UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
WEST COAST REGION
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4706

April 15, 2019

In response refer to:
TH:WCR:FERC P-2997-031

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

Re: NOAA's National Marine Fisheries Service, West Coast Region, Comments on the Draft Final License Application for the Camp Far West Hydroelectric Project, Federal Energy Regulatory Commission Project No. P-2997-031.

The U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) has reviewed the Draft License Application (DLA) filed by South Sutter Water District (SSWD or Licensee) for the Camp Far West Hydroelectric Project, FERC No. 2997-031 (Project) filed December 31, 2018, and hereby provides our comments below.

If you have questions regarding this letter, please contact Mr. Tom Holley at (916) 930-5592. (Thomas.Holley@noaa.gov).

Sincerely,

Steve Edmondson
FERC Hydropower Branch Supervisor
NMFS, WCR, Sacramento Area Office

cc: FERC Service List for P-2997

1.0 Introduction

NMFS has statutory responsibility for the protection and enhancement of living marine resources, including anadromous fish and their supporting habitats, under the Federal Endangered Species Act (ESA) (16 U.S.C. §1531 *et seq*.), Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. §1801 *et seq*.), Fish and Wildlife Coordination Act (16 U.S.C. §661 *et seq*.), and Reorganization Plan No.4 of 1970 (84 Stat. 2090). NMFS has authority to prescribe fish passage at licensed projects under the Federal Power Act (FPA) §18, and the duty to provide recommendations for the protection, mitigation of damage to, and enhancement of fish and their habitats under FPA § 10(j) and 10(a). NMFS submits these comments pursuant to its authorities under these statutes.

The anadromous fish and anadromous fish habitat potentially impacted by facilities and operations of the Camp Far West Hydroelectric Project (P-2997) are preliminarily determined to be those occurring in the lower Bear River watershed, including Dry Creek, and in areas downstream in the Feather River, Sacramento River, and the Sacramento-San Joaquin Delta; these resources are identified below:

Anadromous fish and habitat resources protected under the Endangered Species Act (ESA):

1) Central Valley (CV) spring-run Chinook salmon evolutionarily significant unit (ESU) (*Oncorhynchus tshawytscha*), threatened (June 28, 2005, 70 FR 37160);

2) CV spring-run Chinook salmon critical habitat (September 2, 2005, 70 FR 52488);

3) California CV (CCV) steelhead distinct population segment (DPS) (*Oncorhynchus mykiss*), threatened (January 5, 2006, 71 FR 834);

4) CCV steelhead critical habitat (September 2, 2005, 70 FR 52488);

5) Southern DPS of North American (NA) green sturgeon (*Acipenser medirostris*), threatened (April 7, 2006, 71 FR 17757); and

6) Southern DPS of NA green sturgeon critical habitat (October 9, 2009, 74 FR 52300);

Anadromous fish habitat resources protected under the Magnuson-Stevens Fishery Conservation and Management Act (MSA):

1) CV fall/late fall-run (fall-run) Chinook salmon ESU, Species of Concern (those species about which NMFS has concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the ESA): April 15, 2004, 69 FR 19975 and

2) Chinook salmon "Essential Fish Habitat" (EFH), (October 15, 2008 73 FR 60987); EFH has been identified in the Bear River extending upstream to approximately Camp

Far West Dam and in areas downstream in the Feather and Sacramento Rivers, and the Sacramento-San Joaquin Delta.

2.0 General Comments on the Draft License Application

The Licensee did not propose any protection, mitigation and enhancement (PM&E) measures in their Draft Licensee Application stating that "*SSWD and licensing participants did not reach agreement on any PM&E measures that SSWD could propose in its Draft Application for New License*". However, the Licensee further stated that they are "*fully committed to reaching collaborative agreement on as many measures as possible with as many agencies as possible and include those collaboratively-agreed to measures in its final Application for New License that will be filed with FERC in June 2018.*" (DLA p.E1-37)

NMFS, along with fellow Federal and State Agencies and non-governmental organizations, have been meeting with the Licensee for several months to determine if there are areas where collaborative agreement can be reached on protection, mitigation, and enhancement measures that can be included a new license for the Camp Far West Project. NMFS plans to continue to work with the TLP participants to reach agreement on as many issues as possible before filing the Final License Application (FLA).

NMFS expects FERC will adopt PM&E measures that fully mitigate the Project's effects to anadromous fish and their habitat. These measures should include:

1) Instream flows that mitigate the Project's alteration of the natural hydrograph including ramping/rate of change and temperature effects.
2) Large wood and spawning gravel augmentation that mitigate the Project's disruption of downstream transport of these important elements of salmonid habitat.
3) An aquatic monitoring plan that can document the effectiveness of the PM&E measures and adaptively manage license conditions during the period of the new FERC license.

3.0 Specific Comments on the Draft License Application

DLA p.E2-50 SSWD Proposed Conditions in the FERC License:

> *"SSWD Proposed Conditions AR1. SSWD shall maintain a continuous minimum flow of 25 cfs from April 1 through June 30 and 10 cfs from July 1 through March 31 or inflow to Camp Far West Reservoir, whichever is less, as measured immediately below the non-Project diversion dam downstream of Camp Far West Dam."*

NMFS Comment: The Licensee's DLA does not include changes to the current flow regime in the Bear River below Camp Far West Reservoir. NMFS plans to work with the Licensee and other TLP Participants to attempt to reach a collaborative agreement on instream flow measures as well as other PM&E measures for a new FERC license. It is NMFS' goal to provide a more natural flow regime that includes higher flows in wetter water year types so that aquatic resources can benefit from more natural flow functions. In dry water year types, NMFS' goal is

to provide minimum protections for aquatic species based on preserving as much habitat as possible given water availability constraints.

Because of the high degree of impairment upstream of the Project in the Yuba and Bear watersheds, the Licensee has proposed to base fall and winter water year types and resulting instream flows on the amount of water available at Camp Far West Reservoir. NMFS recognizes that water year types developed for the existing condition may not represent conditions in the watershed in the future. In particular, the potential development of an upstream Centennial Reservoir could significantly affect the amount of water available to Camp Far West Reservoir. NMFS intends to continue to discuss water year types under existing conditions in this watershed, as well as required potential changes to the water year types under foreseeable development conditions during the new FERC license term.

DLA p. E3.3.3-84:

> *"The Instream Flow Study does not consider temperature as a parameter of suitability and assumes that water temperatures for each life stage of CV fall-run Chinook salmon ESU is adequate. However, this is not true at all times in the lower Bear River. The lower Bear River is a relatively small, valley floor tributary to the Feather River that is a rain-fed watershed and lacks any access to snowpack or water-on-snow freshet runoff. As a result, summer conditions, even pre-Project, would typically be represented by warm, low flows, more akin to a coastal stream than a coldwater Sierran stream. The system can respond rapidly to precipitation, but is highly influenced by ambient warming from late spring into early fall and from releases from upstream water projects. As a result, water temperature is currently a limiting factor to salmonids."*

NMFS Comment:
The Bear River below the Project does not provide suitable water temperatures for year-round use by salmonids. However, the Bear River currently supports seasonal salmonid use as adults enter the system in the fall and outmigrate in the spring. The Project affects water temperatures in the lower Bear River during the fall where water releases from the dam can be warmer than pre-project conditions, as well as during the winter and spring when the Project is storing and releasing water.

DLA p.E3.3.3-87:

> *"temperature in the lower Bear River that has not fully chilled due to seasonal ambient cooling. The low elevation of the Bear River and relatively smaller reservoir does not cool the water as quickly as other watersheds. As a result, as shown in Table 3.3.3-31, water temperatures are not suitable for spawning in October, marginal at best in November (i.e., 30% to 48% of the days suitable, most of which occurs in the wetter water years), and become suitable in December and January. Temperature results appear to correlate with significant spawning activity observed in January during SSWD's redd surveys with moderate amounts or spawning in November and December."*

NMFS Comment:

As discussed above, the Project affects water temperatures in the lower Bear River during the peak months for fall-run Chinook salmon spawning (Oct-Dec). In addition, the Project also captures and stores inflow during these months; as a result migration cues and pulse flows that would have occurred in absence of the Project are altered or captured by the reservoir. In this way the Project effects initiation and timing of fall-run upstream migration and spawning—this project effect should be mitigated to the maximum extent possible.

DLA p.E3.3.3-95 Effects on Fish in the Lower Bear River:

> ***"****The Proposed Project would have a beneficial effect on fish in the lower Bear River." "…with seasonal utilization by CV fall-run Chinook salmon ESU. Given that CV fall-run Chinook salmon ESU is the species in the lower Bear River that is most sensitive to flow and temperature, the discussion below focuses on this species."*

NMFS Comment:

NMFS does not agree that the Project is beneficial to anadromous fish resources in the Bear River. While currently there are some suitable amounts of large woody material (LWM) and spawning gravels downstream, the Project's dam blocks any ongoing recruitment of LWM and spawning gravels. Without augmentation, LWM and gravel will continue to be depleted as seasonal high flows transport these materials downstream and into the Feather River. While NMFS acknowledges that water projects upstream divert water flows seasonally, the Project's operations (and associated non-project dam) further alter the natural hydrograph of the lower Bear River, including the natural recession rates from high to low flows.

In addition, NMFS believes that fall-run Chinook salmon are not the only anadromous fish, "*that is most sensitive to flow and temperature.*" In addition, CCV steelhead, North American (NA) green sturgeon, and CV spring-run Chinook salmon juveniles, listed as threatened under the ESA, are also seasonally present. All of these NMFS resources are sensitive to changes in water flow and water temperature.

DLA p.E3.3.3-96 Table 3.3.3.35: Proposed 80% WUA Flow Schedule:

NMFS Comment:

Table 3.3.3-35 presents an average percentage of suitable water temperature days, based on USEPA (2003) criteria, for only CV Chinook salmon, and under a specific flow schedule ("80% WUA"). Although "WY [water years] 1976-2014" is mentioned, it is not clear why an average of all water years is shown, as averaging may mask seasonally important periods for anadromous fish life stages. In addition, separating this information by water years would likely show how the suitability of water temperatures for anadromous fish varies between wetter years and dryer years. The 80%WUA proposed flow schedule does not mimic all components of a natural hydrograph, including wet-season initiation flows that stimulate upstream salmonid migration, flush gravel and cycle nutrients. Gradual recession from high to low flow levels that more

closely mimics natural rates of fluctuation should also be considered as a Project effect that should be mitigated.

DLA p.E3.3.3-102:

> "*The cumulative effects resulting from past, present, and reasonably foreseeable future actions, including the proposed Project, have the potential to affect fisheries resources in the lower Bear River. These activities include timber harvest, livestock grazing, mining, and operation of upstream and downstream water projects*."

> "*The proposed Project will continue to capture sediment, truncate high flows, and alter flow and water temperature in the lower Bear River, which may affect fish (and habitat) downstream of the Project*."

NMFS Comment:

NMFS agrees with these sections. See NMFS comments below for DLA Sections 3.3.5.3 and 3.3.5.4 (Effects/Aggregate Effects, respectively), on threatened and endangered species. Similar language was used in both sections.

DLA p.E3.3.5-51:

> "*Camp Far West Dam will continue to store water and capture sediment and large woody material that would otherwise move downstream. The general effects of reduced sediment and large woody debris in streams below other impoundments include changes in instream habitat structure, such as fewer pools and loss of spawning gravel, and indirect effects on riparian vegetation. However SSWD's relicensing studies showed that there is available sediment of suitable size and quality for ESA-listed fish spawning and large woody material is present."*

NMFS Comment:

SSWD implies that no sediment or LWM augmentation is needed over the potentially decades-long license term. However, while there may be some acceptable amounts and quality of sediment and LWM "available" now, hydrologic conditions will change due to changing climate and reoperation of upstream hydropower projects. During the term of the next license, the Project will continue to block downstream transport of all bedload material. Given the Project can have significant spill events that would transport some of the existing substrate downstream, it is reasonable to consider that future sediment/LWM surveys and new substrate augmentations are likely to be needed over the decades-long term of the new license. This Project effect should be acknowledged and long-term mitigation measures should be developed.

DLA p.E3.3.5-52:

> "*The Proposed Action will continue to release minimum instream flows below Camp Far West Dam, as measured downstream of the non-Project diversion dam and described in measure AR1. … Minimum flows have the potential to affect ESA-listed fish in the lower Bear River by changing the amount of available habitat and water temperature. These impacts are considered cumulative when considering the upstream water projects and the downstream non-Project diversion dam*."

NMFS Comment:

The anadromous fish resources which are seasonally present in the Bear River consists of those anadromous fish not listed under the ESA (CV fall-run Chinook, resident *O. mykiss*, and white sturgeon) and those that are ESA-listed as threatened (CCV steelhead, CV spring-run Chinook salmon (juveniles) and NA green sturgeon). These fish opportunistically utilize the Bear River when seasonally available habitat conditions become favorable. However, measures that improve instream flow and manage the recession of uncontrolled spill could maximize and enhance existing anadromous fish habitat. In addition, improved seasonal flows would also ensure that any existing and augmented-as-needed spawning gravels and LWM would be sorted and transported for the benefit of anadromous fish resources and related riparian habitats.

DLA p.E3.3.5-58:

> "*The aggregate effects resulting from past, present, and reasonably foreseeable future actions, including the Proposed Action, have the potential to affect ESA-listed fish (and habitat) in the lower Bear River. These activities include timber harvest, livestock grazing, mining, and operation of upstream and downstream water projects*."

NMFS Comment:

SSWD uses the term "aggregate effects" instead of the more commonly used "cumulative effects" it is unclear why SSWD chose to make this distinction. The term "cumulative effects" should be used to maintain consistency with other sections of the DLA.

DLA p.E5-1 Conclusions:

> *"This section compares the developmental and non-developmental effects of SSWD's Proposed Project and the No Action Alternative… FERC will complete this section in its draft EA or draft EIS, if FERC decides to prepare an EIS instead of an EA."*

NMFS Comment:

NMFS and other resource agencies are currently meeting with South Sutter Water District to address the Project effects and jointly develop terms and conditions for the new license. NMFS looks forward to working with the Licensee and FERC to develop license terms that mitigates the Projects' effects and enhances anadromous resources in the Bear River.

DLA p.E5-10 Consistency with NMFS' (2014) Central Valley Salmonid Recovery Plan

NMFS Comment:

This section repeats pertinent information for the Bear River from NMFS' (2014) Recovery Plan for Sacramento River winter-run Chinook salmon, CV spring-run Chinook salmon ESU, and CV steelhead Distinct Population Segment (DPS). However, there is no discussion regarding how the Project facilities, operations and maintenance are consistent with NMFS' Recovery Plan.

NMFS' *Final Recovery Plan for Sacramento River Winter-run Chinook Salmon, Central Valley Spring-run Chinook Salmon, and Califiornia Central Valley Steelhead* (Recovery Plan) (NMFS 2014), classified the Bear River as a core 3 watershed for steelhead. This means that the Bear River is part of the steelhead recovery process, but it is considered a lower priority watershed. Core 3 watersheds support populations that are characterized as being small, possibly intermittent, and dependent on other nearby populations for their existence. Although the Bear River is considered a low priority for CCV steelhead recovery, its persistence does increase the species' viability by providing increased habitat and life history diversity and serving as a buffer against local catastrophic occurrences that could affect other nearby populations (e.g., Feather or Yuba river populations).

Inadequate streamflow in the Bear River prevents the establishment of a self-sustaining CCV steelhead population (JSA 2004 as cited in NMFS 2014). The minimum flows released below Camp Far West (CFW) diversion dam to meet current FERC license requirements are likely to warm to support all freshwater life-stages of CCV steelhead. However, during periods of high flows, CCV steelhead are known to utilize the river for limited spawning (JSA 2004 as cited in NMFS 2014). The present system of diversions results in abnormal flow fluctuations, in contrast to historical natural seasonal flow variations. The presence of the diversion dam limits upstream migration and any habitat that may have occurred upstream of the Project is now inundated by the CFW Reservoir.

4.0 References

Beamesderfer, R., Simpson, M., Kopp, G., Inman, J., Fuller, A., and D. Demko. 2004. Historical and Current Information on Green Sturgeon Occurrence in the Sacramento and San Joaquin Rivers and Tributaries. Prepared for State Water Contractors, Sacramento, CA by S.P. Cramer and Associates, Oakdale, CA.

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National Marine Fisheries Service (NMFS). 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook salmon and the Distinct Population Segment of California Central Valley Steelhead. California Central Valley Area Office. July 2014.

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South Sutter Water District (SSWD). 2018. Draft License Application for the Relicensing of the South Sutter Water District's Camp Far West Hydroelectric Project, Federal Energy Regulatory Commission's Project (P-2997). SSWD, Trowbridge, CA December 2018.

United States Fish and Wildlife Service (USFWS). 1995. Working Paper on Restoration Needs: Habitat Restoration Actions to Double Natural Production of Anadromous Fish in the Central Valley of California, Vol. 2. Stockton, CA.

United States Environmental Protection Agency (USEPA). 2003. *USEPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards.* EPA 910-B-03-002. Region 10 Office of Water, Seattle, Washington.

Yoshiyama, R.M., E.R. Gerstung, F.W. Fisher, and P.B. Moyle. 2001. Historical and Present Distribution of Chinook Salmon in the Central Valley Drainage of California *in* Contributions to the Biology of Central Valley Salmonids. Vol. 1. California Department of Fish and Game, Fish Bulletin 179, R.L. Brown, ed.

Enclosure A

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

South Sutter Water District	**)**	
Camp Far West Hydroelectric Project	**)**	**Project No. 2997-031**
Bear River	**)**	

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document, by first class mail or electronic mail, a letter to Secretary Bose, Federal Energy Regulatory Commission (FERC), the National Marine Fisheries Service's comments on the South Sutter Water District's Draft License Application and this Certificate of Service upon each person designated on the official service list compiled by FERC in the above-captioned proceeding.

Dated this 15th day of April 2019

William E. Foster
National Marine Fisheries Service