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STAFF RECOMMENDATION

ON CONSISTENCY DETERMINATION

Consistency Determination No.	CD-014-07
Staff:	LJS-SF
File Date:	3/19/2007
60th Day:	5/18/2007
75th Day:	6/2/2007
Commission Meeting:	5/10/2007

FEDERAL AGENCY: **Bureau of Land Management**

PROJECT LOCATION: Mattole River Estuary, King Range National Conservation Area, Humboldt County (Exhibits 1 and 2)

PROJECT DESCRIPTION: Construction of three log/boulder salmonid habitat improvement structures within the Mattole River

SUBSTANTIVE FILE DOCUMENTS:

1. Consistency Determination CD-085-04 (Bureau of Land Management, King Range National Conservation Area Resource Management Plan).

2. Resource Management Plan and Final Environmental Impact Statement, King Range National Conservation Area, Bureau of Land Management – Arcata Field Office, November 2004.

EXECUTIVE SUMMARY

The Bureau of Land Management has submitted a consistency determination for the construction of three log-boulder structures on BLM land in the Mattole River Estuary area of the King Range National Conservation Area to provide pool habitat for juvenile salmon and steelhead. The project objective is to increase the value of the estuarine habitat by creating pools and adding stream cover components. The BLM will construct the in-water structures using standard techniques and materials as described in California Department of Fish and Game's *California Salmonid Stream Habitat Restoration Manual (CDFG 2003),* techniques developed by the Mattole Salmon Group, and coordinate the installation with the National Marine Fisheries Service (NMFS). Construction access to the work site will use Lighthouse Road and BLM's estuary public access road located south of the main river channel. BLM will install a temporary railroad flatcar bridge to span the main river channel in order to provide construction vehicle access to the primary gravel bar, which will then be traversed to its downstream terminus where stockpiling of construction logs, rootwads, and boulders (obtained from an off-project site) and installation of the habitat structures will occur. Construction will occur in June 2007 to take advantage of low river flow and dry weather, and prior to closure of the river mouth, formation of the lagoon, and the resulting increase in water surface elevation in the estuary. Construction work is expected to last from between two to three weeks.

Salmonid habitat quality in the Mattole River estuary is presently of low value and the three proposed log/boulder habitat improvement structures would provide needed pool and cover components for threatened coho and Chinook salmon and steelhead. The project is consistent with estuarine habitat restoration goals found in the *Resource Management Plan* for the King Range National Conservation Area, and the National Marine Fisheries Service concluded that the project will enhance fish habitat in the estuary. The proposed structures meet the Coastal Act Section 30233(a) allowable use, alternatives, and mitigation tests for fill of estuarine waters, and the project is consistent with the marine resource, estuarine habitat, and water quality policies of the CCMP (Coastal Act Sections 30230, 30231, and 30233).

A variety of water-oriented recreational activities presently occur in the Mattole River estuary, including camping, beachcombing, hiking, fishing, boating, and vehicle access into the estuary and onto the gravel river bars. While the proposed project will use an existing public access road within the estuary to reach the project site, the BLM will not close or restrict existing public access routes or recreational areas in or adjacent to the Mattole River estuary during the three-week construction period in June 2007, except for the immediate area where installation of the habitat structures will occur. The proposed habitat improvement structures will not adversely affect public access to and recreational activities within the Mattole River estuary, and the project is consistent with the access and recreation policies of the of the CCMP (Coastal Act Sections 30210-13 and 30220).

STAFF SUMMARY AND RECOMMENDATION

I. STAFF SUMMARY.

A. Project Description. The Bureau of Land Management (BLM) proposes to construct three log-boulder structures on BLM land in the Mattole River Estuary area of the King Range National Conservation Area to provide pool habitat for juvenile salmon and steelhead (Exhibits 1-3). The BLM reports in its consistency determination that the estuary provides important habitat to juvenile salmon and steelhead as they transition from a freshwater to saltwater regime, but that conditions in the estuary are currently of low value to due a lack of pool habitat and vegetative cover. The project objective is to increase the value of the estuarine habitat by creating pools and adding stream cover components. The project site is located downstream of two similar structures installed three years ago by the Mattole Salmon Group, a local non-profit organization with a decade-long history of working with the BLM on habitat restoration projects and who will also participate in the construction of the proposed project.

The BLM will construct the in-water structures using standard techniques and materials as described in California Department of Fish and Game's *California Salmonid Stream Habitat Restoration Manual (CDFG 2003)*(Exhibit 4), techniques developed by the Mattole Salmon Group, and coordinate the installation with the National Marine Fisheries Service (NMFS). The proposed structures will be located as points on a rough line starting immediately upstream of the junction of the Mattole River Estuary and Collins Gulch at an angle approximately 45 degrees downstream. BLM states that the cross-section of the estuary is broad and that the location of the main river channel in the estuary varies during the summer months. Installation of three structures will increase the likelihood that one or more will always be near the main river channel, encouraging active scouring of deeper pools for summertime salmonid habitat. The precise location of the three structures will be determined by BLM in coordination with NMFS and BLM's project contractor.

Construction access to the work site will use Lighthouse Road and BLM's estuary public access road located south of the main river channel. BLM will install a temporary railroad flatcar bridge to span the main river channel in order to provide construction vehicle access to the primary gravel bar, which will then be traversed to its downstream terminus where stockpiling of construction logs, rootwads, and boulders and installation of the habitat structures will occur. All logs, rootwads, and boulders will be purchased and brought onto the river bar from an off-project site via heavy equipment. The precise location of the temporary bridge and the temporary roadway terminus will be governed by the location and size of the main river channel and gravel bars in June 2007. Depending on the morphology of the gravel bar, an excavator may need to fortify an abutment area for the temporary bridge at the edge of the river channel using on-site gravel. If the excavator needs to operate from within the river channel, a silt fence will first be installed to isolate the work area.

Prior to the start of construction, any salmonids located in the project area will be removed by seine netting or electroshocking and moved upstream to similar habitat. At each habitat structure site a temporary, circular-shaped gravel berm will be constructed and will be surrounded by a silt

fence; the berm and fence are designed to reduce short-term sediment increases during construction and to prevent fish from re-entering each of the project sites. The area within the berm will be dewatered and the excavator, working from the river bar, will place the logs, rootwads, and boulders within each of the three structure sites. Ground crews will then secure and cable together the rock and wood connections. The consistency determination provides additional details on the securing of the habitat structures:

> *The instream structures proposed for installation will be "log, root wad and boulder combinations" as defined on pages VII-26-28 of the Restoration Manual. Large boulders (1.5-ton minimum) will be incorporated as ballast where appropriate on a site-specific basis. Structures will be securely anchored in place and unitized using standard cabling and pinning techniques, following the successful model of previous work. Each structure will have a volume of ten to fifteen cubic yards.*
>
> *All cabling and pinning will be carefully planned and conducted so as to maximize anchoring strength and minimize visibility and exposure. Marine grade epoxy resin will be used to anchor cable and threaded rebar to boulders or bedrock, with a minimum hole depth of 18" in native sandstone. Pinning of structures will be done with 1-1/4" threaded rebar, and secured with cast anchor nuts and heavy-duty plate washers. In all pinning applications, plate washers will be recessed into sound wood by chain sawing.*

Construction will occur in June 2007 to take advantage of low river flow and dry weather, and prior to closure of the river mouth, formation of the lagoon, and the resulting increase in water surface elevation in the estuary. Construction work is expected to last from between two to three weeks.

B. Federal Agency's Consistency Determination. The Bureau of Land Management has determined the project consistent to the maximum extent practicable with the California Coastal Management Program.

II. STAFF RECOMMENDATION.

The staff recommends that the Commission adopt the following motion:

MOTION: I move that the Commission **concur** with consistency determination CD-014-07 that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (CCMP).

Staff Recommendation:

The staff recommends a **YES** vote on the motion. Passage of this motion will result in an agreement with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution to Concur with Consistency Determination:

The Commission hereby **concurs** with the consistency determination by the Bureau of Land Management, on the grounds that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the CCMP.

III. Findings and Declarations:

The Commission finds and declares as follows:

A. Estuarine Habitat and Marine Resources. The Coastal Act provides:

Section 30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233

(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:

. . .

(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. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its

> *report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division . . . .*

The March 2007 *Biological Assessment* for the project includes information on the anadromous salmonids present in the estuary. The Mattole River provides critical habitat for threatened Southern Oregon/Northern California Coast coho salmon, threatened California Coast Chinook salmon, and threatened Northern California steelhead. The Biological Assessment also states that in the Mattole River, current populations of coho salmon, fall-run Chinook salmon, and winter- and summer-run steelhead are reduced from likely historic population levels due to a variety of physical and biological factors. The BLM states in its consistency determination that the Mattole River Basin is classified as a "Key Watershed" under the federal Northwest Forest Plan and is therefore a priority site for federal restoration efforts to restore habitat for anadromous salmonids. The BLM also notes that while the Mattole River estuary provides important habitat for coho and Chinook salmon and steelhead for their transition from freshwater habitat to ocean waters, current habitat conditions in the estuary are of low value due to a pronounced lack of pools and cover.

In examining potential project construction effects on salmonids in the estuary, the *Biological Assessment* states that due to the current low-value habitat conditions in the estuary, salmonid density in the estuary is generally quite low and that any salmonids in the vicinity of the work sites will likely escape to adjacent areas during the construction period. The document also states that the installation of two previous and similar habitat improvement structures in nearby locations resulted in no injury or mortality to fish, and that the risk of direct adverse impacts to salmonids from the proposed construction is negligible.

The proposed structures are expected to cause localized scouring and creation of deep, complex pools. The size of the structures and resulting pools is very small compared with the channels and floodplain area associated with the Mattole River estuary, and as a result the channel alterations expected from this project will be of insufficient magnitude to cause adverse effects to the floodplain in the estuary.

The *Resource Management Plan (RMP)* for the King Range National Conservation Area (KRNCA) includes goals, objectives, and management actions addressing the need for stream habitat conservation:

> *<u>Goal AEF 2</u>: Restore and maintain the physical, chemical, and biological components of stream habitat so that each stream or stream reach supports a desired compliment of native species appropriate for the capability of stream or stream reach. Thus, stream habitat and water quality conditions for a small, headwater stream may be quite different than conditions in large, salmon-bearing streams since the habitat capability and native fauna of these two types of stream are quite different.*

To this end, the *RMP* includes guidelines which state that implementation of enhancement projects in the Mattole River Estuary would be considered if:

- *Project implementation would provide beneficial habitat for salmon, steelhead, or other desired native species.*

- *Analysis has shown that the project would address habitat conditions limiting survival of target species at a particular life stage.*

- *The project would not create a hazard for KRNCA visitors or other recreationists.*

- *The proposed project meets these RMP goals and guidelines previously reviewed by the Commission in its concurrence with CD-085-04.*

Section 30233(a) of the Coastal Act provides that a project involving fill of coastal waters, wetlands, and estuaries must be an allowable use, be the least environmentally damaging feasible alternative, and include mitigation measures to minimize adverse environmental effects. The project purpose is to restore salmonid habitat to the Mattole River estuary and is therefore an allowable use under Section 30233(a)(7). The BLM examined alternatives to constructing the log/boulder structures:

> *An alternative method for creation of pool habitat is to excavate or dredge bedload from the river bed and haul that material to offsite locations. Although this alternative results in immediate creation of pools, the pools only remain until bedload movement causes filling. Without the presence of immobile material in the river bed to create and maintain bed scour, excavated pools are temporary features. In addition, excavating or dredging bed material does not increase cover for fish. Thus, this alternative is not feasible and does not fully meet the intent of the project.*

Mitigation measures are incorporated into the project to minimize any potential adverse impacts to estuarine resources. The work is timed to occur at the river's low flow period and when the majority of juveniles of the three local salmonid species have left the estuary. The project will use construction methods and materials previously shown to be successful in the Mattole River estuary for creating salmonid habitat improvements while minimizing adverse effects to estuary water quality and fish populations. Existing access roads will be used to approach the work site to avoid disturbing riparian vegetation in the floodplain. Installation of silt fences will control possible sediment suspension during construction of the temporary berms around the three work sites. Silt fences, in combination with the removal of salmonids from the immediate work sites prior to berm construction, will minimize potential injury or mortality to salmonids. Placing the construction excavator on gravel bars rather than in the river bed (except if absolutely necessary to install the temporary bridge) and implementing a spill control plan for machinery used in the project will protect water quality in the estuary. All construction equipment at the site will be checked for fluid leaks daily prior to the start of work and will not be used until any leaks are repaired or the leaking equipment is replaced. Absorbent pads will be stored on site and will be deployed should toxic materials be spilled.

Once the habitat improvement structures are installed, the BLM will implement a monitoring program to determine whether the project goal is achieved. The consistency determination states that:

> *The goal of the proposed project is to improve functioning conditions in the Mattole River estuary, measurable through the following: (1) increase habitat complexity, (2) increase cover, (3) increase pool quantity and quality, and (4) decrease temperatures. The overall structural objective is to create habitat at each structure with the above measures. The overall functional objective is for salmonids to utilize the habitat created. The area of the estuary is approximately 250 acres; however, MSG [Mattole Salmon Group] surveys document salmonids only using a portion of the estuary, particularly along a portion of the banks containing over-hanging riparian vegetation, and under the log structure the MSG built in 2003. In this regard, salmonids are currently rearing in approximately 10 percent of the estuary. The proposed project is expected to increase available habitat, through creation of deep, cool pools with cover, by approximately 40 percent.*
>
> *Monitoring will occur throughout the summer of 2007 as part of our Estuary water quality monitoring program, which includes abundance surveys of salmonids. In addition, the structures will be monitored at least twice during the summer months over the next five years. Monitoring will consist of visual observations of the structures and underwater observations of habitat and salmonid presence. In the short-term (upon completion of project activities), the MSG expects the project to increase habitat complexity, increase cover, and increase scour functions. Through the increased scour functions, the MSG expects the proposed project, in the long-term to create cold, deep pools utilized by salmonids as over-summer rearing habitat. The project will be deemed successful if the expected habitat conditions are created and salmonids are utilizing the structures as a cold water refuge, increasing the available rearing habitat by 40%.*

Exhibit 5 is a preliminary 2006 monitoring report for the existing habitat improvement structure in the estuary. The BLM will provide copies of all final monitoring reports for the three proposed habitat improvement structures to the Commission's Executive Director.

In April 2007, the NMFS completed its informal consultation on the proposed project pursuant to Section 7(a)(2) of the Endangered Species Act. NMFS concurred with BLM's determination that the project activities may affect, but are not likely to adversely affect coho salmon, Chinook salmon , steelhead, or their critical habitats. The NMFS states that while there will be short term temporary effects on the estuary from construction activities, in the long term the project will enhance fish habitat in the Mattole River estuary.

In conclusion, the Commission finds that salmonid habitat quality in the Mattole River estuary is of low value and that the three proposed log/boulder habitat improvement structures would provide needed pool and cover components for threatened coho and Chinook salmon and steelhead. Two similar structures installed upstream of the proposed work site in 2004 appear to be functioning as designed, and monitoring of structure function and habitat improvements are

incorporated into the proposed project. The project is consistent with estuarine habitat restoration goals found in the *Resource Management Plan* for the King Range National Conservation Area, and the National Marine Fisheries Service concluded that the project will enhance fish habitat in the estuary. Lastly, the proposed structures meet the Coastal Act Section 30233(a) allowable use, alternatives, and mitigation tests for fill of estuarine waters. The Commission therefore concludes that the project is consistent with the marine resource, estuarine habitat, and water quality policies of the CCMP (Coastal Act Sections 30230, 30231, and 30233).

B. Public Access and Recreation. The Coastal Act provides:

> *Section 30210. In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*
>
> *Section 30211. Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*
>
> *Section 30212.*
> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:*
>
> *(1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,*
> *(2) Adequate access exists nearby. . .*
>
> *Section 30213. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred . . . .*
>
> *Section 30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

In January 2005 the Commission concurred with a BLM consistency determination (CD-085-04) for the King Range National Conservation Area *Resource Management Plan*. The *RMP* includes discussion of recreational vehicle access and dispersed recreation in the Mattole River estuary:

> *TRV 1.8.1.4 (Mattole Estuary Road and Spur): Approximately 1/2 mile. Limited: Designated Routes Only (route to be marked each spring after high water subsides). Season length would vary based upon water levels. Route would be closed for the season when flooded by winter flows, and reopened when water levels subside in spring.*

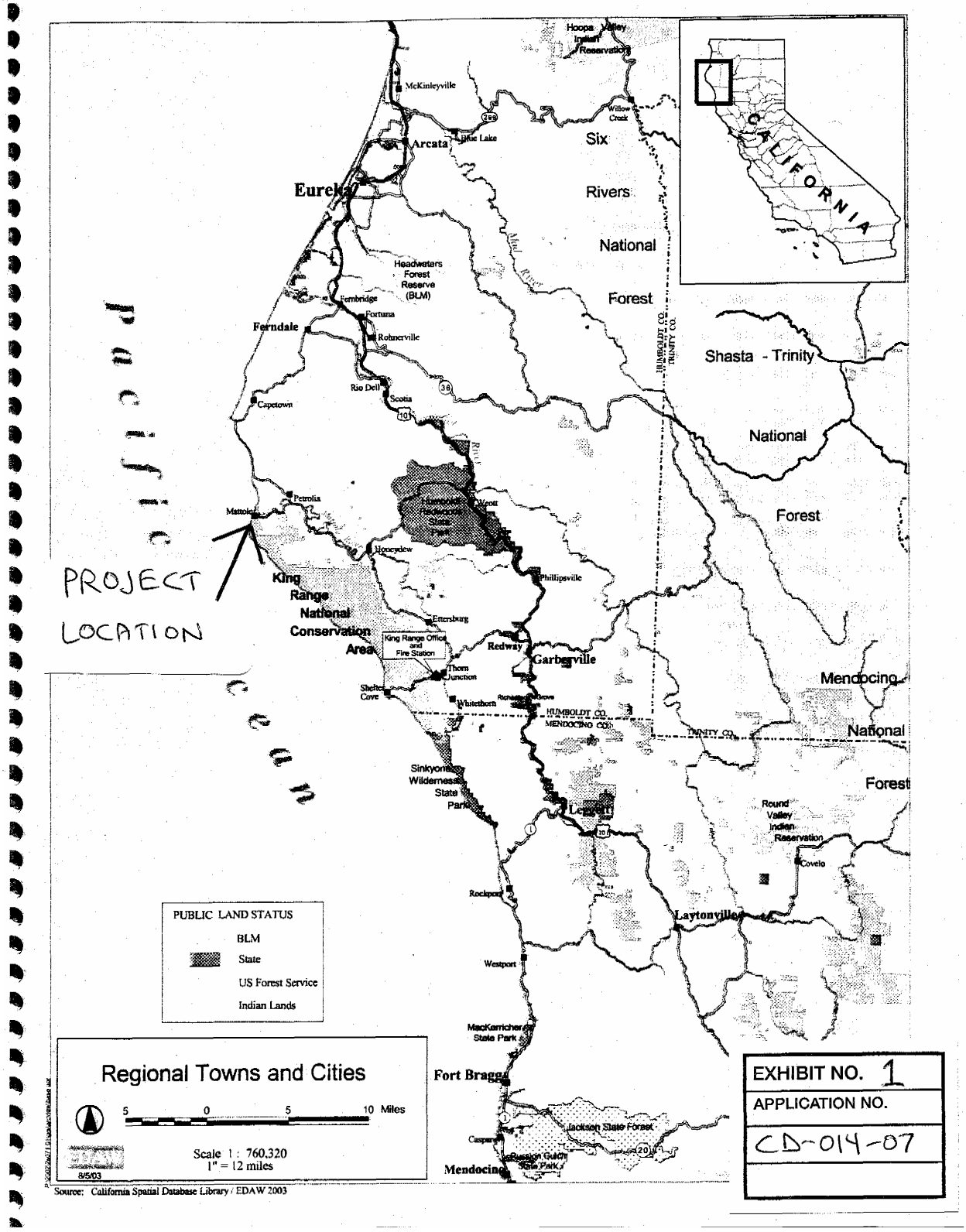
Rationale: This road and a number of unmaintained spurs provide access into the gravel bars in the Mattole Estuary area. The main road also fords the river to private property on the north side (landowner has an easement). The gravel bars are currently accessed for a variety of uses, including fishing (drift boat takeout), hunting, hiking, overnight camping, and wildlife viewing. Parts of the estuary contain riparian vegetation and woody debris critical to the anadromous fishery and other wildlife values. Local fishery restoration groups have focused considerable attention on monitoring and improving habitat in the area and are concerned about impacts from unmanaged vehicle use, as well as firewood cutting, escaped campfires, etc. The portion of the estuary below mean high water line was outside of BLM's management jurisdiction. However, the BLM recently obtained a permit from the State Lands Commission to manage vehicle use on these lands. Allowing use on designated routes would provide for managed vehicle access and use of two routes that do not impact the riparian vegetation.

FZAU 6: Dispersed camping would continue to be allowed along the Mattole Estuary access route identified in the Travel Management section of the plan (Section 4.18). Barriers of natural materials (mainly driftwood) would be placed along the access route to allow a small number of dispersed camping locations, but to restrict vehicle and camping access from disturbing sensitive estuary resources and riparian areas. This site would not be designated as an overflow or dispersed campsite, but would be managed to allow continued use at a small number (5-10) of dispersed locations.

The BLM states in the subject consistency determination that a variety of water-oriented recreational activities presently occur in the Mattole River estuary, including camping at the Mattole Campground, beachcombing, hiking along the river and beach, fishing, boating, and vehicle access into the estuary and onto the gravel river bars. Vehicular access onto the gravel bars within the estuary has existed for decades. The BLM also states that while the proposed project will use an existing public access road within the estuary to approach the project site, the temporary construction traffic and work will not impede public access to the estuary or adjacent coastal areas, and that the fish habitat improvement structures will not change public access to or recreational use of the Mattole River estuary.

The proposed project will occur over an approximate three-week-long period in June 2007. The BLM is not closing or restricting any existing public access routes or recreational areas in or adjacent to the Mattole River estuary during the construction period, except for the immediate area where installation of the habitat structures will occur. Vehicles are presently allowed on the gravel bars in the estuary for a variety of recreational activities and such use will continue during the construction period. The temporary presence of a small number of construction-related vehicles at the work site will not be disruptive or represent a new means of access into the estuary. The expected improvement in salmonid habitat in the estuary due to the construction of the log/boulder structures is also expected to ultimately improve recreational fishing in the Mattole River and in adjacent coastal waters. Therefore, the Commission finds that the proposed habitat improvement structures will not adversely affect public access and recreation on the

Mattole River estuary, and that the proposed project is consistent with the access and recreation policies of the of the CCMP (Coastal Act Sections 30210-13 and 30220).


Pacific Ocean
PROJECT LOCATION
Hoopa Valley Indian Reservation
McKinleyville
Arcata
Blue Lake
Willow Creek
Eureka
Six Rivers National Forest
Headwaters Forest Reserve (BLM)
Fernbridge
Fortuna
Ferndale
Rohnerville
Rio Dell
Scotia
Capetown
Petrolia
Mattole
Humboldt Redwoods State Park
Weott
Honeydew
Phillipsville
King Range National Conservation Area
Ettersburg
King Range Office and Fire Station
Redway
Garberville
Thorn Junction
Shelter Cove
Whitethorn
Sinkyone Wilderness State Park
Leggett
Rockport
Westport
MacKerricher State Park
Fort Bragg
Jackson State Forest
Caspar
Russian Gulch State Park
Mendocino
Shasta - Trinity National Forest
Mendocino National Forest
Round Valley Indian Reservation
Covelo
Laytonville
HUMBOLDT CO.
MENDOCINO CO.
TRINITY CO.
CALIFORNIA
PUBLIC LAND STATUS
BLM
State
US Forest Service
Indian Lands
Regional Towns and Cities
5 0 5 10 Miles
Scale 1 : 760,320
1" = 12 miles
8/5/03
Source: California Spatial Database Library / EDAW 2003
EXHIBIT NO. 1
APPLICATION NO.
CD-014-07

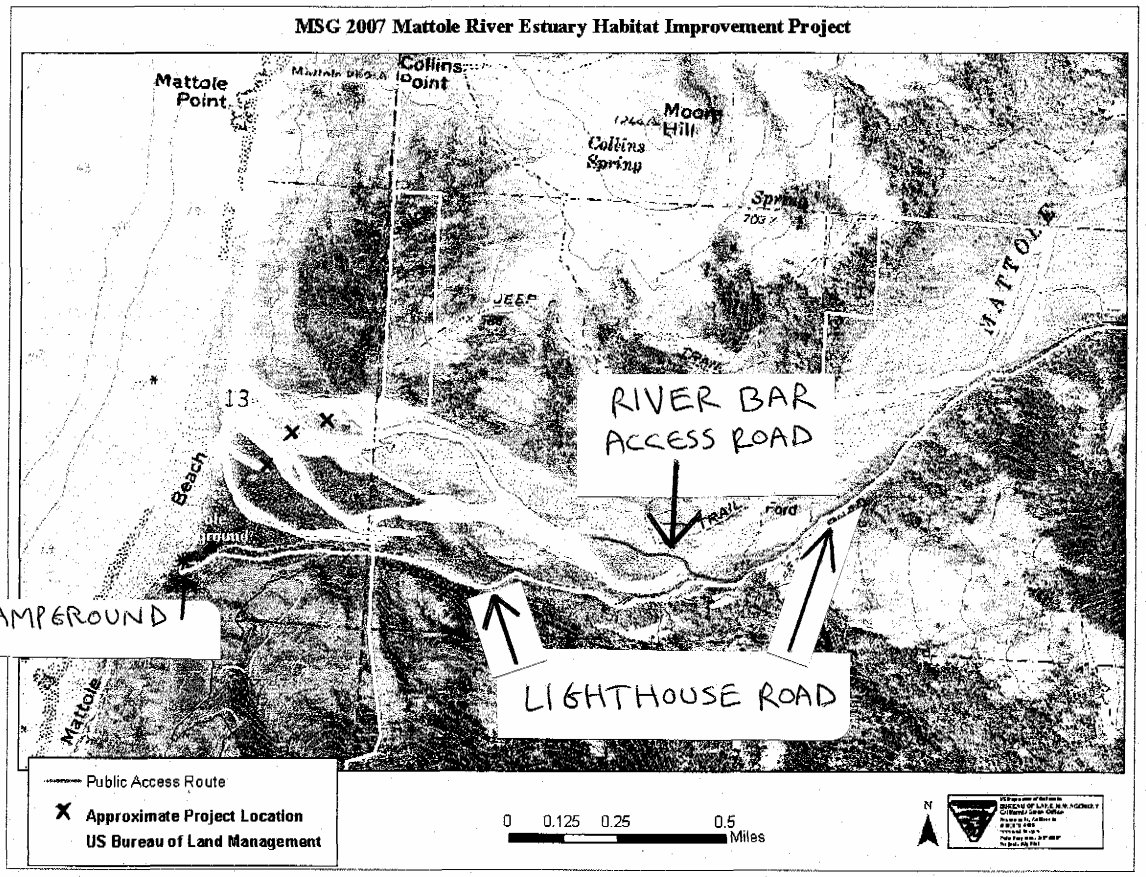


EXHIBIT NO. 2
APPLICATION NO.
CD-014-07

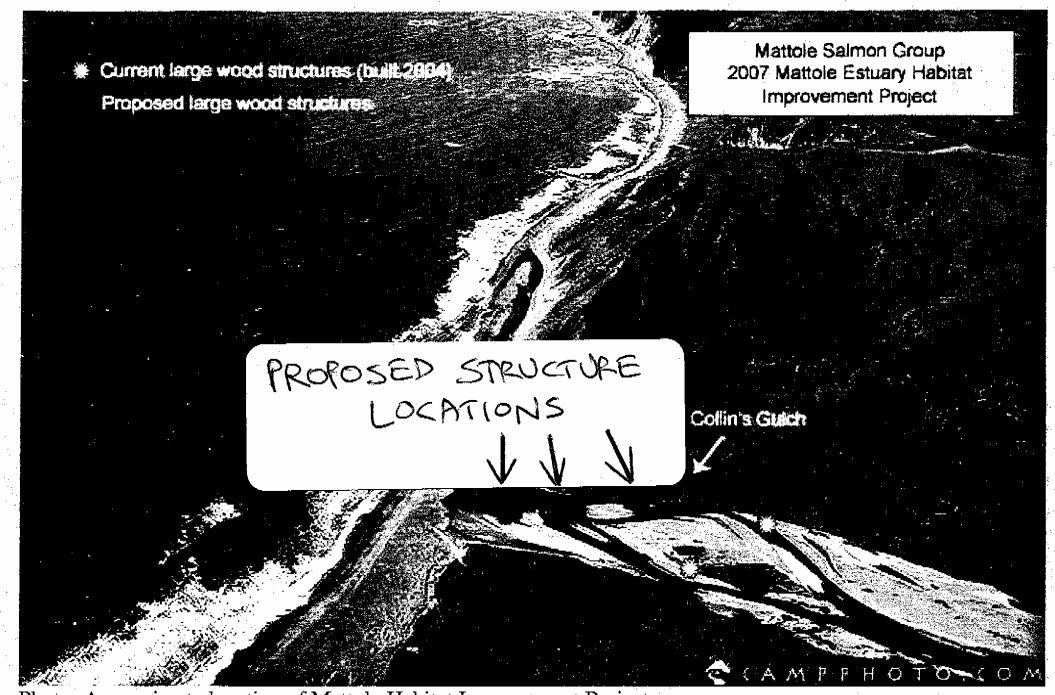


Photo: Approximate location of Mattole Habitat Improvement Project.

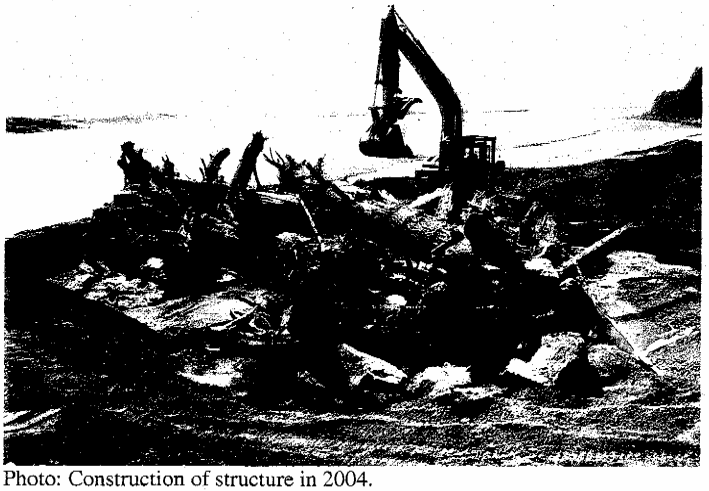


Photo: Construction of structure in 2004.

EXHIBIT NO. 3
APPLICATION NO.
CD-014-07

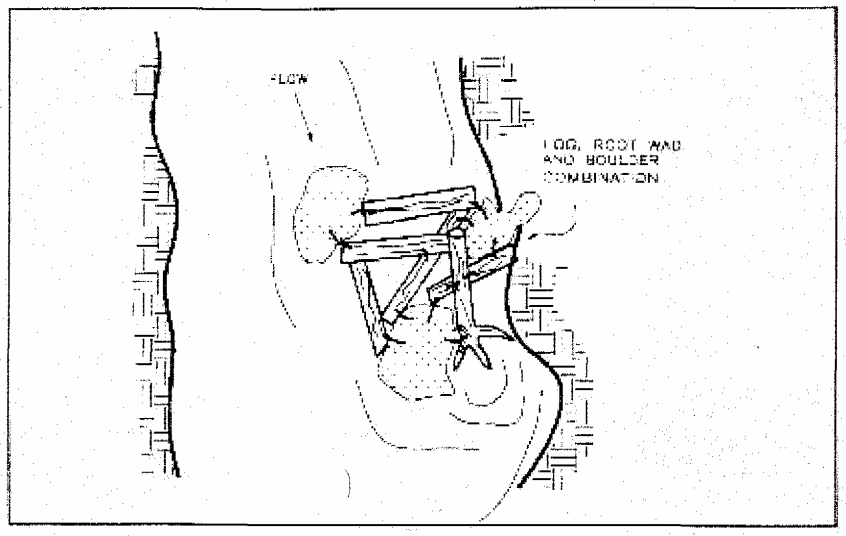


Diagram: Excerpted from California Department of Fish and Game Salmonid Stream Habitat Restoration Manual, 2003, Page VII-28.

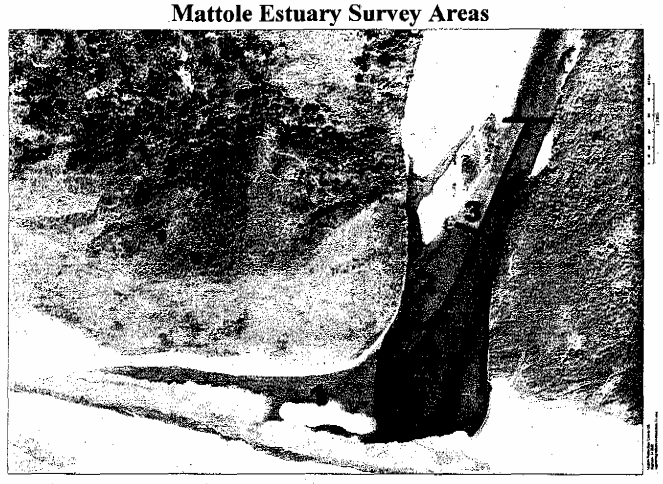
EXHIBIT NO. 4
APPLICATION NO.
CD-014-07

Preliminary Report for California Coastal Commission

Mattole Salmon Group
Estuary Water Quality Monitoring Project
Underwater Salmonid Observation Surveys with special reference to Large Woody Debris Habitat Enhancement Structure

During the summer of 2006, direct underwater observation counts of juvenile salmonids were conducted in the Mattole Estuary with concurrent water quality monitoring. The estuary/lagoon was divided into five subsections to evaluate salmonid habitat utilization (see map below). The MSG large wood habitat structure is located in Area 2.

Mattole Estuary Survey Areas



MSG personnel conducted thirteen direct underwater observation counts of salmonids from June 8 through November 1, 2006. 50,243 <4" steelhead, 22,912 4"-8" steelhead, 1,035 >8" steelhead, 2,947 Chinook (<4"), and one coho were observed during the 2006 estuary/lagoon dives.

Within area 2, the majority of all fish observed were located at the existing LWD structure or under overhanging riparian vegetation on the river bank. A greater proportion of >8" steelhead (~74%) were seen in Area 2 than in any other sub-section of the estuary. 765 of 1035 >8" steelhead were observed in Area 2. Significant numbers of <4" steelhead (8474) and 4"-8" steelhead (3414) were also observed in Area 2. Fifty Chinook were observed in Area 2 throughout the entire dive series.

EXHIBIT NO. 5
APPLICATION NO.
CD-014-07