



US Army Corps  
of Engineers®

SAN FRANCISCO DISTRICT

# PUBLIC NOTICE

## PROPOSED MODIFICATION TO THE LETTER OF PERMISSION PROCEDURE GRAVEL MINING AND EXCAVATION ACTIVITIES WITHIN HUMBOLDT COUNTY

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

**NUMBER: LOP 2003-1 (Formerly LOP 96-1)**  
**FILE NUMBER 27451N    DATE: Nov. 26, 2002**  
**RESPONSE REQUIRED BY: December 30, 2002**

PROJECT MANAGER: Kelley Reid (707) 443-0855    E-mail [kreid@spd02.usace.army.mil](mailto:kreid@spd02.usace.army.mil).

The U. S. Army Corps of Engineers, San Francisco District (Corps) proposes to modify the Letter of Permission (LOP) procedure 96-1 for the authorization of work described herein. The purpose of the LOP procedure is to streamline Section 404 Clean Water Act (CWA) (33 U.S.C. 1344) authorization for excavation and related work not posing significant adverse individual or cumulative impacts to the aquatic environment. In addition, the Corps regulates work in navigable waters of the United States under Section 10 of the Rivers and Harbors Act of 1899. Activities authorized under this LOP procedure may also include Section 10 authorization under the Rivers and Harbors Act (33 U.S.C. 403).

The letter of permission procedure LOP96-1 was authorized in August of 1996 and LOPs were initially authorized in that month while most operations were operating under a grandfather clause. The year 1997 was the first full year of gravel extraction under the LOP 96-1. The procedure would have expired on August 19, 2001, but was extended from June 29, 2001 to October 31, 2001. On June 12, 2002, the procedure was again extended until December 31, 2002. The Corps intends to reauthorize the procedure, with amendments, until December 31, 2007.

The LOP's issued to authorize the individual work items will continue to contain limitations intended to protect the environment and natural and cultural resources. In cases where the District Engineer (DE) considers it necessary, applications will be required for individual permits.

The enclosed "Letter of Permission Procedure, Gravel Mining and Excavation Activities within Humboldt County" details the scope and location of work, terms and conditions, and application procedures pertinent to obtaining a Department of the Army LOP under the procedure. In addition, it lists special conditions and monitoring activities that will be required to provide consistent information for decision making within this process.

**ENDANGERED SPECIES:** The Corps will request formal consultation with the National Marine Fisheries Service and a new biological opinion for this procedure to include the new expiration date of December 31, 2008. The Corps will also consult as appropriate with the U.S. Fish and Wildlife Service on endangered species issues.

**PUBLIC REVIEW:** Any person may make a comment on the proposed modifications to the LOP procedure. Written comments should be submitted to

the Corps of Engineers, Attn: Kelley Reid, P.O. Box 4863, Eureka, California, 95502. Telephone inquiries may be directed to Mr. Kelley Reid at (707) 443-0855, or you can e-mail the Corps at: [kelley.reid@spd02.usace.army.mil](mailto:kelley.reid@spd02.usace.army.mil).

**LETTER OF PERMISSION PROCEDURE (LOP-1) FOR  
GRAVEL MINING AND EXCAVATION ACTIVITIES WITHIN  
HUMBOLDT COUNTY**

Interested parties are hereby notified that, in accordance with Title 33 CFR 325.2(e) published in the Federal Register, November 13, 1986, the U.S. Army Corps of Engineers, San Francisco District (Corps) has adopted a Letter of Permission (LOP) procedure for the authorization of work described herein. The purpose of the LOP is to streamline Section 404 of the Clean Water Act authorizations for gravel mining and extraction activities in Humboldt County that do not pose significant adverse individual or cumulative impacts.

In addition, the Corps regulates work in navigable waters of the United States under Section 10 of the Rivers and Harbors Act of 1899. Activities authorized under this LOP procedure may also include Section 10 authorization.

The LOP's to be issued under this procedure will contain limitations intended to protect the environment and natural and cultural resources. If necessary, the District Engineer (DE) may require the proponent(s) to apply for individual permits.

**SCOPE OF WORK:**

Work authorized by LOP under this procedure is limited to discharges of dredged or fill material associated with gravel mining activities in waters of the United States, including navigable waters of the United States, within Humboldt County, California. Activities that may be authorized by LOP under this procedure include, but are not limited to, sand and gravel mining and work associated with these activities, such as temporary stock piling of gravel in a dry section of the stream and construction of temporary coffer dams and temporary road crossings. Impacts to waters of the United States, including wetlands, shall be avoided or minimized (to the extent possible) through the use of practicable alternatives. Reasonable compensation for unavoidable adverse impacts to waters of the United States will be required. Work that would have unmitigatable adverse impacts on the aquatic environment or would cause a substantial reduction in the extent of waters of the United States will not be authorized by LOP. The activities authorized under this LOP procedure shall be part of a single and complete project.

**EVALUATION PROCEDURES:**

After consulting with the CHERT (County of Humboldt Extraction Review Team), applicants shall submit complete applications to the Corps for review to determine whether the excavation activity qualifies under this LOP procedure. CHERT, a team of riverine scientists, will help identify areas of concern and locations for cross-section monitoring. If the activity qualifies under the LOP procedure, it will be authorized for the duration of the LOP procedure. However, each permittee must also submit yearly monitoring data regarding extraction amounts, cross-sectional information, biological monitoring and aerial photos and obtain an annual approval.

The estimate of mean annual recruitment (MAR) for a river reach can be a useful guideline at the reach scale for planning gravel extraction and reducing cumulative effects of multiple extraction sites within a river reach. The

estimate of MAR should be used as a guideline and not a target. MAR may not apply during times of low recruitment, MAR may not be an indication of annual deposition on a gravel bar, and estimates of MAR vary. In order to protect river form and function, the sum of annual gravel extraction in a river reach should be less than the estimate of MAR, and may vary annually based on actual recruitment, and bar replenishment.

Each year, in March, the Corps will conduct a interagency evaluation and coordination meeting with the Environmental Protection Agency (EPA), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), California Coastal Commission (CCC), California Department of Fish and Game (CDFG), the California Regional Water Quality Control Board (RWQCB) and the County of Humboldt Extraction Review Team (CHERT) to review new applications and yearly compliance data of previously authorized activities. If a proposed (new) activity will meet the conditions of the LOP procedures, it will be authorized by LOP. If an authorized activity has met the conditions of the LOP, and there is assurance that it's planned operation for the next season will meet the LOP conditions, based on the information submitted and annual review, it will be allowed to continue for the next season under the existing authorization.

Should an agency or member of the public object to continuing an activity under an existing authorization, based on evidence of non-compliance or evidence of more than expected impacts, the Corps may suspend and/or revoke the existing authorization and require an individual permit unless the permittee can demonstrate compliance with the LOP, or reduce the future impacts of its operations and mitigate for past non-compliance.

The general time line for the LOP process is stated below. Biological monitoring dates are listed in Appendix D.

- FEB 1 New Class A and all Class B projects (See Application Procedures for definition of Class A and Class B projects) must submit notification to the Corps with environmental documentation that is submitted to the Lead Agency.  
CHERT issues annual report that evaluates the past extractions, provides recommendations on future extractions, identifies changes in the mapped riparian areas, lists the cumulative amount of impacted riparian vegetation from extraction activities, includes the biological monitoring and provides the status of mitigation areas approved by the Corps and other regulatory agencies.
- MAR Gravel Week: Corps meets with other Agencies to review permit applications.
- SPRING Aerial photos to be taken for Class A projects.
- MAY 15 Gravel extraction plans reviewed by CHERT submitted, with CHERT recommendations, to the Corps, unless late seasonal rains prevent data gathering. Corps then will establish new deadline. Class B projects due to Corps.
- JUN 1 Earliest extraction.
- JUN 15 Earliest construction of temporary channel crossings.
- SEP 15 Channel crossings removed from Mad River.
- SEP 20-OCT 7 Post extraction aerial photos shall be taken.
- OCT 1 Gravel stockpiled on river bars must be removed on a daily basis after October 1<sup>st</sup>. Each day thereafter, extraction sites shall be groomed and graded to drain freely at the end of the day.

- OCT 15 All gravel extraction ceases on river bars, unless an approved river flow-monitoring plan is enacted with a time extension. Regrading must be completed for all gravel bars, except in western snow plover habitat where final date may be Nov 1<sup>st</sup> if an extension has been obtained. All remaining channel crossing removed.
- NOV 1 Final date for time extensions for gravel extraction in plover habitat.
- NOV1-FEB28 Plant mitigation areas.
- DEC 1 Post-extraction cross section data and biological monitoring data submitted to Corps and CHERT except for data gathered in Nov and Dec.
- DEC 31 Mitigation monitoring reports due to Corps.
- JAN 1 Biological monitoring data gathered in Nov-Dec submitted to Corps and CHERT.

### **GRAVEL EXTRACTION RESTRICTIONS:**

As stated above, all gravel extraction ceases on October 15, unless an approved flow-monitoring plan is enacted with a time extension. Such a flow-monitoring plan shall describe a method for monitoring water flow, and describe conditions for which all equipment is removed. It is noted that final grooming as well as equipment removal can and should be accomplished within two hours as specified conditions. Because this does not allow a final inspection before the water rises, time extensions will be uncommon.

Aside from Tribal activities, projects authorized under the LOP procedure are subject to the following limitations. The Corps shall add or modify conditions if appropriate.

1. Excavation: Excavation for gravel mining purposes shall not occur in the flowing channel (area where water is flowing unimpeded through the river channel). **Skimming** shall remain above the elevation that corresponds to the 35% exceedence flow for each site, on an annual basis, and a minimum of 1 vertical foot elevation above the low-flow water surface; this vertical offset is known as the buffer). See “Draft Analysis of Flow-Based minimum Skim Floor Elevation for In-Channel Gravel Mining” (Tauzer, M., NMFS, November 25, 2002) or any later version, for additional information about the 35% exceedence flow elevation. To aid compliance with these setbacks the area of extraction shall be clearly flagged, painted with an environmentally benign paint, or staked. Skimmed material is scalped from the surface of the bar. The Corps may approve other methods of excavation, including, but not limited to trenching, wetland pits, horseshoe skims, alcoves and bench skims. On a very limited basis, the Corps may consider proposals that would divert the low flow channel to a secondary channel; in such a case a temporary cofferdam may be appropriate. However, these alternative designs should be discussed with other resource agencies and CHERT prior to submitting the extraction plans in the spring.

Temporary storage of excavated material may occur on the gravel bar, but must be removed by October 1. Temporary stockpiling of gravel on bars that are on rivers listed under the Wild and Scenic Rivers Act may occur during the active work week, Monday through Saturday, but must be removed on or before Saturday of each weekend. Work on gravel bars shall be limited to daylight hours. Modifications to excavation procedures may be made to increase fisheries and wildlife habitat with the Corps’ and NMFS’ approval. Haul roads shall follow the shortest route possible across the bar while avoiding sensitive areas such as riparian vegetation. The Corps may require the haul road be scarified after extraction is complete to mitigate compaction of the gravel bar.

All riparian woody vegetation and wetlands must be avoided to the maximum extent possible. Any riparian vegetation or wetland that is to be disturbed must be clearly identified by mapping. Woody vegetation that is part of a contiguous 1/8-acre complex, or is at least 2 inches diameter breast height (DBH) that is disturbed must be mitigated. Impacts to other woody vegetation must be described and submitted to the Corps with the gravel extraction plans. These impacts may require mitigation at the discretion of the Corps. Impacted areas, which must be mapped consists of riparian vegetation, which have drip lines within 25 feet of excavation activities (excavation, stockpiling, parking, etc.) or wetlands that are filled, excavated or drained. Mitigation for impacts to woody vegetation shall not be required for pre-existing haul roads, stockpile areas and facilities (See discussion under Required Mitigation).

Gravel removal must remain a minimum distance of 500 feet from any structure (i.e. bridge, water intake, dam, etc.) in the river. For bridges, the minimum setback distance is the length of the bridge or 500 feet whichever is greater. Gravel removal may encroach within this setback if approval is given by owners of these structures and approved by the Corps.

NMFS has provided the following table to assist in determining the minimum skim-floor elevation. Operators are not required to determine flow rates at their bar, but rather, when the river reaches the referenced flow rate in the spring at the given gage, the operator marks the water surface at his gravel bar. That shall be the minimum skim floor elevation.

USGS Stream Gage (and #)	Flow Exceeded 35% of the Time.
Mad River near Arcata ( )	900 cfs
Lower Eel at Scotia	3800 cfs
Van Duzen near Bridgeville	500 cfs
South Fork Eel near Miranda	900 cfs
Trinity River at Hoopa	4700 cfs

2. **Regrading:** The project area must be regraded before the water levels rise in the rainy season and must be completed by October 15. The site must be regraded when extraction has been completed, or daily after October 1. Regrading includes filling in depressions, grading the construction/excavation site according to prescribed grade, sloping downward to the upper buffer's edge and/or downstream, and removing all temporary fills from the project area.

3. **Timing:** Unless the letter of permission is specifically modified or unless the operation has an approved water flow monitoring program, gravel extraction shall not commence until June 15, and shall cease by October 15 of each year. Regrading procedures shall be completed prior to October 15 of each year. Requests for extensions of these time periods are possible, but not as likely as in previous years. The applicant, however, must have regraded the site before an extension can be authorized. Requests for extensions must include an approved CDFG Stream Alteration Agreement (SAA) extension or exemption.

4. **Stream crossings for gravel mining purposes:** The size and number of stream crossings must be kept to a minimum. All main channel crossings must be spanned to the maximum length possible using either a flatcar or bridge span, and must maintain a three-foot elevation above the water surface. Culverted crossings may be utilized in certain circumstances where the size and nature of the crossing dictates that culverts are more appropriate. Information describing the need for culverts must be submitted with culvert requests and shall be supplied to the CDFG, NMFS and the Corps. All crossings and associated fills must be identified as to the type (culvert vs. flatcar) and location in the submitted yearly information. Each shall be removed after excavation

ceases, but before September 15<sup>th</sup> for the Mad River and October 15<sup>th</sup> for all other rivers of each year unless specifically modified in any extension authorized by the Corps. Temporary crossings are placed after June 15<sup>th</sup> for all rivers. If encroachment into the low flow channel is necessary to span the wetted channel, then abutments shall be constructed from washed cobbles, brow logs, large concrete block, or other appropriate materials that can be placed and removed with minimal effects. Native gravel can be used if the bridge will span the wetted channel, or to build up approaches, but shall not be placed in the wetted channel; all abutment materials will be removed from the site upon bridge removal. Heavy equipment crossings in the wetted channel will be kept to an absolute minimum. Bridge locations shall avoid known spawning locations.

5. **Wild and Scenic Rivers:** Sections of the Eel, Klamath, Trinity and Van Duzen rivers in Humboldt County are designated recreational and scenic. For a list of these recreational and scenic river sections see Appendix B. For new projects (any project which has not been previously authorized by the County or a Federally recognized tribe by vested rights, conditional use permit or exemption by written notice, as of April 3, 1996) in these river sections, the applicant must provide information demonstrating that the activity will not degrade the fisheries, historical, scenic and/or recreational values for which the river is designated. For example, this letter of permission would generally not authorize new mining operations where new processing plants are to be constructed along portions of a scenic river.

6. **Endangered Species:** All new applicants shall submit, as part of the application, a written assessment by a qualified biologist describing the potential effects of the project on federally threatened, endangered, or proposed species under the Endangered Species Act. This assessment shall include, at a minimum, an account of habitat suitability for listed species within a 0.25 mile radius of the project site, and pertinent sighting information from available sources including, but not limited to, wildlife sighting databases maintained by the California Department of Fish and Game and U.S. Fish and Wildlife Service.

Permittees with operations on the main stem Eel River, downstream of the confluence with the Van Duzen River, may affect the western snowy plover. After going through informal consultation with the USFWS, it has been determined that these projects are not likely to adversely affect the western snowy plover if operators follow the conditions of Appendix E. Operators with projects on the main stem Eel River, below the confluence with the Van Duzen River, who intend to commence operations not in accordance to Appendix E, shall notify the Corps so that it can initiate consultation with the USFWS in compliance with Section 7 of the Endangered Species Act.

Coho, chinook and steelhead are federally listed species in Humboldt County, and the streams and rivers of Humboldt County, are designated critical habitat for coho and are suitable habitat for and do support chinook and Northern California steelhead as well. To limit the adverse impacts to the habitat and the species, NMFS shall have the opportunity to review each extraction plan with special emphasis on the use of culverts, stream diversions, alternative extraction designs (including wetland pits, alcoves, etc.) and trenching in secondary channels (those channels that have annual river flow except during the extraction season.) Temporary channel crossings may be placed after June 15<sup>th</sup> and must be removed before October 15<sup>th</sup> of each year, except for on the Mad River where temporary crossings must be removed before September 15<sup>th</sup>. An extraction plan will not be approved to excavate gravel from the flowing river. All large woody debris found on the bar in the spring should be stockpiled during extraction and returned to the gravel bar following extraction.

7. **New projects:** A new project is any project which has not been previously authorized under the County or a Federally recognized tribe by vested rights, conditional use permit or exemption by written notice, as of April 3, 1996. A new project would also include any gravel extraction location not previously authorized by the LOP, or which has not been kept up-to-date in terms of LOP requirements. For new projects, the applicant must submit a preliminary project description including excavation and processing locations on a USGS topo map,

estimated quantity of material proposed to be excavated, and the Endangered Species assessment to the Corps by February 1, of the year in which gravel extraction is to occur. Projects removing 5000 cubic yards or more of material must also submit aerial photos.

8. Additional special conditions may be added to the LOP on a case by case basis to minimize adverse impacts to the aquatic ecosystem and to the scenic and recreational values of the rivers listed in the Wild and Scenic Rivers Act.

9. Proposals for gravel extraction submitted by and for the Federally recognized Tribes on Tribal land are subject to government-to-government coordination. Tribal agencies may have a proposal authorized under this LOP if they meet the requirements of this LOP except for the State and local agency requirements.

Alternatively, Tribal agencies may wish to obtain an individual permit for extraction proposals. In either case, with the permission of the Tribe, the Corps requests the advice of the members of CHERT, which has technical expertise in hydrology and geology of fluvial systems.

### **LOCATION OF WORK:**

An LOP issued under the provisions of this procedure shall apply to work in waters of the United States, including navigable waters of the United States, within Humboldt County, California, and also any projects that straddle the county lines.

### **AUTHORIZATION FROM OTHER AGENCIES:**

The permittee is responsible for obtaining any and all additional federal, state, tribal, or local permits that may be required, which include, but are not limited to:

1. **STATE WATER QUALITY CERTIFICATION:** California's Regional Water Quality Control Board's (RWQCB) certification is required for work within the state of California, except for work within the boundaries of a Federally recognized Indian Reservation (See #5 below). The State has adopted water quality standards including implementation measures that avoid and mitigate adverse impacts and prohibit discharges that pollute waters of the State. Gravel mining extraction activities authorized under the original LOP procedure were activities for which the State has waived site specific prescriptive regulation so long as the activity complies with specific conditions and does not violate the standards. Since the RWQCB had waived prescription of waste discharge requirements, the State would take no further action on requests for "401 Certification" for activities that fall within the scope of the waiver. The State, however, retains full authority to enforce its standards. The Corps believes the same waiver would exist for this modification, but will wait for confirmation from the RWQCB.

The state of California has adopted general National Pollution Discharge Elimination System (NPDES) permits to cover those mining activities which must obtain permits to discharge storm water associated with industrial activity - as defined in 40 CFR Section 122.26(b)(14). For information about NPDES requirements, applicants can contact the RWQCB, North Coast Region, at 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403.

2. When streambed materials such as sand and gravel are to be disturbed or removed from waters in the state of California, the permittee must obtain a Stream Alteration Agreement from the CDFG, except when working within the boundaries of a Federally recognized Indian Reservation (See #5 below). The permittee can contact the California Department of Fish and Game at Region 1, 601 Locust Street, Redding, CA 96001.

3. All gravel and mining operations must either be permitted by or exempted by the California Department

of Conservation Division of Mines and Geology's Lead Agency (Lead Agency), except for work within the boundaries of a Federally recognized Indian Reservation (See #5 below). The Lead Agency for Humboldt County is: Humboldt County Planning Office, 3015 H Street, Eureka, California 95501.

4. Sand and gravel extraction and other development activities located within the Coastal Zone may require a Coastal Development Permit and a Coastal Zone Management Act Consistency Concurrence from either the California Coastal Commission located at 45 Fremont Street, Suite 2000, San Francisco, California 94105-2219, or the County of Humboldt Planning and Building Department located at 3015 H Street, Eureka, California 95501.

5. Activities within the boundaries of a Federally recognized Indian Reservation need to obtain Water Quality Certification from the EPA or from the Indian Reservation (if it is authorized by the EPA to grant water quality certification). In addition, there may be other permits required by the Indian Reservation that are not listed here. The applicant shall contact the appropriate Indian Reservation for more information.

6. Activities that occur below the mean high water mark on tidal waterways and below the ordinary high water mark on non-tidal waterways may have to obtain easements from, or pay fees to, the California State Lands Commission (SLC). The SLC can be contacted at 100 Howe Avenue, Suite 100 South, Sacramento, California 95825-8202, or reached at (916) 574-1800.

7. This LOP procedure has been authorized under the terms of consultation with USFWS and NMFS, dated \*\*\* and \*\*\*, respectively. Each permittee shall comply with all the Reasonable and Prudent Measures (RPM) of the Incidental Take Statement (ITS), included in Appendices \*\*.

8. The Corps anticipates reviewing CHERT's hydrogeomorphology report, which includes a

1. Compliance review of mining plans with Corps approved prescriptions;
2. Review of past extraction recommendations and subsequent results, including quantity limitations, design modifications and setbacks;
3. Notification to the Corps of any missing required extraction information;
4. Documentation of evidence of aggradation/degradation.
5. Discussion of the relevant effects of previous years' extraction, observed trends, and success of minimization measures.

The report is submitted to regulatory agencies including Corps and Humboldt County and/or appropriate Tribal Organizations and includes an electronic copy of the cross-section information by watershed and operation (Corps copy only).

### **APPLICATION PROCEDURES:**

Applications shall be divided into two categories based on quantity of material removed from the river basins. The two categories are: Class A projects: Projects which remove 5,000 cubic yards of material per year or more; and Class B projects: Projects which remove less than 5,000 cubic yards per year of material. All new projects (see #7 under General Restrictions on Page 7) must submit a notice of intent to mine gravel to the Corps of Engineers, Eureka Field Office, by February 1 of that year.

In all cases, an application for authorization of work under this LOP procedure must include a written description of the project, proposed work schedule, the address and telephone number of a point of contact who can be reached during working hours, an 8.5 by 11 inch vicinity map, and an 8.5 by 11 inch site or location map showing all the boundaries of all work to be done (maps and figures can also be on 11 by 17 inch paper). The information may be submitted on an Application for Department of the Army Permit form (ENG Form 4345) or in any other form, which will clearly supply the information in a concise manner. In general, projects that remove more than 250,000 cubic yards per year will not be considered eligible for authorization under this permit. Projects will also be considered in relation to other extraction operations.

- Class A Projects: Projects that remove 5,000 cubic yards or more per year of material from the river basin. Project submittal must include a description of the project and at least the following information, unless modified by the Corps, on a yearly basis:

- I. A pre-extraction report a minimum of two weeks prior to excavation. Pre-extraction reports shall include:

- A. Cross-section Surveys: Monitoring and Extraction cross-section surveys shall be done according to Appendix C (attached), unless modified by the CHERT and approved by the Corps. Each year spring surveys shall be submitted to the watershed review team. Applicants shall submit gravel extraction plans, reviewed by the CHERT, to the Corps for approval, prior to commencing gravel extraction operations;

- B. A Stream Alteration Agreement (SAA) or any extension signed by the CDFG, or a Riparian Protection and Surface Mining Permit signed by a Federally recognized Indian Reservation. These permits may be obtained concurrently with the Corps permit;

- C. A pre-extraction aerial photo of the location. Photos shall be taken the spring of each year and shall include the entire project reach (extraction zone reach of the project site and immediate upstream and downstream reaches within one half length of the extraction zone reach of the project, as measured along the thalweg (the bottom of the low-flow channel)). Pre-extraction photos can be vertical photos at a scale of 1:6000 or better. Photos shall diagram proposed extraction activities;

- D. A vegetation impact evaluation completed by the applicant and also submitted to the CHERT botanist;

- E. For new projects, see #7 of the Gravel Extraction Restrictions. The Corps may also require additional information.

- II. A post-extraction report shall be submitted to the Corps by December 1 of each year. Post-extraction reports shall include:

- A. A post-extraction survey, which shall be conducted following cessation of extraction and before alteration of the extraction area by flow following fall rains, preferably before October 15. Post-extraction reports shall include the amount and dimensions of material excavated from each area mined. See Appendix C for post-extraction requirements;

- B. Photo coverage of the project reach. Photo coverage shall be taken in the low-flow period and be at a scale of 1:12000, or better. Photos shall be taken from a fixed, vertical oriented (i.e.

belly-mounted) camera. Photo coverage shall be taken after extraction is complete in late September or early (first week) October and recorded on a 9 inch by 9-inch format.

- C. A longitudinal profile view of the thalweg for the active channel line along the project reach based on the monitoring cross-sections;
- D. The vegetation report including vegetative impacts and any required mitigation monitoring.

- Class B Projects: Projects that remove less than 5,000 cubic yards per year of material from the river basin. Class B projects must be physically separated from other gravel operations to be considered separate projects. Projects cannot be located on the same gravel bar, or on the same parcel number as other projects. The Corps reserves the right to elevate a Class B project to Class A status.

Project submittal must also include a description of the project and at least the following information, unless modified by the Corps, on a yearly basis:

- I. A pre-extraction report, submitted by May 15 of the gravel year, that includes:
  - A. Plan and cross-section view drawings of the project site on 8.5 by 11 inch or 11 by 17 inch paper. Drawings shall be labeled with dimensions, and quantities of material removed from each site. Plan views must map any salmonid spawning sites;
  - B. A minimum of one monitoring cross-section and five extraction cross-sections per extraction site (See Appendix C for cross-section details);
  - C. A copy of the SAA signed by the CDFG, or a Riparian Protection and Surface Mining Permit signed by the Federally recognized Indian Reservation. These permits may be obtained concurrently with the Corps permit;
  - D. Photos of the mining area before excavation. Photo location shall be mapped (location and direction) to maintain consistency with post-extraction report photos.
  - E. Mapping and description, including size, species and number, of any riparian vegetation that will be removed, cut, or within 25 feet of excavation, stockpiling or transport of gravel and any wetland that will be impacted. Also included in submittal shall be a mitigation plan to minimize any unavoidable impacts.
- II. A post-extraction report due by December 1 of extraction year, which shall include:
  - A. Post-extraction data for extraction and monitoring cross-sections according to Appendix C.
  - B. Quantity calculations of extracted amounts.
  - C. Photos of the mining area after excavation. Photos shall be taken from the same location as pre-project photos. Copy of photos shall be given to Corps as well.

**REQUIRED MITIGATION:**

Each permittee shall mitigate impacts to wetlands and riparian zones in the following sequence: avoidance of the impact; minimization of the impact, rectifying the impact, reducing or eliminating the impact over time, and finally compensating for impacts. For all unavoidable impacts a mitigation plan shall be submitted with

applications for all projects that will adversely affect wetlands and riparian vegetation. Mitigation must consider the size and age of the vegetation removed or adversely impacted. All vegetative mitigation must be planted between November 1 and February 28 of the year following excavation and must have an approved survival rate over three growing seasons. Failure to obtain a three-year survival rate shall require replanting. Annual reports depicting the survival of vegetation shall be due by November 1 each year for three growing seasons after planting year.

#### **SITE VISITS:**

Each year project owners must also inform the Corps upon completion of gravel removal so that a site visit can be planned before the rainy season commences. Notification shall occur within two days of project completion.

#### **APPLICATION SUBMITTAL:**

Applications should be mailed to: U.S. Army Corps of Engineers, Regulatory Branch, Eureka Field Office, Attention: Mr. Kelley Reid, P.O. Box 4863, Eureka, California 95502. If you have any questions you can telephone the Eureka Office at (707) 443-0855 or e-mail at: kelley.reid@spd02.usace.army.mil.

Work may not proceed until the District Engineer has issued an LOP. For projects which have obtained the LOP, the activity may not begin each year until a confirmation letter has been issued by the Corps. It is the applicant's responsibility to insure that the authorized project meets the terms and conditions set forth herein; failure to abide by them will constitute a violation of the Clean Water Act and/or the Rivers and Harbors Act of 1899.

The Corps is responsible for determining compliance with this LOP. The Corps may take actions to rectify projects that are not in compliance. These actions may include, but are not limited to, the following:

- A. Permit revocation.
- B. Permit suspension.
- C. Project and habitat site restoration.
- D. Reduction of authorized gravel extraction amounts per year.

No authorization will be granted under a LOP for any excavation or grading that is for the primary purpose of river engineering, channel or river capture, channel realignment or for a project that is likely to result in the above, unless approved by the Corps. Projects outside the scope of this LOP will be considered for authorization by individual permit.

This permit shall become effective on the date of the signature of the District Engineer, or his authorized representative, and will automatically expire December 31, 2007 unless the permit is modified, revoked, or extended before that date. Activities authorized under this permit that have commenced (i.e. are under operation), or are under contract to commence in reliance on this permit, will remain authorized provided the activity is completed within twelve months of the expiration, modification, or revocation of the permit, unless discretionary authority has been exercised by the Corps on a case-by-case basis to modify, suspend, or revoke the authorization.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:  
FOR THE DISTRICT ENGINEER:

Michael McCormick  
Lieutenant Colonel, Corps of Engineers  
District Engineer

## APPENDIX A

### CONDITIONS OF LETTERS OF PERMISSION ISSUED UNDER "Gravel Mining and Excavation Activities in Humboldt County"

#### GENERAL CONDITIONS:

1. The Department of the Army has relied in part on the information provided by the permittee. If, subsequent to issuing this permit, such information proves to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part.
2. Permittees whose projects are authorized by this LOP shall comply with all terms and conditions herein. Failure to abide by such conditions invalidates the authorization and may result in a violation of the law, requiring restoration of the site or other remedial action.
3. An LOP should not be considered as an approval of the design features of any authorized project or an implication that such is considered adequate for the purpose intended. A Department of the Army permit merely expresses the consent of the Federal Government to the proposed work insofar as public rights are concerned. This permit does not authorize any damage to private property, invasion of private rights, or any infringement of federal, state or local laws or regulations. Nor does it relieve the permittee from the requirement to obtain a local permit from the jurisdiction within which the project is located and to address all non-encroachment restrictions within a floodway of such local jurisdiction as identified by the Federal Emergency Management Agency.
4. This LOP procedure may be modified or suspended in whole or in part if it is determined that the individual or cumulative impacts of work that would be authorized using this procedure are contrary to the public interest. The authorization for individual projects may also be summarily modified, suspended, or revoked, in whole or in part, upon a finding by the District Engineer that immediate suspension of the project would be in the public interest.
5. Any modification, suspension or revocation of the District Engineer's authorization shall not be the basis for any claim for damages against the United States.
6. This permit does not authorize the interference with any existing or proposed Federal project and the permittee shall not be entitled to compensation for damage or injury to the structures or activities authorized herein which may result from existing or future operations undertaken by the United States in the public interest.
7. No attempt shall be made by the permittee to prevent the full and free public use of all navigable waters of the United States, at or adjacent to the project authorized herein.
8. There shall be no unreasonable interference with navigation by the existence or use of the permanent and temporary structures authorized herein.
9. The permittee shall make every reasonable effort to conduct the activities authorized herein in a manner that will minimize any adverse impact of the work on water quality, fish and wildlife, and the natural environment, including adverse impacts to migratory waterfowl breeding areas, spawning areas, and riparian areas.

10. The permittee shall allow the District Engineer and his authorized representative(s) to make periodic inspections at any time deemed necessary to assure that the activity being performed under this authorization is in accordance with the terms and conditions prescribed herein.
11. The impact of activities authorized by LOP using this procedure on cultural resources listed, or eligible for listing, in the National Register of Historic Places (NRHP), shall be taken into account by the U.S. Army Corps of Engineers (Corps) prior to the initiation of work. If previously unknown cultural resources are encountered during work authorized by this permit, the San Francisco District shall be notified and the sites avoided until the Corps can assess their eligibility for listing in the NRHP. Sites determined to be eligible for listing in the NRHP shall require consultation between the Corps and the State Historic Preservation Office and/or the Advisory Council on Historic Places. Cultural resources include prehistoric and historic archeological sites, and areas or structures of cultural interest that occur in the permit area.
12. All temporary fills within waters of the U.S. shall be removed in their entirety.
13. All extraction activities in the vicinity of federal projects shall be coordinated for required setback distances with the Corps office prior to application for a permit.
14. Heavy equipment working in wetlands shall be placed on mats, or other measures shall be taken to minimize disturbances to soil.
15. No authorization will be granted under this LOP procedure for any activity that is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Endangered Species Act, or that is likely to destroy or adversely modify the critical habitat of such species. Permittees shall notify the District Engineer if any listed species, proposed species or critical habitat might be affected by, or is in the vicinity of, the project, and shall not begin work until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized.
16. The project shall not significantly disrupt the movement of those species of aquatic life indigenous to the water body or those species that normally migrate through the project area.

**APPENDIX B**

**WILD AND SCENIC RIVER SECTIONS  
IN HUMBOLDT COUNTY, CA**

Waterway: section	Wild and Scenic River Designation Status (Access)	Outstandingly Remarkable Value
Eel River: Humboldt County Line to the Pacific Ocean	Recreational	To be provided
South Fork Eel: Humboldt County Line to the confluence with the Eel River	Recreational	by the National
Klamath River: Humboldt County Line to the Pacific Ocean	Recreational	Park Service
Trinity River: Confluence with South Fork Trinity River to west boundary of Section 2 T8N R4E	Recreational	Same
Trinity River: West boundary Sect. 2 T8N R4E to confluence of Klamath River	Scenic	Same
South Fork Trinity: Humboldt County line to Todd Ranch in Sect. 18 T5N R5E	Wild	Same
South Fork Trinity: Todd Ranch in Sect. 18 T5N R5E to confluence of Trinity River	Scenic	Same
Van Duzen River: From Dinsmore Bridge to power line crossing above Little Larabee Creek	Scenic	Same
Van Duzen River: From the power line crossing above Little Larabee Creek to the confluence with the Eel River	Recreational	Same

This appendix is under revision, pending discussions w/ National Park Service, Wild and Scenic River coordinator.

## APPENDIX C

### CROSS SECTION GUIDELINES FOR GRAVEL EXTRACTION IN HUMBOLDT COUNTY

This appendix will likely be replaced with CHERT's requirements for Surveying and Cross section requirements.

Cross-sections, maps, and associated calculations such as extraction volumes, must be prepared under the direction of a State of California Licensed Land Surveyor or a legally authorized Professional Engineer and certified as to content and accuracy.

Monitoring cross-sections are permanent, monumented cross sections whose purpose is to document yearly and long-term changes in river channel elevation and morphology at extraction sites. They also aid in extraction planning and in estimation of volumes extracted.

Extraction zone cross-sections are temporary, seasonal cross-sections used for the planning an extraction, for estimation of the actual volume extracted, and for evaluating compliance with Corps approved gravel plans. The extraction zone is the total area that will be extracted and/or graded as a result of gravel extraction activities.

#### I. Standards for Monitoring Cross-Sections:

A. Number and layout of required cross sections for an extraction project to follow the guidelines below:

1. A hypothetical centerline for the river channel, measured equidistant from both banks and delineating the actively scoured channel (bank full width) must first be established to determine the length of the project line.
2. If the radius of curvature is less than ten times larger than the average actively scoured channel width of the project reach, the reach is considered a bend. If the radius of curvature is more than ten times larger than the average actively scoured channel width of the project reach, the reach is considered straight.
3. Cross-sections shall be oriented perpendicular to the centerline.
4. Cross-sections shall be no more than 400 feet apart on bends and 500 feet apart in straight reaches or river width apart, whichever is greater. If the length of the project reach is not evenly divisible by 400 or 500 feet, the number of cross-sections should be rounded to the next larger number.
5. The first cross-section shall extend across the channel at the upstream limit of the project reach (entire project site); the last cross-section shall extend across the channel at the downstream limit of the project reach.

B. Cross-sections to extend completely across the river channel (so as to include all actively scoured channel width) and to terminate either on banks in mature riparian vegetation (clearly older than 10 yr; DBH >4 in.), or on the 10-year flood terrace.

C. Two bench marks (permanent monuments) to be established for each bar above the watercourse's active banks and in positions such that they will not be eroded away by relatively frequent (<10 yr flow)

events. Bench marks to be tied to a common vertical and horizontal control datum, the 1988 North American Vertical Datum (NAVD) and to the 1983 North American Datum (NAD), among all extraction sites.

- D. Cross-section endpoints and tie points to be clearly monumented and labeled in the field and accurately located on current airphotos and maps. A common color of flagging, or environmentally benign painting to be used to mark cross-sections at all sites.
- E. Cross-section endpoints to be placed far enough away from eroding banks that they will not be removed by relatively frequent flows (e.g., by floods smaller than the 10-year event).
- F. Cross-sections to be resurveyed each year. End points shall be the same unless eroded away. New endpoint will have negative numbers if zero endpoint is missing. New cross-sections to be added as necessary as the river's course shifts, and to be oriented approximately normal to the channel center line.
- G. Pre-extraction cross-section surveys need only include those portions of each cross-section inundated by the previous winter's highest flow. If the highest flow of the season occurs after the cross-section survey is completed, the cross-section must be resurveyed. All Class A monitoring cross-sections should be surveyed each spring, regardless of whether extraction took place in the previous year.
- H. Post-extraction cross-sections need only be resurveyed through those portions of the cross-section altered by extraction, temporary stockpiles, road construction, and equipment storage areas or grading.
- I. Stake or spray paint the following points on the ground in each cross-section at time of survey:
  - 1. Water's edge, on both sides of the river; or if this is not practicable, stake at 10 ft offset (measured along ground surface) from water's edge. Position of stake to be included in survey.
  - 2. Both sides of river, one hub (2 inch by 2 inch wooden stake), painted brightly and labeled, shall be driven in nearly flush with the ground at the survey point closest to midway between water's edge and cross-section endpoint. Exception: this is not required if it would put the stake in a steep eroding bank.
  - 3. Stakes should be labeled with cross-section and station number (horizontal distance from left end point).

## II. Standards for Extraction Zone Cross-Sections

- A. Number and layout of extraction cross sections for an extraction project to follow the guidelines below:
  - 1. A hypothetical centerline for the proposed extraction, located equidistant from both edges of the extraction zone and extending down its long axis must be established.
  - 2. A minimum of 5 equally spaced extraction cross-sections to be surveyed in each extraction zone.
  - 3. Cross-sections shall be oriented perpendicular to the extraction centerline.
- B. Extraction cross-sections to be surveyed in prior to extraction, and used to design extraction and to estimate extraction volume.
- C. Extraction cross-sections to be resurveyed after extraction are complete.
- D. Extraction cross-sections require temporary (seasonal) monuments at each end, such as stakes or rebar,

which can be relocated after extraction is complete. Extraction cross-sections should be clearly staked and marked on the ground so that the watershed review team can readily locate them in the field.

### III. Preparation of Cross-Sections.

A. All Cross-Sections shall be prepared according to the following criteria:

1. Surveyed cross-sections shall be noted to the nearest 0.1 ft and should include: end points and ground surface elevation at end points and all obvious breaks in slope.
2. Cross-sections to be tied to a common vertical and horizontal control datum among all extraction sites. This is specified as the 1988 North American Vertical Datum (NAVD) and 1983 North American Datum (NAD) elevation for sea level.
3. Cross-sections at all sites to be plotted at the same simple, usable vertical and horizontal scales. All cross-sections must have a vertical exaggeration of 10. Scales for cross-sections are 1 in. = 100 ft. Cross-sections can be cut and stacked so that whole cross-sections can be placed on one page. Cross-sections that are cut and stacked must be consistently presented each year.
4. Cross-sections to be surveyed and drafted consistently so that the right bank (RB) of the river as you face downstream is at the right side of the drafted cross-section.
5. Zero (0) distance in cross-sections to be at the left (LB) endpoint as you face downstream, unless replaced by a negative number as the bank erodes.
6. Cross-sections to be plotted on grid paper, where the grid logically corresponds to the scale at which the cross-section is plotted. We suggest a grid of 10 squares to the inch. Grid to be visible in the reproduced paper copies provided to the watershed review team.
7. Cross-sections to have clearly labeled vertical and horizontal axes. Each cross section should have its own horizontal axis to facilitate measurement of distances (rather than a single set of axis labels at bottom of page). Each cross-section should have its origin on a heavy grid line.
8. Any vertical or horizontal datum or endpoint changes should be clearly noted along with the length and direction of change(s) on the cross section plots.
9. Maximum distance between any two elevational points along a cross-section shall be 50 feet, including wetted portion. Exception: if ground outside wetted channel is essentially level for a distance of 500 feet, distance between points can be increased to 100 feet. All obvious breaks in slope must still be included.
10. Elevations, notations, etc. on the cross-sections shall be clearly legible.
11. Net cross-sectional area change pre-extraction to post-extraction, or post-extraction to next year's extraction, as appropriate, should be calculated for each cross-section. Measurements and calculations should be included
12. The survey data for each cross section should be provided to the CHERT on a 3.5" diskette as a digital file in ASCII text format (alphanumeric, tab-delimited). The data should be grouped by cross-

section and organized from L bank to R bank, using the format below: An example is shown.

- XS 20+78
  - Point Horizontal
  - No.    Offset    elevation                    description
  - 45    50            57.94                    LB rebar
  - 46    ...            ...                    ...
- 
- A paper printout of the data should also be supplied.

13. Cross-sections for planning extractions should be surveyed in late May of the year in which extraction is proposed. Cross-sections following mining to be surveyed as soon as practicable after mining ends, and definitely before winter high flows occur.

**B. All monitoring cross sections shall also include:**

1. Where discernible, elevation and position of high-water marks for previous winter's flow (flood marks); these should be consistently determined among cross-sections
2. Water-surface elevation and location (both banks) at time of survey
3. Cross-sections to include the river bottom (especially location of the thalweg) as well as the water surface. Water surface elevation alone is insufficient; the bed must be included.
4. Elevation and location of top of silt band ("bathtub ring") if visible at time of survey
5. Location of major vegetation breaks, e.g., edge of willows or riparian forest
6. Water discharge at time of survey (from nearest USGS gage) to be shown in cross-section legend.
7. Flood marks, silt line, water's edge, monuments, review reference stakes should all be clearly labeled in the cross-section and their elevations indicated.
8. For spring cross-section data all monitoring cross-sections shall include the current year's spring cross-section overlain on the previous year's spring and fall (if any) cross-sections. The area of actual extraction should be lightly shaded or hatched. Water-surface should be shown with a dotted line, and its date clearly indicated.
9. For pre-extraction survey, total volume change since the previous year's post-extraction survey should be calculated using double end-area or computer generated digital terrain models. All measurements and calculations should be included and verified by a California Licensed Land Surveyor or appropriately authorized engineer.
10. For post extraction cross-section data, all monitoring cross-sections which overlap the extraction area shall include the current year's post extraction cross section data overlain on the current year's pre-extraction cross-section data and the previous year's post extraction cross-section data and the original prescription recommended by the watershed review team. The post-extraction cross-section should be shown with a solid line, the pre-extraction with a dashed line. The actual area of extraction should be lightly shaded or hatched.

**C. All Extraction Cross-Sections shall also include:**

1. Spring extraction cross-sections shall include the spring cross-section data overlain on the watershed review teams approved prescription cross-section. The proposed area of extraction should be lightly shaded or hatched.
2. Post extraction cross-sections shall include the fall cross-section data overlain on the previous year's post extraction (if any) and the current year's pre extraction cross-section data and the CHERT recommended prescription cross-section. The actual area of extraction should be lightly shaded or hatched.
3. The net cross-sectional area change pre-extraction to post-extraction should be calculated for each cross-section. Total volume extracted should be computed, using double end area or computer generated digital terrain models. All measurements and calculations should be included and verified by a California Licensed Land Surveyor or appropriately authorized engineer.

**IV. Preparation of Maps:**

- A. All site maps to be prepared on a color photocopy of an aerial photo from current year. Photos can be obliques for spring surveys. Site maps should show the river and the proposed extraction area. Site maps should have a scale of approximately 1:6000 (1 in = 500 ft).
- B. All monitoring cross-sections should be accurately located and labeled on the site map. In particular, the end points of each cross-section must be located in their true positions, not just guessed at or estimated.
- C. Pre-extraction photos should be taken when the river is low enough to see the channel and should be used for the site map.

## APPENDIX D

### BIOLOGICAL MONITORING REQUIREMENTS FOR GRAVEL EXTRACTION IN HUMBOLDT COUNTY, CA

The purpose of the biological monitoring is to identify adverse impacts that can be avoided, minimized and mitigated by mapping important resources such as fish habitat and riparian vegetation. This monitoring plan is not a river management plan but part of the Corps regulatory requirements to ensure protection of the aquatic ecosystem.

Each applicant will study his/her project reach that shall include the gravel extraction reach (or zone) and distances upstream and downstream of the gravel extraction area equal to half the gravel extraction reach. Modifications to the project reach may be made by the Corps for projects in close proximity to other gravel operators, and for projects that span large distances with relatively small excavations. Each Class A applicant shall submit the following biological monitoring data to be obtained by a qualified biologist. Each applicant is responsible for ensuring that all data submitted is accurate and obtained by qualified individuals. Failure to employ qualified individuals may require resurveying, and or suspension of the permit.

#### A. Vegetation:

1. All riparian and wetland vegetation that will be impacted by operations shall be mapped and described by the CHERT botanist. Information on impacts shall be submitted with the plan and then verified at the end of plan.

#### B. Anadromous Fish:

1. An annual adult summer steelhead snorkeling survey shall be conducted once each year. The annual survey shall be taken between July 1 and August 31 and shall survey all pools within the project reach. Pools where fish are present shall be mapped.
2. Incidental information relating to impacts of gravel extraction on the aquatic system, methods to reduce these impacts, and other impacts to anadromous fish (i.e. poaching, turbidity impacts, unusual fish presence etc...) shall be documented in the report.

The following monitoring requirements constitute the bulk of NMFS habitat monitoring requirements protocol. Any changes to the protocol must be approved by NMFS before implementation.

3. Riffle crest elevations, as measured at the thalweg, and tied to the survey datum are required adjacent to, and upstream and downstream of each gravel-mining site. Riffle crest elevations, as measured at the thalweg, and tied to the survey datum are required adjacent to, and upstream and downstream of each gravel-mining site. Riffle crest elevations, with water depth, shall be measured within the gravel extraction reach (or zone), and distances upstream and downstream of the gravel extraction area equal to half the gravel extraction reach. If gravel-mining sites are contiguous, then riffle crests shall be measured throughout the contiguous mining reach. Riffle crest information shall be submitted to:

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

4. Redd surveys consisting of visual observation shall be conducted every other week from October 1 through December 30. Redd surveys shall be conducted within the gravel extraction reach (or zone), and distances upstream and downstream of the gravel extraction area equal to half the gravel extraction reach. If gravel mining sites are contiguous, then the redd survey shall be conducted throughout the contiguous mining reach. The location of redds shall be mapped on aerial photos. Flagging or other visual identification shall be used to mark location of redds on the ground so follow-up surveys can determine persistence and identification of new redds. If stream conditions do not allow for effective or safe surveys, then the conditions of the stream shall be recorded (turbidity and flow) and surveys shall resume as soon as conditions improve. A redd survey report shall be submitted by January 15, 2003 and shall contain the following items:

- i) Date and time of survey; name of surveyor(s)
- ii) Stream and weather conditions at time of survey
- iii) Number of new redds observed, by location (geographic coordinates and marked on aerial photos); habitat call for location of redds (e.g., pool tail crest, riffle crest)
- iv) Number of old redds persisting and location
- v) Number of fish observed, by species, per redd location, and fish condition observed
- vi) Size of redd, and depth over redd (if fish are present, this information should be estimated to minimize disturbance)

5. Snorkel surveys of wetland pits shall be required to monitor and assess juvenile stranding after high flows that inundate the wetland pit have receded. A monitoring plan that assesses salmonid stranding, which includes a fish rescue plan, if it is needed, shall be submitted as part of the mining plan when wetland pits are used as the extraction methodology.

6. A monitoring plan that assesses salmonid stranding, which includes a fish rescue plan, if it is needed, shall be submitted as part of the mining plan when trenching is used as the extraction methodology.

7. NMFS shall be provided color copies of all air photos, and all electronic copies of cross sections submitted under the entire implementation of LOP 96-1, by August 30, 2002, for our analysis purposes. Although NMFS has sporadically received copies of air photos, we do not have a complete data set of air photos, or electronic cross sections. Electronic cross sections shall be provided in the ASCII electronic format as required by LOP 96-1, and shall be complete cross sections, from end point to end point.

8. Ensure that all required monitoring is completed and that monitoring reports are provided to NMFS.

#### **Attachment 1 - Salmonid Habitat Mapping Protocol**

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

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

Both a hard and electronic copy of a report shall be provided to the Corps and to NMFS by December 31. The report shall contain in the description of available habitats, species observed, a spreadsheet or database printout. Air photos with the delineated polygons and habitat details shall also be included.

Polygons identified from the aerial photos shall be field verified using underwater observations and measurements. In addition, field observations shall be conducted during late summer or early fall low flows periods.

#### C. Birds:

Permittees with operations on the Eel River, downstream of the confluence with the Van Duzen River shall conduct Snowy Plover surveys on their gravel bars that are scheduled for extraction and/or will be used in haul routes between March 1 and September 15. Surveys shall be conducted within a two-week period prior to operation. Each gravel bar shall be thoroughly searched twice for nesting, foraging or resting Snowy plovers. The surveys shall be conducted 6-7 days apart. A qualified biologist approved by the U.S. Fish and Wildlife Service must conduct surveys.

Any gravel operation that begins in the spring (March, April or May) may adversely affect nesting and brooding activities of avian species. Monitoring of avian species to determine use of riparian areas and gravel bars according to sex, age, and breeding status may be required of any operator that

commences gravel extraction before June 1. Monitoring shall include point counts and mist netting and shall be approved by CDFG and USFWS personnel.

## APPENDIX E

### **WESTERN SNOWY PLOVER OPERATING REQUIREMENTS NEEDED FOR A “NOT LIKELY TO ADVERSELY AFFECT” DETERMINATION FOR PROJECTS LOCATED ON THE EEL RIVER BELOW THE CONFLUENCE OF THE VAN DUZEN RIVER**

Projects located on the Eel River, downstream from the confluence of the Van Duzen River, are not likely to adversely affect the western snowy plover if:

1. Gravel extraction commences after September 15; or
2. Gravel extraction commences on or after August 16, and an USFWS approved biologist has surveyed the entire gravel bar, on or after August 16th, and not found western snowy plover nests and/or chicks; or
3. Gravel extraction commences on or after August 16, where a USFWS approved biologist has surveyed the entire gravel bar, on or after August 16th, found western snowy plover nests and/or chicks, and the operator:
  - a. Has the bar surveyed each morning, by an USFWS approved biologist, to locate the discovered nests and/or chicks prior to gravel extraction; and
  - b. Maintains a 300 meter buffer between the nests and/or chicks morning location and operations; and
  - c. Halts operations the first day no nests or chicks are found on the bar; and
  - d. Continues surveying for two more consecutive days to locate chicks. Surveys can stop on the third consecutive day of not finding chicks. Gravel extraction operations, however, can resume on the second consecutive day.

### **NORTHERN SPOTTED OWL (NSO) OPERATING REQUIREMENTS NEEDED FOR A “NOT LIKELY TO ADVERSELY AFFECT” DETERMINATION FOR PROJECTS LOCATED WITHIN 0.25 MILES OF NSO HABITAT**

1. Gravel extraction may occur on or after July 10, if there is no vegetation removal within NSO habitat, and;
2. No gravel extraction may occur within 0.25 miles of NSO habitat unless formal consultation has been completed.

Appendix G

**Gravel Operations authorized by the current Biological Opinion (2003).  
LIST OF LOP 1 GRAVEL EXTRACTION OPERATIONS**

**GRAVEL MINING AND EXTRACTION ACTIVITIES IN  
HUMBOLDT COUNTY, CA AS AUTHORIZED BY CONDITIONAL  
USE PERMIT OR VESTED RIGHTS—All Values are Given in 1000 cy Increments**

Lower Mad River Reach

Site	Annual Permitted Volume CUP or Vested	LOP 96-1 Permitted Max (yr)	LOP Average Harvstd(96-01)
Guynup Bar	200	64.9 (97)	25.1
Essex	40	5.0(00)	3.8
Total	240	69.9	28.9

Lower Eel River Reach

Site	Annual Permitted Volume CUP or Vested	LOP 96-1 Permitted Max (yr)	LOP Average Harvstd(97-01)
Hauck	150	148.6(97)	50.3
Hansen	50	50(98)	34.7
Sandy Prairie Plant A	70	70(01-02)	48.8
Sandy Prairie Plant B	200	200(99)	63.3
Singley	?	0	01
Mallard Pond	250	128.2(97)	34.82
Worswick	200	25(98)	11.73
Total	950	561.7	243.6

Van Duzen River

Site	Annual Permitted Volume CUP or Vested	LOP 96-1 Permitted Max (yr)	LOP Average Harvstd(97-01)
Humboldt County PL Bar	3	3.4 (96)	0.74
Tom Bess	20	25.8(00)	7.7
Tom Bess West Site	69	18(99)	6.1
Jack Noble	100	69(00-01)	6.3
Leland Rock	100	100(97-00)	86.4
Total	223	194.8	107.8

1 Arcata Readimix was not operating under the LOP before Nov '97. They received a Mod. in November to remove up to 150,000 cy annually until December 31, 2001. No post extraction report is in the Corps' Eureka files since then.

2 Only 3 years extraction authorized. The average for 3 years would have been 57.9.

3 Extraction authorized for 97, 98, & 2000. The average for 3 years would have been 19.5.

4 Harvested one year only.

Main Stem Eel PALCO Reach

Site	Annual Permitted Volume CUP or Vested	LOP 96-1 Max Permitted (yr)	LOP 96-1 Avg Hvst (96-01)
PALCO Maynard Bar	30 (and no more than 150/10 year)	ND	0
PALCO Vroman Bar	“	29.5(97)	6.85
PALCO Bowlby Bar	“	30 (01)	19.2
PALCO South Fork Bar	“	30 (00)	14.76
Humboldt County South Fork	self	ND	0
PALCO Larabee Bar	30 as above.	5 (01)	.47
PALCO Elinor Bar	“	29.9(99)	21.5
PALCO Three Mile Bar	“	29.7(96)	20.6
PALCO Dinner Creek Bar	“	23.4(97)	4.48
PALCO Upper & Lower Truck Shop Bar	“	18 (99)	10.9
PALCO Scotia Bar	“	ND	0
Total	150 plus County	160.1(00)	95

South Fork Eel River

Site	Annual Permitted Volume CUP or Vested	LOP 96-1 Max Permitted (yr)	LOP 96-1 Avg Hvst (97-01)
Cooks Valley Mendocino Co	20	20 (98)	15.5
Cooks Valley Humboldt Co	20	20 (98)	16.0
Humboldt Co. County Bar	self	ND	0
Randall County Bar	5	5 (00)	3.5
Randall Tooby Park Bar & Home Bar	30	30 (98)	22.0
Wallan & Johnson	10	10 (01)	6.5
Total	175	85.4(99)	66.1

Trinity River

Site	Annual Permitted Volume CUP or Vested Rights	LOP 96-1 Max permitted (yr)	LOP 96-1 Avg Hvst (97-01)
Mercer Fraser McKnight	10	10.1	0
Mercer Fraser Willow Ck	40	40 (97)	28
Rowland	?	24.3(99)	6.510
Security	?		13.711

5 harvested 3 years only. Average for 3 years 13500 cy.  
 6 harvested 4 years only. Average for 4 years 22200 cy.  
 7 harvested one year only 2000 cy.  
 8 harvested 2 years only. Average for 2 years is 11000 cy  
 9 harvested 3 years only. Average for 3 years ia 16300 cy  
 10 harvested 2 years only. Average for 2 years 16200 cy.  
 11 harvested one year only

		25.2(01)	
Total	70+	71.8 (01)	37.2

Isolated Sites

Site	Permitted Volume CUP or Vested Rights	LOP 96-1 Max permitted (yr)	LOP 96-1 Avg Hvst (97-01)
<i>Main Stem Eel R@ Ft.Seward</i>			
Fort Seward Ranch	200/year	43.2(00)	5.412
<i>Branstetter Bar on Bear River</i>			
Humboldt County	3/year (no more than 10/3 to 5 yrs)	0	0
<i>Charles Bar on Larabee Ck</i>			
Humboldt County	4/year (no more than 25/3 years)??	22.8(98)	4.3 <sup>13</sup>
<i>Cook Bar on North Fork Mattole River</i>			
Humboldt County	34/3 to 5 years	30.1(99)	3.8 <sup>13</sup>
Approximate Annual Total	220	43.2(00)	14.5

Summary Table

River Reach	Annual Permitted Volume (cubic yards)	LOP 96-1 Max permitted (yr)	LOP 96-1 Avg Hvst (97-01)
Lower Mad River	650	265(98)	184.0
Lower Eel River	920	561.7(97)	243.6
Van Duzen River	223	194.8(00)	107.8
Main Stem Eel PALCO Reach	150+	160.1(00)	95.0
South Fork Eel River	175+	85.4(99)	66.1
Trinity River	70 +	71.8(01)	37.2
Isolated Sites	220	43.2(00)	14.5
Total	2408+	1206.2(97)	748.2

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12 Harvested two years. Average for 2 years is 13.5