STATE OF CALIFORNIA - THE RESOURCES AGENCY GRAY DAVIS, Governor

DEPARTMENT OF FISH AND GAME
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February 16, 2001

Mr. Henry M. Ramirez, Chief
Project Power Planning Branch
State Water Project Analysis Office
Department of Water Resources
1416 Ninth Street
Post Office Box 942836
Sacramento, California 95814

Dear Mr. Ramirez:

Oroville Project (Feather River Project) No. 2100

As requested by the Department of Water Resource at the December 7, 2000 meeting of the Environmental Work Group, the California Department of Fish and Game formally submits our concerns and a directory of our authorities relative to the relicensing of the Oroville Project, FERC No. 2100 (enclosed).

Thank you for soliciting our concerns. If you have questions about the above, please contact Mr. Mike Meinz, Environmental Services IV, at (916) 358-2853 or mmeinz@dfg.ca.gov.

Sincerely,

for Larry L. Eng, Ph.D.
Assistant Regional Manager
Fisheries, Wildlife and Environmental Programs

Enclosures

cc: Mr. Mike Minez
Department of Fish and Game
1701 Nimbus Road, Suite A
Rancho Cordova, California 95670

Mr. David Boergers, Secretary
Federal Energy Regulatory Commission
888 First Street N. E.
Washington D. C. 20426

California Department of Fish and Game
Authorities Relative To Relicensing of the Oroville Project
FERC No. 2100

A. Federal Regulation and Policies Governing State Involvement in Licensing of Federal Energy Regulatory Commission.

Federal Power Act of 1920, as amended [16 USC 791-828c] *Established FERC and their licensing authority over hydroelectric projects.*

This act created the Federal Power Commission, now known as the Federal Power Regulatory Commission. Under the act, FERC has the power to issue licenses for hydroelectric power projects located in waters under the jurisdiction of the United States Government. In issuing licenses, the FERC has to give adequate protection, mitigation and enhancement of fish and wildlife [Federal Power Act, Section 10(a)(1)].

The 1986 amendments to the Federal Power Act, entitled the **Electric Consumers Protection Act (ECPA)**, mandated several fish and wildlife provisions. Each license is to include conditions to protect, mitigate and enhance fish and wildlife affected by the project. These conditions are to be based on recommendations received pursuant to the Fish and Wildlife Coordination Act from the Fish and Wildlife Service, the National Marine Fisheries Service, and State fish and wildlife agencies (16 U.S.C. 803(j)(1)). The Commission is empowered to resolve any instances in which such recommendations are viewed as inconsistent while according "due weight to the recommendations, expertise, and statutory responsibilities" of the resource agencies.

In addition, the Commission is mandated to make two findings if the recommendations are not adopted in whole or in part (16 U.S.C. 803(j)(2)). These include: (1) a finding that adoption of the recommendations would be inconsistent with the purposes and requirements of this subchapter (16 U.S.C. 803(j)(2)(A)); and (2) a finding that the conditions selected by the Commission satisfy the requirement to adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (16 U.S.C. 803(j)(2)(B)).

Fish and Wildlife Coordination Act [16 USC 661 et seq.] *Requires Federal Agencies to consult with appropriate fish and wildlife agency.*

This act requires whenever the waters of any stream or other body of water under the jurisdiction of the United States are proposed to be impounded,

diverted, or otherwise controlled or modified requires the responsible Federal in the agency will consult with the Fish and Wildlife Agency and/or the National Marine Fisheries Service, as appropriate.

Therefore, the FERC is requires to consider any reports and recommendations submitted by fish and wildlife agencies (including California Department of Fish and Game) before authorizing construction or modification of hydroelectric projects. However, the final decision to adopt fish and wildlife agencies recommendation rest with FERC. That is, the California the California Department of Fish and Game has no mandatory conditioning authority relative to FERC projects.

Fish and Wildlife Conservation Act of 1980 [16 USC 2901-2911] *Conservation of non-game fish and wildlife.*

This act requires all Federal departments and agencies to utilize their administrative and statutory authority to the maximum extent practicable to conserve and promote conservation of non-game fish and wildlife species.

B. Key State Regulations and Policies

Fish and Game Code Section 700 et seq. - *Organization and General Functions*

Section 711.7(a) - The fish and wildlife of the state are held in trust for the people of the state by and through the Department of Fish and Game. Fish and Wildlife Protection

Fish and Game Code Section 1600 et esq. – *Streambed Alteration Agreements; Fish and Wildlife protection and Conservation*

This statue gives the California Department of Fish and Game the authority to regulate activities that would alter flow, bed, channel or bank of natural streams and lakes in which there is at any time an existing fish and wildlife resource or from which these resources derive benefit .....(abridged text)

Fish and Game Code Sections 1740 et seq. - Black *Bass Conservation and Management Act*

Section 1741- It is the policy of the state to preserve and enhance black bass resources and to manage black bass populations to provide satisfactory recreational opportunities.

Fish and Game Code Section 1800 et seq. – *Conservation of Wildlife Resources*

Section 1802 - The department has jurisdiction over the conservation, protection, and management of fish wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. The department, as trustee for fish and wildlife resources, shall consult with lead and responsible agencies and shall provide, as available, the requisite biological expertise to review and comment upon environmental documents and impacts arising from project activities, as those terms are used in the California Environmental protection act review and comment

Fish and Game Code Section 2050 et seq. – *California Endangered Species Act (CESA)*

Section 2052 – The legislature further finds and declares that it is the policy of the state to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat and that it is the intent of the Legislature, consistent with conserving species, to acquire lands for habitat for these species.

Fish and Game Code Section 5650 et seq. – *Pollution, i.e., makes it illegal to discharge specific substances into state waters*

Fish and Game Code Section 5900 et seq. – *Dams, Conduits, and Fish Screens*

Section 5931 – Fishways: If, in the opinion of the commission, there is not free passage for fish over or around any dam, the department shall cause plans to be furnished for a suitable fishway, and order in writing the owner of a dam to provide the dam, within a specified time, with a durable and efficient fishway, of such form and capacity and in such location as shall be determined by the department. Such fishway shall be completed by the owner of the dam to the satisfaction of the department within the specified time.

Section 5937 – Minimum Streamflow: The owner of a dam shall allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam.....(abridged text)

Section 5938 – Fish Hatchery: Whenever, in the opinion of the commission

It is impracticable, because of the height of the dam, or other conditions, to construct a fishway over or around, the commission may, in lieu of the fishway, order the owner of the dam completely to equip, within a specific time, on the site selected by the department, a hatchery .....(abridged text)

Fish and Game Code Section 6900 et seq. – *Salmon, Steelhead Trout, and Anadromous Fisheries Program Act*

Section 6901(d) – Protection of, and an increase in, the naturally spawning salmon and steelhead trout resources of the state would provide a valuable public resource .....(abridged text)

Section 6901(e) – Proper salmon and steelhead trout resources management requires maintaining adequate levels of natural, as compared to hatchery, spawning and rearing.

Section 6901(g) – The protection of, and increased in, the naturally spawning and steelhead trout of the state must be accomplished primarily through the improvement of stream habitats.

C. Key Fish and Game Commission Policies

***Salmon* [Fish and Game Code, pg 477]** – It is the policy of the Fish and Game Commission that salmon shall be managed to protect, restore and maintain the population and genetic integrity of all identifiable stocks. Salmon streams shall be inventoried for quantity and quality of habitat, including instream flow requirements. Restoration plans shall identify habitats for restoration and acquisition and opportunities to protect or guarantee future instream flows. Existing salmon habitat shall not be diminished further without offsetting the impacts of the lost habitat. All available steps shall be taken to prevent loss of habitat, and the Department of Fish and Game shall oppose my development or project that will result in irreplaceable loss of fish. Artificial production shall not be considered as appropriate mitigation for the loss of wild fish or their habitat.....(abridged text)

Steelhead Trout [Fish and Game Code, pg 478] - It is the policy of the Fish and Game Commission that steelhead shall be managed to protect and maintain the populations and genetic integrity of all identifiable stocks. Naturally spawned steelhead shall provide the foundation of the Department's management program. The remainder of this policy is similar to the policy for salmon.

Warmwater Game Fish Stocking [Fish and Game Code, pg 483] - It is the policy of the Fish and Game Commission that maintenance stocking of warmwater

game fish is not recommended because satisfactory populations are usually sustained by natural reproduction. .....(abridged text)

Land Use Planning [Fish and Game Code, pg 488] - It is the policy of the Fish and Game Commission that the Department of Fish and game coordinate closely with State , Federal and local planning agencies in the formulation and implementation of any plans which may impact fish and wildlife resources.....(abridged text)

Water [Fish and Game Code, pg 507] - It is the policy of the Fish and Game Commission that the quantity and quality of the waters of California should be apportioned and maintained so as to produce and sustain the maximum numbers of fish and wildlife. To provide maximum protection and enhancement of fish and wildlife and their habitat, the Department shall review and comment on proposed water development projects, on applications for licenses or permits for water use, water development and on projects affecting aquatic habitats. It is also directed to recommend and seek adoption of proposals necessary or appropriate for the protection and enhancement of fish and wildlife and their habitat, and to oppose the issuance of permit or licenses which have not prevented or adequately compensated for damages to fish and wildlife.....(abridged text). Also see **Public Resources Code Section 10,000** – *Streamflow Protection Standards*

Wetland Resources [Fish and Game Code, pg 508] - It is the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. .....(abridged text)

California Department of Fish and Game
Relicensing Concerns - Oroville Project
FERC No. 2100

The California Department of Fish and Game (DFG) has identified several broad areas of concern relative to the Relicensing of the Oroville Project. Those concerns are directed toward the protection of public trust resources associated with Lake Oroville, with the Feather River downstream of Lake Oroville, and include the operation of the Feather River Mitigation Hatchery and management of the Oroville Wildlife Area.

DFG respectfully requests that the California Department of Water Resources (DWR) application to the Federal Energy Regulatory Commission (FERC) for relicensing of the Oroville Project address the areas of concern outlined below. Our request in made under provisions of the Federal Power Act [Sections 10(a) and 10(j)], the Federal Fish and Wildlife Coordinate Act, and Section 21000 [Title 14] of the California Public Resources Code. Section 21000 designates DFG trustee for California's fish and wildlife resources and gives DFG jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species.

Our areas of concern include but may not be limited to the following:

Reservoir Surface Level Fluctuation

- Are the project related Lake Oroville water level fluctuations presently affecting the reproduction and survival of warmwater sportfish?

- How will the project related Lake Oroville water level fluctuations affect the reproduction and survival of warmwater sportfish under future operational demands?

- Is the present minimum pool adequate for protecting the Lake Oroville cold-water sport fishery?

Water Temperature

- Are the existing temperature requirements defined under the State Water Projects Feather River Flow Constraints being met and are they adequately protecting steelhead and fall, late-fall, and spring-run Chinook salmon in the low-flow section and in the river downstream of Thermalito Afterbay outlet?

- Is the availability of a cold-water pool in Lake Oroville adequate under present and future operational demands to meet the existing downstream cold freshwater habitat requirements of steelhead and fall, late-fall, and spring-run Chinook salmon?

- Are the existing temperature requirements defined under the State Water Projects Feather River Flow Constraints adequate for the operation of the Feather River Hatchery?

- Is the availability of a cold-water pool in Lake Oroville adequate under present and future operational demands to meet the cold-water requirements defined under the State Water Projects Feather River Flow Constraints for the Feather River Hatchery?

- Does the existing Temperature Control Device (TCD) in Lake Oroville provide adequate access to the cold-water pool during below normal water or drier years?

- Will the existing TCD in Lake Oroville provide adequate access to the cold-water pool under future operational demands particularly during a series of dry and critically dry years?

- Does the present temperature model have the ability to forecast average daily water temperatures, under present and future operational demands, in the low flow channel and in the river from the Thermalito Afterbay outlet down to Vernona?

- How does the Feather River Hatchery requirement for warmer water in the summer impact river water temperatures required for holding or rearing of steelhead and spring-run Chinook salmon in the low-flow section? That is, should the hatchery water come directly from Lake Oroville rather than from the river at the Fish Barrier Dam in order that both hatchery and river temperature needs can be satisfied?

- How does the pump-back operation during the summer months affect water temperatures required for holding and rearing of steelhead and spring-run Chinook salmon in the low-flow section and in the river downstream of Thermalito Afterbay?

- Does the increase in river water temperature that results from warmer Thermalito Afterbay releases during the spring, summer, and fall months limit the amount of suitable steelhead and salmon habitat in the river downstream of Thermalito Afterbay?

- Does the increase in river water temperature that results from warmer Thermalito Afterbay releases during the spring and early summer months affect survival of Salmonid species outmigrating from the Yuba River?

Water Quality

- Are Dissolved Oxygen levels in the Feather River from Thermalito Afterbay to Live Oak a problem during the spring, summer and fall months?

Fisheries Habitat/Stream Flow

- Are the present stream flows defined under the State Water Projects Feather River Flow Constraints being met and are they adequately protecting steelhead and fall, late-fall, and spring-run Chinook salmon in the low-flow section and in the river downstream of Thermalito Afterbay for migrating, holding, spawning, and rearing of steelhead and fall, late-fall, and spring-run Chinook salmon?

- Is additional Physical Habitat Simulations modeling (PHABSIM) necessary to determine what stream flows are necessary for spawning and rearing steelhead and fall, late-fall, and spring-run Chinook salmon in the low-flow section and in the river downstream of Thermalito Afterbay?

- Is riparian vegetative cover in the low-flow section and in the river downstream of Thermalito Afterbay adequate under present flow conditions for rearing steelhead and fall, late-fall, and spring-run Chinook salmon?

Fluvial Geomorphology

- Are the present flow requirements defined under the State Water Projects Feather River Flow Constraints adequate for maintaining natural fluvial river functions in the low-flow section and in the river downstream of Thermalito Afterbay
  (i.e., diversity of habitats: pool to riffle ratios, pool depth, stream bank angle, stream bank stability, stream bank vegetative cover, bedload deposition pattern, and stream bank vegetation root depth verses stream bank height above bankful height).

- Under existing conditions, does the diversity and abundance of benthic macroinvertebrates in the low-flow section and in the river downstream of Thermalito Afterbay suggest a healthy stream channel?

- Under existing conditions, are there adequate amounts of suitable gravel for Salmonid spawning in the low-flow section and in the river downstream of Thermalito Afterbay?

- Under existing conditions, are bankful flows frequent enough to maintain channel morphology, sediment transport, habitat diversity and adequate gravels for Salmonid spawning and rearing in the low-flow section and in the river downstream of Thermalito Afterbay?

- Under existing conditions, are the moderate winter floods and bankful flows adequately recruiting the amount of Large Woody Debris needed to maintain adequate Salmonid rearing habitat in the low-flow section and in the river downstream of Thermalito Afterbay?

- How will the future demand for project water change the timing and duration of moderate winter floods and bankful flows in the low-flow section and in the river downstream of Thermalito Afterbay?

Ramping and Fluctuation in River Flow

- Are the present project related flow ramping/fluctuation restraints adequately protecting rearing Salmonid species from being stranded in the low-flow section and in the river downstream of Thermalito Afterbay?

- Are the present project related flow ramping/fluctuation restraints adequately protecting Salmonid redds and spawning gravel from being scoured out from the low-flow section and from the river downstream of Thermalito Afterbay?

Introgression of Fall and Spring-run Chinook Salmon

- What engineering or other reasonable and prudent solutions are available that would prevent the interbreeding of fall and spring-run Chinook salmon in the low flow section of the Feather River (migration barrier and/or flow and temperature changes in low flow section)?

Fish Diseases

- Would a fish screen(s) on the pump-back operation prevent Infectious Hemopoatic Necrosis (IHN) and other diseases specific to Salmonid species from spreading and becoming permanently established in Lake Oroville? IHN, if permanently established in Lake Oroville, would affect survival of hatchery and river spawned Salmonid species.

Oroville Wildlife Area

- Are additional funds are needed to augment the existing budget of the Oroville Wildlife Area? Presently available Fish and Game funds are being dedicated to managing people and not wildlife habitat.
- Are additional funds are needed for law enforcement? Presently 2/3's of all the local game warden activities are spent on the Oroville wildlife Area. An augmentation of funding for more wardens would free up time for other law enforcement activities outside of the wildlife area.

Endangered Species

- Have adequate surveys been completed to determine what state or federally listed species (plant and animal) are potentially being impacted by project operations?

Fish and Wildlife related Recreation

- Has DWR completed or met all its obligations for recreation mitigation (wildlife habitat and fishing) under the existing FERC license?