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Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 1-02-037

APPLICANTS: Davy & Joyce Crockett and Tidewater Contractors, Inc.

PROJECT LOCATION: Woodruff Gravel Bar in the Smith River, 1.5 miles downstream from the Dr. Fine Bridge (US 101), in the Smith River Area of Del Norte County. APNs 103-020-44 and 105-020-21.

PROJECT DESCRIPTION: Extract up to 63,000 cubic yards of river-run sand and gravel during the 2002 gravel mining season including: (1) 2,000 to 3,000 cubic yards from an 800-ft.-long x 15-ft.-wide x 10-ft.-deep trench within the secondary low-flow channel of the Smith River that divides the Woodruff Bar into lower and upper portions for placement on the adjoining exposed bar to restore the bar's channel confinement characteristics; and (2) approximately 60,000 cubic yards from a 2,000-ft.-long x 160- to 260-ft.-wide x 10-ft.-deep trench within the main channel of the Smith River for commercial aggregate products production and to restore cold, deep-water fish habitat.

PLAN DESIGNATION: RCA-1, General Resource Conservation Area.

ZONING: RCA-2(e)(r), Designated Resource Conservation Area – estuary, riparian vegetation.

LOCAL APPROVALS RECEIVED: Del Norte County Use / Coastal Development Permit No. UP2128, reissued on July 5, 2000 for a four extraction season term expiring on February 1, 2004.

OTHER APPROVALS REQUIRED: California Department of Fish and Game Sec. 1603 Streambed Alteration Agreement; U.S. Army Corps of Engineers Letter of Modification to Permit No. 21534N; and annual County of Del Norte mining plan authorization for 2002 season.

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, 2000; *Candidate Species Review Report 2002-3: "Status Review of California Coho Salmon North of San Francisco - Report to the California Fish and Game Commission*, California Department of Fish and Game, April 2002;" and *Results of Salmonid Surveys for Gravel Extraction Operations, Smith River, Del Norte County*, Galea Wildlife Consulting, January, 2001.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends that the Commission deny the coastal development permit application for sand and gravel extraction.

The permit application seeks authorization to divert, de-water, impound and conduct mineral extraction within a 16-acre area of the main channel of the Smith River, an environmentally sensitive area that provides aquatic 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 applicants request approval to perform restoration work within a low-flow channel that crossed the exposed gravel bar wherein materials would

be removed from the channel and placed on the bar to improve stream morphology and create a diversion channel for the associated commercial gravel extraction. The major issues raised by the application are whether or not the proposed development is consistent with Coastal Act policies that: (a) limit the allowable uses for dredge and fill of open coastal waters, wetlands, and estuaries; (b) allow dredging and fill for only the least environmentally damaging feasible alternative; and (c) require feasible mitigation measures to address the environmental effects of the project. In addition, the application raises an issue as to whether the mining and restoration as proposed would assure geologic stability and structural integrity and neither create nor contribute significantly to erosion, geologic instability, or destruction of the project site or surrounding area geologic stability.

These issue areas were raised with the applicant during the processing of the application and additional information was requested to assist staff in ascertaining the validity of the identified concerns. The applicant's response to these requests has been to defer to technical information in the possession of or being developed by other resource agencies, contend that the proposed project would not involve mineral extraction in environmentally sensitive areas, or assert that the project would not result in environmental damage for which either alternatives or mitigation measures would need to be considered. These conclusions were generally presented by the applicants based primarily on the observation that the river segment along which the mining and diversion would occur has been used in the past for mining activities spanning the last several decades. As discussed further herein, neither original nor supplemental project data that was provided by the applicants is sufficient technical information to establish the project's consistency with relevant Coastal Act Chapter 3 policies.

Staff recommends that the Commission deny the proposed application because the proposed project is inconsistent with the following Coastal Act policies:

- The proposed in-river dredging and diversion fill is not for an allowable use pursuant to Section 30233(a)(6) as it would entail mineral extraction within an environmentally sensitive area;
- No factual evidence has been presented that establishes that the proposed in-river excavations, channelization and other substantial alterations to the river, ostensibly described to create deep-water habitat for anadromous salmonid fish species, would be for "restoration purposes" and/or have the improvement of fish and wildlife habitat as its primary function as required by Sections 30233(a)(7) and 30236, respectively.
- There are less environmentally damaging feasible alternatives to the proposed in-river fill and dredging inconsistent with Section 30233(a);

- The proposed dredging and filling in coastal waters would not provide all feasible mitigation measures to minimize adverse environmental effects, inconsistent with Section 30233(a);
- The applicants have failed to establish that the proposed filling or dredging in existing wetlands shall maintain or enhance the functional capacity of the wetland, inconsistent with Section 30233(c); and
- The applicants have failed to establish that the project as designed would not adversely affect the stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area as required by Section 30253.

Staff believes the Commission cannot make the required findings under Sections 30233, 30235, 30236 and 30253 of the Coastal Act. Therefore, staff recommends DENIAL of the application.

STAFF NOTES

1. Jurisdiction and Standard of Review

The site of the proposed surface mining project is within a gravel bar within the Smith River, 1½ mile downstream of the State Highway 101 Doctor Fine Bridge. The project is located within the Coastal Commission's area of original or retained jurisdiction (see Exhibit No. 3). The standard of review that the Commission must apply to the project is the applicable Chapter 3 policies of the Coastal Act.

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve Coastal Development Permit No. 1-02-037 pursuant to the staff recommendation.

STAFF RECOMMENDATION OF APPROVAL

Staff recommends a **NO** vote. Passage of this motion will result in denial of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of the majority of the Commissioners present.

Resolution to Approve Permit:

The Commission hereby denies a coastal development permit for the proposed development on the ground that the development will not conform to the policies of Chapter 3 of the Coastal Act. Approval of the permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures or alternatives that would substantially lessen the significant adverse impacts of the development on the environment.

II. FINDINGS AND DECLARATIONS.

A. Site Description and Project History.

The project site is the Woodruff Gravel Bar, located in the bed of the Smith River about 1½ mile downstream and west of the Dr. Fine Memorial Bridge crossing of Highway 101 in Del Norte County (see Exhibit Nos. 1 and 2). The Woodruff 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 an area of 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 southwestern side of the Woodruff Bar with a seasonal high-flow channel flanking its northeastern side. From bank to bank, the river is about 600-700 feet wide in the area of Woodruff 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 channel is dry during the summer and early fall gravel extraction season. Two secondary low-flow channels that are shallowly wetted during the dry season flow across the bar roughly dividing the stream feature laterally into thirds. As the river rises, the direction of flows changes from being routed tangentially around the bar through the main channel in a north-northwesterly direction to diagonally east-southeast to west-northwest across the bar through the secondary channels.

Access to the gravel bar is via an unimproved gravel road that descends the northern riverbank from a levee road that passes through the upland stockpiling and processing areas, crosses Morrison Creek, and leads to Fred D. Haight Drive (see Exhibit No. 4).

The banks of the river are 20-30 high and are covered with well-established riparian vegetation dominated by a Sitka willow (Salix sitchensis), Pacific willow (Salix lucida ssp. lasianhra), and red alder (Alnus rubra) plant community. These dominants are interspersed with black cottonwood (Populus balsamifera ssp. trichocarpa) and shore pine (Pinus contorta ssp. contorta), with an understory composed primarily of Himalaya blackberry (Rubus discolor), California blackberry (Rubus ursinus), Scotch broom (Cytisus scoparius), coyote brush (Baccharis pilularis), and various forbs, ferns and upland grasses.

Commercial sand and gravel mining has been undertaken at the lower Woodruff Bar site over the last fifty years, with smaller scale extraction along the lower Smith River documenting back to 1914. According to the applicants, they have on-goingly mined this reach of the river since obtaining ownership in 1956, providing significant quantities of sand and gravel aggregate products for a variety of construction and transportation projects throughout the region.

In 1978, the County issued Conditional Use Permit No. 2128, authorizing the extraction of up to 100,000 cubic yards of sand and gravel, subject to 23 conditions that establish various operational constraints and performance standards. Among these conditions were requirements that the permittee take gravel only in sustainable quantities from pre-approved locations during the dry-weather season, avoid the river's live waters and riparian corridor, minimize or mitigate noise and dust impacts, undertake specified reclamation work, and provide financial surety for the reclamation work. The permit has been subsequently renewed for periods of five mining seasons at a time, the most recent renewal occurring on July 5, 2000, with a current expiration date of February 1, 2005. The permit is also subject to annual renewal authorization by the County Planning Commission based on findings that: (1) the previous mining season activities were

conducted in compliance with permit conditions; and (2) adequate replenishment/aggradation of the extraction site over the preceding wet-weather season to provide material for the proposed mining has been demonstrated.

Commission records show that two coastal development permits have been issued for mining in the lower Woodruff Bar vicinity, including: CDP 78-C-264, issued on July 13, 1978 authorizing extraction of up to 100,000 cubic yards of sand and gravel per year for a two-year period; and CDP No. 1-92-142, issued on September 12, 1992 authorizing the annual extraction of up to 50,000 cubic yards annually over a five-year period through the 1996 mining season. Over the last five gravel mining seasons (1997-2001), an estimated 150,000 cubic yards of aggregate has been extracted by the applicants without the required coastal development permits being secured¹. This application addresses only the proposed continued mining at the site in 2002 and does not seek after-the-fact authorization or restoration for past unpermitted development.

B. Project Description.

The proposed project is described as having two components: (1) fish and wildlife habitat improvement; and (2) commercial sand and gravel mining (see Exhibit No. 4). The extraction operation would be performed in two phases, as follows:

Phase One: Create Diversion Channel / Enhance Streambed Configuration

The first phase of the project involves the removal of approximately 2,000 to 3,000 cubic yards of sand and gravel materials from an 800-ft.-long x 15-ft.-wide x 10-ft.-deep trench, with trench walls of an unspecific slope, excavated along the seasonal low-flow channel that longitudinally crosses the gravel bar. The stated purpose for placing these materials on the bar would be to "help mitigate the existing undesirable condition of the wide, shallow low flow channel." The applicants state that this project component is dependent upon and will not be undertaken unless the commercial sand and gravel mining portion is authorized.

The extraction site, referred to within the permit application and herein as "Trench #1," would follow the existing low-flow channel that divides Woodruff Gravel Bar into its upper and lower portions. The materials extracted from Trench #1 would be deposited at an undisclosed location on the gravel bar, to be determined at a later time in consultation with federal and state resource agencies. This channel would also be used as a diversion channel for de-watering the main river channel associated with the commercial gravel extraction phase of the

¹ The estimate of 150,000 cubic yards of aggregate is based upon formal post-extraction cross-sectional data submitted to Del Norte County (2000, 2001), the applicants' pre-extraction mining plan requests (1999), estimates within the County hydrologist's post-extraction report (1998), and an interpolated 25,000-cubic-yard average extraction quantity for the extraction season where no data was available (1997).

project. No gravel from Trench #1 would be taken offsite for sale or other commercial use.

Prior to commencing the excavation, any water within the existing low-flow channel would be diverted at several points 1,000 to 2,000 feet upstream from the Trench #1 site. "T-rails" --- portable concrete barriers similar to "k-rails" utilized by the California Department of Transportation for highway construction --- would be placed across primary and secondary low-flow channels to deflect river flow out of the seasonal channel into the main river channel located along the southwestern side of the bar. The diversion structures would be placed in the shallowest portions of the seasonal channel opening and connected to the gravel bar using washed rock. In addition, two 10-ft.-diameter culverts would be placed across the middle of the gravel bar, spanning the diversion channel to provide access for mining equipment to the habitat improvement and commercial gravel extraction sites. The culverts would be connected to the gravel bar on each side using washed rock to minimize sediment transport into the channel. No further detail was provided as to the depth and grade at which the culverts would be set or the resulting height of the channel crossing or abutments.

Phase Two: Commercial Gravel Mining

After completion of the diversion conduit / channel confinement improvement work, the applicants would seasonally remove up to 60,000 cubic yards of river-run sand and gravel aggregates from within the year-round main channel of the Smith River. Because of low rainfall during the winters of 2000-01 and 2001-02, very little replenishment of sand and gravel materials occurred along the lower Smith River gravel bars, including the subject Woodruff Bar site. Additional skimming of the gravel bar would reduce the confines on the current channel configuration that could result in significant changes in river morphology, leading in turn to further impacts to sensitive habitat areas in and along the river, and to adjacent farmlands. Consequently, the applicants propose to extract sand and gravel during the 2002 mining season by "wet-trenching" in the main river channel rather than bar-skimming or "dry-trenching" on the seasonally exposed portions of the bar. The applicants propose to use this technique, to be designed in consultation with the California Department of Fish and Game (CDFG), the National Marine Fisheries Service (NMFS), and other regulatory agencies. A further discussion of gravel extraction methods follows in Findings Section II.C, below.

The extraction site, referred to within the permit application and herein as "Trench #2," would consist of a 2,000-ft.-long x 260- to 160-ft.-wide x 10-ft.-deep vertical-walled² excavation area located along the southwestern flank of the

² The walls of Trench #2 are depicted as vertical features on the submitted not-to-scale "Typical Cross Section" diagram. Despite written and oral requests for clarification to

lower portion of the gravel bar. The extraction area would first be de-watered by placing T-rail and gravel diversion structures across the main and secondary low flow channels at the upper end of the bar so that river waters would flow through the diversion channel formed under the first project phase. An approximately 16-acre area of the main channel would be de-watered. Prior to excavation, about 1,300 cubic yards of gravel would be placed around the perimeter of the trench area to form an approximately 2-ft. high, 4-ft.-wide gravel berm for containing any sediment resulting from the extraction activity. Mining would then be accomplished by mechanized equipment, such as excavators, bulldozers or front-end loaders. The materials from Trench #2 would be loaded onto dump trucks and transported to the stockpile area in the upland areas along the northern riverbank for further processing (i.e., screening, crushing, washing). The processing operations would be performed in Del Norte County's coastal development permit jurisdiction pursuant to County Conditional Use Permit No. UP-2128. Upon completion of the mining, the sediment berm materials would be placed back into the trench bottom to prevent future scouring.

No further information was provided as to what if any of the proposed diversion structures and channel crossing materials would be left in place or what reclamation and winterization work would be conducted upon the completion of the restoration and gravel extraction phases. Generally, following the end of the extraction season by early- to mid-October, the trench would be breached toward the main river channel on its downstream and upstream ends, once the sub-surface water that seeped into the trenches during mining has been allowed to settle. This action is required under the CDFG Streambed Alteration Agreement to avoid turbid water discharges and to prevent stranding of fish when the river level recedes in late Spring. In addition, the trench breaches are similarly required to be sloped to provide a means for trapped animals to escape. (Note: In the early-1990s, a horse fell into and became trapped within the near vertical walls of a former mining trench on the Mad River. With no way to extricate itself, the horse subsequently drowned.)

A channel crossing would be necessary to gain access to the excavation sites because the proposed diversion channel would cross through an area on the bar that is normally dry during the late summer / early fall extraction season. CDFG Streambed Alteration

the applicant's agent, no other project-specific information as to the slope of the proposed trench walls was provided. It is noted that if the trench were to be vertically-walled and to the dimensions described in the extraction plan, the excavation area would yield in excess of 1.5 times the proposed 60,000-cubic-yard quantity, or approximately 155,555 cubic yards of mineral aggregates. Thus, unless extraction at greater than the stated quantities is being contemplated, the dimensions for Trench #2 would need to be less than the 2,000-ft. length, 160-to 260-ft. width, and 10-ft. depth described within the permit application, and/or have less than the vertically-sloped walls portrayed on the typical cross-sectional diagram.

Agreements require that either a span or culverted crossing be installed in case unexpected major rainfall occurs during the extraction operation and water actually begins to flow again in the secondary channel. It is noted that in past Streambed Alteration Agreements the gravel mining applicants have been limited to the options of installing a railcar spanning the channel at such a height as to allow for the free flow of river water through the secondary channel or placing a series of smaller 24-inch-diameter culverts oriented parallel with the direction of flow.

It should also be noted that the proposed diversion of the river's main channel waters might conflict with other proposed land uses in the project vicinity. The diversion would occur through an area on the upper portion of the Woodruff Gravel Bar that the adjoining Westbrook-Wetherell in-stream mining operation anticipates to use as an access road to their proposed extraction site. Coastal Development Permit Application No. 1-02-026, currently being reviewed by the Commission for the Westbrook-Wetherell mining proposal does not currently incorporate the river diversions proposed under the Crockett/Tidewater application, nor provide for other than a crossing-at-grade of the normally dry low-flow channel on the upper gravel bar. In addition, the owners of the upper Woodruff Bar area where the proposed diversion structures for this project would be placed have not as yet granted specific written authorization to the applicants to use this portion of the gravel bar.

C. Gravel Extraction Methodologies.

Gravel bar extraction operations are seasonal activities. The gravel extraction season usually runs from July 1st to October 15th of each year based on the CDFG's annual Streambed Alteration Agreement, pursuant to Section 1603 of the California Fish and Game Code. This period of time coincides with low water conditions on the river when substantial portions of the gravel bars are exposed and are above the live waters of the river. Mining is to cease on October 15th, with the final two weeks utilized to remove all mining equipment, conduct all required reclamation practices and winterize the site.

Because of the dynamic nature of sediment transport within river systems, an adaptive management approach must be taken in determining both the most appropriate locations for mining to occur and the least environmentally damaging extraction method to be used. In the past, the applicants have taken gravel from the Woodruff Gravel Bar using skimming operations, trenching operations, or a combination of both methods. Over the last decade, due to problems associated with past trenching operations, the bar-skimming method has become the primary method of taking gravel from river bars.

Gravel removal by skimming occurs outside of the low-flow channel of the river. In skimming operations at the site, the operator skims gravel from the top of the bar in a manner that creates a shallow-sloped plain rising gently back from the river to the landward edge of the bar. Gravel removal equipment includes front-end loaders, scrapers, pushcats, excavators, or equivalent equipment. Gravel is transported from the

extraction site by dump trucks or off-road trucks and stockpiled on the upland portion of the subject property. After completion of gravel extraction operations, the applicants return the gravel bar to a smoothly graded condition, sloping toward the main channel at no less than a two-percent grade, and without any pits, potholes, trenches, mounds, or stockpiles to prevent the creation of fish traps.

However, bar-skimming should not necessarily be viewed as an environmentally-superior mining technique compared to other forms of extraction. To the contrary, in situations where adequate replenishment has not occurred and the gravel bar profile has been lowered to within one to two feet of the water's surface, continued skimming on the bar could compromise the channel confining properties that the bar affords. If unabated, the loss of vertical diversity within the stream cross section may instigate major alterations in water flow and bedload depositional patterns, resulting in the formation of a shallow, multi-channeled riverbed configuration, or cause other changes in stream morphology with associated impacts to fish and wildlife habitat and water quality. Accordingly, bar-skimming should be considered as one of several mining techniques to be used when site conditions support its application.

By contrast, trenching involves the excavation-at-depth of aggregate materials. Removal equipment is usually limited to back-hoes and excavators stationed along the side of the area to be trenched. Materials are generally removed off of the bar by lifting materials with the equipment bucket and placing them directly into a nearby dump truck for transport from the mining site. Trenching can take several forms: (1) "dry-trenching," in which a pit is dug wholly within the bounds of the exposed gravel bar; (2) "wet-trenching," where an area within the wetted channel of the river is de-watered by diversion of the river waters around the site and aggregate materials are removed directly from the riverbed; and (3) "alcove trenching," wherein an off-channel backwater area is excavated at the downstream end of the point bar to create a deep cold-water pocket in which fish may hold during migration periods. In addition, a "modified dry-trenching" technique has also been authorized in the past, where gravel materials are removed from the areas along the margins of the bar that have been separated from the river's waters by coffer damming, water-filled barriers, sheetpile bulkhead, or other types of impoundments.

The applicants proposes that they be allowed to perform wet-trenching for both restoration purposes and for commercial gravel mining within impounded portions of the bar margins and main river channel during the 2002 extraction season. Trenching operations have been proposed in the past to: (1) encourage future gravel recruitment; (2) increase the capacity of the low-flow channel; (3) create deep-water habitat for aquatic species; and (4) maintain the geomorphology of the river's bar and riffle, bank, and channel configuration. Trenching has been undertaken at various sites along the Smith River as recently as 2001, and has resulted in geomorphic alterations beneficial to both gravel recruitment and aquatic habitat at the site. The National Marine Fisheries Service (NMFS) currently supports trenching only in very limited situations and subject to special

operational standards, partly out of concern that such excavation within the live channel may result in take of juvenile salmonids by the action of the equipment used to extract the gravel.

It should be noted that the CDFG Section 1603 Streambed Alteration Agreement issued for Smith River mining operations during the 2001 extraction season limited extraction to trenching to form bar alcove refugia and modified "dry" trenching, where excavation would occur entirely outside of the wet channel on the dry gravel bar. Similarly, under the emergency regulatory actions in place during the candidacy period for the coho salmon, CDFG has suspended authorization for all gravel extraction trenching methods, unless site-specifically approved in advance by the Department.

The current wet-trenching proposal was developed as a preliminary proposal by the applicants' agent contingent upon compliance with all conditions and operational procedures to be set forth in the NMFS's Biological Opinion the pending CDFG Section 1603 Streambed Alteration Agreement, and the USACE LOP Letter of Modification.

D. 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 tshawytscha), 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

Beginning in 1975 with the adoption of the Surface Mining and Reclamation Act or "SMARA" (PRC §2710 *et seq.*), the regulation of gravel mining has been a steadily evolving process. Reauthorization and amendments to the Federal Clean Water Act (CWA) in the early 1990's saw the U.S. Army Corps of Engineers (USACOE) becoming more actively involved in regulating many in-stream gravel operations under the auspices of the CWA Section 404 permit program. The extent of the Corps' CWA Section 404 authority with respect to in-stream gravel mining has subsequently been addressed and modified through several judicial rulings known as the "Tulloch Ruling Decisions."

Until the 1990's, there had been little coordinated review of the combined effects of the various gravel mining operations. An in-stream gravel mining operation can require the approval of a number of different agencies. Permits granted in the past 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 proponents 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.

Following the order issued by the County of Mendocino Superior Court on February 3, 1999, in Mendocino Environmental Center, EPIC, et al. v. California Department of Fish and Game, CDFG initiated changes in its Section 1603 Streambed Alteration Agreement process. The Department now conducts a tiered environmental review of such projects pursuant to the California Environmental Quality Act (CEQA).

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 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.

Army Corps of Engineers and Section 7 Consultation with NMFS and USFWS

In the fall of 1993, due to an amendment to the Army Corps of Engineers Clean Water Act Regulatory Program, the Army Corps of Engineers (Corps) became more involved in

regulating gravel extraction operations. Whereas previously, the Corp's regulatory review of many in-stream gravel extraction operations focused mainly on the installation of channel crossings and stockpiling of material on the river bar, in 1993, the Corps began actively regulating incidental fill related to gravel mining activities themselves. 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. On March 28, 1997, the USACOE issued a Letter of Permission No. 96-2 for the Del Norte County in-stream gravel mining operations which established a programmatic framework of extraction performance standards alleviating the need for individual Section 404 permits. The Letter of Permission ran for a five-year period, and expired on March 22, 2002. The LOP was adopted after a series of interagency and public meetings. 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. In addition, the LOP process requires consultations under Section 7 of the Federal Endangered Species Act. The National Marine Fisheries Service (NMFS) issues a Biological Opinion regarding impacts of gravel extraction to the 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, NMFS 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. The LOP 96-1 was due to expire in August, 2001. By the late 1990's the listing and candidacy of several anadromous salmonid fish species by the National Marine Fisheries Service (NMFS) resulted in habitat and incidental take consultation requirements under the Federal Endangered Species Act (FESA) to be applied to riverine activities such as gravel mining. These actions included the May 1997 listing of the SONCC coho salmon as a threatened species. On September 12, 1997, NMFS issued a Biological Opinion regarding the USACE's LOP findings that the implementation of the Corps' gravel mining letter of permission, which expires after the 2001 gravel extraction season, was not likely to jeopardize the continued existence of threatened SONCC coho salmon during the authorized period of mining.

Several other Endangered Species Act listing actions occurred subsequent to the issuance of NMFS' 1997 Opinion. In March 1998, the Klamath Mountain Province steelhead trout became a candidate for FESA listing. NMFS subsequently determined that listing of the species was not warranted. In response to the designation of critical habitat areas for the SONCC coho salmon, on September 23, 1999, the USACOE requested NMFS to re-

initiate consultation on the Corps' Letter of Permission. NMFS contracted a study to review the efficacy of regulatory efforts to protect listed fish species to date. On September 5, 2000, NMFS issued its most recent Biological Opinion covering the 2000 and 2001 extraction seasons. The study concluded that the Corps' gravel mining regulatory program was not likely to jeopardize the continued existence of threatened SONCC coho salmon during the authorized period of mining. In June, 2001, the Corps extended the expiration date of LOP 96-2 to March 28, 2002 and requested an amendment to the duration of the 2000 Biological Opinion which analyzed the extended duration of the proposed gravel extraction activities.

NMFS began working with the Corps, other agencies, and Del Norte County gravel operators and their consultants during the winter of 2001-2002 on a replacement LOP procedure anticipated to be in place for the 2002-2007 extraction seasons (LOP 2002-2). A draft LOP 2002-2 was circulated for public comment in May, 2002 at which time it became apparent to involved agencies that several issues could not be resolved prior to the 2002 mining season. As a result, to enable gravel extraction to be authorized for the 2002 gravel mining season, the Corps decided to further extend LOP 96-2 (re-enumerated as "LOP 96-2a") through December 31, 2002. Based on input provided by NMFS during circulation of the draft LOP 2002-2, the Corps attached seven additional mitigation measures to the mining conditions to offset potential impacts associated with wetted channel extraction and other operations that involved low-flow channel diversions (see Exhibit No. 6). The Corps requested that NMFS again amend the 2000 Biological Opinion to analyze the extended duration of LOP 96-2a. The requested amended opinion was issued on August 16, 2002 (see Exhibit No. 7).

The amended Biological Opinion incorporates newly available information that was not previously analyzed in the 2000 biological opinion. In addition, the amended Opinion incorporates changes to the project description and listed effects of gravel mining and extraction activities for the proposed extended duration of LOP 96-2a. In the amended Opinion, NMFS concludes that extending the LOP 96-2 procedures for gravel mining operations during 2002 "is not likely to jeopardize the continued existence of SONCC coho salmon or destroy or adversely modify its designated critical habitat."

Currently, NMFS is preparing a Biological Opinion in response to a consultation request from the Corps of Engineers for an LOP procedure addressing mining activities during 2003 through 2007. It is likely that recommendations for more comprehensive habitat management measures may result which could affect standards for gravel mining operations. NMFS and the Corps expect that a new LOP will be implemented prior to the 2003 gravel extraction season.

Proposed Listing of Coho Salmon Under the California Endangered Species Act

On July 28, 2000, the California Fish and Game Commission (CFGF) 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.

On April 27, 2001, the CFGC published a notice of findings declaring the coho a candidate species (see Exhibit No. 8). Pursuant to Section 2084 of the Fish and Game Code, CDFG also adopted a Statement of Proposed Emergency Regulatory Action for the species' candidacy period (see Exhibit No. 9). The so-called "2084 rules" establish a variety of performance standards for various types of in-stream activities, including gravel mining, that are to be required as part of any Streambed Alteration Agreements issued by CDFG. The standards are intended to minimize potential impacts to the coho during its listing candidacy.

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. Accordingly, CDFG recommends that the CFGC list the SONCC Coho ESU as "threatened." Although the CFGC received the status review report at its June 20, 2002 hearing, no action was taken on the listing. The CFGC had originally planned to begin accepting public testimony and discussing the proposed listing at its August 1, 2002 meeting. However, on July 25, 2002, the Salmon and Steelhead Recovery Coalition requested the CFGC to delay consideration of its petition to list coho salmon north of San Francisco as an endangered species until its August 30, 2002 meeting.

Mining as Coastal Development

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). The project before the Commission calls for: (1) diverting flows and extracting approximately 2,000 to 3,000 cubic yards of sand and gravel from within the low-flow channel that crosses the Woodruff Gravel Bar at its mid-point and placing those materials nearby on the bar to augment the relative height of the gravel bar to enhance channel confinement; (2) installing a culverted crossing of the deepened low-flow

diversion channel; (3) diverting flows from the river's main and secondary channels into the newly deepened diversion channel; and (4) extracting approximately 60,000 cubic yards of sand and gravel for commercial uses from the de-watered main river channel.

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 July 11, 2001 for a term of four mining seasons, expiring on February 1, 2005. This local approval was not appealed to the Commission. The applicants are in the process of obtaining an annual review by the County of their proposed extraction activities for the 2002 season (i.e., extraction stockpiling, and aggregate materials processing) pursuant to requirements of the use permit.

Inter-agency Coordination

The regulatory developments described above underscore how close multi-agency review coordination and a comprehensive approach to river management of in-stream surface mining projects may be the only way in which permitted operations will be sustainable in the future. To this end, beginning in the Spring of 2001, meetings between the various regulatory agencies involved in Smith River mining were initiated. The purpose of these workshops was to foster a greater understanding of the roles and concerns of each agency and to promote greater efficiency in the review and permitting of gravel mining proposals. Among others, participants included staff from the USACOE, CDFG, NMFS, U.S. Fish and Wildlife Service, California Department of Conservation – Office of Mine Reclamation, County of Del Norte, City of Crescent City, the University of California – Sea Grant Program, and the Coastal Commission.

E. Dredging, Diking, and Filling in Wetlands and the Protection of Riverine Environment.

As presented in the application, the proposed project involves restoration of the cold deep-water fish habitat and surface mining extraction of sand and gravel within the Smith River streambed using heavy mechanized equipment for grading and dredging operations. Several Coastal Act policies address protection of the portion of the river environment below the ordinary high water mark from the impacts of development such as gravel mining. These policies include Sections 30231 and 30233. Section 30231 applies generally to any development in riverine environments and other kinds of water bodies in the coastal zone. Section 30233 applies to any diking, filling, or dredging project in a river and other coastal waters. Gravel extraction within a riverbed is a form of dredging within coastal waters and wetlands. Depending upon the nature of the proposed work, restoration activities within a streambed are similarly a form of dredging, diking, and/or filling within coastal waters and wetlands.

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

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

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

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

...

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

...

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary...[emphases added]

The above policy sets forth a number of different limitations on what fill and dredging projects may be allowed in coastal waters. For analysis purposes, the limitations can be grouped into four general categories or tests. These tests are:

1. That the purpose of the fill and dredging is for one of the eight uses allowed under Section 30233;
2. That feasible mitigation measures have been provided to minimize the adverse environmental effects;
3. That the project has no feasible less environmentally damaging alternative; and
4. That the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

1. Permissible Use for Dredging of Coastal Waters

The first test set forth above is that any proposed fill, diking or dredging must be for an allowable purpose as enumerated under Section 30233 of the Coastal Act. The proposed project involves dredging, diking, and filling of wetlands for mineral extraction and restoration purposes. Surface mining of gravel aggregate materials is specifically enumerated as a permissible use in the above-cited policy, provided the activity is not undertaken in environmentally sensitive areas; Section 30233(a)(6) allows dredging for mineral extraction, provided the activity is not undertaken in environmentally sensitive areas. Therefore, to the extent that the proposed gravel extraction would avoid environmentally sensitive areas, the proposed project would be consistent with the use limitations of Section 30233(a)(6).

With respect to dredging, diking, and filling for "restoration purposes," neither the Coastal Act nor the Commission's administrative regulations contain a precise definition of what this permissible use category entails. "Restoration" is generally defined in terms of actions that result in returning an article "back to a former position or condition," especially to "an unimpaired or improved condition."³ Within the fields of wetland and ecological restoration, the term also implies to actions taken "in a converted or degraded natural wetland that result in the reestablishment of ecological processes, functions, and biotic/abiotic linkages and lead to a persistent, resilient system integrated within its landscape,"⁴ that may not necessary result in a return to historic locations or conditions within the subject wetland area. Thus, to the extent that the proposed project's restoration component would result in a return to or re-establishment of former existing locations of cold deep-water holding habitat for salmonids and/or the presence of sustainable, landscape-integrated ecological processes and/or abiotic/biotic linkages associated with these fish species, the proposed project could be found consistent with the uses authorized by Section 30233(a)(7).

For the reasons discussed below, the Commission finds that the proposed filling and dredging activities do not qualify under either Section 30233(a)(6) or (7) as allowable uses for filling and dredging of coastal waters and wetlands.

Mineral Extraction and Environmentally Sensitive Areas

As stated in Coastal Act Section 30233(a)(6), dredging, diking, and filling associated with mineral extraction is recognized as a permissible use provided the activities are not occurring in environmentally sensitive areas.

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

³ Merriam-Webster's Collegiate Dictionary, Tenth Edition

⁴ *Position Paper on the Definition of Wetland Restoration*, Society of Wetland Scientists, August 6, 2000

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

Under this definition, any area supporting a plant, animal, or habitat is environmentally sensitive if the area meets two main criteria: (1) the plant, animal, or habitat is either rare or of special value because of their unique nature or role in the ecosystem, and (2) the area could be easily disturbed or degraded by human activities and developments.

The perennially-inundated areas within the river meet the first criterion of the definition of environmentally sensitive area during the time that the proposed mining would be conducted as the reach may contain rare or endangered species, namely federal- and state-listed salmonids using this reach as a transit corridor between areas of holding habitat prior to the onset of upstream migration.

The perennially-inundated areas within the river clearly meet the second criterion in that diversion, dewatering, fill, and dredging activities for gravel extraction in the river, such as proposed by the applicant, can quickly disturb and degrade the habitat areas the mining activities come in contact with, at least during the mining activities. In addition, on a more permanent basis long after the initial excavation work is completed, trenching can also destabilize the river channel and easily cause erosional impacts that can degrade the perennially inundated areas within the river. Furthermore, the portions of the riverbed that remain wetted also qualify as environmentally sensitive areas because of their special role as a holding area and transit corridor for migrating threatened salmonids.

The Commission has previously determined in numerous permit actions that riverine perennial channels are environmentally sensitive areas. The Commission has consistently conditioned permits for development in and near such channels and along riparian woodlands within streams and rivers to avoid disturbances of aquatic resources.

In the most comprehensive sense, the entire area between the banks of the river could be considered an environmentally sensitive area, at least during portions of the year when covered by higher flows. However, during the summer dry season when river waters are confined to the definable low-flow channels, the dry exposed areas within the stream banks become inaccessible to fish and other aquatic life forms. In recognition of this situation and the resource-dependent nature of sand and gravel mining, for purposes of considering proposed gravel mining development's consistency with Section 30233(a)(6), the Commission has generally applied the environmentally sensitive area designation only to the portions of the river containing stream flow when mining would occur during the summer-early fall dry season.

The proposed project would intrude into environmentally sensitive riverine perennial channels in several significant ways: First, 60,000 cubic yards of gravel are proposed to

be removed from the riverine perennial channel under the Crockett/Tidewater application. The proposed extraction would involve removing sand and gravel from one continuous 2000-ft.-long by 160- to 260-ft.-wide trench within the perennial main channel. The proposed width of the trench would extend over into the main channel thalweg.

Secondly, the project would entail the diversion of water flows from a roughly 3,500-ft.-long reach of the lower Smith River comprising an approximately 16-acre area of the river's main channel to dewater the proposed excavation site. During and following placement of the proposed diversion structures, waters that would normally flow down the main channel would be diverted around the main channel reach of the river and into the low-flow channel that diagonally crosses Woodruff Bar following the work performed in Trench #1 during the first project phase. Water within the diverted main channel would continue to drain down stream until the area was de-watered. Once de-watered, any fish or aquatic organisms in the reach that had not fled the area would become stranded and/or exposed to the air and subsequently killed from desiccation. This may impact the invertebrate population within the diverted area, potentially decreasing the food source availability for salmonids in the immediate area. Re-directing the main channel waters into a smaller cross-sectional area would increase the velocity of the flows and may also decrease the viability of the diversion channel for use as aquatic habitat.

The applicants' agent makes the argument that the mining wouldn't be occurring in an environmentally sensitive area because the trenching will be dewatered first and therefore the diverted area wouldn't be functioning as a river when the actual trenching is performed. However, the water diversion elements of the project themselves are an integral part of the mineral extraction operation. Moreover, placing the diversion structures across the river constitutes a form of filling of coastal waters. Consequently, even if the trenching was to be viewed as occurring in an area that would not be considered an environmentally sensitive area in its de-watered state, the diversion activity itself is not consistent with Section 30233(a)(6).

Therefore, the Commission concludes that because the proposed sand and gravel mining operation would consist of de-watering and extraction activities within the riverine perennial channel, and the riverine perennial channel is an environmentally sensitive area, the proposed filling and dredging does not qualify as an approvable use for dredging, diking, or filling in coastal waters and wetlands pursuant to Section 30233(a)(6) of the Coastal Act.

Restoration Purposes

The applicants have indicated that the gravel extraction project is proposed in part to restore fish habitat by creating cold deep-water habitat within the aggraded segments of the lower Smith River. As discussed above, "restoration purposes" is an allowable use for filling and dredging coastal waters pursuant to Section 30233(a)(7) of the Coastal Act.

However, the Commission finds that the alleged benefits that would be derived from the proposed restoration work have not been adequately established and the applicants have not demonstrated that the purpose of the proposed gravel extraction qualifies as restoration purposes under Section 30233(a)(7). The applicants were asked both in writing and orally to provide information to substantiate the habitat restorative nature of the project. However, none of the information provided to date, including the submission of historical background information for the project site and the applicants' responses to the U.S. Army Corps of Engineers' investigation questionnaire regarding alleged the 2001 unauthorized activities on the Crockett Bar, provides a basis for establishing that the proposed work would return the channel to an unimpaired or improved condition or reestablish ecological processes, functions, and biotic/abiotic linkages and lead to a persistent, resilient system integrated within its landscape. Other than conclusory statements regarding the purported benefits of creating the deepened channels, the permit application does not contain any specific information as to the value these streambed alterations would have compared to past or existing conditions on the river either in the immediate vicinity or from a watershed perspective.

Stream restoration projects, although intended to re-establish or improve habitat conditions for fish or aquatic species, have on occasion led to disastrous results due to poor planning or execution. Like gravel mining and other in-water development, restoration activities involving pit-mining or trenching within active river channels may result in incision upstream of the mine (by nick-point migration) and downstream (by sediment starvation). Incision may cause undermining of structures, lowering of alluvial water tables, channel destabilization and widening, and scouring on adjoining riverbanks, ironically leading to a loss of aquatic and riparian habitat if not properly undertaken.

Numerous case study examples on North Coast rivers and streams, especially on the Russian River in Mendocino County, Dry Creek in Sonoma County, and Redwood Creek and the lower Eel / Van Duzen River system in Humboldt County can be cited where channel modifications such as trenching in particular has led to lateral avulsion, channel capture, head-cutting, incision, nick-point migration, increases in the rate of meander straightening, decreases in channel sinuosity, lateral erosion of adjacent river banks and point bars, and other profound stream morphologic changes either upstream, downstream or within the excavated reach.⁵ These changes can dramatically impact key salmonid habitat attributes by creating discontinuous areas within the floodplain where migrating fish would become stranded during low-flows, cause increases in water temperature due to loss of riparian vegetation, cause elevated sediment levels within the water column, form blockages at tributary confluences, simplify aquatic bed habitat through the removal of large woody vegetation, and other impacts to holding, rearing, and spawning habitat

⁵ *Impact Assessment of Instream Management Practices on Channel Morphology*, Center for Watershed Protection, Aquafor Beech, Limited. & Step by Step, September, 1999

for migratory fish.⁶ It should also be noted that among the numerous restoration methodologies recognized in the California Department of Fish and Game's *California Salmonid Stream Habitat Restoration Manual*⁷, channel trenching is not specifically identified as one of the numerous in-stream habitat improvement methods discussed and recommended in the document.

In addition, the description of the restoration work within the application implies that project has been designed in close coordination with NMFS based on detailed site-specific studies, and that design input and tacit approval for the submitted design had been previously obtained from the agency (see Exhibit 11, page__). To the contrary, NMFS staff have expressed their concerns to Commission staff regarding the project's likelihood of success in bringing about significant and persistent restoration of vertical diversity within the Woodruff Bar low-flow channel and reestablishment of cold deep-water habitat within the main river channel given the overall degraded condition of the river at the site. NMFS stated that further sand and gravel extraction at this time from the Woodruff Bar would not be consistent with the environmental protections of the LOP that mining be conducted on a sustained yield basis, subject to demonstrated adequate annual replenishment. NMFS staff are also concerned that if the work were to be undertaken after August 30 direct and cumulative impacts to juvenile and early-arriving adult salmonids may result.⁸

The project proposes to conduct the trenching for restoration beyond the August 30 date established in the Corps' LOP procedure, thus, unless a specific modification authorization is granted by the Corps, the project would not be in conformance with operational limitations imposed by the LOP for the protection of juvenile and early-arriving adult salmonids. However, even if such an extension were to be obtained from the Corps, the fact that trenching beyond the August 30 deadline is authorized does not indicate that such trenching qualifies as "restoration purposes" under Coastal Act Section 30233(a)(7). Furthermore, while an extension would be based on a finding that the continued trenching would not result in adverse impacts of greater than incidental take, as documented within the MNFS Biological Opinion, this finding would not indicate that the trenching would actually result in positive restoration of salmonid habitat consistent with Section 30233(a)(7).

Conclusion

Therefore, for all the above reasons, the Commission concludes that: (a) the proposed mining project would entail mineral extraction within an environmentally sensitive area and thus does not constitute an allowable use for filling and dredging of coastal waters

⁶ *Management of Course Sediment on Regulated Rivers*, Report No. 80, California Water Resources Center, University of California, Davis, October 1993

⁷ *California Salmonid Stream Habitat Restoration Manual*, Third Edition, California Department of Fish and Game, January, 1998

⁸ Dan Free, Fisheries Biologist – NMFS, pers. comm.

under Section 30233(a)(6) of the Coastal Act; and (b) the proposed augmentation of the vertical offset between the mid-bar low-flow channel bottom and the top of the exposed bar surface, and the deepening the main river channel to create cold-water pooling habitat has not been adequately shown to be for "restoration purposes" and thus does not constitute an allowable use for filling and dredging of coastal waters under Section 30233(a)(7) of the Coastal Act. As currently detailed within the subject coastal development permit application, the proposed development does not involve any of the uses that are listed in Section 30233 for which dredging, diking, or filling of coastal waters may be authorized. Therefore, the Commission finds that the proposed project does not meet the requirement of Coastal Act Section 30233 which delineates permissible uses for filling and dredging of coastal waters, wetlands, and estuaries. Therefore, the proposed project must be denied.

No further analysis of the proposed project is required to find the development inconsistent with Section 30233 of the Coastal Act. However, the Commission notes that even if the proposed uses of the site met the test for permissible uses for fill set out above, it has not been adequately demonstrated that other tests for compliance with the dredging, diking, and fill policies of the Coastal Act have been met, as discussed below.

2. Feasible Mitigation Measures

The second test set forth by the dredging and fill policy of the Coastal Act is whether feasible mitigation measures have been provided to minimize the adverse environmental impacts of the proposed project. Generally, depending on the manner in which the gravel extraction and habitat restoration operation is conducted, the portions of the proposed project to be conducted below the ordinary high water mark could have four potentially significant adverse effects on the natural environment of the lower Smith River. These impacts include among other effects: (a) impacts on fisheries; and (b) alteration of the riverbed and increased bank erosion. 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 and the lower Smith River 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 individual impacts of a particular gravel mining operation at one site. Often of greater significance is the significant adverse cumulative impact on sensitive fish species from all of the various gravel mining operations occurring along the river. Accurately assessing significant adverse cumulative impacts of the various gravel mining operations on sensitive fish species can be a difficult task for any one operator to perform.

An assessment of the significant adverse cumulative impacts of U.S. Army Corps of Engineers (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 (NMFS). These Biological Opinions are issued as a result of formal consultations between the Corps of Engineers and the NMFS pursuant to Section 7 of the Federal Endangered Species Act. As discussed previously in the "Smith River Resource Issues and Regulatory Background" Finding, the Corps decided to extend LOP 96-2 (originally due to expire on March 28, 2002) through December 31, 2002 to enable gravel extraction on the Smith River to be authorized for the 2002 gravel mining season while a new LOP for subsequent gravel mining seasons is prepared. The Corps requested that NMFS amend the most recent (2000) Biological Opinion to analyze the extended duration of LOP 96-2a.

NMFS has prepared a second amended Biological Opinion for the extended duration of LOP 96-2a that incorporates newly available information that was not previously analyzed in the 2000 Biological Opinion and its 2001 first amendment regarding the effects of gravel mining and extraction activities on listed salmonids (see Exhibit No. 7). According to NMFS, gravel mining results in both short-term and long-term changes to channel form and function and such changes affect habitat function for listed salmonids. The amended Biological Opinion indicates that gravel mining could result in significant adverse impacts to listed salmonids from the input of fine sediment, reduced bar height and channel confinement, and a reduction of habitat complexity as a result of various gravel extraction related activities.

Construction and removal of channel crossings and the use of heavy equipment can adversely affect salmonids. Heavy equipment is required to operate in the wetted, low flow channel to construct and remove the crossings, which are typically placed at riffle locations. According to the amended Biological Opinion and consultation between Commission staff and NMFS staff, Chinook salmon build redds and spawn in riffles and the redds could be subject to a pulse of fine sediment during removal of the channel crossing in late fall. In addition, the operation of heavy equipment has the potential to result in disturbance to salmonids caused by noise and vibration in the extraction work area.

Furthermore, culverted stream crossings can also impact rearing salmon habitat by impeding or altering channel stream flow dynamics.

NMFS 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, bar skimming allows inundation of the skimmed area more frequently and at lower river stage heights, resulting in an increase in the width-to-depth ratio of the channel, which results in an increase in the area where mainly juvenile, but possibly adult, salmonid stranding may occur. The potential for salmonid stranding is minimized if the gravel bars are groomed to be free of depressions and graded to provide a free draining surface back towards the river thalweg following extraction.

NMFS indicates that gravel mining has the potential to result in elevated turbidity levels and increased sedimentation. Fine sediments can become entrained in runoff from skimmed bar surfaces, as skimming typically exposes finer sediment that would be inundated during lower discharges. According to NMFS, increased sedimentation can adversely impact salmonid spawning habitat by filling pore spaces, which decreases hydraulic conductivity of the gravel, thus reducing the supply of oxygenated water to incubating eggs.

Gravel extraction can also impact migratory, rearing and holding habitat by increasing the width-to-depth ratio of river channels, decreasing channel confinement, and changing the hydraulic function of gravel bars required to create and maintain pools and riffles. NMFS has concluded that when gravel bars are skimmed to a depth less than one foot above the low-flow water surface, or mining occurs on the upstream third of point bars, loss of channel confinement can result.

Gravel mining can also result in a reduction of large woody debris (LWD), which provides important rearing and holding habitat for salmonids. Large woody debris at gravel mining sites is often removed for use as firewood or for constructing burl furniture.

Although gravel mining has the potential to result in several significant adverse short-term and long-term impacts to salmonids and salmonid habitat, NMFS indicates that adherence to certain project design features minimizes effects of gravel extraction on listed salmonid species. NMFS concludes in the amended Biological Opinion that:

NMFS anticipates that gravel mining operations under LOP 96-2a will result in take of listed salmonids. This take will primarily be in the form of harm to salmonids by impairing their essential

behavior patterns as a result of reductions in the quality or quantity of their habitat. NMFS anticipates that the number of individuals harmed will be low. In addition, NMFS anticipates that a small number of juveniles may be killed, injured, or harassed during construction and removal of channel crossings or during relocation of juveniles for trenching...

Because the expected impacts to salmonid habitat correspond with these impaired behavior patterns, NMFS is describing the amount or extent of take anticipated from the proposed action in terms of limitations on habitat impacts. NMFS expects that physical habitat impacts will be consistent with the areas described in Table 1 below⁹, compliant with the terms of conditions of LOP 96-2a and this incidental take statement and within the expected effects of gravel mining operations as described in this Opinion...

Anticipated incidental take will be exceeded if gravel mining operations extend beyond the areas described in Table 1 above, or are not in compliance with the terms and conditions of LOP 96-2a or this incidental take statement, or if effects of gravel mining operations are exceeded or different than the expected effects described in this Opinion...

In the accompanying opinion, NMFS determined that the amount of anticipated take is not likely to result in jeopardy to SONCC coho salmon, or result in the destruction or adverse modification of SONCC coho salmon designated critical habitat.

Based on existing biological information, NMFS concludes that extraction of gravel during the summer months will not result in more than incidental take of threatened salmonid species and will not jeopardize their continued existence provided that extraction operations are conducted in the manner prescribed in a set of conditions attached to the Biological Opinion.

As discussed in Findings Sections II.D and II.E.1, the extended LOP included additional mitigation measures regarding stream channel trenching operations. These measures set requirements that such operations: (1) be located where geomorphic processes would normally result in pool formation and maintenance, as determined by a qualified hydrologist or geomorphologist and if located within runs provide that that type of habitat would be maintained and not altered to unnatural pool habitat; (2) not be located in riffles, and situated at a sufficient

⁹ Referenced "Table 1" consists of a list of 11 gravel bar site names on the Smith and Klamath Rivers and Rowdy Creek, and includes the "Crockett Bar" project site.

distance from riffles such that head-cutting of the trench will not affect riffle elevation and stability; (3) be located where diversion of the stream channel to the natural side or overflow channel is possible and appropriate; (4) be conducted in an area that is dry and devoid of streamflow following diversion; (5) be limited to the period from July 15 through August 30 to minimize and buffer against impacts to migrating and rearing adult and juvenile salmonids; and (6) place large woody debris or boulders within the trench following extraction to reduce illegal poaching and provide habitat for holding and rearing adult and juvenile salmonids.

The proposed gravel extraction operation is not consistent with terms and conditions of the LOP as the operation has not demonstrated that the site for the trenches is appropriate and the operation would be conducted after the August 30 cut-off date. In addition, the applicants have stated that they intend to place gravel into the bottom of Trench #2 rather than LWD or boulders. Furthermore, the Biological Opinion does not provide documentation that the project has incorporated all feasible mitigation measures that will minimize adverse environmental effects on threatened salmonid species. Although Commission staff requested documentation that the project as proposed would not significantly adversely affect threatened salmon species, no independent information other than that provided within the Biological Opinion was provided by the applicants to address this issue. Therefore, because the applicants have failed to establish that the project as proposed would not significantly adversely affect threatened salmon species, the Commission is unable to conclude that feasible mitigation measures have been provided to minimize the adverse environmental impacts of the proposed project as required by Section 30233 of the Coastal Act.

(b) River Morphology

Another potential significant adverse 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 exceeds the amount of gravel deposited on the site through natural recruitment, or 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 have been 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 depth of flow. This spreading may cause the channel to both migrate rapidly and break into a number of shallow channels or threads. Such sites will tend to trap gravel that would otherwise move downstream, and can potentially trap or impede fish migrating up and down the river.

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 60,000 cubic yards of sand and gravel from the site during the 2002 extraction season, to be excavated wet-trenching methods the applicants indicate were designed in consultation with NMFS and CDFG staff. Although this amount is typical of past permitted gravel mining activity along the Smith River (up to 390,000 cubic yards annually), extraction without consideration of river morphology concerns could cause bed degradation and riverbank erosion.

The Biological Opinion discusses how mining consistent with a sustained yield is a key to preventing bed degradation and bank erosion. In addition, NMFS staff have indicated in conversations with Commission staff there are real concerns that past over-extraction from the project site combined with the lack of rainfall and river volume to naturally replenish the site to any appreciable amount over the last couple of years suggests that the extraction would not be consistent with sustained yield. As stated above, Commission staff asked the applicants to provide a fluvial geomorphological analysis to address the effects of the proposed trenching operation on bed degradation and bank erosion but none was provided. Therefore, the applicants have not demonstrated that the proposed project has included feasible mitigation measures that will minimize significant adverse environmental effects on channel morphology.

The applicants have submitted an "extraction mitigation plan"¹⁰ as part of the application (see Exhibit No. 4). The plan calls for the several measures to be taken to reduce several potential significant adverse impacts of the proposed project to less-than-significant levels. These measures include locating the diversion structures in the shallowest portions of the channels and using washed rock to seal the diversion structures onto the river bars and banks, constructing a sediment control berm around Trench #2, complying

¹⁰ Although referred to as a "mitigation plan," this portion of the permit application does not provide a comprehensive strategy for mitigating all the potentially significant adverse effects of the current mining proposal. Rather, the title is more indicative of the benefits the applicants believe the proposed channel deepening would have in rectifying the impacts to riverine resources associated with the increases in this river reach's width-to-depth ratio caused by past mining activities or natural aggradation of the channels.

with the conditions and operational procedures of the LOP, complying with supplemental conditions within the County conditional use permit, and any coastal development permit issued by the Commission for the project, and to cease gravel extraction operations by October 15th or until the dry-weather ends and/or there is evidence that salmon migration has begun.

Though these proposed measures may have some benefit, the Commission cannot make the required finding that the project will not result in direct and cumulative significant adverse impacts to fisheries or result in alteration of the riverbed and increased bank erosion or cause significant adverse impacts on environmentally sensitive areas. Thus, until technical information similar to that previously requested of the applicants is made available to the Commission, the full extent of the adverse environmental effects of the project will remain unknown. Therefore, the Commission cannot find the submitted mitigation plan consistent with Coastal Act Section 30233. Therefore, the proposed project must be denied.

3. Alternatives

The third test set forth by the dredging and fill policies of the Coastal Act, is that the proposed dredging or fill project must have no feasible less environmentally damaging alternative. In this case, the Commission has considered various other feasible less environmentally damaging alternatives including, (a) the "no project" alternative; and (b) obtaining sand and gravel from other in-stream mining sites.

(a) No Project Alternative

The "no project" alternative means that the proposed gravel extraction project would not be undertaken at this time. Without extraction from this site, the lower Woodruff Bar area would be allowed to set fallow until an adequate quantity of sand gravel accumulates on the degraded bars and stream courses to support renewed extraction without posing environmental risks to coastal resources.

Sediment in rivers moves in large pulses during the wet-season flood stages. As the velocity of the river flows decrease or gradient lessens, due to a reduction in the discharge amount or as the flow enters a wider cross-sectional channel area, such as an alluvial plain below a river canyon, transported sediment materials begin to drop out of the water column and become deposited on the streambed. Dictated by the hydraulics of stream gradient, cross-sectional area, the presence of constrictions such as bedrock-hardened points within the watercourse, and overall stream course geometry, these materials are unevenly deposited, generally forming "point bars" of the inside of meanders. Subsequent flows will then groom these materials, and, provided an over-accumulation of materials hasn't occurred, form a serially cascading "pool and riffle" configuration.

The proposed project is located in an area where gravel has historically accumulated and been mined. However, conditions on this portion of the river have degraded to a point where continued mining could lead to changes in river geomorphology which, in turn, could cause a variety of adverse effects such as direct and cumulative impacts to anadromous fisheries, decreased water quality from sedimentation and bank erosion, loss or damage to in-water structures from undermining, or the loss of environmentally sensitive aquatic bed and riparian habitat areas, and/or adjacent agricultural lands.

As discussed below, there are other feasible sources of sand and gravel aggregates that would result in less environmental damage and support deferring gravel extraction at the lower Woodruff Bar to a later time. The Commission therefore finds that the "no project" alternative is a feasible less environmentally damaging alternative to the proposed project.

(b) Obtaining Sand and Gravel from Other In-stream Mining Sites.

Alternately, aggregate products could be produced from mining other sites either along the Smith River or from other regional riverine sources. Although further bar-skimming or trenching may not be advisable from a resource protection perspective for this reach of the river, NMFS staff have indicated that some limited skimming and trenching without impacts to riverine resources may be feasible at some of the gravel bar locations in the Sultan, Lower Sultan and Huffman Bar reaches upstream of the project site. In addition, aggregate products are also produced regionally from other in-stream operations in the Klamath and Chetco Rivers that could be used to meet local aggregate materials demand. Although the added transportation costs to haul these materials to central Del Norte County would be more costly, gravel products will be available. Therefore, the Commission finds that obtaining sand and gravel from other suitable sites, including regional sources, is a feasible less environmentally damaging alternative.

(c) Modifying the Proposed Project as Conditioned.

Various modifications to the project as proposed and conditioned could be made in an attempt to reduce the environmental effects. One such modification would be to mine in different locations at the project site. However, this modification would not result in less impact than the proposed project. As discussed previously, the proposed project is located in an area where past unpermitted mining together with low replenishment have led to degraded conditions where further mining would result in significant adverse impacts to coastal resources. Therefore, modifying the proposed gravel extraction project to require mining in different locations at the project site or at reduced quantities would not result in lesser impacts on coastal resources or would be economically infeasible. Thus,

such project alterations would not provide a feasible less environmentally damaging alternative.

No other feasible modification to the proposed extraction scheme has been identified. Therefore, the Commission finds that further modifying the proposed gravel extraction project is not a feasible less environmentally damaging alternative.

Thus, there are two feasible less environmentally damaging feasible alternatives to the proposed project. Therefore, the proposed project is inconsistent with the requirement of 30233 that a dredging or fill project must have no feasible less environmentally damaging alternative. Therefore, the proposed project must be denied.

4. Maintenance and Enhancement of Estuarine Habitat Values

The fourth general limitation set by Sections 30231 and 30233(a) of the Coastal Act on dredging, diking, and fill projects is that any such proposed project shall maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

As discussed in the section of this finding on mitigation, the permit applicants have not adequately demonstrated that the project will not have significant adverse impacts on threatened fish species, stream morphology, and other coastal resources. Without factually-based information to fully analyze the potential significant adverse effects of the project to these and other coastal resources and identified measures to avoid and reduce impacts to less-than-significant levels, the Commission cannot find that the project would maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Sections 30231 and 30233 of the Coastal Act. Therefore, the proposed project must be denied.

5. Conclusion

The Commission finds that the proposed gravel extraction operation is not consistent with the requirements of Section 30233 of the Coastal Act, in that: (1) the proposed dredging diking and filling of wetlands is not for one of the allowable uses enumerated within subsections (1) through (8) of Section 30233(a); (2) the applicants have failed to demonstrate that all feasible mitigation measures have been provided to minimize adverse environmental effects; (3) feasible less environmentally damaging alternatives have been found to exist; and (4) the applicants have failed to demonstrate that the functional capacity of the wetland or estuary would be maintained or enhanced. Therefore, the proposed project is inconsistent with the Coastal Act provisions for dredging, diking, and filling of coastal waters and wetlands of Coastal Act Section 30233.

F. 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 II.E 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 project as proposed would not assure stability and structural integrity, primarily because the proposed trenching has not been shown to be properly designed and engineered with safeguards to avoid significant adverse impacts to stream morphology such as channel down-cutting and incision, thalweg capture, or bank erosion. Commission staff requested the applicants provide a fluvial geomorphological report to evaluate 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, but none was provided. The applicants contend such engineering data is not needed as similar extraction has been performed at the project site and other locations on the Smith River without undue disturbances having resulted.

Regardless of the historical land use pattern of the lower Smith River area, there are indications that mining performed in recent years at the project site (including trenching) without benefit of a coastal development permit has had detrimental impacts on the river (see Exhibit No. 10). These impacts include fragmentation of the river run into a series of discontinuous channels and back-water areas, creation of stranding pools, and erosion at the base of the riverbanks. No comprehensive evaluation of past trenching efforts on the river has been submitted to demonstrate such trenching has not resulted in undue disturbances.

The full effects of any streambed alteration project cannot be precisely predicted with exact detail given the complexities of river sediment transport. However, to the degree that information is available as to how will the operation will likely affect the dynamics of river flow at low, normal, and flood flow, the overall movement of sediment within the river system, the stability of the river bank and other point and longitudinal bars, and the

project's potential to cause increased bank erosion, instigate channel migration, or reduce the availability of sand-sized sediment to the littoral cell, the uncertainty can be minimized. Accordingly, regardless of the applicants' stated intent to correct disturbances caused by the accumulation of sediment within the lower river system that has resulted in adverse changes to the river's configuration, the Commission finds the project as designed will not assure stability and structural integrity as required by Section 30253(2). Therefore, the proposed project must be denied.

G. Development within Coastal Rivers and Streams.

Development within rivers and streams that is not consistent with the provisions of Section 30233 of the Coastal Act for dredging, diking, and filling in coastal waters and wetlands might still be approved if the proposed development is consistent with Section 30236 of the Coastal Act. Section 30236 provides that:

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) 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 in coastal rivers and streams. For analysis purposes, a particular development proposal must be shown to: (1) be for a necessary water supply project; (2) 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.

The applicants have not shown that the proposed development would be for one of the three specified use categories identified in Section 30236. 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. Although the application portrays the channelizations as being for improvement of fish and wildlife habitat, the primacy of such improvement among the project objectives has not been established. The proposed project includes 60,000 cubic yards of gravel mining to produce sand and gravel for commercial sale. The application states that the proposed "restoration" work along the low-flow channel crossing the Woodruff Bar would not be performed if the commercial gravel extraction operation is not approved. Accordingly, this statement evidences that the primary purpose of the project is commercial gravel extraction rather than the improvement of fish and wildlife habitat.

In addition, as discussed in the Findings Section II.E.2 above, only one mitigation measure to prevent water quality impacts from sedimentation of the river's live waters during gravel extraction from Trench #2 has been incorporated into the project's design. No other mitigation measures have been proposed or information provided to assure that impacts to stream morphology, environmentally sensitive habitat areas, or endangered or threatened fish species would be insignificant or reduced to less-than significant levels, respectively.

Therefore, as: (1) the primary purpose of the stream channel development is not the improvement of fish and wildlife habitat; and (2) the proposed project could potentially have significant adverse impacts that have not been adequately assessed and incorporation of the best feasible mitigation measures cannot be confirmed, the Commission finds that the streambed development proposed is inconsistent with Section 30236 of the Coastal Act.

The Commission notes that while the proposed project is not consistent with the provisions of Section 30236, other development proposals that might include gravel extraction for the improvement of fish and wildlife habitat may very well be found to be consistent with Section 30236 provided that the project work is found to be a "development where the primary function is the improvement of fish and wildlife habitat."

H. California Environmental Quality Act.

Section 13906 of the California Code of Regulation requires Coastal Commission approval of a coastal development permit application to be supported by findings showing that the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Public Resources Code Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would significantly lessen any significant effect that the activity may have on the environment.

The proposed project is not consistent with the policies of the Coastal Act that restrict the dredging and filling of coastal waters and wetlands and require that geologic stability and structural be assured. The Commission incorporates its findings on Coastal Act consistency as this point as if set forth in full. There are feasible mitigation measures and feasible alternatives available which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project cannot be found consistent with the requirements of the Coastal Act to conform to CEQA.

IV. EXHIBITS:

1. Location Map
2. Vicinity Map
3. Jurisdictional Map (excerpt)
4. Project Narrative and Mining Site Plans
5. Typical Trenching Cross-section
6. Public Notice - Extension of Letter of Permission Procedure No. LOP 96-2 to December 31, 2002, U.S. Army Corps of Engineers, July 26, 2002
7. *Amendment Two to the Biological Opinion - Letter of Permission Procedure Gravel Mining and Extraction Activities within Del Norte County LOP 96-2a*, August 16, 2002
8. *Notice of Findings*, California Fish and Game Commission, California Regulatory Notice Register, April 27, 2001
9. Excerpt, 14 CCR §749.1 – *Exhibit C: Incidental Take Authorization Standards for In-Stream Gravel Extraction During the Candidacy Period for the Coho Salmon* (Fish and Game Code Section 2084 Take Regulations), California Department of Fish and Game, April 27, 2001
10. Aerial and Site Photographs, Lower Woodruff Bar, Spring 2002

CROCKETT
LOCATION MAP

PROJECT SITE

O R E G O N

Del Norte

LOCATION MAP

1 0 1
miles



County of Del Norte

Sheet 1 of 3

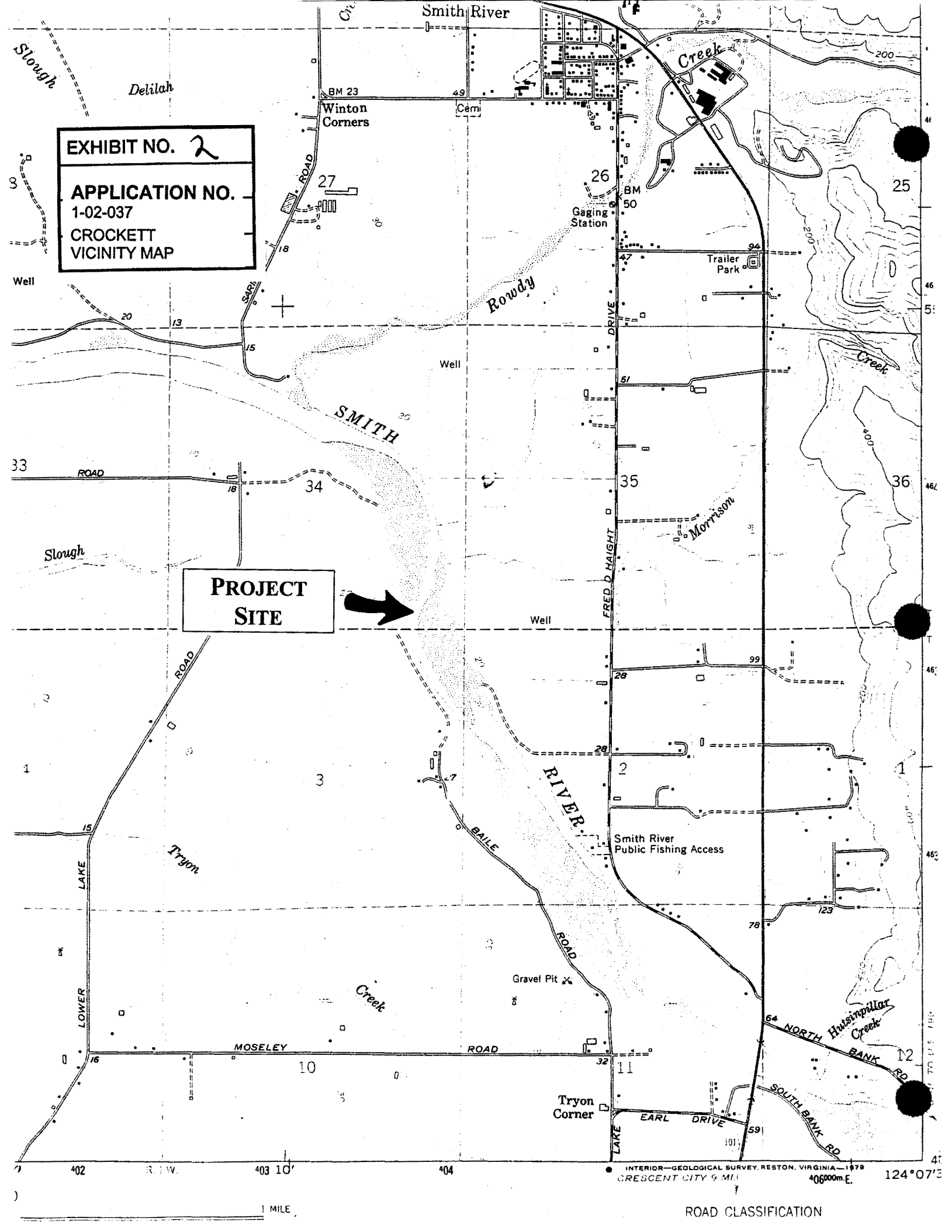
EXHIBIT NO. 2

APPLICATION NO.

1-02-037

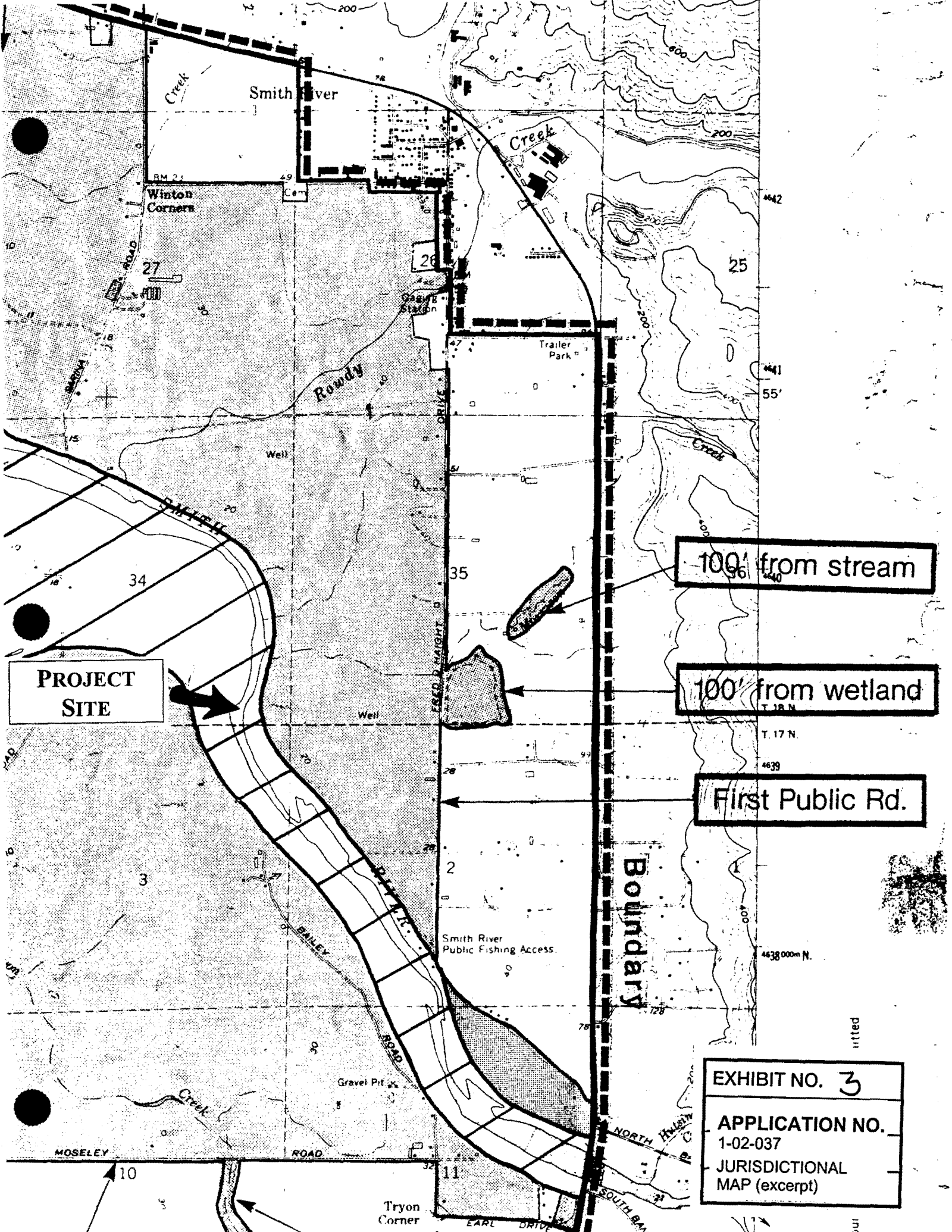
CROCKETT
VICINITY MAP

PROJECT
SITE



INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA-1979
CRESCENT CITY 9 MI. 406000m E. 124°07'3

ROAD CLASSIFICATION



100' from stream

100' from wetland

First Public Rd.

Boundary

EXHIBIT NO. 3
APPLICATION NO. 1-02-037
JURISDICTIONAL MAP (excerpt)

CROCKETT GRAVEL BAR
Year 2002
Extraction/Mitigation Plan

EXHIBIT NO. 4

APPLICATION NO.

1-02-037

PROJECT NARRATIVE
& MINING SITE PLANS
(1 of 5)

Proposed Extraction/Mitigation Plan (Summary)

The YR 2002 extraction/mitigation plan on the Crockett gravel bar is proposed to address several issues raised regarding operations on the bar. Further, it provides the operator/owner with continued economic returns in conjunction with the 30+ acres of protected wetland/riparian restoration area. The YR 2002 extraction/mitigation plan includes deepening and narrowing the low flow channel, raising the elevation of the dry gravel bar and creating deep pool habitat for salmonids in the main channel adjacent to the outer gravel bar.

The mitigation components of the proposed YR 2002 plan are dependent on the operator being able to realize an economic return on the quantity of material proposed to be extracted for commercial projects. Therefore, the mitigation proposed cannot be accomplished without the commercial gravel extraction portion of the project also being completed.

Gravel Bar Conditions (YR 2002)

Gravel recruitment on the Crockett gravel bar has been minimal over the past three years due to the lack of and magnitude of high water flows during the winter. This condition has resulted in areas of the bar subject to prior extraction being low in elevation. Further, trench pools created in YR 2000 within the low flow channel have still not completely filled in as planned. However, the deep pools that were trenched in 1999 within the main channel have filled in completely. These conditions are further explained as follows:

YR 1999 – Trenches in the main river channel adjacent to the outer gravel bar were excavated in 1999 to remove commercial gravel and create deep pool habitat for salmonids in the lower river. These deep trenches were completely filled in by the next year (YR 2000).

YR 2000 – Trenches in the low flow channel were excavated in YR 2000. These trenches have partially filled in. Recruitment in these trenches may be compromised by the diminished flows coming down the low flow channel with the increased projection of the access road into the low flow channel on the upper gravel bar. This access road extension is creating an accelerated diversion of the low flow channel across the upper bar and into

the main river channel.

YR 2001 – Excavation on the dry gravel bar above the low flow channel was completed in YR 2001. This extraction operation lowered the elevation of the gravel bar in proximity to the low flow channel as it transitions into the main channel. No evidence of recruitment over the winter is apparent at this location of the gravel bar. Concerns have been raised in regards to excavation at this site. Specifically, there is concern that the excavation coupled with the lack of gravel recruitment has exposed the prior constructed restoration berms to potential erosion from future high water events. A restoration project was completed in this area in early July 2002. Pacific willow plantings were established in front of the two offset restoration berms to protect the berms from erosion during a high flow event.

Desired Gravel Bar Conditions

Discussion with NMFS staff (Dan Free, Brian Clure) indicated that they would prefer a greater recruitment on the gravel bar prior to supporting additional extraction. Optimal gravel bar function includes a width and depth of bar recruitment that subsequently causes the outer channel (main channel) to scour deep pools during high flow events. The deep pools provide holding habitat for salmonids in the lower river. Deep pools in the lower river have been limited since the 1964 flood. Concern has been raised by NMFS that continued excavation of the gravel bars without significant recruitment has resulted in both widening and lowering of the low flow channel. This action is believed to compromise the natural development of an adequate depth of gravel accumulation on the bars which in turn compromises the natural development of deep pools in the main river adjacent to the gravel bars.

There has been an ongoing debate in regards to the ability of the lower river to naturally cause deep pool development to occur adjacent to the gravel bars since 1964. Hydrologists and biologists working on lower river gravel operations over the past 18+ years continue to "recognize" that deposition from significant flood events in 1964, 1975 and 1986 is still moving down through the river system compromising the natural establishment of deep pools. This effect may have been realized on the Crockett bar with the rapid filling in of the deep trenches extracted in the main channel in YR 1999. Although it appears that natural deep pool development is beginning to occur on the northern end of where the main channel trenches were excavated.

The YR 2002 extraction/mitigation plan on the Crockett bar is proposed to address several issues raised regarding operations on the gravel bar. The plan includes deepening and narrowing the low flow channel, raising the elevation of the gravel bar and creating deep pool habitat in the main channel adjacent to the outer bar.

Extraction/Mitigation Plan (YR 2002)

The YR 2002 extraction/mitigation plan includes deepening and narrowing the low flow channel, raising the elevation of the gravel bar and creating deep pool habitat in the main channel. The proposed extraction plan is illustrated on the attached site plan. Key components include:

Trench 1 – River Diversion/Mitigation – Approximately 800 feet x 15 feet x 10 feet deep; Estimated volume to be extracted is 2,000 - 3,000 cubic yards.

The purpose of Trench 1 is to create adequate space to allow diversion of the main channel into the low flow channel. The excavation of Trench 1 creates a deeper, narrower channel in the low flow channel which will help mitigate the existing undesirable condition of the wide, shallow low flow channel.

Gravel excavated from Trench 1 will be deposited on the gravel bar at a location to be determined with input by the federal and state agencies (CA F&G, COE, NMFS, Coastal Commission staff). This provides the opportunity to increase the depth and width of the existing gravel bar. No gravel from Trench 1 will be taken off site for sale or other commercial use.

Trench 2 – Commercial Gravel Extraction – Approximately 2,000 feet x 160 feet (north end) x 260 feet (south end) x 10 feet deep; Estimated volume to be extracted is 60,000 cubic yards.

The purpose of Trench 2 is to mine commercial gravel in an area of the main stem river which has filled in since it was mined in 1999. Trench 2 will create deep pool habitat in the lower river adjacent to the gravel bar. The trench is proposed to be located in an area that appears to be naturally subject to the creation of deep pools (evidence on northern end of trench area). The continued downstream movement of deposition may compromise the success of natural development of deep pools in the river system from prior major flood events. Excavation of gravel in this area will again create deep pool habitat for salmonids in the lower Smith River.

Culvert Crossing

Two 10-foot diameter culverts will be placed in the low flow trench at the narrowest opening to facilitate equipment ingress/egress to the Trench 1 and Trench 2 excavation area. The culverts will be connected to the gravel bar on each side using washed rock to minimize sediment transport into the channel.

Diversion Structures

Diversion structures ("t-rails") will be placed at the upper most end of the gravel bar to direct channel flow so both Trench 1 and then Trench 2 can be excavated in the dry channel. The diversion structures will be placed in the shallowest portion of the channel opening and connected to the gravel bar using washed rock.

Trench 2 Sediment Containment Berm

Prior to excavation at Trench 2 in the main channel, a small gravel berm will be placed around the excavation area. This small berm will be approximately 2-feet high and 4-feet wide. The purpose of the berm is to contain any sediment resulting from the excavation activity and allowing it to settle out within the trench. The small berm will be carefully "moved" into the completed trench when the excavation is completed. The gravels from the berm will be placed across the bottom of the trench floor.

Conditions

All conditions and operational procedures set forth in the CA F&G 1603 agreement, the Corp of Engineers LOP, the NMFS Biological Opinion and supplemental conditions, the County Conditional Use Permit and the Coastal Commission Permit will be adhered to during the operation. Representatives from these agencies are welcome to view any and all portions of the river diversion and gravel excavation operation upon contacting the owner representative (Becky Crockett) or operator (Dave Baldwin-Tidewater).

Schedule

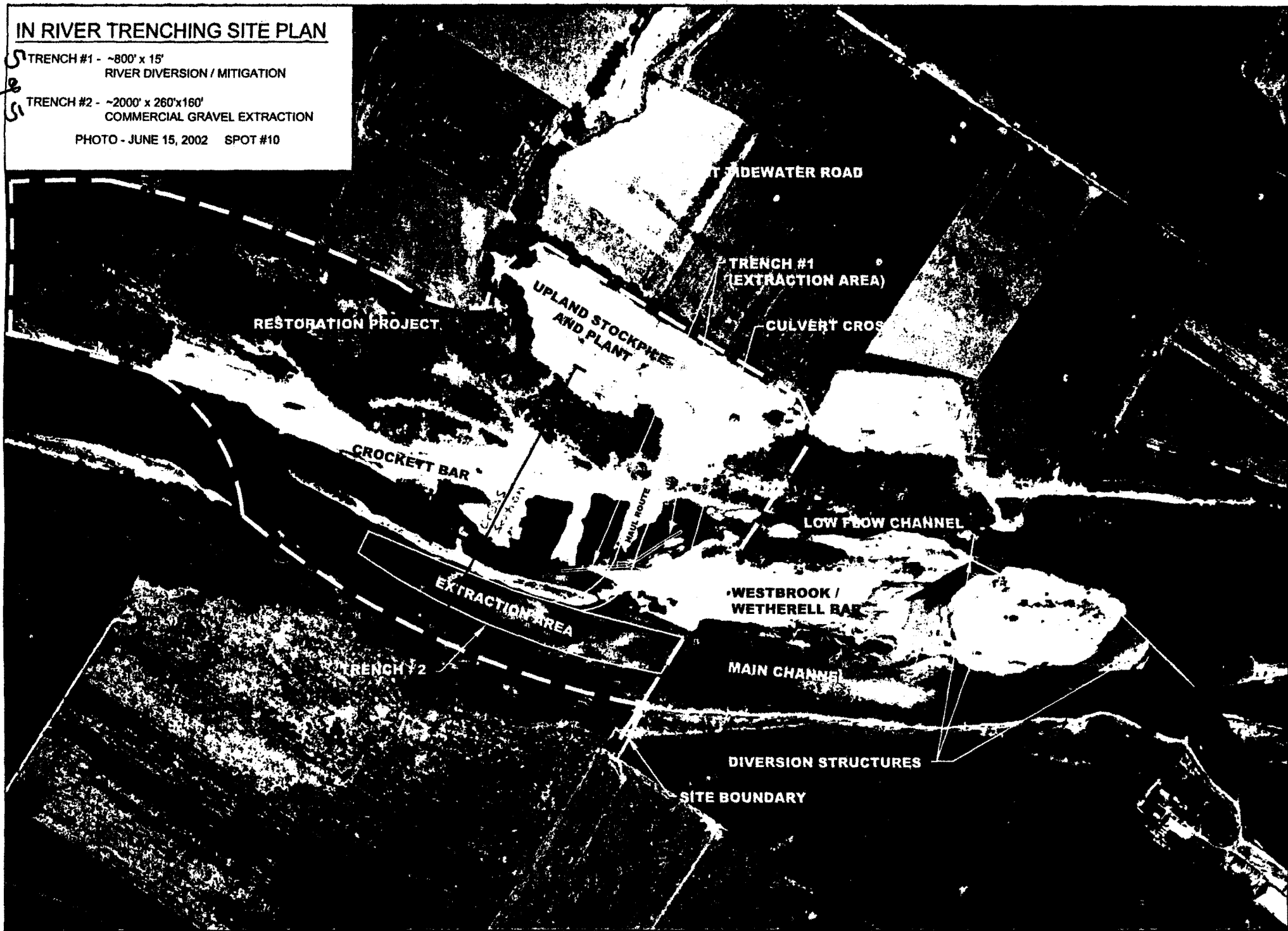
The YR 2002-gravel season is rapidly proceeding past without permits being secured for various reasons. It is likely that by the time all permits are secured it will be September. The extraction season is scheduled to end October 15th of each year. This situation may result in the lack of adequate time to conduct the gravel extraction operation. Therefore, it is requested that the gravel extraction operation be allowed to continue past the October 15th date if needed provided river flows remain low and there is no evidence of up stream migration of coho salmon.

IN RIVER TRENCHING SITE PLAN

TRENCH #1 - ~800' x 15'
RIVER DIVERSION / MITIGATION

TRENCH #2 - ~2000' x 260' x 160'
COMMERCIAL GRAVEL EXTRACTION

PHOTO - JUNE 15, 2002 SPOT #10



SCALE 1"=750'



MWH
MONTGOMERY WATSON HURZA

Portland
Oregon

CROCKETT BAR YR 2002 SITE PLAN



MWH

MONTGOMERY WATSON HARZA

By _____ Date _____ Client _____

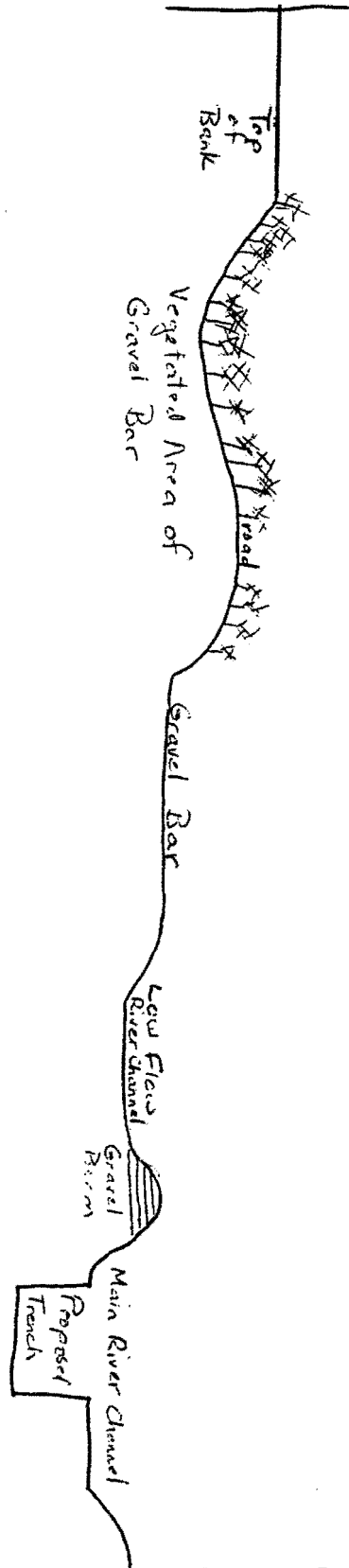
Chkd. By _____ Description _____

EXHIBIT NO. 5

APPLICATION NO.

1-02-037

TYPICAL TRENCHING
CROSS-SECTION



Typical Cross Section
Not to Scale
See "Cross-sections" for Actual
Surveyed Data
August, 2002
Proposed 12,000 Gravel Extension
Crockett Bar



US Army Corps
of Engineers.

SAN FRANCISCO DISTRICT

PUBLIC NOTICE

NUMBER: LOP 96-2a

DATE: July 26, 2002

(File Number 26813N)

Regulatory Branch
333 Market Street
San Francisco, CA 94105-2197

LETTER OF PERMISSION PROCEDURE GRAVEL MINING ACTIVITIES WITHIN DEL NORTE COUNTY

1. INTRODUCTION: On May 1, 2002, the San Francisco District, U.S. Army Corps of Engineers (Corps) issued a public notice proposing a new Letter of Permission (LOP) Procedure (LOP 2002-2) for gravel mining activities in Del Norte County, California. LOP 2002-2 was intended to supercede LOP 96-2, which authorized many gravel extraction activities in Del Norte County between 1997 and 2001. Attempts to resolve several issues connected with LOP 2002-2 have delayed its implementation. In order to authorize gravel mining activities during the 2002 extraction season, the Corps is hereby extending Letter of Permission Procedure 96-2 to LOP 96-2a with special conditions (see below). The extension shall expire December 31, 2002. The Corps informally coordinated with other federal resource agencies prior to extending the expiration date of LOP 96-2a. We anticipate that LOP 2002-2 will be implemented prior to the 2003 gravel extraction season.

2. BACKGROUND: On March 28, 1997, the Corps adopted an LOP procedure for the authorization of certain gravel extraction activities in Del Norte County. Except for the mitigating measures described below, the LOP 96-2 procedure was described in a public notice dated, March 28, 1997. The purpose of the LOP 96-2 procedure is to streamline authorizations pursuant to Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) and Section 404 Clean Water Act (33 U.S.C. Section 1341) for gravel extraction activities and related work not posing significant adverse individual or

cumulative impacts. The LOP 96-2 procedure was originally valid until March 28, 2002. With authorization of LOP 96-2a, the Corps is extending the procedure until December 31, 2002.

3. ENDANGERED SPECIES: The Corps will request the National Marine Fisheries Service (NMFS) amend its biological opinion for LOP 96-2a to include the new expiration date of December 31, 2002. The Corps will also consult as appropriate with the U.S. Fish and Wildlife Service on endangered species issues.

Additional Mitigating Measures: The NMFS biological opinion, dated September 12, 1997 and amended September 5, 2000, for LOP 96-2 prohibited gravel extraction within the wetted channel as well as activities that might divert the low flow channel. After further review, NMFS has provided the following mitigating measures that could offset the adverse impacts from wet trenching and/or low flow channel diversion. The wet trenching and/or low flow channel diversion may be authorized on a case-by-case basis. Based on an analysis of the information available, the Corps has determined that the procedure shall be extended until December 31, 2002 and may authorize trenching with the following conditions:

1) Proposed extraction areas shall be located where geomorphic and riverine processes would normally result in pool formation and maintenance, as determined by a qualified hydrologist or

EXHIBIT NO. 6
APPLICATION NO.
1-02-037
PUBLIC NOTICE -
EXTENSION OF LOP
PROC. NO. LOP 96-2
(1 of 2)

geomorphologist. Similarly, as recommended by the hydrologist or geomorphologist, runs may be utilized if that type of habitat can be maintained and not altered to unnatural pool habitat. In all cases, trenches shall not be located in riffles and shall be located at sufficient distance that head cutting of the trench will not affect riffle elevation and stability.

2) Proposed extraction areas shall be located where diversion of the stream channel to a natural side or overflow channel is possible and appropriate.

3) Proposed extraction shall be conducted in an area that is dry or otherwise devoid of streamflow, following diversion.

4) Instream trenching operations shall be limited to the period from July 15 through August 30 to minimize and buffer against impacts to migrating or rearing adult and juvenile salmonids.

5) Following extraction, all trenches created in the low flow channel shall have large woody debris placed within to reduce illegal fish poaching and provide habitat for holding or rearing adult and juvenile salmonids. Alternatively, boulders may be used in place of large woody debris.

6) On the day of diversion, the proposed extraction site must be herded and seined repeatedly until no further fish are captured, then electrofished by a qualified fishery biologist. Fish must be identified to species and immediately placed downstream of the extraction site. A quantitative report detailing the date of capture, species, and physical condition of all relocated fish shall be submitted to NMFS within one week of completion of electro fishing.

7) In addition to the existing monitoring requirements in LOP 96-2, the elevation and location of the stream channel thalweg and adjacent trench shall be mapped completely for a distance of at least

150 feet upstream and downstream of the extraction area before and immediately following extraction and at least once during the following winter high flows, using the same datum as cross-sectional information. Surveyed profiles and cross sections shall include riffles located upstream and downstream of the trench in reaches where such habitat types are present. This may require surveying beyond 150 feet. The additional survey information shall be included in the pre- and post-extraction reports, whichever is soonest, and submitted to the Corps and NMFS concurrently.

8) All proposed extractions using instream trenching shall be submitted to NMFS for approval. Extraction designs shall follow Corps procedures and also include the thalweg profile as described above.

4. **OTHER AGENCIES:** The State of California has ownership or interest in numerous rivers and waterways in Del Norte County. Operators should send a copy of the pre-extraction report to the State Lands Commission concurrently with the submission to the Corps. The Commission may be contacted at 100 Howe Avenue, Suite 100 South, Sacramento, CA 95825-8202.

The National Park Service oversees consistency determinations on portions of the Smith and Klamath Rivers in Del Norte County. Each operator on these rivers should send a copy of the pre-extraction report to Attention: Mr. Harry Williamson, National Park Service 801 "I" Street, Suite 156B, Sacramento, California 95814

FOR MORE INFORMATION: For copies of the LOP procedure, please contact Mr. Michael Shirley at 707-443-0855. Telephone inquiries may be directed to Mr. Kelley Reid at the same number or e-mail kelley.reid@spd02.usace.army.mil.

Endangered Species Act - Section 7
Consultation

Amendment Two
to the Biological Opinion

Letter of Permission Procedure
Gravel Mining and Excavation Activities
within Del Norte, California
LOP 96-2a

Action Agency
U.S. Army Corps of Engineers
San Francisco District

Consultation Conducted by
National Marine Fisheries Service
Southwest Region

Date Issued: AUG 16 2002

EXHIBIT NO. 7
APPLICATION NO. 1-02-037 AMEND. TWO TO THE BIOLOGICAL OPN. (1 of 10)

Consultation History

The National Marine Fisheries Service (NMFS) originally issued a September 12, 1997, Biological Opinion (Opinion) on the LOP 96-2 procedure. Subsequent to this Opinion, critical habitat was designated for Southern Oregon/Northern California Coast (SONCC) coho salmon (May 5, 1999, 64FR 24049). Reinitiation of consultation is required if a new species is listed or critical habitat is designated that may be affected by the identified action [50 CFR 402.16(d)]. On September 23, 1999, the Army Corps of Engineers (Corps) requested reinitiation of consultation on LOP 96-2 for impacts related to SONCC coho salmon designated critical habitat (letter from C. Fong, Corps, to R. McInnis, NMFS dated September 23, 1999). That Opinion was issued on September 5, 2000.

The Corps then requested (letter from C. Fong, Corps, to R. Lent, NMFS, dated June 25, 2001) that the Opinion be amended to add an additional mining site. NMFS amended the Opinion on September 19, 2001.

Status of the Species and Environmental Baseline

The status of the SONCC coho salmon and their critical habitat and the environmental baseline has not measurably changed since the preparation of the September 5, 2000, Opinion.

Project Description

Extension

The Corps is requesting an amendment to the duration of the Opinion, due to the extension of LOP 96-2a through December 31, 2002. As described in LOP 96-2, the Corps has the option of extending the LOP authorization past the March 28, 2002 expiration date. The Corps is utilizing this extension option in order to provide continuity to the permitting process through the 2002 gravel mining season. The continuation of the proposed action for one additional mining season changes the project description only in extent of duration.

Stream Diversion and Wet Trenching

LOP 96-2 described conditions for stream channel diversion and wet trenching as a gravel extraction method. The September 5, 2000 Opinion analyzed the effects of this activity and provided terms and conditions that precluded the use of stream channel diversion and wet channel trenching. Subsequently, NMFS reevaluated the use of stream channel diversion and wet channel trenching and has concluded that, in some cases, stream diversion and trenching offers an opportunity for gravel extraction that may be preferable because impacts to stream channel form and function may be less than that which would result from other gravel extraction methods, such as bar skimming.

NMFS provided the Corps with recommendations for conducting stream channel trenching in anticipation of the Corps' proposal to extend LOP 96-2 (letter from I. Lagomarsino, NMFS, to C. Fong dated April 9, 2002). The Corps included these recommendations in LOP 96-2a as "Additional Mitigating Measures." The additional measures the Corps included in LOP 96-2a include the following:

- (1) proposed extraction areas will be located where geomorphic and riverine processes would normally result in pool formation and maintenance, as determined by a qualified hydrologist or geomorphologist. Similarly, as recommended by the hydrologist or geomorphologist, runs may be utilized if that type of habitat can be maintained and not altered to unnatural pool habitat. In all cases, trenches will not be located in riffles and shall be located a sufficient distance from riffles such that head cutting of the trench will not affect riffle elevation and stability;
- (2) proposed extraction areas shall be located where diversion of the stream channel to a natural side or overflow channel is possible and appropriate;
- (3) proposed extraction shall be conducted in an area that is dry or devoid of streamflow, following diversion;
- (4) instream trenching operations shall be limited to the period from July 15 through August 30 to minimize and buffer against impacts to migrating or rearing adult and juvenile salmonids;
- (5) following extraction, all trenches created in the low flow channel shall have large woody debris or boulders placed within them to reduce illegal fish poaching and provide habitat for holding or rearing adult and juvenile salmonids.

On the day of diversion, the proposed extraction site must be herded and seined repeatedly until no further salmonids are captured, then electrofished by a qualified fishery biologist. Salmonids must be identified to species and immediately placed downstream of the extraction site. A quantitative report detailing the date of capture, species, and physical condition of all relocated fish will be submitted to NMFS within one week of completion of electrofishing. Also, in addition to the existing monitoring requirements in LOP 96-2, the elevation and location of the stream channel thalweg and adjacent trench will be mapped for a distance of at least 150 feet upstream and downstream of the extraction area before and immediately following extraction and at least once following winter high flows, using the same datum as cross-sectional information. Surveyed profiles shall include riffles located upstream and downstream of the trench in reaches where such habitat types are present. This may require surveying beyond 150 feet. The additional survey information will be included in the pre- and post-extraction reports, whichever is soonest, and submitted to the Corps and NMFS concurrently. Finally, all proposed extractions using instream trenching will be submitted to NMFS for approval. Extraction designs shall follow Corps procedures and also include the thalweg profile as described above.

Effects of the Action

Diversion and consequent dewatering of the stream channel will result in temporary reduction in invertebrate production in the affected area. This decrease in production is not anticipated to have measurable impacts to coho salmon. The affected area could be further reduced by not completely diverting the stream channel to a side or overflow channel, but, rather, isolating the extraction area only by deploying silt curtains around the site. Fish moved from the site may be injured or temporarily disoriented during capture and relocation. We anticipate few injuries that would lead to death or loss of production. Additionally, relocated fish may temporarily affect coho salmon residing in or near the relocation site during competition for rearing space. We anticipate the impact to be negligible given the likelihood that current habitat is underutilized. Again, the affected area and number of fish could be further reduced by not diverting the stream channel, but using other site isolation techniques instead.

NMFS thinks instream trenching in selected sites reduces the potential for habitat degradation often associated with other extraction methodologies and may, in fact, reestablish pool habitat that occurred in the past, thereby increasing habitat diversity which will benefit coho salmon. The addition of large woody debris and/or boulders will provide further complexity to these newly created habitats. Other extraction techniques, such as skimming, may inhibit the formation and maintenance of pool habitat because of the potential loss of hydraulic control necessary for scour.

Synthesis of Effects

The continuation of the proposed action for one additional mining season does not appreciably change the effects of the action as analyzed in the Opinion. Though project duration is one component of the effects analysis, as described in the Opinion, many of the potential effects of the proposed action are chronic in nature, and have the potential to occur slowly over time (e.g., changes to channel morphology that may simplify juvenile rearing habitat). Other potential effects of the proposed action (e.g., a pulse of sediment from stream crossing construction) occur at the time of project implementation. The continuation of the proposed action for one additional mining season does not accelerate the potential for chronic effects, as changes to salmonid habitat quality typically occur over a multi-year time frame. In addition, NMFS expects that the potential effects of the proposed action will be the same during 2002 as they were during 2001, as analyzed in the Opinion.

NMFS anticipates minor and temporary changes to invertebrate production as a result of trenching, but these changes are not expected to result in adverse effects to coho salmon as the duration of the activity and size of the area will be limited. Some coho salmon juveniles may be temporarily disoriented and forced to compete with other fish as a result of capture and relocation associated with diversion of the stream channel or isolation of the extraction area, but these effects are not expected to be permanent or result in a reduction in coho salmon production.

Due to low gravel replenishment rates at mining sites over the last few winters, mining opportunities are relatively limited in Del Norte County this year. NMFS has been working closely with the California Department of Fish and Game, and with the Corps, to identify and recommend mining opportunities that are consistent with LOP 96-2a, and with the project description and effects analyzed in the Opinion. This review process further ensures that the potential for effects as analyzed in the Opinion will not be greater in magnitude, nor change appreciably, due to the increased duration of the proposed action and the addition of conditions for trenching.

Conclusion

Based on our review during the amendment process, NMFS concludes that LOP 96-2a for gravel mining operations during 2002 is not likely to jeopardize the continued existence of SONCC coho salmon or destroy or adversely modify its designated critical habitat.

August 2002 Amended Incidental Take Statement for the September 5, 2000 Biological Opinion for Gravel Mining in Del Norte County, California

Take is defined as harass, harm, pursue, hunt, shoot, kill, trap, capture or collect, or attempt to engage in any such conduct of listed species of fish or wildlife without a special exemption. NMFS further defines "harm" as an act which kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or an applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to an applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the action and its impact on the species to the NMFS as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

A. Amount or Extent of the Take

NMFS anticipates that gravel mining operations under LOP 96-2a during the year 2002 will result in take of listed salmonids. This take will primarily be in the form of harm to salmonids by impairing their essential behavior patterns as a result of reductions in the quality or quantity of their habitat. NMFS anticipates that the number of individuals harmed will be low. In addition, NMFS anticipates that a small number of juveniles may be killed, injured, or harassed during construction and removal of channel crossings or during relocation of juveniles for trenching.

The take of listed salmonids will be difficult to detect because finding a dead or injured salmonid is unlikely as the species occurs in habitat that makes such detection difficult. The impacts of gravel mining under LOP 96-2 will result in changes to the quality and quantity of salmonid habitat. These changes in the quantity and quality of salmonid habitat are expected to correspond to injury to, or reductions in, survival of salmonids by interfering with essential behaviors such as spawning, rearing, feeding, migrating, and sheltering. Because the expected impacts to salmonid habitat correspond with these impaired behavior patterns, NMFS is describing the amount or extent of take anticipated from the proposed action in terms of limitations on habitat impacts. NMFS expects that physical habitat impacts will be: consistent with the areas described in Table 1 below, compliant with the terms and conditions of LOP 96-2a and this incidental take

statement, and within the expected effects of gravel mining operations as described in this Opinion.

Table 1. For each river, gravel bar sites are listed from the most downstream site to the most upstream site, and are not necessarily contiguous.

Stream	Gravel Bar Site Name
Smith River	Ranch Bar
	Tedsen Bar
	Crockett Bar
	Woodruff Bar
	Saxton Bar
	Simpco Bar
	Huffman Bar
	Sultan Bar
	Maris Pit
Rowdy Creek	Rowdy Creek Bars
Klamath River	Blake's Bar

Anticipated incidental take will be exceeded if gravel mining operations extend beyond the areas described in Table 1 above, or are not in compliance with the terms and conditions of LOP 96-2a or this incidental take statement, or if effects of gravel mining operations are exceeded or different than the expected effects described in this Opinion.

B. Effect of the Take

In the accompanying Opinion, NMFS determined that the amount of anticipated take is not likely to result in jeopardy to SONCC coho salmon, or result in the destruction or adverse modification of SONCC coho salmon designated critical habitat.

C. Reasonable and Prudent Measures

NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of SONCC coho salmon.

The Corps shall:

1. Ensure that channel form and function is retained, thereby minimizing declines in the quality or quantity of salmonid habitat.
2. Ensure that project design features and mitigation measures that minimize adverse effects to proposed and listed species and designated critical habitat are implemented as part of the LOP 96-2a procedure.

3. Ensure that project design features, mitigation measures, and enhancement recommendations that minimize impacts to salmonids are reviewed and approved by NMFS and other involved agencies before implementation.
4. Begin to track changes to salmonid habitat quality and quantity that are due gravel extraction operations by beginning to update the monitoring plan.

D. Terms and Conditions

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

RPM 1. Ensure that channel form and function is retained, thereby minimizing declines in the quality or quantity of salmonid habitat.

- a. All projects authorized under LOP 96-2a must undergo an annual comprehensive hydrologic and geomorphic review by CDFG, NMFS, and the Del Norte County hydrologist.
- b. All projects must be based on the sustained yield monitoring as per annual cross-sectional data specified under LOP 96-2 to ensure that channel degradation or adverse impacts to SONCC coho salmon do not result from operations permitted under LOP 96-2a.

RPM 2. Ensure that project design features and mitigation measures that minimize adverse effects to proposed and listed species and designated critical habitat are implemented as part of the LOP 96-2a procedure.

- a. Maximize low flow channel confinement by utilizing the siltline, where available and appropriate, in designing the vertical offset, and by ensuring that permittees are aware that a one foot vertical offset is a minimum value, and that a larger vertical offset may be necessary to maximize the low flow channel confinement.
- b. Protect gravel bar stability by minimizing extraction on the upstream one-third of gravel bars.
- c. All skimming operations shall be graded free of depressions and sloped towards the low flow channel with a minimum of two percent grade
- d. Require, where possible and safe, that a person wade the stream ahead of heavy equipment crossing the wetted low-flow channel to scare any

rearing juvenile salmonids out of the crossing area.

- c. Isolation of trenching operations should be done using silt curtains or other methods unless stream diversion is only method available to minimize effects.

RPM 3. Ensure that project design features, mitigation measures, and enhancement recommendations that minimize impacts to salmonids are reviewed and approved by NMFS and other involved agencies before implementation.

- a. Ensure that prior approval is granted by NMFS for extensions to the June 1-October 15 season for gravel extraction operations.
- b. Ensure that culvert requests and information describing the need for culverts are supplied to NMFS for review and approval of salmonid impact minimization measures.

RPM 4. Begin to track changes to salmonid habitat quality and quantity that are due to gravel extraction operations by beginning to update the monitoring plan.

- a. All trenches shall be monitored for adult and juvenile salmonid use by direct observation at least once prior to onset of high flows.
- b. In order to adequately characterize channel topography, and salmonid habitat, ensure that additional cross-sections for trenching are submitted as required under LOP 96-2a.
- c. Ensure that all required monitoring is completed and that monitoring reports are provided to NMFS. Reports shall be submitted to:

Irma Lagomarsino
Supervisor, Arcata Field Office
National Marine Fisheries Service
1655 Heindon Road
Arcata, CA 95521-4573

Reinitiation of Consultation

This concludes formal consultation on this amendment of the September 5, 2000, LOP 96-2 Opinion. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the extent of incidental take is exceeded, or is expected to be

exceeded; (2) new information reveals effects of the agency action may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount of incidental take is exceeded, consultation shall be reinitiated immediately.

Conservation Recommendations

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

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

1. The Corps, in conjunction with NMFS and other involved agencies, should begin to develop updated monitoring protocols, in addition to additional cross-sections and the longitudinal profile, that begin to answer questions regarding changes in habitat quantity and quality that are due to gravel extraction operations. An important relationship to begin to monitor is that between river stage and discharge that is required to overtop skimmed gravel bar surfaces.
2. The Corps should begin to update, in conjunction with NMFS and other involved agencies, the LOP procedure for 2003 and beyond.

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

EXHIBIT NO. 8
APPLICATION NO.
 1-02-037
NOTICE OF FINDINGS,
 CAL. F & G COMM.,
 CAL. REGULATORY
 NOTICE REGISTER

ineers ("Corps") regarding a
 el Mine in Riverside County
 with the California Endan-
 gered Species Act ("CESA") pursuant to Fish and
 Game Code Section 2080.1. On March 9, 2001 the
 Department issued a biological opinion (1-6-00-F-715.2) in
 support of the project (1-6-00-F-715) speci-
 fied in the project impacts of the project to the

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

DEPARTMENT OF FISH AND GAME

PUBLIC INTEREST NOTICE

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

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

FISH AND GAME COMMISSION

NOTICE OF FINDINGS

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

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

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

Fish and Game Commission

Robert R. Treanor
 Executive Director

April 17, 2001

FISH AND GAME COMMISSION

NOTICE OF RECEIPT OF PETITION

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

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

Section 749.1 is added to Title 14, CCR, to read:

749.1. Special Order Relating To Incidental Take Of Coho Salmon (Oncorhynchus kisutch) Candidacy Period.

The commission finds that, based on current knowledge and protection and management efforts outlined in this regulation, including Exhibits A through D*, the level of habitat loss and take of coho salmon which is likely to occur during the period that this regulation is in effect will not cause jeopardy to the continued existence of the species.

(a) Take Authorization.

Based upon the above findings, the commission authorizes the take of coho salmon north of San Francisco (Exhibit A) during the candidacy period subject to the terms and conditions herein.

(1) Inland and Ocean Sport and Commercial Fishing.

Coho salmon may not be retained during sport or commercial fishing in any waters of the State. Incidentally hooked or netted coho salmon must be immediately released unharmed to the waters where they are hooked or netted.

(2) Suction Dredging.

Incidental take of coho salmon during suction dredging that complies with Section 228, Title 14, CCR, is authorized during the candidacy period.

(3) Research and Monitoring.

(A) Take of coho salmon by department personnel in the course of research and monitoring is authorized pursuant to Section 783.1(c), Title 14, CCR.

(B) Take of coho salmon in the course of research and monitoring by public agencies and private parties is authorized subject to restrictions in Exhibit B.

(4) Hatchery Operations.

Take of coho salmon by the Department of Fish and Game for hatchery management purposes is authorized pursuant to Section 783.1(c), Title 14, CCR.

(5) Habitat Restoration.

(A) Incidental take of coho salmon resulting from planning, assessment, inventory, construction, maintenance and monitoring activities related to the Department of Fish and Game Fisheries Restoration Grants Program and carried out in the manner prescribed in the department's "California Salmonid Stream Habitat Restoration Manual - Third Edition, January 1998", is authorized. Incidental take resulting from Fisheries Restoration Grants Program activities not carried out in such manner is authorized only if the activity is performed under the supervision or oversight of, or is funded by the department.

(B) Incidental take resulting from activities performed by department employees related to constructing,

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

(6) Extraction of Gravel Resources.

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

(7) Water Diversions.

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

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

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

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

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

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

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

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

(9) Pacific Lumber Company Habitat Conservation Plan.

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

2 of 4

(10) Forest Practices.

Incidental take of coho salmon is authorized during the candidacy period for otherwise lawful timber operations that comply with conditions specified in the revised final rule language, "Protection for Threatened and Impaired Watersheds, 2000", sections 895, 895.1, 898, 898.2, 914.8, 934.8, 954.8, 916, 936, 956, 916.2, 936.2, 956.2, 916.9, 936.9, 956.9, 916.11, 936.11, 956.11, 916.12, 936.12, 956.12, 923.3, 943.3, 963.3, 923.9, 943.9 and 963.9, Title 14, CCR (which can be found on the Board of Forestry website at www.fire.ca.gov/BOF/pdfs/FRLZ00011814.pdf).

(11) Additions, Modifications or Revocation.

(A) Incidental take of coho salmon north of San Francisco from activities not addressed in this section may be authorized during the candidacy period by the commission pursuant to Fish and Game Code Section 2084 or by the department pursuant to Fish and Game Code Section 2081, on a case-by-case basis.

(B) The commission may modify or repeal this regulation in whole or in part, pursuant to law, if it determines that any activity or project may cause jeopardy to the continued existence of coho salmon north of San Francisco.

*A copy of Exhibits A through D which are referenced in this regulation is available upon request from the Fish and Game Commission, 1416 Ninth Street, Box 944209, Sacramento, CA 94255-2090 (Telephone 916 653-4899).

NOTE

Authority: Sections 200, 202, 205, 240 and 2084, Fish and Game Code. Reference: Sections 200, 202, 205, 240 and 2084, Fish and Game Code.

3 of 4

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

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

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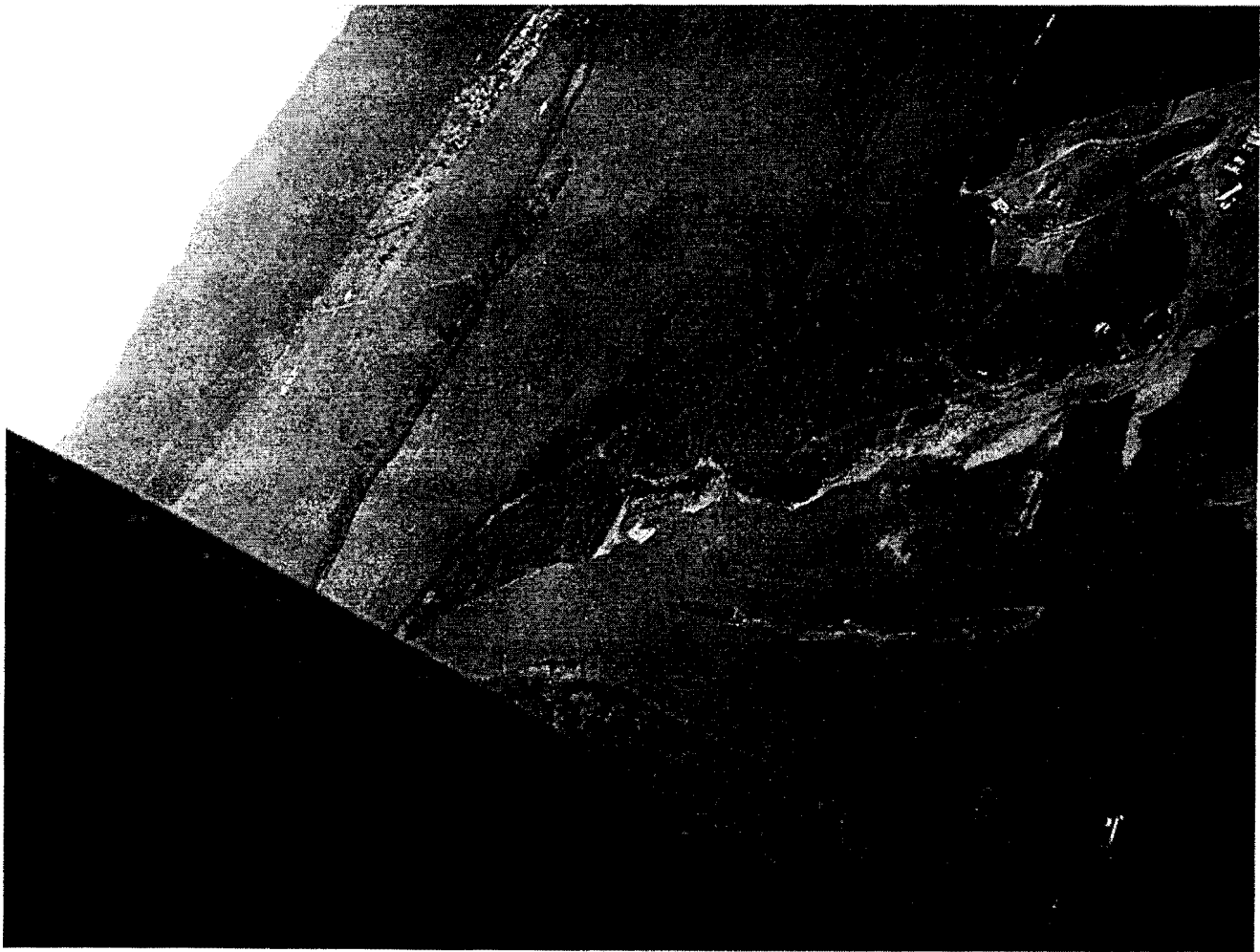


EXHIBIT NO. 10

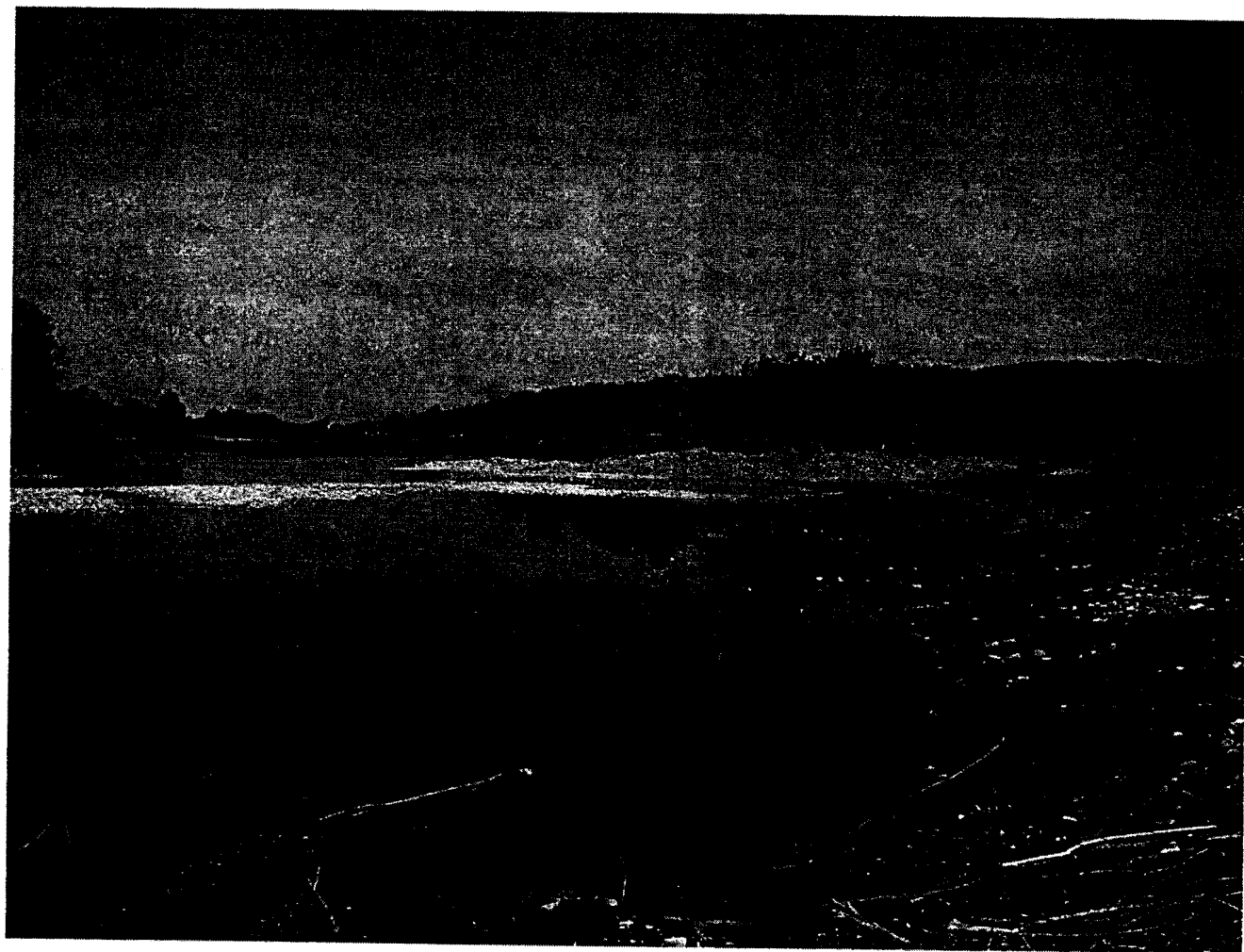
APPLICATION NO.

1-02-037

CROCKETT

SITE PHOTOS

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