UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404-4731

July 30, 2007

In response refer to:
150304SWR2001SR8648:SKL

Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Subject: **NOAA's National Marine Fisheries Service's comments on the Federal Energy Regulatory Commission staff's preliminary analysis of the Tuolumne River Fisheries Study Plan for the New Don Pedro Hydroelectric Project (FERC No. P-2299-060)**

Dear Secretary Bose:

By a letter dated July 13, 2007, the U.S. Fish and Wildlife Service requested that the Federal Energy Regulatory Commission (FERC) extend the review period on the preliminary analysis until July 30, 2007. NOAA's National Marine Fisheries Service provides these comments on FERC staff's preliminary analysis *(see* e-Library no. 20070619-0175 (June 15, 2007) of the Tuolumne River Fisheries Study Plan submitted by the Modesto and Turlock Irrigation Districts (collectively, "Districts") *(see* e-Library no. 20070320-5018 (March 20, 2007)). These comments are provided in accordance with provisions of the Federal Power Act as amended (16 U.S.C. §791 *et seq.*), the Fish and Wildlife Coordination Act (16 U.S.C. §661 *et seq.*), the National Environmental Policy Act (42 U.S.C. §4321 *et seq.*), and the Endangered Species Act (16 U.S.C. §1531 *et seq.*).

Specific questions or requests for clarification concerning this document may be directed to Stacy Li at (707) 575-6090.

Sincerely,

Steven A. Edmondson
Northern California Habitat Supervisor

Enclosure

cc: Service List

UNITED STATES DEPARTMENT OF COMMERCE
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NATIONAL MARINE FISHERIES SERVICE
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150304SWR2001SR8648:SKL

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Mail Code: DHAC, PJ-12.3
888 First Street, NE
Washington, D.C. 20426

NOAA'S NATIONAL MARINE FISHERIES SERVICE'S COMMENTS ON THE FEDERAL ENERGY REGULATORY COMMISSION STAFF'S PRELIMINARY ANALYSIS OF THE TUOLUMNE RIVER FISHERIES STUDY PLAN FOR THE NEW DON PEDRO HYDROELECTRIC PROJECT (FERC NO. P-2299-060)

Dear Secretary Bose:

By a letter dated July 13, 2007, the U.S. Fish and Wildlife Service requested that the Federal Energy Regulatory Commission (FERC) extend the review period on the preliminary analysis until July 30, 2007. NOAA's National Marine Fisheries Service (NMFS) provides these comments on FERC staff's preliminary analysis *(see* e-Library no. 20070619-0175 (June 15, 2007) of the Tuolumne River Fisheries Study Plan submitted by the Modesto and Turlock Irrigation Districts (collectively, "Districts") *(see* e-Library no. 20070320-5018 (March 20, 2007)). These comments are provided in accordance with provisions of the Federal Power Act (FPA) as amended (16 U.S.C. §791 *et seq.*), the Fish and Wildlife Coordination Act (16 U.S.C. §661 *et seq.*), the National Environmental Policy Act (42 U.S.C. §4321 *et seq.*), and the Endangered Species Act (ESA) (16 U.S.C. §1531 *et seq.*).

As we have previously brought to FERC's attention, the District's Fisheries Study Plan has many substantial deficiencies. NMFS stands by our recommendations that were made in the draft *Limiting Factors Analyses & Recommended Studies for Fall-run Chinook Salmon and Rainbow Trout in the Tuolumne* ("Agencies' Draft Limiting Factors Analyses"), which was submitted to FERC as Attachment 1 to the comment letter from the U.S. Fish and Wildlife Service, NMFS, and the California Department of Fish and Game sent March 7, 2007 *(see* e-Library no. 20070314-0089). The Agencies analyses summarized evidence that the number of adult Tuolumne River fall-run Chinook salmon produced at a given spring flow has declined by about 50% (mean of 6,805 recruits) since the FERC Settlement Agreement (FSA) was implemented

in 1996. The decline is statistically significant based on an F-test comparison of two flow-recruitment regression models: one based on the period from 1980 to 1990 and the other based on the period from 1998 to 2003. Furthermore, this decline has continued through fall 2006, when the escapement was estimated at only 625 fish. We recommend that this long-term decline justifies the need for a robust study plan that includes all of the study elements in the Agencies' Draft Limiting Factors Analyses.

We are also concerned that the minimum flow requirements specified in the FSA do not protect the resident and anadromous forms of rainbow trout in the Tuolumne River. Moreover, the Districts' draft study plan will not provide information needed to set instream flow requirements for Central Valley steelhead. NMFS had previously listed the Central Valley steelhead Distinct Population Segment (DPS) as threatened on March 19, 1998, and again listed as threatened on January 5, 2006. The listing includes all naturally-produced Central Valley steelhead in the Sacramento and San Joaquin basins. Eleven adult Central Valley steelhead were observed migrating upstream at the counting weir in the Stanislaus River between October 25, 2006, and March 11, 2007. It is likely that Central Valley steelhead occur in the Tuolumne River as well. The Agencies' Draft Limiting Factor Analyses describes studies that are needed to manage both the resident and anadromous forms of rainbow trout in the Tuolumne River.

The following are examples of some of the more substantial deficiencies in the Districts' draft study plan:

1. The Districts should be responsible for fully implementing fishery studies that are adequate to reach statically valid conclusions. In many instances, the Districts' propose to conduct studies which are insufficient in one or more of the following ways: duration, quantity of tagged fish, and geographic coverage of monitoring locations. The data resulting will not produce meaningful conclusions. In addition, the Districts' rotary screw trap deployment and calibration procedures must be modified to ensure that useful data are collected.

2. Studies are needed to evaluate the importance of winter flows on fry survival. The population analyses presented in the Agencies' Draft Limiting Factors Analyses suggest that prolonged high winter flows sufficient to inundate floodplain habitats may be critical to the production of smolt-sized fish and subsequent adult recruitment. Fry survival studies will require an experimental flow schedule that provides prolonged flow releases that substantially inundate floodplain habitats during February and March.

3. Fish health surveys are needed to evaluate the effects of flow on food resources[1], disease[2], and contaminants.[3] Juvenile fish health studies should be implemented because

[1] Lipid reserves in muscle tissue.
[2] Columnaris, Bacterial Kidney Disease, and Parasitic Kidney Disease have been identified in juvenile fall-run Chinook salmon collected in the San Joaquin Basin.
[3] Toxic insult to the kidney and liver.

the project operations affect water flows and water temperatures, which affect food requirements, food production, disease, and contaminant impacts.

We also concur with the Conservation Groups *(see* e-Library no. 20070716-5028 (July 16, 2007)) that the Tuolumne River Technical Advisory Committee (TRTAC) should not be the venue to resolve the outstanding study issues. To date, the Districts have not facilitated these meetings in an objective manner nor worked with the agencies and others in good faith to resolve issues related to monitoring, studies projects or other topics. It is important to resolve these issues prior to referring any future discussions to the TRTAC. We request that FERC resolve these study disputes.

SPECIFIC COMMENTS

We concur with the comments provided by the Conservation Groups on FERC staff's conclusions presented in the June 15, 2007, letter *(see* e-Library no. 20070716-5028 (July 16, 2007)). We provide the following specific comments on the FERC's June 15 letter.

Instream Flow Issues

1. The decline in the fall-run Chinook salmon population since the 1995 flow schedules were implemented is justification for implementing an experimental flow schedule that tests the response of the salmon population to the magnitude, duration, and timing of winter and spring pulse flows that are high enough to inundate floodplain habitats.

2. FERC staff's recommendation to develop a test of moderately high flow conditions (> 4,000 cfs average Modesto flow during April-May) at least once during the next four years for a CWT smolt survival test does not adequately address the need to test the effect of flow magnitude, duration, and timing on the survival of fry. The population trend analyses presented in the agencies March 5, 2007, letter indicates that flow periods of 30 days may improve outmigrating smolts survival but result in very low rates of fry survival. Our evaluation indicates that when high flows inundate floodplain habitats in February and March, the numbers of fry that survive to smolt-sized fish and subsequently migrate from the river increases 10-fold compared to years when only 30-day pulse flows are released. The population analyses also indicate that the number of smolt outmigrants strongly affects the number of adults produced. Therefore, we recommend that the Districts' study plan should include instream flow studies that monitor the salmon population's response *(e.g.,* rotary screw trap based estimates of the production of smolt outmigrants) to an experimental flow schedule as described in the Agencies' Draft Limiting Factors Analyses.

3. We concur with FERC's view that more coded wire tags studies are needed.

3. We strongly agree with FERC staff that the Districts' rotary screw trap (RST) procedures must be modified if meaningful results are to be obtained. Our staff can provide recommendations and standard operating procedures for RST deployment and calibration.

4. We strongly agree with FERC staff that the Districts' proposed acoustic tracking study will provide useful information for flow and predation studies. However, the study should be expanded to test a sufficient range of flows (Dry, Normal, and Wet), a sufficient range of seasons (April vs. May vs. June), a sufficient number of fish per test (at least 100), and a sufficient number of receivers to identify specific reaches where mortality occurs.

Habitat Restoration

1. We recommend that the Districts should provide assurances that key restoration projects will be implemented. The basis of the 1995 FERC Settlement Agreement was that the Districts would implement habitat restoration projects to help mitigate for project effects to the salmon population in lieu of releasing higher flows. If the Districts do not commit to implementation of the remaining restoration projects, then a greater emphasis should be placed on improved flows to support the salmon population.

2. If the Districts intend to rely on habitat restoration to improve conditions for the salmon population, then they should be responsible for evaluating the effectiveness of all restoration projects.

Fry Survival

1. FERC staff indicates that the Districts and Agencies disagree on whether high winter flow results in movement of fry that is beneficial to their survival and ultimately adult production. We agree that the Districts' proposal to conduct a micro-chemical analysis of otoliths to evaluate the survival of migrant fry versus fry that rear within the Tuolumne River should help resolve this issue.

2. The Districts' plan should include the monitoring of fry health *(e.g.,* feeding, disease, and contaminants) in various reaches of the river. Juvenile fish health studies should be implemented because the project operations affect water flows and water temperatures, which affect food requirements, food production, disease, and contaminant impacts. The fish collected during the seining surveys and with rotary screw traps could be used to conduct these analyses.

Steelhead Presence/Protection

1. The Districts' plan should determine the abundance of adult and juvenile fish at specific intervals throughout the year. The Districts propose to conduct surveys only during the summer, which will likely miss adult steelhead.

2. We agree with FERC staff that the Districts should evaluate steelhead data from nearby rivers. There is a greater effort to study steelhead on nearby rivers that would provide useful data for the Tuolumne River, such as counting weirs and more efficient rotary screw trap stations on the Stanislaus, Calaveras, and Mokelumne rivers.

3. The Districts' Plan includes studies to evaluate flow and habitat needs. However, the Districts will only consider summer flow and water temperatures. It is also important to evaluate conditions that affect the success of smolt outmigration and adult upmigration.

Predator Control

1. The Districts' Plan includes conducting predation studies over a wide range of flows. The Districts propose to compare low (~400 cfs) and high (> 2,500 cfs) flows under the existing flow schedule in a study period limited to no more than 10 days. We recommend that the studies should be conducted for a sufficiently long period to both detect the response of the fish *(e.g.,* variations in migration rates and predation rates) and evaluate the full range of environmental conditions *(e.g.,* fluctuations in water temperature and turbidity).

   The Districts' Plan includes conducting predation studies on largemouth bass. However, they do not plan to study any other common fish predators such as striped bass or Sacramento pikeminnow. They propose the use of angling, electrofishing, or seining in the downstream portions of the river, but it is unclear whether all habitat types will be surveyed. Seining is not likely to be an effective method for capturing predators. We recommend that the Districts' Plan should include other means of capturing potential predators that are not effectively captured with electrofishing *(e.g.,* gill nets to capture striped bass and Sacramento pikeminnow) and identify habitat types and locations to be surveyed.

2. The Districts' Plan includes the use of acoustic tags to quantify smolt predation rates but proposes to tag too few fish and only use three stationary receivers. It is unlikely that this study design will adequately cover critical habitats and yield sufficient data.

River Temperature

1. The Districts' Plan does not include the use of escapement and age analyses to determine how flow and temperature affect adult recruitment. We recommend that the trend analyses of adult recruitment should be continued, because adult recruitment is a direct

measure of our goal to improve adult production and because the data base is relatively long-term compared to juvenile survival studies.

2. The Districts' Plan calls for the use of acoustic tag studies to determine how flow and temperature affect smolt survival. While we support acoustic tag studies, we recommend extending such studies beyond the three years proposed and suggest that increasing the study fish and receiver numbers will be required to obtain meaningful information.

CONCLUSION

Thank you for considering these comments. Please contact Dr. Stacy Li (NMFS) at (707) 575-6090 with any questions regarding this matter. The National Marine Fisheries Service looks forward to working with FERC staff, California Department of Fish and Game, the Districts, and the Conservation Groups to develop a robust study plan which will provide adequate data on which to base a minimum flow schedule and other non-flow mitigation measures adequate to maintain and protect Tuolumne River fisheries.

Sincerely,

Steven A. Edmondson
Northern California Habitat Supervisor

cc: Service List
Robert Hoffman, NMFS, Long Beach
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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Modesto Irrigation District, Turlock Irrigation District, City and County of San Francisco	)	
	)	FERC Project No. 2299
	)	
	)	
Application for Relicensing	)	
	)	

Certificate of Service

I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in the proceeding.

Dated on this 30th day of July, 2007.

Stacy Li
National Marine Fisheries Service

Contacts listed with '**' must be postal served

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