



State of California - The Resources Agency  
**DEPARTMENT OF FISH AND GAME**  
<http://www.dfg.ca.gov>  
 Central Region  
 1234 East Shaw Avenue  
 Fresno, California 93710  
 (558) 243-4005

ARNOLD SCHWARZENEGGER, Governor



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FEDERAL ENERGY  
 REGULATORY COMMISSION

Ms. Kimberly D. Bose, Secretary  
 Federal Energy Regulatory Commission  
 888 First Street, N.E.  
 Washington, D.C. 20426

Subject: Don Pedro Project No. 2299-057, License Articles 57 & 58 Fishery Monitoring Program

Dear Secretary Bose:

This letter re-iterates and clarifies various California Department of Fish and Game (Department) comments provided to the Federal Energy Regulatory Commission (FERC) since July 25, 2005 regarding the 20 year fishery monitoring program stipulated in Articles 57 and 58 of FERC's New Don Pedro Project No. 2299 (Project). It is critical that the monitoring program during the remaining years of this license focus on the key factors which have the strongest likelihood to recover significant fall-run Chinook salmon (salmon) and rainbow trout (trout) production lost due to Project operations.

The key factors which the Department requests FERC incorporate into License Articles 57 and 58 for the balance of the current license period are:

1. Results from fish study elements contained within the 1996 FERC Settlement Agreement to date are sufficient to conclude that:
  - a. Protection of the smolt life history stage is a primary factor influencing adult salmon abundance and population trends in the Tuolumne River;
  - b. The abundance of smolts outmigrating from the Tuolumne River\_(e.g. in freshwater below the Project) is the primary determinant of adult Salmon escapement<sup>1</sup> in the Tuolumne River;
  - c. Flow rate<sup>2</sup> (e.g. cubic feet per second, magnitude, duration and frequency across years) during the critical rearing and smolt outmigration season is the primary determinant of the number of smolt outmigrants from the Tuolumne River;

<sup>1</sup> Escapement = the abundance of adult salmon returning from the Pacific Ocean to spawn.

<sup>2</sup>Evidence collected to date strongly suggests that elevated winter and spring flow levels in the Tuolumne River, over longer durations, provide both individual, and cumulative (winter and spring flows combined) smolt out-migration production benefits. Tuolumne River smolt out-migration production abundance occurs from most to least in the following patterns: 1) high winter and spring pulse flow magnitude and duration; 2) high winter flow magnitude and duration combined with low spring pulse flow magnitude and duration, or low winter pulse flow magnitude and duration combined with high spring pulse flow magnitude and duration; and 3) low winter and spring pulse flow magnitude and duration.

- d. Factors controlling smolt survival and abundance in the Tuolumne River are under direct control of the Licensees and their Project operations<sup>3</sup>;
  - e. Excessively warm spring water temperature impairment in the Tuolumne River is of great concern given the linkage between elevated water temperature and smolt survival, abundance, and fish health;
  - f. Elevated spring flows in the Tuolumne River, over longer duration, can greatly reduce spring water temperature impairment in the Tuolumne River;
  - g. The current FERC mandated flows afforded in all eleven schedules for spring flow magnitude, duration, and frequency are inadequate, within each year type, for protection of both salmon and trout populations in the Tuolumne River;
  - h. From a cumulative impacts/benefits perspective, elevated spring flow magnitude, duration, and frequency from Project flow releases on the Tuolumne River (i.e. the largest of the San Joaquin River east-side tributaries) have watershed level benefits due to improved water temperatures, increased food resources from floodplain inundation, increased habitat availability, reduced predation, reduced disease, reduced pump entrainment, and reduced impacts from contaminants in the Tuolumne River, lower San Joaquin River, and South Delta.
2. The Licensee's funding of key monitoring elements should include:
- a. Adequately calibrated<sup>4</sup> rotary screw traps (RST's), operated using standardized San Joaquin River basin rotary screw trap operation protocols, at upper and lower sites in the Tuolumne River. RST data yields substantial juvenile salmon and rainbow trout information regarding abundance, survival rates, out-migration timing, and fish health. Use of RST's as a juvenile monitoring tool should be required throughout the entire juvenile salmonid migratory period (i.e., from Dec. 15 through June 15 annually) and should be continued annually for the balance of the current Project license term;
  - b. Fall adult escapement surveys and age analyses conducted by the Department. These surveys provide substantial information regarding adult abundance, age class distribution, hatchery and wild fish composition, life history stage contribution and should be continued annually for the balance of the current Project license term;
  - c. Juvenile salmonid survival studies via use of coded wire and/or acoustic tags to verify that revised flow schedules are providing anticipated levels of juvenile and adult production<sup>5</sup>;

<sup>3</sup> Factors outside the Licensees control (e.g. Delta pumping, ocean harvest, and channel morphology) are not the principal factors affecting adult salmon abundance in the Tuolumne River.

<sup>4</sup> Rotary screw traps must be calibrated over the full range of seasonal flows and the full range of fish sizes using a sufficient number of wild or hatchery produced fish.

<sup>5</sup> Results from additional (e.g. future) smolt versus flow survival studies must be in a metric that provides continuity (e.g. useability) with previous Tuolumne River basin wide smolt versus flow survival studies.

- d. Continued use of seines as a population estimation tool by the Licensees is an invalid monitoring method and should be discontinued in favor of helping finance items 2a and 2b above.

Upon re-licensing the Department anticipates that FERC will consider license conditions necessary to mitigate for the average annual loss of 33,392 fall-run Chinook salmon<sup>6</sup> (Salmon) as a direct result of Project operations<sup>7</sup>. Protection of rainbow trout below the Project's facilities is also crucial. The Department encourages FERC to incorporate into its order regarding License Articles 57 and 58:

1. Between now and the re-licensing proceedings, License Article studies must be aimed directly at refining operational criteria and other conditions that improve smolt survival and production in the Tuolumne River;
2. An adaptive management strategy with a robust monitoring plan should be implemented to provide verification that refined flow schedules and operational criteria result in increased smolt survival and production in the Tuolumne River. The State and Federal Fish Agency *draft Limiting Factors Analyses & Recommended Studies for Fall-run Chinook Salmon and Rainbow Trout in the Tuolumne River* should be used as the basis to develop the monitoring program.
3. The Oak Ridge National Laboratory (ORNL) could best assist FERC, the licensees, and the Department at this time by:
  - a. Refining the flow schedule to increase smolt production and survival (e.g. shape magnitude, duration, and frequency of winter/spring pulse flow events) needed to accomplish substantive progress towards meeting the outstanding mitigation requirements in the new articles;
  - b. Develop a monitoring program to verify the effectiveness of a refined flow schedule; and
  - c. Joining the Department and others in developing a hatchery management plan thence a conservation style hatchery (i.e. artificial propagation) to i) ensure an adequate supply of study fish and if necessary ii) supplement, rather than a replace, wild fish production in the Tuolumne River in years with relatively low escapement;
4. Refining the use of a 1996 FERC Settlement Agreement "TRTAC" type process that guides participant focus and funding toward key actions to recover adult Salmon escapement in the Tuolumne River;

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<sup>6</sup> Average Annual Loss calculation: Federal Court identified pre-project average annual adult fall-run Chinook salmon escapement (40,000) – Current Average Annual (e.g. 1970 through 2006) adult fall-run Chinook Salmon Escapement (6,608) = 33,392.

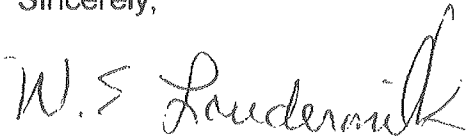
<sup>7</sup> Federal Appellate Court Decision (State of California et. al. vs. Federal Power Commission. Ninth Circuit Court of Appeals Decision dated May 18, 1965).

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5. The Department is proceeding to refine its San Joaquin River Salmon Population Model and making it available as a planning and assessment tool. FERC should encourage the development of this and other tools in establishing conditions for re-licensing of this project;
6. Measures to attain and sustain a healthy anadromous rainbow trout (e.g. steelhead) population and fishery in the Tuolumne River which includes an element to accomplish this goal consistent with the Department's Steelhead Management Plan<sup>8</sup>.

Thank you for considering these focused comments leading into the development of your Order regarding Project License Articles 57 and 58 of the existing License and, in early preparation for project re-licensing. If you have questions concerning these comments, please contact Mr. Dean Marston, Staff Environmental Scientist (559) 243-4014 ext. 241, at the address on this letterhead.

Sincerely,



W.E. Loudermilk  
Regional Manager

cc: Larry Weis, General Manager  
Turlock Irrigation District  
Post Office Box 949  
Turlock, California 95381-0949

Allen Short, General Manager  
Modesto Irrigation District  
Post Office Box 4060  
Modesto, California 95352-4060

Mr. John Enbring  
USWFS  
2800 Cottage Way W-2606  
Sacramento CA 95825

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<sup>8</sup> McEwan, D. and T. Jackson. 1996. Steelhead Restoration and Management Plan for California. California Department of Fish and Game.

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Mr. Roger Guinee  
USWFS  
2800 Cottage Way W-2606  
Sacramento CA 95825

Ms. Kim Webb  
USFWS  
Anadromous Fish Restoration Program  
Stockton Fish and Wildlife Office  
4001 N. Wilson Way  
Stockton, CA 95205

Dr. Carl Mesick  
USFWS  
Anadromous Fish Restoration Program  
Stockton Fish and Wildlife Office  
4001 N. Wilson Way  
Stockton, CA 95205

Mr. Stacy Li  
NOAA Fisheries  
777 Sonoma Ave., Suite 325  
Santa Rosa, CA 95404

Mr. Don Furmann  
City and County of San Francisco  
1390 Market Street Room 418  
San Francisco CA 94102

Ms. Julie Gantenbein  
Natural Heritage Institute  
1423 Marshall Street  
Houston, Texas 77006

Mr. Patrick Koeple  
Tuolumne River Trust  
829 Thirteenth St  
Modesto, CA 95354

Mr. & Mrs. Dave and Allison Boucher  
Friends of the Tuolumne River  
7533 Meadow Avenue  
Stockton CA 95207