed by the California Stormwater

Quality Association (CASWQA) to be utilized to prevent and minimize potential impacts to coastal water quality. These measures include:

- Maintaining an onsite supply of absorbent pads to be placed on the impounded water while suspended sediment settles and before breaching occurs;

- Prohibitions on the storing of equipment fuel in or near the proposed extraction areas;

- Restricting the refueling of vehicles to off-site areas;

- Daily prior-to-commencement-of-work inspections and regular maintenance of vehicles to ensure no leakage of fuel or fluid onto the excavation site;

- Immediate notification of appropriate hazardous materials spill response agency personnel and the Department of Fish and Game if any accidental leaks or spills do occur;

- Use of water truck spraying of freshly disturbed soil areas continually during excavation, loading and general operations to minimize the effects of furtive windblown dust;

- Training of employees and subcontractors in the use of stormwater pollution prevention BMPs, including their implementation, inspection and maintenance; and

- Record-keeping of training given to Reservation Ranch employees and contractors.

Moreover, the proposed development is required under the U.S. Army Corps of Engineers' Letter of Permission to avoid potential water quality impacts, instigation of erosion of the bar or channel relocation during winter-spring higher flows, and to prevent the stranding of fish when the river level recedes in late spring through the use of the following "reasonable and prudent measures:"

- Hydrologic and geomorphic review, with associated recommendations provided by CDFG, NOAA Fisheries, the Del Norte County hydrologist, or County- and NOAA Fisheries-approved hydrologist retained by the applicant, based on a review of pre-extraction information, including cross sections, aerial photos, site reviews, and other information;

- Installing "no wood cutting" signs to prevent the pilfering of the large woody debris habitat enhancement structures;

- Grading all bar-skimmed or trenched areas with a minimum 2% slope downstream and toward the low flow channel and filling in all pits and depressions within the treatment area to minimize the likelihood of fish strandings; and

- Post-project monitoring of the effects of the extraction and habitat improvement project on river morphology and aquatic habitat, including channel cross-sectional analysis, fish counts, and other biological assessments.

C. Smith River Resource Issues and Regulatory Background.

Resource Utilization

The Smith River has 11 gravel bars that have been mined on a regular or periodic basis since 1914. Five of these bars are located on the lower Smith River within the coastal zone (i.e., downstream of the Highway 101 / Dr. Fine Bridge). The gravel bars on the Smith River contain a renewable resource of cobbles, gravel, sand, and other rock-derived products. There has been an on-going demand for gravel and aggregate products within Del Norte County because of the construction of a variety of private developments and public facility improvements.

The Smith River and its tributaries are ranked among the most significant anadromous fisheries in Northern California. Chinook salmon (Oncorhynchus tshawyscha), coho salmon (Oncorhynchus kisutch), Klamath Mountain Province steelhead (Oncorhynchus mykiss irideus), and coastal cutthroat trout (Oncorhynchus clarki clarki) are among the most important species with regard to commercial and sports fisheries. The project area and the lower Smith River are mainly utilized by anadromous fish as a migration route to and from upstream spawning grounds. Most spawning areas along the lower Smith River have previously been lost due to sedimentation of this river system, although some main stem spawning use does occur by Chinook salmon.

In addition to the fish and wildlife habitat the river affords, the Smith River is also recognized for its significant recreational and aesthetic values. In 1972, the Smith River was included in the original listing of waterways under the California Wild and Scenic Act (PRC §5093.50 *et seq.*). The reach of river passing through the project site is classified as "recreational." PRC Section 5093.53 defines recreational rivers or river segments as: "...those rivers or segments of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past." Restrictions on land uses along recreational rivers are not as stringent as those on their "wild" or "scenic" counterparts, and are primarily limited to prohibiting the construction of dams or other permanent diversion structures. The protection and enhancement of recreational uses are stressed with particular emphasis placed on ensuring that river front development does not block or impede recreational access within navigable waters.

The Smith River also provides domestic water supply to many residents of northern Del Norte County, including the City of Crescent City, the unincorporated town of Smith River, and Pelican Bay State Prison. Water is drafted from the river's aquifer through subsurface "Ranney Well" pumps operated by the City of Crescent City and several other community services districts. The service areas' current (1997) combined water consumption rate is approximately 62 million gallons per month.

Regulatory Chronology

An in-stream gravel mining operation can require the approval of a number of different agencies. Permits granted prior to the 1990s by the various approving agencies were site-specific and granted with little acknowledgement of the cumulative effects of gravel mining.

California Department of Fish and Game Lake or Streambed Alteration Agreements

The California Department of Fish and Game (CDFG) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the State Legislature in the 1960's enacted Sections 1600 through 1607 of the California Fish and Game Code. These statutes requires that any person, business, state or local government agency, or public utility who proposes an activity that may impact a river, stream, or lake to notify the CDFG prior to commencing the activity. Notification to CDFG is required for activities that will: (a) divert, obstruct, or change the natural flow or the bed, channel or bank of any river stream or lake; (b) use material from a streambed; or (c) result in the disposal or deposition of debris, waste, or other material where it can pass into any river, stream, or lake.

If CDFG determines that the project may adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement is required. An agreement is first drafted by the Department containing a list of measures needed to be taken to ensure that fish and wildlife resources are protected. Department staff will then generally work with project proponent to find a mutually acceptable solution, offering suggested ways to modify the project so that harmful impacts to fish and wildlife resources would be eliminated or reduced.

Once the Lake or Streambed Alteration Agreement has been executed between the Department and the project proponent, and all other legal requirements have been satisfied (i.e., the securement of other related permits and authorizations), the proposed activity may be undertaken.

County of Del Norte Surface Mining and Reclamation Program

The County of Del Norte regulates surface mining and quarries as a conditional use pursuant to Title 7, Chapter 7.36 of the Del Norte County, adopted as Ordinance No. 77-16 on April 15, 1977. The ordinance contains operational standards and limitations for

mining and reclamation activities for the purpose of "keeping with the protection of the public health, safety, convenience, and general welfare." Conditional use permits for gravel mining may be issued for terms up to five years, subject to an annual review of the mining operation's compliance with permit conditions.

In 1999, the County of Del Norte began updating its environmental documentation for the 11 Smith River gravel operations. A programmatic Mitigated Negative Declaration was adopted July 7, 2000. This document updates the previous project analyses conducted during the late 1980's and early 1990's, and incorporates mitigation and monitoring provisions in response to changes in regulatory programs, environmental review requirements, and federal and state threatened and endangered species listings (i.e., coho salmon, steelhead) which have occurred since their preparation. Under the current mitigation and monitoring programs, assessments of river and habitat conditions are conducted annually by the County's hydrologist in consultation with other resource agencies to determine appropriate quantities and areas for extraction for the upcoming season.

U.S. Army Corps of Engineers Letter of Permission Procedure and Section 7 Consultation with NOAA Fisheries and USFWS

In an effort to streamline the processing of Corps permits for numerous in-stream gravel operations within Del Norte County, the Corps adopted a Letter of Permission (LOP) procedure for authorizing such projects. Under the procedure, an applicant for a project covered by the LOP must submit yearly gravel plans and monitoring information to the Corps for approval. The Corps LOP procedure incorporates the County's review process outlined above.

As with all "federal actions" that might adversely impact rare, threatened, and endangered fish and wildlife, the LOP process is also subject to consultations with applicable natural resource trustee agencies as required under Section 7 of the Federal Endangered Species Act (FESA). FESA Section 7 directs all Federal agencies to use their existing authorities to conserve threatened and endangered species, and, in consultation with other federal agencies possessing ecological expertise regarding ecology and habitat requirements for these plants and animals, ensure that their actions do not jeopardize listed species or destroy or adversely modify critical habitat. Section 7 applies to management of Federal lands as well as other Federal actions that may affect listed species, such as Federal approval of private activities through the issuance of Federal permits, licenses, or other actions such as the proposed LOP gravel mining authorization procedure.

The consultation process primarily consists of the agency undertaking the action compiling biological assessment data detailing the current status of the fish and wildlife species within the area subject to the federal agency action and a preliminary assessment of the likely effects of the action on those species. This information is then submitted to

the particular resource agencies assigned the responsibility for ensuring protection to the various FESA-listed species.

The National Marine Fisheries Service (NOAA Fisheries) issues a Biological Opinion regarding impacts of gravel extraction as proposed to be authorized by the LOP to listed salmonid species. Mitigation measures identified within the biological opinion are incorporated into extraction requirements of the LOP. As more information is gathered or conditions change with respect to the affected listed species, NOAA Fisheries may initiate consultation wherein a revised interim Biological Opinion is issued, revising operational standards and limitations as may be required to ensure protection of the listed species.

The National Marine Fisheries Service originally issued a Biological Opinion (Opinion) for the Letter of Permission Procedure for Gravel Mining and Excavation Activities within Del Norte County, California (LOP 96-2) in July, 1997.

In response to a consultation request from the Corps of Engineers circulated in late 2002, in September 2003, NOAA Fisheries issued a Biological Opinion addressing the effects that riverine mining activities in Del Norte County for the period of 2003 through 2007 under renewed LOP-2002-3 (now re-enumerated as LOP 2003-2) would have on listed fish species and essential fish habitat (see Exhibit No. 6).

Listing of Coho Salmon Under the California Endangered Species Act

On July 28, 2000, the California Fish and Game Commission (CFGC) 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. CFGC 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 CFGC accepted the petition for listing, initiating a 12- to 14-month review period by CDFG in which appropriate recommendations on the requested listing were to be developed. During that period, the protection granted to listed species under the CESA was extended to candidate species, specifically prohibiting taking of the species without the express consent of CDFG.

In April 2002, the CDFG released Candidate Status Review Report 2002-3, "Status Review of California Coho Salmon North of San Francisco." The report concluded that CDFG had found that while a CESA "endangered" listing was not warranted at this time, the SONCC Coho ESU was in serious danger of becoming extinct throughout all or a significant portion of its range. The CFGC subsequently took action at the August 30th

meeting, listing the coho as an endangered species in the area between San Francisco Bay and Punta Gorda and threatened between Punta Gorda and the California-Oregon border.

Subsequently, the CDFG Director initiated a multi-stakeholder statewide Coho Recovery Team (CRT) to make recommendations for a recovery plan. On August 28, 2003, The Department presented the *Recovery Strategy for California Coho Salmon* to the Fish and Game Commission, a document compiling the findings and recommendations developed by the CRT (see Exhibit No. 7). On March 30, 2005, a final listing of the SONCC ESA coho as a threatened species became effective.

Coastal Development Permit Authorization

The proposed project requires a coastal development permit from the Commission because the proposed mining and extraction activities are specifically enumerated in the Coastal Act definition of development that requires a coastal development permit pursuant to Sections 30106 and 30600 of the Coastal Act and because the gravel bar is located within the Commission's area of original or retained permit jurisdiction (see Exhibit No. 3). As described in detail above, the project before the Commission calls for: (1) extracting approximately 7,900 cubic yards of sand and gravel by dry-trenching from a 1.7-acre area on the lower third of the exposed point-bar and from a 100-foot-wide area within a roughly 1,000 lineal-foot reach of the secondary high-flow channel downstream from the point-bar; and (2) placing large woody debris, in the form of 10 to 15 root-wads and logs.

All processing and stockpiling of the excavated materials would be performed away from the gravel bar and outside of the Coastal Commission's permit jurisdiction. The project requires a separate coastal development permit from Del Norte County for temporarily stockpiling and processing the materials at an upland portion of the applicants' property. The local coastal development use permit for processing and stockpiling of materials at an upland location was approved by the County in June 8, 2005 for a term of five mining seasons, expiring on February 1, 2010. This local approval was not appealed to the Commission. In addition to securing requisite coastal development authorizations from the Commission, the applicants are in the process of obtaining an executed streambed alteration agreement from the California Department of Fish and Game for their proposed extraction activities for the 2006 calendar pursuant to the requirements of the use permit.

D. Development within Coastal Rivers and Streams / Protection of Coastal Water Quality.

Section 30236 of the Coastal Act provides that:

> *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain*

> *is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.* [Emphases added.]

Section 30236 sets forth a number of different limitations on what projects may be allowed that cause substantial alteration of rivers and streams. For analysis purposes, a particular development proposal must be shown to be either: (1) for a necessary water supply project; (2) for certain specified flood control projects; or (3) primarily for fish and wildlife habitat improvement. In addition, the development must incorporate the best mitigation measures feasible.

With respect to the protection of water quality, the proposed project involves the surface mining extraction of sand and gravel from the Smith River estuary utilizing 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 30230 and 30231. Both Sections 30230 and 30231 apply generally to any development in riverine environments and other kinds of water bodies in the coastal zone.

Coastal Act Section 30230 states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

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...*

1. Project Impetus

The proposed project is not proposed as a water supply project and would have no effect on water supplies. In addition, the proposed development is not proposed as a flood control project and has not been shown to have any positive effect on actual flooding. Instead, the application presents the channelizations as development for the improvement of fish and wildlife habitat.

The Commission finds that the prime objective of the project is indeed for the improvement of fish and wildlife habitat. This determination is based on the following facts unique to this permit request:

- The proposed extraction volume of 7,900 cubic yards is relatively small. A minimum annual excavation quantity of 20,000 cubic yards or more is usually necessary to ensure a gravel extraction enterprise is commercially viable;

- None of the excavated sand and gravel materials will be commercially sold. The materials will instead be used for repair and maintenance applications on the farm roads on the applicant's property;

- Other than permission to conduct the work on the Reservation Ranch property and in-kind donations of mechanized equipment to conduct the material extraction, the agent/contractor performing the excavation work will receive no monetary compensation for their work. Moreover, unlike other preceding similar proposals where the owner-applicant was the direct financial beneficiary from the revenue generated from the sale of the extracted materials, the agent/contractor is a third-party, public benefit non-profit organization funded exclusively by grant monies from natural resource trustee agencies and non-governmental fishery habitat advocacy groups;

- The project is part of a on-going coordinated regional effort to rehabilitate the Smith River watershed, which similar concurrent projects being pursued on Yontocket Slough, Rowdy Creek, and other major fish-bearing tributaries; and

- The project has been design in coordination with staff biologists from NOAA Fisheries, the California Department of Fish and Game, and University of California – Sea Grant Program.

Thus, based on the above-listed factors, the Commission finds that the primary purpose of the project is the improvement of fish and wildlife habitat. The Commission further finds that as the primary purpose of the stream channel development is the improvement of fish and wildlife habitat, the development proposed is consistent with the permissible use limitations of Sections 30230 and 30236 of the Coastal Act.

2. Inclusion of Best Mitigation Measures

The second test for development pursued under Section 30236 is whether the best mitigation measures feasible have been incorporated into the project.

Although the development is proposed for fishery restoration purposes, the proposed gravel extraction work could itself have adverse impacts on the riverine environment. Depending on the manner in which the gravel extraction / habitat enhancement project is

conducted, the proposed development could have four potentially significant adverse effects on the natural environment of the lower Smith River. These impacts include: (a) direct and indirect impacts on fisheries; (b) alteration of the riverbed and increased bank erosion; (c) impacts on environmentally sensitive riparian vegetation; and (d) impacts to the water quality of the river. The potential impacts and their mitigation are discussed in the following sections:

(a) Fisheries

As noted previously, the Smith 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, as well as the whole of the Smith River estuary and tidewater reaches, are important for these anadromous fish as a migration route to and from upstream spawning grounds. In addition, the lower Smith 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 include more than just the direct gravel mining activities within or in proximity to the low flow channel or the individual impacts of a particular gravel mining operation at one site. Often of greater significance are the indirect effects of gravel mining on physical riverine form together with the cumulative adverse impacts on sensitive fish species from all of the various gravel mining operations occurring along the river. Accurately assessing significant adverse indirect and cumulative impacts of the various gravel mining operations on sensitive fish species and/or their habitat can be a difficult task for any one operator to perform.

An assessment of the significant adverse indirect and cumulative impacts of U.S. Army Corps of Engineers (USACE or "Corps") permitted gravel mining operations along the lower Smith River on sensitive fish species does exist in the form of Biological Opinions issued by National Marine Fisheries Service (NOAA Fisheries). These Biological Opinions are issued as a result of formal consultations between the Corps of Engineers and the NOAA Fisheries in consideration of a "Letter of Permission" (LOP) authorization process for in-stream gravel mining in Del Norte pursuant to Section 7 of the Federal Endangered Species Act. As discussed previously in Findings Section IV.C, the Corps issued LOP 2003-2 allowing for authorizing gravel mining through 2007, following the preparation of a Biological Opinion by NOAA Fisheries. LOP 2003-2 incorporates newly available information that was not previously analyzed in previous Biological Opinions regarding the effects of gravel mining and extraction activities on listed salmonids. According to NOAA Fisheries, gravel

mining by trenching extraction methodologies, either by "wet trenching" within wetted low-flow channel areas, or by "dry trenching" on the exposed point-bar or within secondary high-flow channels as proposed by the applicant, can result in both short-term and long-term changes to channel form and function and such changes affect habitat function for listed salmonids directly and indirectly. The biological opinion identifies the following potential direct and indirect impacts from trenching:

Direct Effects:

- Increased turbidity and sedimentation associated with connecting the dry trench to the wetted channel, the installation and removal of diversion structures, and stream crossings by heavy equipment;

- Injury or death to individual fish from contact with heavy mechanized equipment during the installation and removal of stream crossing culverts or bridge spans;

- Death or injury and behavioral changes due to diversion of the perennial low flow channel;

- Decreased invertebrate production from change in habitat substrate composition; and

- Increased susceptibility to predation due to lack of cover in newly excavated areas.

Indirect Effects:

- Modifications to the amount and quality of fish habitat from bed degradation, bank erosion, channel and habitat simplification, and reduced effectiveness of geomorphic processes such as pool maintenance, sediment sorting, and sediment intrusion.

Although the project entails the extraction of gravel by trenching from within the active channel of the Smith River, most of the above-described potential impacts are not applicable to the proposed development, as they are primarily related to wet-trenching, or mining operations requiring the crossing or diversion of wetted channels. Accordingly, many of the potential impacts have been avoided through the design of the project, wherein the proposed extraction activities have been limited to a dry exposed point-bar and secondary channel areas for which no diversions or crossings of the wetted river portions would be involved. In addition, with regard to potential increases in predation, the project specifically

calls for the placement of large woody debris structures to provide cover for salmonids from raptors and other predators.

However, notwithstanding these actions, the project work to reconnect the excavated trench to the wetted channel and the cumulative removal of river sediments remain as potential significant impacts to fish and other aquatic organisms. NOAA Fisheries staff have stated that gravel mining has the potential to result in elevated turbidity levels and increased sedimentation. Fine sediments can become entrained in runoff from excavated bar and channel surfaces, as trenching typically exposes finer sediment that would be typically be buried beneath coarser overlying materials along the immediate bat surface. According to NOAA Fisheries, increased sedimentation can adversely impact salmonid spawning habitat by filling pores spaces, which decreases hydraulic conductivity of the gravel, thus reducing the supply of oxygenated water to incubating eggs. NOAA staff have also indicated that sediment removal from streams can result in destruction of spawning, feeding, and resting habitats. Adverse biologic effects on listed fish species include reduced egg and alevin growth and success, reduced riparian vegetation and all associated aquatic benefits, reduced water quality, and mortality of juveniles.

To ensure that the mineral extraction proposed by the applicants does not degrade the habitat of threatened salmonid species, the Commission attaches Special Condition Nos. 1 and 2. Special Condition No. 1 requires the applicant to conduct the gravel extraction and habitat enhancement project consistent with the restrictions and mitigation measures identified within the permit application materials, including the project description, site plans, mitigation and monitoring program and hydro-geomorphic stability evaluation. These measures include actions to reduce potential sedimentation and related turbidity to coastal waters through the use of established water quality best management practices to be used in isolating the excavation area from the live river waters and watering to suppress furtive dust generated during gravel excavation and transport activities. Use of these BMPs would reduce the potential impacts to salmonids from water quality degradation to less than significant levels.

Special Condition No. 2 requires the establishment of time-out periods during times of high river flows when the work areas and access routes would become inundated. As a result of this restriction, project work would not to be allowed to occur during periods when the river flows were equal to the "35^{th} percentile exceedance flow," corresponding to a discharge of 2,900 cubic-feet-per-second, the point when the river waters begin to rise out of the perennial low flow channel channels and spread laterally onto adjoining floodplain areas, allowing for interstitial soil particles to become entrained in river flows passing through the excavation sites. In addition, Special Condition No. 2 includes specific measures to be taken to winterize the excavation areas, including the removal of all mining

equipment from the bar and secondary channel areas, all surfaces are left in a condition that would allow from free-draining of river waters, and all exposed soil areas be mulched.

With respect to the potential indirect cumulative impacts to fish habitat from removal of river sediments and channel reconfiguration, by constraining the location and scope of the proposed development, these potential adverse effects have similarly been limited to inconsequential levels. Unlike mining operations on other reaches of the river further upstream, the Reservation Ranch Gravel Bar site in located well within the intertidal prism where the potential bank destabilization or changes to the channel configuration of the river are largely muted. Moreover, the scale of the project is small, both in the overall quantity of material being proposed from extraction and the depth and width of the trench excavations. Based on visits to the project to site by staff from NOAA Fisheries, CDFG, USFWS, and Corps, including credentialed biologists and hydrologists, these resource agency personnel have determined that the contribution to indirect and cumulative adverse effects to listed salmonid species from the proposed sediment removal and streambed alterations to be very minor and temporary, and would be offset many times over by the enhancements the project would provide to habitat conditions in the estuary.

To assure that impacts to fisheries from the removal of river sediments are prevented, the Commission attaches Special Condition No. 3. Special Condition No. 3 requires the applicant to limit the extraction volume to 7,900 cubic yards, and conduct the excavation pursuant to certain performance standards designed to minimize impacts to channel, streambed, and bank stability, including limitations on where the excavations could be performed and prohibiting the grading of new access roads or the removal of major streamside and on-bar vegetation.

NOAA Fisheries also indicates that juvenile and adult salmonid stranding could occur as a result of certain extraction methodologies depending on how the methodology is implemented and the manner in which the extraction area is reclaimed and left following extraction. For example, trenching techniques could result in salmonid stranding once river waters rise following the end of the mining season and then subsequently drop during the following spring. The potential for salmonid stranding can be minimized by grading the excavations with a minimum 2% slope downstream and toward the main river channel, and by smoothing out all pits and depressions within the excavated area where fish might be trapped when river waters recede. These actions are both required as part of the "reasonable and prudent measures" identified in the NOAA Fisheries biological opinion attached to the Corps' LOP as conditions of approval and are proposed to be incorporated into the project by the applicant.

Based on the biological information collected as part of the FESA Section 7 consultation, NOAA Fisheries staff concludes that extraction of gravel during the 2004 through 2007 extraction seasons will not result in more than incidental take of threatened salmonid species and will not jeopardize their continued existence provided that: (a) the terms and limitations on gravel extraction activities of the incidental take statement included within the biological opinion for LOP 2003-2 are incorporated as conditions to the approval of any such mining operation; and (b) compliance with the additional "reasonable and prudent measures" specified in that document is similarly provided.

To ensure that significant adverse impacts to salmonids from exceedance of incidental take of listed species does not occur during authorized mining operations, the Commission incorporates within the standards of Special Condition Nos. 2 and 3 requirements of the LOP 2003-2 and the reasonable and prudent measures recommended by NOAA Fisheries staff developed individually for this habitat enhancement project, which require that the permittee: (1) extract gravel only from downstream of the widest point of the bar, outside of the bar-head mining/alteration exclusion area and provide minimum vertical offsets from the low flow channel as appropriate; (2) only utilize "dry trenching" extraction techniques; and (3) provide for termination of project activities at the end of the 2006 mining season.

Therefore, the Commission finds that as conditioned, the proposed gravel mining incorporates the best mitigation measures feasible for avoiding and reducing significant direct, indirect and cumulative adverse impacts on sensitive fish species consistent with the requirements of Section 30236 of the Coastal Act.

(b) River Morphology

As discussed above, a potential major impact of gravel mining operations is degradation of the riverbed and erosion of the riverbanks. Such impacts can occur if the amount of gravel extracted from a particular part of the river over time exceeds the amount of gravel deposited on the site through natural recruitment—the downstream movement of sand and gravel materials. Bed degradation and bank erosion can also result from the manner in which gravel is extracted. For example, if gravel bars are skimmed too close to the low-water surface or are left with a very shallow slope, at higher flow stages the river will tend to spread across the bar, reducing the overall depth of flow and resulting in rapid channel migration or instigation of a multi-channel "braided" configuration. This is also true of watercourse reaches where aggradation of materials is a problem. Such sites tend to trap gravel that would otherwise move downstream, potentially trapping or impeding fish migration up and down the river.

The applicants propose to extract a maximum of 7,900 cubic yards during the 2006 extraction season, to be excavated under an extraction plan designed in consultation with NOAA Fisheries, USFWS, and CDFG staff. Although this amount is small relative to the overall gravel mining activity historically along the Smith River (in excess of 300,000 cubic yards annually), extraction without consideration of river morphology concerns could cause bed degradation and riverbank erosion.

As discussed in the previous section, staff of NOAA Fisheries indicate that bar-skimming in times of low replenishment contributes to degradation of the riverbed. Alternative methods, such as horseshoe-shaped deep skims, limited "dry trenching" on mid-bar and secondary channel locations, and alcove extraction along downstream bar margins minimize degradation by maintaining the overall height and form of gravel bars, which in turn better confine river flows and maintain channel configuration. Therefore, to ensure that the mineral extraction proposed by the applicants does not degrade the riverbed by compromising channel confinement, the Commission includes within the requirements of Special Condition No. 1 a requirement that the extraction of materials be performed by the "dry trenching" technique identified in the permit application. This requirement will ensure that disturbance of the active channel that might result from other gravel extraction methodologies are avoided.

(c) Riparian Vegetation

As discussed previously under Findings Section IV(4)(a) above, the project site contains North Coast riparian scrub habitat North Coast riparian scrub habitat occurs on streambanks adjacent to the haul road and in patches along the upper end of the bar. Thus, the proposed project has the potential to adversely affect environmentally sensitive riparian and emergent vegetation.

To prevent disturbances to riparian habitat, Special Condition No. 3 includes the requirement that the mining be performed, on the portions of the gravel bar that do not contain or are in close proximity to riparian vegetation with environmentally sensitive habitat characteristics. Special Condition No. 3 also prohibits the disturbance of the streambank vegetation or the grading of any new haul roads through the riparian corridor. In this manner, disturbance to the environmentally sensitive riparian vegetation in the vicinity of the project will be avoided.

(d) Water Quality

If properly managed, the proposed gravel operations should not significantly adversely affect the river's water quality. However, gravel extraction operations in close proximity to an open stream course could adversely impact water quality,

and ultimately the biological productivity and fisheries resources of the river. For example, pushing gravel materials or allowing sediment-laden water to drain from an excavation bucket into the river could degrade water quality and biological productivity by increasing the turbidity of the water. In addition, if not retained to allow settlement of suspended sediment, wash water from gravel processing activities could entrain soil materials which could result in sedimentation of coastal waters.

To prevent such occurrences, the Commission attaches Special Condition Nos. 1, 2, and 3. Special Condition No. 1 requires the applicant to conduct the gravel extraction project consistent with the runoff control plan measures identified in the permit application. These measures include actions to ensuring that sedimentation and turbidity impacts to the river associated with the segregation and reconnection of the excavated sites from the river's wetted channel are minimized. In addition, mining equipment is to be maintained and operated in such a manner as to not allow for release of petroleum products into the river, that spill clean-up materials be available on the worksite, and that operators and sub-contractors undergo spill contingency training. Special Condition No. 2 imposes performance standards for when and how excavation work performed after October 15 is to be conducted to avoid the entrainment of sediment into coastal waters during periods when the river flows reach the excavation areas. Special Condition No. 3 requires the applicant to limit the mining activities to the exposed gravel bar and secondary channel areas and to avoid in-water activities that might result in sedimentation of the river, including a prohibition on the placing of any material into the river during gravel extraction activities.

Therefore, as conditioned, the project will avoid significant adverse impacts to coastal water quality of marine and estuarine areas consistent with Sections 30230, 30231, and 30236.

(e) Conclusion

The Commission finds, as conditioned herein, the proposed gravel extraction /habitat enhancement project is consistent with the requirements of Section 30236 of the Coastal Act, in that the best mitigation measures feasible have been incorporated into the development to minimize adverse environmental effects. The gravel extraction limitations and performance standards imposed through Special Condition Nos. 2 and 3 are designed to prevent impacts to river morphology, riparian vegetation, threatened and endangered species, and water quality. Together with the provisions of Special Condition No. 1, requiring the applicant to conduct the gravel extraction consistent with and including all protective measures identified in the permit application documents, the project is conditioned to ensure that significant adverse impacts to the Smith River from the proposed gravel extraction operation will be avoided. Therefore, the proposed

project as conditioned is consistent with the requirements of Sections 30230, 30231, and 30236 of the Coastal Act.

E. Geologic Hazards and New Development.

The Coastal Act contains policies to assure that new development provides structural integrity, minimizes risks to life and property in areas of high flood hazard, and does not create or contribute to erosion. Section 30253 of the Coastal Act states in applicable part:

> *New development shall:*
>
> (1) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> (2) *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.* (Emphasis added.)

As discussed in Findings Section IV.D.2 above, trenching and gravel extraction projects can adversely affect the morphology of the river and create increased erosion and alteration of the riverbed and riverbanks. The applicants have provided a hydro-geomorphic analysis of the effects of the project on geologic stability of the river and whether the project would lead to erosion or destruction of the riverine environment inconsistent with Section 30253 (see Exhibit No. 5). The subject evaluation concluded the following with respect to the project's potential to instigate or exacerbate geologic instability:

> Channel morphology and stability can be affected by natural phenomena (floods, drought, fire, dune migration, earthquakes and tsunami) and human activities (mining, levees, grazing, water diversion, timber harvest, etc.) or the interaction of any combination of these factors. The goal of the proposed project is to enhance and protect the current trajectory of improving river/estuary habitat complexity by combining prudent gravel extraction with salmonid habitat restoration techniques.
>
> The following measures and considerations were included as part of the project design
> process:
>
> - Bar and Riffle Stability
>
> Site 1: To prevent headcutting that could potentially destabilize the bar and associated riffle, the bar skim will be placed at the distal

end of the active bar with the extraction depth set to follow the adjacent tidally inundated surface. This elevation has been tested by several large magnitude floods and has remained stable; as evidenced by the development of a willow riparian along the bar interior (Figure 1-1 and 1-2). The excavated surface will be sloped to drain toward the river, extending from the mean low tide water surface elevation and 45 degrees from the main channel. This treatment will form an alcove favorable to juvenile salmonid rearing and prolong the life of the downstream salt marsh habitats. It is expected that this treatment will encourage the colonization of vegetation and associated salmonid invertebrate prey species and provide cover habitat for foraging salmonids, particularly juvenile chinook salmon.

Sites 2-3: Secondary channel enhancement excavation depths will average 1 foot below mean low tide, deeper sections averaging 3 feet below mean low tide will be localized to areas less than 200 ft^2 to add complexity and facilitate placement of large wood. Existing channels will be enhanced to make use of flow patterns influenced by bar stability and increasing flow resistance provided by evolving vegetation…

- Sediment Supply

  An increased sediment supply could lead to deposition that would reduce the design life of the salt marsh and secondary channels. However, the continued demand for high quality aggregates, and associated commercial extraction from upstream sites, will likely result in low recruitment rates on the Ranch Bar. Additionally, we anticipate future bar skims will be used to protect the salt marsh and that tidal flux will the primary mechanism to maintain secondary channel dimensions (Myrick and Leopold 1963). Given the potential for low recruitment rates the planned extraction volume is purposely set low.

- Channel Conveyance

  The proposed project will result in a minor increase in the cross-sectional area through the project reach. The increase in conveyance should help reduce shear stress and streambank erosion along both banks…

The Commission's staff geologist, Mark Johnsson PhD, has reviewed the geologic evaluation and concurs with its findings and recommendations. Dr. Johnsson notes that, as the project extraction volumes are relatively small given the through-put of material through the Smith River, and with the mitigation measures that have been included within

the design of the project to minimize the potential instigation of significant lateral and head-/down-cutting beyond the excavation areas, or capture of the main channel, the likelihood that this project would instigate or worsen geologic instability in the form of increased bank erosion, changes to channel morphology, or disruption in either riverine or longshore sand supply dynamics is low.

Thus, based upon the inclusion of design features in the project, including limitations on the volume of material to be extracted, the configuration and location of the proposed excavations, the Commission finds that risks to life and property from geologic hazards have been minimized, that the stability and structural integrity of the site or surrounding area have been assured, and the development will neither create nor contribute significantly to erosion, geologic instability, or destruction or in any way require the construction of protective devices that would substantially alter natural landforms along the adjoining river bluffs. Therefore, the Commission finds the development to be consistent with Section 30253 of the Coastal Act.

F. Public Access.

Coastal Act Section 30210 requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 requires in applicable part that development not interfere with the public's right of access to the sea where acquired 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.

The project site is located between the first public road (Fred Haight Drive) and the sea (the Smith River is considered to be an arm of the sea in this area). Accordingly, a public access finding is required for the project.

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.

Four shoreline access points presently exist within the coastal zone and the lower Smith River (i.e., downstream and west of the Dr. Fine or Highway 101 Bridge). From west to east, these access points are located at: (1) the southerly end of the mouth of the Smith River; (2) the Ship-a-Shore resort; (3) the southerly end of Sarina Road at the river's confluence with Rowdy Creek; and (4) the County-owned Smith River Fishing Access Point ¾ mile upstream of the project site near the Bailey Gravel Bar. There is no evidence of potential prescriptive rights within the project area.

Recreational use of the lower Smith River is extensive. The principal public access use of the project site that does occur is by fishermen who go out to the river channel for recreational fishing. Other public access and recreational uses of this stretch of the river include canoeing and kayaking. The prime fishing seasons occur during the wet months, when gravel extraction is not occurring. The peak canoeing and boating use takes places during the spring before the gravel extraction season begins. Thus, the project will not affect the bulk of access use by fishermen, canoeists, or other recreational boaters. The project will also not create any new demands for fishing access or other public access use.

Therefore, for the reasons discussed above, the Commission finds that the project is consistent with the public access policies of the Coastal Act.

G. California Environmental Quality Act.

Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. Those findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts, which the activity may 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.

IV. EXHIBITS:

1. Location Map
2. Vicinity Map
3. Portion, DWR/CCC Aerial Photograph 208-17, 1:12,000, May, 30, 2001
4. Project Narrative, and Mining Site Plan, and Cross-sections

5. Hydrogeomorphic Stability Analysis, Rocco Fiori GeoSciences, July, 2006
6. *Letter of Permission Procedure No. LOP 2003-2*, U.S. Army Corps of Engineers, March 26, 2004
7. *Final Biological Opinion - Letter of Permission Procedure Gravel Mining and Extraction Activities within Del Norte County LOP 2003-2*, National Marine Fisheries Service, September, 2003
8. Excerpt, *Recovery Strategy for California Coho Salmon – Report to the California Fish and Game Commission*, California Department of Fish and Game, August, 2003
9. Excerpt, *California Salmonid Stream Habitat Restoration Manual*, 3rd Ed. January 1998, California Department of Fish and Game
10. Agency Correspondence
11. General Correspondence

APPENDIX A

STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable amount of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.