



UNITED STATES DEPARTMENT OF COMMERCE  
 National Oceanic and Atmospheric Administration  
 NATIONAL MARINE FISHERIES SERVICE

WR-35

29449

Southwest Region  
 777 Sonoma Avenue, Room 325  
 Santa Rosa, California 95404

March 8, 2000 F/SWR4:WH

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 DIV. OF WATER RIGHTS  
 SACRAMENTO  
 Received  
 faxed copy  
 on 3/8/00

Harry Schueller  
 Chief, Division of Water Rights  
 State Water Resources Control Board  
 Division of Water Rights  
 P.O. Box 2000  
 Sacramento, California 95812-2000

Dear Mr. Schueller:

By this letter the National Marine Fisheries Service registers its protest to the application for appropriative water right 29449 filed by Doug Cole, et al. to divert water from Stanshaw Creek, which is tributary to the Klamath River. The Project proposes to divert 3 cfs for the purpose of hydroelectric generation. Stanshaw Creek, which lies within the Klamath River watershed, may support or contribute to sustaining populations of the Central California Coast Evolutionarily Significant Unit (ESU) of coho salmon.

**Background**

Coho salmon (*Oncorhynchus kisutch*) comprising the Central California Coast ESU are listed as threatened (61 Fed. Reg. 56138; Oct. 31, 1996) under the Endangered Species Act (ESA). Protective regulations were published for coho on October 31, 1996. These protective regulations make it unlawful to "take" coho under section 9 of the ESA. "Take" as defined in the ESA, includes, in part, to harm or harass the species. These protective regulations describe certain activities that may impact coho and result in legal liability. These activities include, in part:

*Unauthorized destruction/alteration of the species' habitat, such as removal of large woody debris or riparian shade canopy, dredging, discharge of fill material, draining, ditching, diverting, blocking, or altering stream channels or surface or ground water flow.*

In contrast to the life history patterns of other anadromous salmonids, coho salmon in California generally exhibit a relatively simple 3-year life cycle. Adult salmon typically begin the freshwater migration from the ocean to their natal streams with the first fall rains. Upstream migration will continue from October to March, generally peaking in December and January (Shapovalov and Taft 1954).

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Coho fry emerge from redds, in 38 to 101 days depending on stream temperature (Laufle et al. 1986). After emergence, the stream flow conditions and water temperature play a large role in survival. Low summer flows reduce potential rearing areas, may cause stranding in isolated pools, and increase vulnerability to predators (Sandercock 1991). Also the combination of reduced flows and high ambient air temperatures can raise the water temperature to the upper lethal limit of 25°C for juvenile coho (Brett 1952). Later in the year, high winter flows in typical coastal streams may be hostile to juvenile coho, causing displacement and disrupting their habitat and food sources. Juvenile coho show a preference for habitat containing deep pools (1 m or more), logs, rootwads, or boulders in heavily shaded sections of stream. Structurally complex streams that contain stones, logs and bushes in the water support larger numbers of fry (Scrivener and Andersen 1982). Although coho juveniles are found in both pool and riffle areas of a stream, they are best adapted to holding in pools (Hartman 1965).

### **Proposed Diversion**

Appropriation of water will be accomplished by directly diverting 3 cfs from Stanshaw Creek for hydroelectric power generation via flume of 12-inch deep, 24-wide, and 5,200 ft long, then through a penstock of 16-inch diameter, 455 ft long steel pipe. The penstock uses a 200 ft fall to generate a maximum of 33.9 kilowatts at 80% efficiency at a powerplant just above Irving Creek. After use, the water will be returned to Irving Creek through a ditch, and thence to the Klamath River. The applicant has requested to divert water year-round, from January 1 through December 31. Stanshaw Creek, like other Northern California streams, is subject to critical, low flows during much of the year. Granting the proposed diversion will reduce flows in these streams and may degrade habitat necessary to the existence of certain life stages of coho salmon. Alteration of stream flows can result in salmonid mortality for a variety of reasons: migration delay resulting from insufficient flows or habitat blockages; loss of sufficient habitat due to dewatering and blockage; stranding of fish resulting from rapid flow fluctuations; entrainment of juveniles into poorly screened or unscreened diversions; and increased juvenile mortality resulting from increased water temperatures (Bergen and Filardo 1991; California Advisory Committee on Salmon and Steelhead Trout 1988; California Department of Fish and Game 1991; Columbia Basin Fish and Wildlife Authority 1991; Palmisano et al. 1993; Reynolds et al. 1993).

Based upon the need to protect and recover runs of listed coho salmon in the Klamath River watershed, we find it necessary to protest the proposed project because:

- 1) The Klamath River watershed supports federally listed coho salmon. Stanshaw Creek, upon which the proposed diversion would occur, lies within the Klamath River watershed and may support or contribute to the survival of this species.

- 2) by reducing and periodically interrupting stream flows in downstream reaches of Stanshaw Creek, the project may reduce available habitat for coho salmon. Even if coho salmon or its habitats are not located "immediately" downstream of the point of diversion, the affected stream reach may be an important area for the production or transport of invertebrate foods that subsequently drift downstream to rearing juveniles. In addition, many small tributaries to the Klamath River sustain year-round flows of coldwater that provide important thermal refuges for salmonids present within the Klamath mainstem. These coldwater refuges, which help sustain salmonids through warm summer months, should be protected.
- 3) the Applicant has not proposed to mitigate the effects of those reductions in available habitat by providing an adequate minimum bypass flow. The SWRCB's minimum bypass guideline of 60% mean annual flow does not provide adequate protection for anadromous salmonids.
- 4) the proposed diversion may potentially eliminate or appreciably reduce the magnitude or frequency of naturally occurring intermediate and high flows necessary for natural, channel maintenance processes and the successful movements of migrating fishes in Stanshaw Creek (Barinaga 1996; Poff et al. 1997). Limits on the rate of water withdrawal must be established in order to preserve a natural hydrograph that provides biologically and geomorphologically important intermediate and high flows. Also, the potential cumulative effect of the proposed diversion and other existing permitted and licensed diversions on biologically-important intermediate and high flows within the Stanshaw Creek watershed must be assessed.
- 5) The proposed diversion is one of several proposed and existing diversions in the Klamath watershed. Multiple diversions can collectively adversely affect listed salmonids by reducing available habitat for these species and related forage species, by reducing flows necessary for upstream and downstream passage of listed salmonids, and by interfering with natural stream channel processes. The cumulative effect of this project and other existing permitted and licensed projects in this watershed must be addressed before this permit is granted. If the proposed project and the existing water right permits and licenses have a significant, cumulative adverse effect on listed salmonids, this project should not be permitted. The SWRCB has a duty to disclose, evaluate, and mitigate the potential adverse cumulative impacts of the proposed project and other water diversion projects in the Stanshaw Creek and Klamath River watersheds on the threatened population of coho salmon.
- 6) The potential effect of the water diversion structure on upstream and downstream movements of listed salmonids has not been addressed. Diversion structures may block fishes from reaching their natal spawning areas. Diversion

structures also have the potential to entrain fishes, with resulting mortality.

### **Recommendations**

Based upon the above concerns and potential impacts of the proposed project, we recommend that the project be modified to include the following mitigative provisions:

- a) Provide a minimum bypass flow that adequately protects coho salmon in reaches downstream from the point of diversion during all days of the year. The determination of the bypass flow's adequacy can be based on site specific biological investigations conducted in consultation with CFG and NMFS staff. Given the historically low flows during summer months and high temperatures in the Klamath River, we recommend that diversions not occur during the period June 1 through October 1.
- b) the plan should avoid construction or maintenance of a dam or diversion barrier across Stanshaw Creek.
- c) natural, periodic, intermediate and high flows should be maintained immediately below the project. This is a complex issue that concerns potential cumulative impacts of this and other upstream permitted and licensed water diversions within the Stanshaw Creek watershed. Protection of intermediate and high flows can be accomplished through an assessment of cumulative impacts and placing limits on the rate of instantaneous water withdrawals from the stream.
- d) the potential effect of the project on upstream and downstream movements of anadromous salmonids must be addressed. If anadromous salmonids ascend Stanshaw Creek or have the likely potential to ascend this tributary then adequate passage facilities and screening at the diversion intake should be provided.
- e) the proposed project should provide California Department of Fish and Game personnel access to all points of diversion and places of use for the purpose of conducting routine and or random monitoring and compliance inspections.

Because of the presence of federally and state listed species in the Klamath watershed, continued development of the watershed without a coordinated watershed plan would be inconsistent with the purposes of the California Endangered Species Act, the Federal Endangered Species Act, sections 100, 1243, 1243.5, and 275 of the State Water Code and the State Water Resources Control Boards's obligations and authorities under the Public Trust Doctrine.

Thank you for your cooperation in the above. We look forward to continued opportunities for NMFS and the State Water Resources Control Board to cooperate in the conservation of listed species. If you have any questions or comments concerning

the contents of this letter please contact Dr. William Hearn at (707) 575-6062.

Sincerely,



James R. Bybee  
Protected Habitat Manager  
Northern California

References Attached

cc: Doug Cole, et al., Applicants  
R. Hight, CDFG, Sacramento  
D. Koch, CDFG, Redding

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