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

June 12, 2014

In response, refer to:
WF/WCR/FERC P-12496

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

Re: NOAA Fisheries Service's Comments on the Final License Application for the Lassen Lodge Hydroelectric Project, Federal Energy Regulatory Commission Project No. 12496, South Fork Battle Creek, California.

Dear Secretary Bose:

Thank you for the opportunity to provide comments. NOAA Fisheries Service (NMFS) submits in Enclosure A our comments on Rugraw, LLC's (Applicant) Final License Application (FLA) for the Lassen Lodge Hydroelectric Project, Federal Energy Regulatory Commission (FERC or Commission) Project No. 12496 (Project).

The Applicant's FLA contains a Biological Assessment (BA) (FLA, Exhibit E, Appendix D) for the distinct population segment of California Central Valley (CCV) steelhead (*Oncorhynchus mykiss*) and for the evolutionarily significant unit (ESU) of Central Valley (CV) spring-run Chinook salmon (*O. tshawytscha*). The Applicant's FLA also includes an Essential Fish Habitat Assessment (EFHA) for Pacific salmon (*O. tshawytscha*) in its Exhibit E, Appendix D. However, the Applicant did not include the ESU of Sacramento River winter-run (winter-run) Chinook salmon (*O. tshawytscha*) in its BA. The ESU of winter-run Chinook salmon is listed as endangered under the Endangered Species Act (ESA), both CCV steelhead and CV spring-run Chinook salmon are listed as threatened under the ESA, and these listed runs of Chinook salmon and steelhead can access the South Fork Battle Creek. NMFS has designated critical habitat for CCV steelhead and CV spring-run Chinook salmon, pursuant to the ESA, and also designated EFH for Pacific salmon, pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, in the South Fork Battle Creek. Finally, the Applicant's FLA does not include consideration of the ESU of CV fall-/late fall-run Chinook salmon, which can also access the South Fork Battle Creek.

NMFS has determined that the FLA is deficient and not yet ready for environmental analysis. The FLA has not included consideration of the Project's effects on all of the anadromous fish

resources noted above. Additionally, the FLA, including the BA and EFHA, is inadequate due to the following reasons: Inappropriate derivation and application of the Hydraulic Geometry (HG) method to determine all aquatic habitat and discharge relationships; a lack of water temperature modeling; an insufficient baseline analysis of existing water temperatures; and an insufficient analysis of when the Project would be operational under the proposed minimum instream flow. The HG method was used to model flow-stage relationships that were then used to predict available habitat quantity and quality. This flawed analysis was then utilized in additional salmonid production modeling that supported the protection, mitigation, and enhancement measures in the FLA and provided the foundation for the determinations made in the BA and EFHA. Thus, NMFS provides details in Enclosure A as to why we believe that the HG method is inappropriate for quantifying habitat and flow relationships. Finally, the fundamental flaws in the derivation of the HG relationships and other deficiencies noted above have rendered much of the supporting fisheries, habitat, and instream flow analyses inadequate to support the conclusions presented in the FLA, BA, and EFHA at this time.

Thank you for your cooperation in the above. If you have questions regarding these documents, please contact William E. Foster (916-930-3617) of my staff.

Sincerely,

Steve Edmondson
FERC Branch Supervisor
NMFS, West Coast Region

Enclosures

cc: FERC Service List for P-12496.

Enclosure A

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Lassen Lodge, LLC	**)**	**Project No. P-12496**
Lassen Lodge Hydroelectric Project	**)**	
South Fork Battle Creek	**)**	

NOAA FISHERIES SERVICE'S COMMENTS
ON THE FINAL LICENSE APPLICATION FOR THE PROJECT

1.0 Introduction

NOAA Fisheries Service (NMFS) submits our comments on Rugraw, LLC's (Applicant) Final License Application (FLA) for the Lassen Lodge Hydroelectric Project, Federal Energy Regulatory Commission (FERC or Commission) Project No. 12496 (Project), South Fork Battle Creek, California. The Applicant's FLA contains a Biological Assessment (BA) (FLA, Exhibit E, Appendix D) for the distinct population segment of California Central Valley (CCV) steelhead (*Oncorhynchus mykiss*) and for the evolutionarily significant unit (ESU) of Central Valley (CV) spring-run Chinook salmon (*O. tshawytscha*). The Applicant's FLA also includes an Essential Fish Habitat Assessment (EFHA) for Pacific salmon (*O. tshawytscha*) in Exhibit E, Appendix D. However, the Applicant did not include the ESU of Sacramento River winter-run (winter-run) Chinook salmon (*O. tshawytscha*) in its BA. Furthermore, the Applicant's FLA does not include consideration of the ESU of CV fall-/late fall-run (fall-run) Chinook salmon, which can also access the South Fork Battle Creek. Finally, NMFS notes that the anadromous fish above will be able to access the Project's bypass reach when the South Diversion Dam (RM 14.35) of the Battle Creek Hydroelectric Project, FERC Project No. 1121, is

removed from the South Fork Battle Creek. The Battle Creek Salmon and Steelhead Restoration Project (BCSSRP) has full funding and written plans to remove this last barrier to anadromous fish by 2016 (USBR *et. al*., 2004). This restoration action is reasonably certain to occur prior to the issuance of a new license for the P-12496 Project (USBR 2014).

2.0 Status of Anadromous Fish

NMFS is a federal agency with jurisdiction over anadromous fish resources affected by the licensing, operation, and maintenance of hydroelectric projects. See Reorganization Plan No. 4 of 1970 (84 Stat. 2090), as amended; the Federal Power Act (FPA) (16 U.S.C. § 803(j) and 811); the Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. § 661 and 662); the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. §1801 *et seq*.); and the Endangered Species Act (ESA) (16 U.S.C. §1531 *et seq.*).

NMFS is concerned with the following ESA / MSA federally managed anadromous fish and resident *O. mykiss* resources that can access the South Fork Battle Creek and be affected by the Project, once the South Diversion Dam (RM 14.35) of the BCSSRP is removed by 2016:

- Winter-run Chinook salmon ESU (*Oncorhynchus tshawytscha*), (Endangered) (59 FR 440, January 4, 1994);
- CV spring-run Chinook salmon (*O. tshawytscha*) (Threatened/Critical Habitat) (64 FR 50394, September 16, 1999 / 70 FR 52488, September 2, 2005);
- CCV steelhead (*O. mykiss*) (Threatened/Critical Habitat) (71 FR 834, January 5, 2006 / 70 FR 52488, September 2, 2005);
- Fall-run Chinook salmon (*O. tshawytscha*) (Species of Concern) (69 FR 19975, April 15, 2004);
- Pacific Chinook salmon, all ESUs (*O. tshawytscha*) (Essential Fish Habitat) (71 FR 61022, October 17, 2006) and
- Resident *O. mykiss* above man-made (RM 14.35) and natural (RM 22.3) barriers.

NMFS notes above that there is no critical habitat designated within the South Fork Battle Creek (it is designated in Battle Creek up to the Coleman Hatchery weir). In addition, studies have shown that isolated populations of non-anadromous *O. mykiss* can revert to the anadromous form if given an

opportunity - even after over 70 years of isolation (Docker and Heath 2003; Thrower *et al*. 2004). Thus, such isolated *O. mykiss* populations could serve as sources for the eventual recovery of CCV steelhead within the Battle Creek watershed, as well as contribute to the diversity of life-history strategies which contributed to the over-all viability of the *O. mykiss* complex within the Battle Creek watershed.

3.0 Comments on FLA

3.1 Comments on Hydraulic Geometry Method.

Throughout the FLA, the Applicant utilizes a Hydraulic Geometry (HG) method to attempt to understand how wetted width, flow depth, flow velocity, and aquatic habitat change with varying instream flow levels. The HG method within the FLA is, by in large, substituted for more traditional and accepted approaches (e.g., PHABSIM) often used in FERC licensing proceedings to analyze and quantify how aquatic habitat changes with different discharges. A major limitation of the HG method compared to more traditional approaches is that it only predicts cross-sectionally averaged depths and velocities (i.e., one average depth and velocity across an entire station or cross-section) and assumptions are further made that this one averaged depth and velocity is somehow reflective of available habitat. In a steeper, coarse-bedded stream such as South Fork Battle Creek, parameters such as flow, depth, and velocity are very dynamic and highly variable at any given location (as evidenced in many of the field photos submitted with the FLA Appendices). NMFS finds the use of cross-sectionally averaged depths and velocities at the habitat-unit and micro-habitat unit scale to be a fundamental flaw in the use of the HG method within the FLA to quantify available habitat at varying flow levels.

In addition to the inherent limitations of trying to use a HG method to quantify habitat vs flow relationships, the Applicant's approach to constructing their HG relationships is too coarse to have any reliability in the parameterization of their HG relationships. Standard practice for developing "at-a-station" HG relationships (what is utilized in the FLA) is to collect data at several different flow stages

and discharges (see Hogan and Church (1989), where each "at-a-station relationship is derived from six different measurements). The Applicant collected habitat data at one discharge, 13 cubic-feet-per-second (cfs). They attempted to quantify habitat parameters at a second flow level (bankfull discharge) through various indirect or back-of-the-envelope methods. The Applicant estimates that the bankfull discharge is in the range of 510 to 700 cfs, or roughly 50 times the discharge of their one measured point at 13 cfs. Even if the Applicant's estimated bankfull parameters were reliable (discussed in greater detail below), having only one data point (within the range of possible Project induced instream flows being evaluated, including the range of flows most impacted by the Project) severely limits the HG method and resulting habitat analysis in ascertaining small differences in baseflow or in minimum instream flow as presented in the FLA. In other words, the HG methods developed in the FLA cannot reliably speak to how habitat parameters, such as rearing area, vary from 8 to 13 to 20 cfs (as presented in Figure 23 of Appendix C).

Typically, HG relationships are developed through fitting a power function through several points (e.g., Hogan and Church 1989). Because the Applicant is attempting to parameterize the HG power functions with only two data points, they follow an approach presented in Jowett (1998) that utilizes ratios of two different depths, widths, and discharges to develop the parameters for HG relationships. First off, Jowett (1998) actually *measured* widths, depths, and discharges at two calibration flows. Second, Jowett (1998) represents their rapid two point calibration and development of HG relationships as a broad, regional tool to aid in initial assessment of proposed environmental flow changes (pg 465 Jowett 1998). They do not represent it as a method to develop site specific instream flows (such as determining rearing habitat changes from 8 to 13 to 20 cfs), but rather as a screening tool to understand when mean or modal depths or velocities were approaching a threshold that would trigger more detailed habitat survey and analysis. The Applicant's use of the Jowett (1998) method to determine that 13 cfs is

an appropriate instream flow appears to be a misapplication of the Jowett's proposed method of a rapid, regional assessment tool.

As previously discussed, the Applicant measured habitat data at one discharge (13 cfs) and extrapolates data at a second discharge (bankfull discharge). Thus their HG relationships are entirely dependent on the second extrapolated bankfull discharge point. NMFS believes that several assumptions made in the extrapolation of the bankfull discharge data point render this data point as nothing more than a coarse estimate that is far too unreliable to be the primary building block of an assessment that attempts to set a minimum instream flow. First, the Applicant assumed they could consistently identify a bankfull indicator (or stage) in the field in a coarse, step stream. Identifying bankfull indicators in the field is a notoriously subjective process that varies greatly between field crews, and this uncertainty exponentially increases in steep, confined streams with bank materials composed of large boulders (like South Fork Battle Creek). Identifying field bankfull indicators is a more reliable process in lower gradient meandering streams with consistent riparian vegetation (e.g., willow) lines. Second, the Applicant has assumed that identified field bankfull indicators are equivalent to a 2-year return interval flow. This is a suspect assumption and is without additional evidence to determine if this is applicable to South Fork Battle Creek. Typical bankfull stage commonly varies from a 1.5 to 2.33-year return interval flow, and is known to vary as low as 1.2-year return interval flow and as high as 5-year return interval flow. Thus the confidence that the 2-year return interval correlates to the bankfull discharge is very low. The third set of assumptions that is problematic with the bankfull discharge data point is the method for calculating what the 2-year return flow actually equates to. The first method used a peak flow analysis of a 9-year flow record, which is too short of a record to reliably determine peak flow return intervals (typically a 20-year period is viewed as the minimum record length for calculating a peak flow analysis). Presumably, because the flow record was so short, a second

method using a regional USGS regression equation was deployed to calculate a 2-year return interval flow. USGS regional regression equations are coarse, generalized tools designed to inform projects were only rough peak flow estimates are needed – such a generalized tool does not provide precise control for hydraulic relationships. The two approaches estimated 510 and 700 cfs, respectively, and they were averaged together to get a 600 cfs 2-year return interval flow, which was then assumed to have produced the stage identified as bankfull. NMFS believes the confidence in the correlation of 600 cfs to bankfull stage (notwithstanding issues in identifying bankfull stage) is very low, which in turn renders the HG relationships entirely dependent on this point (because there are only two points deriving the relationship) to be unreliable. This problem is then compounded by the fact that the estimated bankfull is nearly 50 times greater than the 13 cfs observation and there is no additional observation within the flows of interest (e.g., 8 to 50 cfs).

In summary, the Applicant's attempt to understand how habitat parameters such as flow, depth, and velocity change with different discharges by only measuring data at one flow (13 cfs) is completely insufficient and will not provide the necessary information to assess the proposed Project's impacts from diverting water, which could be as high as 88% of the natural inflow when the inflow to the reach is 108 cfs. NMFS believes that the HG method (itself based on limited hydrological information) would tend to underestimate the volume/depth-stage at particular flows and does not account for variations in hydrology due to either wetter/cooler or drier/hotter water years. Furthermore, the Applicant's claim that such data result in a remarkable "fit" is simplistic at best, as data is only collected about two points (which do define a line), but there is no accounting for variance. Finally, the Applicant's claim that the HG method utilizes the "linear relationships" observed when such habitat parameters are plotted on a log-log scale is misstated. More correctly, the claimed "straight line fit to data plotted on a log-log

scale" is not a linear relationship, it is a power function (which hints at the potential for the coarse type of relationship being investigated).

3.2 Comments on Proposed Minimum Instream Flow and Fish Habitat Assessments

NMFS believes that the proposed minimum instream flow of 13 cfs and the proposed amount of fish habitat are likely far too low because they are based on the results from the faulty HG method. The HG method supplies the depth and width of water in the channel at particular flows. The extent of that volume of water determines how much holding, spawning, and rearing habitat is available. The amount of sufficiently wetted habitat determines the relative amount of fish production. However, the Applicant determined that rearing habitat would limit ultimate production within the reach, based in part on the HG method. While limited rearing may be true within this small reach (with any method), NMFS believes that rearing habitat in general should not be considered as "limited" because fish will displace downstream (even out of the 1.7 mile reach) and will find such habitat. Thus, basing the proposed minimum instream flow on 13 cfs because it "would over-seed the available rearing habitat" is not a valid means to determine a minimum instream flow in this case. In addition, there may be times during the year that the resulting restricted flow in the bypass reach, limited by the concurrent diversion rate, is not adequate to transport spawning gravels, maintain riparian habitats, maintain hydraulic connection to floodplains, or maintain proper channel geomorphology.

NMFS believes that because most of the anadromous fish that will access the upper South Fork Battle Creek are listed under the ESA, actions which do not limit potential production should be realized. NMFS suggests that a significantly higher minimum instream flow should be considered in conjunction with the anchoring of large woody debris (LWD). The FLA notes that due to channel gradient, much natural LWD is lacking. Nevertheless, NMFS believes that the depths of certain riffles

and pools may be augmented by the anchoring of LWD at selected locations, thus improving available habitat. LWD helps create complex channels and floodplain habitats and important spawning and rearing habitat by trapping sediment, nutrients, and organic matter, creating pools, sorting gravels, providing cover and hydrologic heterogeneity, and creating important spawning and rearing areas for salmonids (Harmon *et al*. 1986; Montgomery *et al*. 1999). However, NMFS is not proposing terms and conditions at this time, for it is too early and this FLA is deficient.

In addition, while NMFS understands how various habitats were typed, we are not commenting on the fish/habitat utilization or on the proposed fish production at this time. This is because the theoretically available habitats, theoretical fish use of such habitats, and resulting theoretical production were inherently supported by the use of the faulty HG method that likely underestimates the amount of water that would provide such theoretical habitat. In addition, the Applicant erred when they assumed that the "4 times redd area" (for defensible space, per Burner (1951)) is limited to just the available spawning gravel area. However, this is not the case, as the "4 times redd area" of Burner (1951) does not need to be comprised of or limited to just spawning habitat. Such "defensible space" also includes any other types of suitable habitat as long as there is sufficient water quality and depth. This error incorrectly reduces the amounts of available "spawning" habitat. NMFS believes that fish would utilize the habitats in this reach and that would vary with different water years. Furthermore, whatever habitats are utilized and whatever fish production occurs, this reach can only add to or assist in supporting populations of listed anadromous fish that can access the larger Battle Creek basin.

3.3 Comments Regarding Periods of Diversion

The FLA proposes to keep a minimum instream flow of 13 cfs in the bypass reach, the turbines require at least 5 cfs to operate, and thus the proposed Project would cease diverting water for generation

at inflows of 17 cfs or less. Throughout the FLA the Applicant states that this would typically occur in "early July" and diversions would start up again in November. However, the hydrology data provided in the *Technical Report, Lassen Lodge Flow Duration Analyses* (Hydmet 2012 - *Flow Duration Report,* filed as an Appendix with the License Exemption Application in 2012) does not appear to support this generalization of the Project not affecting stream flows from July through October. Based on Figure 21 in the *Flow Duration Report* (Hydmet 2012), in the month of July flows exceed 17 cfs at least 70% of the time, and flows exceed 30 cfs about 40% of the time. Based on Figure 22 in the *Flow Duration Report* (Hydmet 2012), in the month of August flows exceed 17 cfs at least 40% of the time, and flows exceed 30 cfs about 10% of the time. Based on Figure 23 and 24 in the *Flow Duration Report* (Hydmet 2012), in the months of September and October flows exceed 17 cfs about 25% and 20%, respectively, of the time. Thus, this generalized view that the Project will be offline in July and August does not appear supported by data previously filed by the Applicant. Furthermore, it appears that the Project will, at times, reduce the natural minimum flow at a significant level (e.g., reducing the natural flow by more than half from 30 cfs to 13 cfs) during peak water temperature periods in late July and August. A more robust quantification of the time periods when the Project would be diverting and what the reduction in instream flow would be should be ordered by FERC. Furthermore, based on Hydmet's (2012) *Flow Duration Report*, the Project and its effects on stream flows, water temperatures, aquatic habitat, and designated critical habitat should be, at a minimum, extended through July and August.

3.4 Comments Regarding Water Temperature

The FLA is significantly lacking in its characterization of the baseline water temperatures and the Project's potential impacts to water temperature – a primary component of anadromous fish habitat for multiple life stages. The FLA provides a graphical plot of three years (November 2003 to November 2006) of historical water temperature data near the proposed powerhouse location (Figure 2 of Appendix

A to Exhibit E). However, the plot is so coarse (especially the x-axis or dates), it is impossible to discern in which months particular water temperatures are occurring. For example, it is not possible to determine what the water temperatures are in June vs July (the approximate divide between diversion and non-diversion periods). Furthermore, Figure 2 in Appendix A only plots daily average water temperature and does not evaluate the daily maximum water temperature. No additional tabular or written analysis is provided of either daily average or daily maximum water temperatures that could at least characterize temperatures by weekly or monthly time periods. Figure 3 in Appendix A to Exhibit E depicts detailed water temperature information at multiple locations from September to December 2013. While the water temperature monitoring approach depicted in Figure 3 does have some utility in understanding water temperature dynamics in the proposed Project reach, the data in Figure 3 are severely limited by covering such a short time period (3 months) and does not capture any of the summer time or peak temperatures periods. Figure 3 does illustrate that the diurnal water temperature fluctuation near the proposed diversion site (logger 1) can be as high as 8 degrees F in September, which further illustrates the need to analyze water temperature data on a daily maximum basis in addition to daily average temperatures. NMFS believes in order to adequately characterize the baseline conditions, FERC should order additional water temperature monitoring (in an approach similar to that depicted in Figure 3 of Appendix A) that covers the summer months and FERC should also request additional analysis of all available (existing plus future monitoring data) water temperature data (e.g. exceedance plots by month of daily average and maximum temperatures).

The Environmental Report states that "the Project should have little effect on stream temperature" (pg. E-149). However, NMFS could not identify any modeling or analysis within the FLA that would appear to substantiate this conclusion and the statement appears to be based on professional opinions regarding the reported typical cessation of diversion in early July once a minimum inflow of 13 cfs to

the Project is reached. As described above, it appears the Project would typically divert water during most of July and into August. The Project is proposing to significantly reduce the monthly median flow (Table 1 Appendix A to Exhibit E) in multiple months that can potentially have warm water temperatures, including April (an 88% reduction from 107 cfs to 13 cfs), May (a 74% reduction from 129 cfs to 34 cfs), and June (an 81% reduction from 69 cfs to 13 cfs). In order to evaluate the effects to stream temperatures from this significant level of flow reduction, an analytical approach must be developed – in all likelihood a water temperature model is necessary. The Project's effects to stream temperatures should be quantitatively evaluated over a range of climatic and water year types (e.g., wet, normal, and critical years). Furthermore, the changes in water temperature to water diverted through the Project works and its subsequent return to the stream channel should also be quantitatively evaluated. While the Applicant noted that the water in the pipe should remain cool because the pipe is buried, the cumulative effect to water temperature downstream of the Project is not known because the remaining water in the bypass reach could significantly heat up due to its reduced thermal mass. Without a quantitative analysis of how much warming will occur in the bypass reach with the significantly reduced instream flow, it is not possible to assess whether that warmer water in the bypass reach will alter or negate the cooling effects of the natural spring inflows near Panther Grade and, thus, affect in-channel water temperatures downstream of the Project.

Unfortunately, without the understanding that a water temperature model could provide, potential habitat alterations remain unknown during the holding, spawning, and rearing seasons for all types of anadromous fish that would be able to reach areas downstream of the Project and within the bypass reach as well. The FLA's simplistic mitigation of not operating during certain low flow periods (which appears to reliably occur only in September and October, based on Hydmet's (2012) *Flow Duration Report*) does not address potential water temperature changes during other possible important

anadromous fish lifestage seasons (migration, holding, spawning, and rearing). At any time during the year, the relatively warmer water in the bypass reach could cause the net downstream water temperatures to be outside the preferred water temperature tolerance of an anadromous fish's life stage at that particular time of year. Thus, NMFS believes that a more robust amount of water temperature data is needed to assess baseline conditions and provide input to develop a water temperature model that should be applied to a hydrologic record of substantial length that covers a variety of water year types. Water temperature modeling would then be able to inform potential Project operations that would be truly protective of all anadromous fish resources.

3.5 Comments on the Draft BA and EFHA

NMFS make the following determinations regarding the Draft BA and EFHA:

- NMFS does not agree with the BA's "Effect Determination" of "*No Effect*" for both CCV steelhead and spring-run Chinook salmon.
- NMFS does not agree with the BA's "Critical Habitat Determination" of "*May Affect, but is Not Likely to Adversely Affect*" for both CCV steelhead and spring-run Chinook salmon.
- NMFS does not agree with the EFHA's "EFH Determination" of "Will Not Adversely Affect" for Pacific Chinook salmon.

NMFS finds that the draft BA for CCV steelhead and CV spring-run Chinook salmon and the EFHA for Pacific salmon are deficient because much of their support was derived from data that resulted from the use of the Hydraulic Geometry method. NMFS believes that the use of the HG method (itself based on limited hydrological information) is inappropriate. The HG method supplies the depth and width of water in the channel at particular flows. The extent of that volume of water determines how much holding, spawning, and rearing habitat is available. The amount of sufficiently wetted habitat determines the relative amount of fish production. However, the HG method tends to underestimate the volume/depth-stage at particular flows and does not account for variations in hydrology due to either wetter/cooler or drier/hotter water years. Thus, the theoretically available habitats, theoretical fish use

of such habitats, and resulting theoretical production were inherently supported by the use of the faulty HG method that likely underestimates the amount of water that would provide such theoretical habitat.

Finally, the fall-run Chinook salmon and the federally endangered winter-run Chinook salmon were not considered in either the draft BA or in the EFHA. All four of the above anadromous fish can access the South Fork Battle Creek currently and all of these anadromous fish will be able to access the Project's bypass reach once the South Diversion Dam (RM 14.35) of the Battle Creek Hydroelectric Project, FERC Project No. 1121, is removed from the South Fork Battle Creek. The BCSSRP has full funding and written plans to remove this last barrier to anadromous fish by 2016 (USBR *et. al*., 2004).

In closing, NMFS has determined that there is not enough accurate or sufficient information to evaluate the effects of the Project, as described in the FLA by the Applicant, on anadromous fish resources. Thus, NMFS considers this FLA, the BA, and the EFHA to be deficient and not ready for environmental analysis, based on our comments provided above.

4.0 References

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U.S. Bureau of Reclamation (USBR). 2014. USBR's website: The Battle Creek Salmon and Steelhead Restoration Project (BCSSRP). http://www.usbr.gov/mp/battlecreek/index.html.

Federal Register Notices (FR)

FR. 1993. 58 FR 33212, June 16, 1993. Designated Critical Habitat for Sacramento River winter-run Chinook salmon Evolutionarily Significant Unit. Final Rule.

FR. 1994. 59 FR 440, January 4, 1994. Endangered and Threatened Species; Status of Sacramento River winter-run Chinook salmon (as Endangered). Final Rule.

FR. 2005. 70 FR 52488, September 2, 2005. Endangered and Threatened Species: Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California. Final Rule.

FR. 2006. 71 FR 834, January 5, 2006. Endangered and Threatened Species: Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead. Final Rule.

Enclosure B

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Lassen Lodge, LLC	**)**	**Project No. P-12496**
Lassen Lodge Hydroelectric Project	**)**	
South Fork Battle Creek	**)**	

CERTIFICATE OF SERVICE

I hereby certify that I have this day served, by first class mail or electronic mail, a letter to Secretary Bose, Federal Energy Regulatory Commission, containing the NOAA Fisheries Service's comments on the Final License Application for the Lassen Lodge Hydroelectric Project (P-12496). This Certificate of Service is served upon each person designated on the official Service List compiled by the Commission in the above-captioned proceeding.

Dated this 12th day of June 2014

William E. Foster
National Marine Fisheries Service

Document Content(s)