APPENDIX E4

SSWD'S REPLY TO AGENCY COMMENTS

SSWD received five letters or emails from resource agencies or other interested parties providing comments on the DLA including:

- Letter from USFWS dated April 10, 2019
- E-mail from SWRCB dated April 12, 2019
- Letter from CDFW dated April 14, 2019
- Letter from NMFS dated April 15, 2019
- Letter from Foothill Water Network dated April 15, 2019

The email received from the SWRCB stated the SWRCB had no comments on the DLA.

In addition, SSWD received comments on the DLA from FERC, and FERC's comments are addressed in Appendix E5 in this Exhibit E.

SSWD has applied an alpha-numeric designation to each comment in USFWS, NMFS, CDFW and FWN, and provides below a reply to each of the comments, which are repeated verbatim below with the page number form the comment letter indicated grouped comments by topic where appropriate and provides a single reply to comments that are identical or nearly identical.

1.1 General Comments

CDFW-1 Comment (pg. 2): "*The licensee is requesting a new license term of 40-50 years. FERC sets 40 years as the "default" term with three circumstance where a shorter or longer license may be issued. None of the circumstances are applicable or anticipated, therefore there is no justification for a term longer than 40 years.*"

SSWD's Reply: As described in Section 2.0 in the Initial Statement in SSWD's FLA, FERC's Policy Statement on Establishing License Terms for Hydroelectric Projects, 161 FERC ¶ 61,078 (2017) includes as a justification for granting a longer license term where significant measures are expected to be implemented under the new license for non-development purposes (environmental, recreation, water supply) or those that enhance power and developmental purposes. FERC's long-standing practice is to consider costs of improvements relative to the size of the project. Further, America's Water Infrastructure Act of 2018, Pub. L. No. 115-270, 132 Stat. 3765, requires FERC to give equal weight to investments by the licensee over the term of the existing license that resulted in redevelopment, new construction, new capacity, efficiency, modernization, rehabilitation or replacement of major equipment, safety improvements, or environmental, recreation, or other measures conducted over the term of the existing license.

Based on these FERC and Congressional directives, SSWD is requesting a new license term of

50 years in the FLA. SSWD is in the process of constructing a new auxiliary spillway structure and related modifications which constitute a major investment in the Project. SSWD expects to spend approximately $8,812,206 on the spillway modifications (i.e., Secondary Spillway) and related Project modifications. Further, SSWD is proposing a 5 foot pool raise that will enhance the water supply benefits of the Project. SSWD's estimated cost for the pool raise is $3,942,264. SSWD also is proposing to relocate recreational facilities impacted by the pool raise, at an additional estimated cost of $725,000. These Project investments would total approximately $13,479,470, a very substantial amount for a 6.8 MW project, and are in addition to the costs of the PM&E measures proposed in the FLA. SSWD believes that a 50 year license is necessary and appropriate to recognize these Project investments.

FWN-7 Comment (pg. 5): "*The licensee requested a license term for 40-50 years. The three circumstance to shorten or lengthen a license from the default 40 years are not applicable. The license term should be 40 years.*"

SSWD's Reply: Refer to SSWD's reply to CDFW-1 Comment.

CDFW-5 Comment (pgs. 3 & 4): "*The Department recommends inclusion of the Nevada Irrigation District water rights application #5634X01 which seeks to appropriate up to 221,400-acre feet annually from the Bear River. The Department would like to work with the Licensee to negotiate specific terms to include in the FERC license that address changes to water year type classifications if/when a new instream storage reservoir is constructed upstream of the Project (Centennial).*"

SSWD's Reply: Section 3.2.3.2 in Exhibit E of the FLA states that SSWD has not included NID's water rights application #5634X01 in SSWD's cumulative effects analysis in the FLA under reasonably foreseeable future actions because it is not a reasonably foreseeable future action. At this time, it is not possible to know whether or not NID's water rights request will be approved and issued by the SWRCB and, if so, how it would affect Project operations. NID's application is undergoing review by the SWRCB, which will conduct its own environmental review of effects consistent with State law and appropriate regulations.

FWN-3 Comment (pg. 4): "*FWN believes the FLA should evaluate the impacts of potential Centennial Reservoir on SSWD's current and proposed operations.*"

SSWD's Reply: Section 3.2.3.2 in Exhibit E of the FLA states that SSWD has not included NID's Centennial Reservoir Project in SSWD's cumulative effects analysis in the FLA under reasonably foreseeable future actions because it is not reasonably foreseeable. NID's Centennial Reservoir Project has not undergone either state or federal environmental review (i.e., CEQA or NEPA); NID has not obtained necessary permits to construct, maintain or operate the project; NID has not funded the project; and NID has not put forward sufficient engineering or operations details of the project that would allow for an environmental review, let alone allow SSWD to evaluate how the project would affect SSWD's Camp Far West Hydroelectric Project.

FWN-8 Comment (pg. 5): "*FWN recommends including the Centennial Reservoir Project in the Project Operations section of the FLA.*"

SSWD's Reply: Refer to SSWD's reply to FWN-3 Comment.

NMFS-2 Comment (pgs. 3 & 4): "*The Licensee's DLA does not include changes to the current flow regime in the lower Bear River. NMFS plans to work with relicensing participants to reach a collaborative agreement and recognizes the high degree of impairment upstream of the Project and that existing conditions may not represent conditions in the future (Centennial Reservoir).*"

SSWD's Reply: SSWD's FLA addresses all reasonably, foreseeable future changes to the current flow regime, including those upstream of the Project. Refer also to SSWD's replies to CDFW-5, FWN-3 and FWN-5 comments.

CDFW-9 Comment (pgs. 4 & 5): "*The Department recommends that the cost of the transmission line should not be included in the Licensee's estimated annual average costs as it is a separate FERC project under FERC project number #10821*."

SSWD's Reply: Section 5.1.8 in Exhibit D of the FLA identifies transmission line access cost (i.e., cost for an agreement with PG&E to wheel the Project's power over PG&E's transmission lines, not cost to operate and maintain PG&E's FERC Project No. 10821), and estimates that average annual cost to be $1,000, which is a legitimate and proper Project cost to be included in Exhibit D. No other costs related to electricity transmission are included in Exhibit D. The Project does not include a transmission line.

CDFW-2 Comment (pg. 2): "*The Department recommends the addition of Fish and Game Code §5937; Sufficient Water for Fish Existing Below Dams* [to the Initial Statement]."

SSWD's Reply: Section 7.0 in the Initial Statement of SSWD's FLA includes, as requested by CDFW, a reference to California Fish and Game Code (F.G.C.) Section 5937. However, as a project licensed by FERC under the Federal Power Act, the Project is not subject to state fish and wildlife laws and regulations.

CDFW-3 Comment (pgs. 2 & 3): "*The Department recommends the addition of Fish and Game Code §2302; Dreissenid Mussel; Responsibilities of Reservoir Managers or Owners* [to the Initial Statement]."

SSWD's Reply: Section 7.0 in the Initial Statement of SSWD's FLA includes, as requested by CDFW, a reference to F.G.C. Section 2302. However, as a project licensed by FERC under the Federal Power Act, the Project is not subject to state fish and wildlife laws and regulations. SSWD notes that, outside relicensing, it is consulting with CDFW on the development of a Dreissenid Plan for Camp Far West Reservoir.

CDFW-4 Comment (pg. 3): "*The Department recommends the addition of Fish and Game Code §5943; Public Access of Dam Waters* [to the Initial Statement]."

SSWD's Reply: Section 7.0 in the Initial Statement of SSWD's FLA includes, as requested by CDFW, a reference to F.G.C. Section 5945. However, as a project licensed by FERC under the Federal Power Act, the Project is not subject to state fish and wildlife laws and regulations.

CDFW-6 Comment (pg. 4): *"The 2018 water transfer should be added to section 5.2.5 and any other applicable sections."*

SSWD's Reply: Section 5.2.5 in Exhibit B of SSWD's FLA includes that SSWD transferred water in 2018, besides in 2008, 2009, 2010 and 2014, and states the volume of water transferred in 2018 was approximately 10,500 ac-ft.

USFWS-1 Comment (pgs. 2 & 3): *"The DLA discounts the AFRP doubling goal for the Bear River of 450 average annual Chinook salmon spawners. PM&E measures for Chinook salmon are anticipated to include action such as fall pulse flows to support spawning migration, spring pulse flows to support juvenile Chinook outmigration and steelhead attraction, increased minimum instream flows in the winter and spring of wetter water year types, and ramping rates when the Project is either coming off of a spill event or reducing releases to the lower Bear River."*

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions, including those related to anadromous fish. SSWD appreciates NMFS's collaboration on these conditions. Section 5.4.20 in Exhibit E of SSWD's FLA discusses the Project's consistency with the ARFP's Doubling Goal policy.

Comment NMFS-12 (pg. 8): *"There is no discussion regarding how the Project facilities, operations and maintenance are consistent with NMFS' Recovery Plan."*

SSWD's Reply: Sections 3.3.5 and 5.4.15 in Exhibit E of SSWD's FLA address the Project's consistency with the NMFS Recovery Plan.

1.2 PM&E Development and Collaboration

CDFW-11a Comment (pgs. 5 & 6): *"The Department looks forward to continuing to fully develop and agree on the following plans/measures for inclusion into the FLA: Bald Eagle and Osprey Management, Aquatic Invasive Species Management, Recreation Plan, Instream Flow, Pulse Flow, and Ramping Rate Plan."*

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's Proposed Conditions regarding water year types, minimum streamflows, fall and spring pulse flows, ramping rates, bald eagle management plan, and recreation management plan. SSWD appreciates CDFW's collaboration on these conditions. As described in Section 1.4.2.4 in Exhibit E of SSWD's FLA and in SSWD's response to CDFW-13 comment, SSWD does not propose an aquatic invasive species management plan.

USFWS-7 Comment (pg. 5): *"Licensee Proposed Condition AR1 maintains the current license instream flow conditions for the lower Bear River. The USFWS, CDFW, Non-Governmental Organization groups, and the Licensee are actively negotiating instream flow conditions based*

on new (in process of negotiation) water year type for the Project, pursuant to the TLP. Agency proposals generally maintain the current license conditions for the drier water year types and provide higher flows in the winter and spring as well as pulse flows in the fall and spring for the wetter water year types to better support salmonid production in the lower Bear River and more closely mimic natural hydrology. The agency proposals also have included ramping rates for some months of the year when the Project reduces flows to the lower Bear River to minimize impacts to salmonid redds and fry that may be present downstream. The USFWS encourages the Commission to adopt into the Final License Application (FLA) the final instream flow conditions that result from these negotiations. Should the TLP negotiations result in a lack of agreement among parties, the USFWS will file an instream flow proposal to the Commission as part of their FLA comment package."

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to flow. SSWD appreciates USFWS's collaboration on these conditions.

FWN-5 Comment (pg. 4): "*Minimum instream flows should continue to be discussed and implemented in the FLA.*"

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to flow. SSWD appreciates FWN's collaboration on this condition.

CDFW-12 Comment (pgs. 6 & 7): "*The Department plans to work with the Licensee and other Relicensing Participants to reach a comprehensive and collaborative agreement on instream flow measures and other PME measures for the new license. The Department 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 FERC license term.*"

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to water year types, instream flows and other conditions. SSWD appreciates CDFW's collaboration on this condition. In addition, refer to SSWD's response to comment USFWS-7, NMFS-9, and FWN-5.

NMFS-11 Comment (pg. 7): "*NMFS looks forward to working with the Licensee and FERC to develop license terms that mitigates the Projects' effects and enhance anadromous resources in the lower Bear River.*"

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions. SSWD appreciates NMFS's collaboration on these conditions.

NMFS-9 Comment (pg. 7): "*Measures to improve instream flow and manage the recession of uncontrolled spill could maximize and enhance existing anadromous fish habitat. 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.*"

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to a water year types, minimum streamflow, fall and spring pulse flows and ramping rates. SSWD appreciates NMFS's collaboration on these conditions. As discussed in SSWD's response to NMFS-8, SSWD's FLA does not include a SSWD proposed condition for sediment injection downstream of the Project because existing sediment levels are adequate to support aquatic resources.

NMFS-4 Comment (pgs. 4 & 5): "*The Project effects initiation and timing of fall-run upstream migration and spawning by altering migration cues and pulse flows that would have occurred in the absence of the Project. This Project effect should be mitigated to the maximum extent possible.*"

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to a water year types, minimum streamflow, fall and spring pulse flows and ramping rates. SSWD appreciates NMFS's collaboration on this condition.

1.3 Aquatic Monitoring

CDFW-11b Comment (pg. 6): "*Additionally, the Department recommends the Licensee develop a framework for the monitoring of aquatic and water resources, addressing at minimum, stream fish, benthic macroinvertebrates, water temperature, and water quality.*"

SSWD's Reply: SSWD's has not included in its FLA a PM&E measure for monitoring aquatic and water resources for three reasons, which are described in Section 1.4.2.4 in Exhibit E of SSWD's FLA. First, CDFW does not provided an adequate description of the rational, scope or estimated cost for its suggested monitoring so that SSWD can provide a detailed reply to CDFW's request. Without these details, SSWD can only evaluate and reply to CDFW's suggestion in general terms. Second and in general terms, the need for monitoring is unclear: the best available science shows SSWD's proposed PM&E measures would improve conditions for stream fish, benthic macroinvertebrates (BMI) and water temperature (water quality is in good condition, and SSWD's proposed PM&E measures would have no effect on water quality) in the lower Bear River, and CDFW does not suggest a mechanism under normal Project O&M that would negate these improvements. CDFW provides no basis for monitoring improvements in stream fish, BMI and water temperature that would occur under SSWD's proposal. Monitoring these improvements is not needed because it would not provide additional improvements. Third and in general terms, the use of monitoring data is unclear. Specifically, CDFW does not describe a mechanisms to isolate in monitoring data Project-related effects from

non-Project-related effects on these resources, or how the monitoring data would be used to modify license conditions. While monitoring would track changes in stream fish, BMI and water temperature over time, information that may be useful to agencies that are delegated the responsibility to manage these resources, the monitoring would be of no value from a Project license compliance perspective.

USFWS-2 Comment (pg. 3): *"Request to collaboratively develop a reasonable monitoring plan for salmonids within the lower Bear River that allows a comparison of juvenile production and survival between years. The monitoring plan should be finalized within one year of license issuance."*

SSWD's Reply: SSWD's has not included in its FLA a PM&E measure for monitoring salmonids in the lower Bear River for three reasons. First, USFWS does not provided an adequate description of the rational, scope or estimated cost for its suggested monitoring so that SSWD can provide a detailed reply to USFWS's request. Without these details, SSWD can only evaluate and reply to USFWS's suggestion in general terms. Second and in general terms, the need for monitoring is unclear: best available science shows SSWD's proposed PM&E measures would improve conditions for salmonids in the lower Bear River, and USFWS does not suggest a mechanism under normal Project O&M that would negate these improvements. USFWS provides no basis for monitoring improvements salmonids in the lower Bear River that would occur under SSWD's proposal. Monitoring these improvements is not needed because it would not provide additional improvements. Third and in general terms, the use of monitoring data is unclear. Specifically, USFWS does not describe a mechanisms to isolate in monitoring data Project-related effects from non-Project-related effects on salmonids, or how the monitoring data would be used to modify license conditions. While monitoring would track changes in salmonids in the lower Bear River over time, information that may be useful to USFWS as an agency delegated the responsibility to manage these resources, the monitoring would be of no value from a Project license compliance perspective.

FWN-4 Comment (pg. 4): *"FWN recommends adopting an aquatic monitoring program for salmonids in the lower Bear River."*

SSWD's Reply: SSWD's has not included in its FLA a PM&E measure for monitoring salmonids in the lower Bear River for three reasons. First, FWN does not provided an adequate description of the rational, scope or estimated cost for its suggested monitoring so that SSWD can provide a detailed reply to FWN's request. Without these details, SSWD can only evaluate and reply to FWN's suggestion in general terms. Second and in general terms, the need for monitoring is unclear: best available science shows SSWD's proposed PM&E measures would improve conditions for salmonids in the lower Bear River, and FWN does not suggest a mechanism under normal Project O&M that would negate these improvements. FWN provides no basis for monitoring improvements of salmonids in the lower Bear River that would occur under SSWD's proposal. Monitoring these improvements is not needed because it would not provide additional improvements. Third and in general terms, the use of monitoring data is unclear. Specifically, FWN does not describe mechanisms to isolate monitoring data Project-related effects from non-Project-related effects on salmonids, or how the monitoring data would be used to modify license conditions. While monitoring would track changes in salmonids in the

lower Bear River over time, information that may be useful to agencies delegated the responsibility to manage this resource, the monitoring would be of no value from a Project license compliance perspective.

NMFS-8 Comment (pg. 6): "*The Project effects on the recruitment of large woody material and spawning gravel should be mitigated for based on the length of the license. Even though these resources are available now, the Project will continue to inhibit the addition of new materials; future sediment/LWM surveys and new substrate augmentation are likely to be needed. This Project effect should be acknowledged and long-term mitigation measures should be developed.*"

SSWD's Reply: SSWD has not included in its FLA a PM&E measure for monitoring or augmenting large woody material (LWM) or spawning gravels in the Bear River downstream of Camp Far West Dam and the non-Project diversion dam for the following reasons. First, NMFS does not provide an adequate description of the rationale, scope, or estimated cost for the suggested monitoring and augmentation so that SSWD can respond in detail to NMFS's request. Without these details, SSWD can only evaluate and reply to NMFS's suggestion in general terms. Second, and in general terms, the need for monitoring is unclear, because the best available science shows that adequate quantities of these resources currently exist and continue to persist in the lower Bear River, and because NMFS does not provide adequate description of a mechanism by which these resources would become depleted in the future. Finally, and also in general terms, the use of monitoring data and utility of LWM and gravel augmentation is unclear. Specifically, NMFS does not describe a mechanism to isolate in monitoring data Project-related effects from non-Project-related effects on these resources, and does not describe how monitoring data would be used to inform and guide augmentation activities.

1.4 Recreation Facilities Plan

CDFW-10 Comment (pg. 5): "*The Department plans to work with Licensee and other Relicensing Participants in the next several months to attempt to reach a collaborative agreement on the proposed condition regarding recreation (RR1). Recommendations from the Department as stated in the March 1st, 2019 meeting are: improving boat ramp at the South Shore Recreation Area, a 1:1 campground replacement and less condensed sites, replacement of the swim beach, opening the South Shore Recreation Area for a longer season, permanent fish cleaning stations, and wildlife proof trash cans.*"

SSWD's Reply: Section 3.3.6.2.1 in Exhibit E of SSWD's FLA states that SSWD will replace one-for-one all inundated recreation facilities as a result of the Pool Raise, including the swim beach. Following the new license issuance and prior to implementing the Pool Raise, SSWD will develop detailed design drawings that show the location and extent of the replaced recreation facilities and provide the drawings to FERC for approval before constructing the replacement facilities.

Regarding the recommendation to open the South Shore Recreation Area (SSRA) for a longer period, as described in Section 1.4.2.4 in Exhibit E of SSWD's FLA, currently SSWD opens the

SSRA based upon the recreational demand at the Project. This is usually during peak recreation use periods (i.e., weekends/Friday-Sunday) during the peak recreation season (i.e., late May through early September) and during special events. Per the occupancy rates in Section 3.3.6.1.2 in Exhibit E of the FLA, the North Shore Recreation Area (NSRA) facilities are more than adequate to meet the recreational demand during the weekdays during the peak recreation season and on weekends and weekdays outside the peak recreation season (see the campground occupancy rates in Table 3.3.6-4, parking area occupancy rates in Table 3.3.6-5, and picnic site occupancy rates in Table 3.3.6-8). Thus, the current recreational demand does not warrant opening the SSRA beyond the weekends (Friday through Sunday) during the peak recreation season from late May through early September and during special events.

Regarding the recommendation to improve the SSRA boat ramp, as described in Section 1.4.2.4 in Exhibit E of SSWD's FLA, the NSRA boat ramp is adequate to meet the current recreational demand at Camp Far West Reservoir; and the limited demand and open periods at the SSRA do not warrant the investment to improve the boat ramp at this time. Further, 95 percent of the visitors surveyed at the SSRA rated the SSRA boat ramp condition as acceptable or offered no opinion at all; and only 15 percent of visitors surveyed preferred adding more lanes to the boat ramp (see Section 3.3.6, Attachment E3.3.6A-Visitor Survey Questionnaire Results).

Regarding the recommendations for permanent fish cleaning stations and wildlife proof trash receptacles, as described in Section 1.4.2.4 in Exhibit E of the FLA, the relicensing visitor survey data not indicate a need for these types of facilities as visitors surveyed did not indicate a preference for improved trash receptacles or the addition of fish cleaning stations. More specifically, approximately 95 percent of the visitors surveyed at both the SSRA and NSRS indicated the camping and picnicking site amenities (i.e., where the majority of the trash receptacles are located) were acceptable or offered no opinion (see Section 3.3.6, Attachment E3.3.6A-Visitor Survey Questionnaire Results). In addition, refer to SSWD's reply to FWN-6 Comment.

FWN-6 Comment (pgs. 4 & 5): *"The SSRA facilities should be open for a longer season and the boat ramp should be improved."*

SSWD's Reply: As discussed in Section 1.4.2.4 in Exhibit E of SSWD's FLA, the SSRA is opened based upon the recreational demand at the Project. Currently, the SSRA is open during peak recreation use periods (i.e., weekends/Friday-Sunday) during the peak recreation season (i.e., late May through early September). Per the occupancy rates in Section 3.3.6.1.2 of the FLA, the NSRA facilities are more than adequate to meet the recreational demand during the weekdays during the peak recreation season and on weekends and weekdays outside the peak recreation season (see the campground occupancy rates in Table 3.3.6-4, parking area occupancy rates in Table 3.3.6-5, and picnic site occupancy rates in Table 3.3.6-8). Thus, the current recreational demand does not indicate a need to have the SSRA open beyond the weekends (Friday through Sunday) during the peak recreation season from late May through early September. Of note, SSWD opens the SSRA outside these times when special events are scheduled and the demand warrants additional open dates. See response to CDFW-10 regarding the SSRA boat ramp improvements.

1.5 Aquatic Invasive Species Management Plan

CDFW-13 Comment (pg. 7): "*The Department recommends the Licensee develop and Aquatic Invasive Species Management Plan.*"

SSWD's Reply: Based on the AIS known from and with the potential to be introduced to the Project, SSWD believes a specific Aquatic Invasive Species Management Plan is unnecessary. Outside of the FERC relicensing process, SSWD has developed a Dreissenid Mussel Vulnerability Assessment per state law and Fish and Game Code § 2302 (described in sections 3.3.3.1.2 and 3.3.3.3.2 in Exhibit E of the FLA) which includes public education provisions for prevention of introduction of dreissenid mussel species that will also apply to other aquatic invasive species. Since prevention is the main management tool for aquatic invasive species, an additional management plan would not provide added benefit. There are no currently known effective management strategies for the four species located in the FERC Project Boundary-Asian clam, Eurasian milfoil, floating water primrose and American bullfrog, so prevention of further spread also remains the best management tool. Although American bullfrog control is possible through sustained efforts at small and medium ponds, American bullfrog populations control at the Project would be exceptionally difficult and require permanent, ongoing efforts, as there are uncontrollable source populations all around the Project and the population is already well established.

USFWS-3 Comment (pg. 3): "*The commission and Licensee should develop an Aquatic Invasive Species Management Plan that addresses species not addresses adequately in the DLA: Asian Clam, Brazilian waterweed, floating water primrose, parrot's feather milfoil, Eurasian water milfoil, and American bullfrog. Bullfrog management actions should be coordinately closely with measures to protect the California red-legged frog.*"

SSWD's Reply: Refer to SSWD's reply to CDFW-13 Comment.

1.6 eDNA Sampling

CDFW-14 Comment (Pgs. 8 & 9): "*The Licensee should complete a second year of eDNA sampling, aligning sampling events with reported temporal occurrences of sturgeon sighted in the Lower Bear River.*"

SSWD's Reply: As described in Section 3.3.3.1.3 in Exhibit E of SSWD's FLA, a second year of eDNA sampling is not required to assess Project effects or inform license conditions. CDFW cites study variances and observations of sturgeon in the lower Bear River as to why the study should be repeated. With regards to study variances, SSWD performed the eDNA Study as requested by CDFW in an email dated December 7, 2016 (Attachment E4-1), including eDNA sampling locations, timing, and flow considerations, with two exceptions that did not affect the study results. Specifically, CDFW requested SSWD modify SSWD's proposed eDNA study plan to include six specific sampling areas, each with 3-5 sampling sites (25 sites total), with sampling to be conducted twice between mid-February and April 1, with no less than 2 weeks between sampling occasions, with sampling occurring at flows of 2,000 cfs or greater, 2 liters (L)

of water collected during each sampling, and two filters used during each sampling. SSWD conducted the study as requested by CDFW, with the exception of the volume of water that was filtered at each site and the number of filters used. Due to high turbidity at the time of sampling, less than the 2 L of water was filtered at each sampling site (the average amount filtered across all sites and occasions was 894 mL and ranged from 500 mL to 1,000 mL). Also, because of the lower-than-expected filtration rates, the number of filters used at each site was increased from two to five. These study variances have no effect on study results. After sampling was initiated and the issue of turbidity was realized, SSWD discussed with Genidaqs, experts in the field of eDNA analysis and the lab used to analyze samples collected during the study, whether the decrease in sampling volume or increase in number of filters would potentially affect the results of the analysis. Genidaqs responded that the decreased volume and number of filters would not affect the results of the analysis (Attachment E4-2).

The second evidence CDFW puts forth to question the results of the study and support that the study should be redone is that DWR stated it identified adult sturgeon using DIDSON in the lower 1 mile of the Bear River in late March 2018 shortly after SSWD collected its eDNA sample in that area. SSWD believes using this information to conclude that the study was conducted improperly is faulty because the information only confirms that sturgeon were present after the study was conducted, and says nothing about whether sturgeon were present during or before the study. Additionally, the same sampling conditions yielded positive detections for O. mykiss, which SSWD's stream fish study showed to be present in low numbers (see Section 3.3.3.1.3 in Exhibit E of the FLA), indicating that the sampling was effective for seasonally-present, low-abundance species regardless of the decreased filtration volumes resulting from increased turbidity.

USFWS-10 Comment (pgs. 5 & 6): "*Requests the Licensee conduct an additional eDNA survey for green and white sturgeon.*"

SSWD's Reply: As described in Section 3.3.3.1.3 in Exhibit E of SSWD's FLA, a second year of eDNA sampling is not required to assess Project effects or inform license conditions. USFWS cites study variances and sampling during periods of high turbidity as reasons why the study should be repeated. With regards to study variances, SSWD performed the eDNA Study as requested by CDFW in an email dated December 7, 2016 (Attachment E4-1), including eDNA sampling locations, timing, and flow considerations, with two exceptions that did not affect the study results. Specifically, CDFW requested SSWD modify SSWD's proposed eDNA study plan to include six specific sampling areas, each with 3-5 sampling sites (25 sites total), with sampling to be conducted twice between mid-February and April 1, with no less than 2 weeks between sampling occasions, with sampling occurring at flows of 2,000 cfs or greater, 2 liters (L) of water collected during each sampling, and two filters used during each sampling. SSWD conducted the study as requested, with the exception of the volume of water that was filtered at each site and the number of filters used. Due to high turbidity at the time of sampling, less than the 2 L of water was filtered at each sampling site (the average amount filtered across all sites and occasions was 894mL). Also, because of the lower-than-expected filtration rates, the number of filters used at each site was increased from two to five. These study variances have no effect on study results. After sampling was initiated and the issue of turbidity was realized, SSWD discussed with Genidaqs, experts in the field of eDNA analysis and the lab used to

analyze samples collected during the study, whether the decrease in sampling volume or increase in number of filters would potentially affect the results of the analysis. Genidaqs responded that the decreased volume and number of filters would not affect the results of the analysis (Attachment E4-2). Regarding the potential effect of turbidity on the study results, the same sampling conditions yielded positive detections for O. mykiss, which SSWD's stream fish study found to be present in low numbers (see Section 3.3.3.1.3 in Exhibit E of the FLA), indicating that the sampling was effective for seasonally-present, low-abundance species regardless of the decreased filtration volumes resulting from increased turbidity.

NMFS-3 Comment (pg. 4): *"The lower Bear River does not provide suitable water temperatures for year-round use by salmonids, although it currently supports seasonal salmonid use. … 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."*

SSWD's Reply: Sections 3.3.3 and 3.3.5 in Exhibit E of SSWD's FLA describes suitability for salmonids of water temperatures in the Bear River downstream of the Project that occur under current conditions (i.e., the environmental baseline) and that would occur under SSWD's Proposed Project. NMFS has not provided any evidence, including water temperatures under pre-Project conditions, to support its statements that in fall, winter and spring, Project releases would be warmer than pre-Project conditions. It is important to note that the Bear River downstream of the Project does not experience a natural hydrograph and associated natural water temperatures because of the cumulative effects of the operations of four projects upstream of Camp Far West Reservoir and the non-Project diversion dam downstream of the Project.

NMFS-5 Comment (pg. 5): *"NMFS does not agree that the Project is beneficial to anadromous fish resources in the Bear River. The Project's dam blocks any ongoing recruitment of large woody material and spawning gravels as well as operations altering the natural hydrograph, including the natural recession rates from high to low flows. NMFS also believes that fall-run Chinook salmon are not the only anadromous fish, "that is most sensitive to flow and temperature." CCV steelhead, North American green sturgeon, and CV spring-run Chinook salmon are also seasonal present and are sensitive to changes in flow and water temperature.*"

SSWD's Reply: SSWD clarifies that the proposed Project, as described in Appendix E2 and evaluated in Section 3.3.3.2.2 and Section 3.3.5.3.2 in Exhibit E of the FLA, is anticipated to be beneficial to anadromous fish resources in the Bear River, because of the inclusion of flow-related measures that are being collaboratively developed by SSWD, NMFS, and other agencies.

While SSWD is collaborating on proposed conditions to provide pulse flows and ramping rates, the proposed flow-related measures (see Appendix E2) do not represent an attempt to mimic the 'natural hydrograph' but simply to provide more favorable conditions for aquatic species in the lower Bear River. The Bear River does not experience a natural hydrograph because of the cumulative effects of the operations of four projects upstream of Camp Far West and the non-Project diversion dam downstream.

Regarding large woody material (LWM) and spawning gravels, SSWD agrees with NMFS that there are currently suitable amounts of LWM and spawning gravels in the lower Bear River, as described in SSWD's FLA (see sections 3.3.1.1.7, 3.3.1.2.3, and 3.3.3.1.3 in Exhibit E of the FLA). However, SSWD believes that these resources are not being depleted and will persist into the future, since they exist in sufficient quantities more than 90 years after initial construction of Camp Far West Dam and more than 50 years after Camp Far West Dam was expanded to its current size.

Additionally, SSWD clarifies that, although existing information suggests periodic usage of the lower Bear River by sturgeon, steelhead, and spring-run Chinook salmon, SSWD found limited evidence of opportunistic utilization of the lower Bear River by O. mykiss and white sturgeon, and no evidence of the presence of green sturgeon or spring-run Chinook salmon. SSWD also reiterates that flow-related PM&E measures collaboratively developed by SSWD, NMFS, and other agencies are anticipated to benefit all anadromous fishes in the lower Bear River.

NMFS-6 Comment (pgs. 5 & 6): *"The 80% WUA proposed flow schedule does not mimic all components of a natural hydrograph, including initiation flows. 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.*"

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to pulse flows and ramping rates. SSWD appreciates NMFS' collaboration on these conditions. As a clarification, the proposed flow-related measures (see Appendix E2) do not represent an attempt to mimic the 'natural hydrograph' but simply to provide more favorable conditions for aquatic species in the lower Bear River. The lower Bear River, prior to the Project, did not experience a natural hydrograph because of the cumulative effects of the operations of four water projects upstream of Camp Far West Reservoir and the non-Project diversion dam downstream, which significantly altered unimpaired flows.

1.7 Terrestrial Resources

CDFW-8 Comment (pg. 4): *"The Department recommends amending the Vertebrate Pest Management (6.4.2.3) section to state the following: "SSWD implements rodent control as needed in facility interiors using an Integrated Pest Management approach that includes sanitation and exclusion. General Use rodenticides, applied in accordance with the label instruction, may be used when necessary. Rodent control occurs within the Camp Far West Powerhouse.*"

SSWD's Reply: Section 6.4.2.3 in Exhibit B of SSWD's FLA states: "*SSWD implements rodent control as needed in facility interiors using an integrated pest management approach that includes sanitation and exclusion. General use of rodenticides, applied in accordance with the label instruction, may be used when necessary.*" In addition, refer to SSWD's response to comment USFWS-5.

USFWS-5 Comment (pg. 4): *"The Licensee should minimize the use of products containing second generation anticoagulants, in favor of other methods with fewer impacts to non-target animals that may feed on the target organisms*."

SSWD's Reply: Section 6.4.2.3 in Exhibit B and Section 2.1.6.2.3 in Exhibit E of SSWD's FLA states: "SSWD, to the extent possible, minimizes the use of products containing second generation anticoagulants, in favor of other methods with fewer impacts to non-target animals that may feed on the target organisms."

CDFW-15 Comment (pgs. 9 & 10): *"It is appreciated that the Licensee is developing a Bald Eagle/Osprey Management Plan earlier than the proposed timeframe*."

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to a bald eagle management plan. SSWD appreciates CDFW's collaboration on this condition.

USFWS-8 Comment (pg. 5): *"USFWS supports the inclusion of a Bald Eagle and Osprey Management Plan and the Licensee's efforts to develop this plan ahead of schedule*."

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in SSWD's Exhibit E states SSWD's current understanding of collaboration among SSWD and agencies regarding agreement on SSWD's proposed conditions related to a bald eagle management plan. SSWD appreciates CDFW's collaboration on this condition.

CDFW-16 Comment (pg. 10): *"It is recommended that the Licensee protect the great blue heron rookery in the South Shore Recreation Area and implement a Limited Operating Period from March 15 to July 31 within a buffer of 0.25 mile around the rookery*."

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in Exhibit E include SSWD's Proposed Condition TR2, Great Blue Heron Rookery Management, which states that SSWD will adhere to a Limited Operating Period from March 15 to July 31 within a buffer of 500 ft around the rookery. A map showing the location of the great blue heron rookery is included in Section 3.3.4 as Figure 3.3.4-9. As described in Section 1.4.2.4 and Appendix E2, SSWD understands that CDFW agrees with this condition. SSWD appreciates CDFW's collaboration on this condition.

USFWS-6 Comment (pg. 5): *"USFWS recommends the protection of the great blue heron rookery within the project area by implementing a Limited Operating Period from March 15 to July 31 within a buffer of 0.25 miles of the rookery*."

SSWD's Reply: Section 1.4.2.4 and Appendix E2 in Exhibit E include SSWD's Proposed Condition TR2, Great Blue Heron Rookery Management, which states that SSWD will adhere to a Limited Operating Period from March 15 to July 31 within a buffer of 500 ft around the rookery. A map showing the location of the great blue heron rookery is included in Section 3.3.4 as Figure 3.3.4-9. As described in Section 1.4.2.4 and Appendix E2, SSWD understands that USFWS agrees with this condition. SSWD appreciates USFWS's collaboration on this condition.

CDFW-17 Comment (pg. 10): "*The Department recommends the following addition to the Special-Status Bat Species section: "TR2-1: Prior to initiating any Project operations and maintenance activities (including exclusion), a qualified biologist will inspect the facilities for bats immediately prior to initiating activities. If winter hibernacula of special-status bats are present and likely to be affected by the activities (e.g., noise disturbance, structure modification), work will be limited to avoid the hibernacula season when bats are sensitive to disturbance (November through March) or consultation with the agencies about protective measures will be initiated. If construction is planned for the hibernacula season, exclusion methods may be planned before construction has occurred.*"

SSWD's Reply: During continued collaboration between SSWD and the agencies, it was agreed to by SSWD, CDFW, and USFWS that the Project did not require any bat-related measures. Refer to the PM&E Resolution Meeting Summary in Appendix E6 in Exhibit E of SSWD's FLA.

USFWS-9 Comment (pg. 5): "*The USFWS would like to assist in the development of the plan to install and maintain devices to exclude bats from Project facilities.*"

SSWD's Reply: Refer to SSWD's reply to CDFW-17 comment.

1.8 ESA-Listed Threatened or Endangered Species

NMFS-10 Comment (pg. 7): "*SSWD uses the term "aggregate effects" instead of "cumulative effects" and should revise to "cumulative" to maintain consistency with other sections of the DLA.*"

SSWD's Reply: In the FLA, SSWD named the section "Cumulative Effects".

USFWS-4 Comment (pgs. 3 & 4): "*USFWS requests that the Commission of the Licensee complete ESA consultation for California red-legged frog and vernal pool fairy shrimp prior to license issuance.*"

SSWD's Reply: As discussed in the introductory section of Section 3.3.5 in Exhibit E of the FLA, if the federal lead agency (i.e., FERC) determines a Proposed Action may affect a species protected under the ESA, the lead agency is required to consult with the jurisdictional agency (i.e., USFWS in this case). Only the lead agency and the jurisdictional agency can "complete" consultation under Section 7 of the ESA. As FERC's designated non-federal representative for ESA consultation, SSWD has consulted with USWFS regarding needed information (see Section 3.3.5.1 in Exhibit E of the FLA), although ESA consultation only requires use of the best commercially available information, and on potential PM&E conditions to be included in the new license. SSWD cannot "complete" Section 7 consultation.

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APPENDIX E4

Attachment 1

CDFW's December 7, 2016, E-mail Regarding eDNA Sampling

Vertucci, Charles

From: Milloy, Anna@Wildlife <Anna.Milloy@wildlife.ca.gov>
Sent: Wednesday, December 7, 2016 7:43 PM
To: Brad Arnold (sswd@hughes.net); Lynch, Jim; Vertucci, Charles
Cc: Hoobler, Sean@Wildlife; Roddam, Meiling@Waterboards; Tom Holley; Willy, Alison; Aondrea_Bartoo@fws.gov; Chris Shutes (blancapaloma@msn.com); Traci Van Thull (traci@foothillswaternetwork.org); Lawson, Beth@Wildlife
Subject: eDNA Sampling Proposal for Camp Far West Hydroelectric Project (FERC Project No. 2997)

Brad, Chuck, and Jim,

Please see the California Department of Fish and Wildlife's proposal for eDNA sampling as a part of South Sutter Water District's proposed *Study 3.2 – Stream Fish* for the Camp Far West Hydroelectric Project (FERC Project No. 2997):

- Six sample areas on the lower Bear River from the non-Project diversion dam to the mouth with 3-5 samples per area as described below for a total of 25 sample sites.
- Two sample events, no less than two weeks apart between mid-February and April 1.
- Initiation of sampling will be triggered when flows meet or exceed 2000 cfs during the sampling time period identified above. As a general rule, each sample collection event must occur when flows are at least 2,000 cfs.
- Total samples = 25 per sampling event x 2 sampling events = 50 total eDNA samples.

Sample Areas (from mouth to non-Project diversion dam):

- Sample Area #1: Just upstream of mouth (38°56'33.04"N and 121°34'20.68"W) (approximately 949 meters from confluence)
  - Sample Site 1a: At the GPS coordinates
  - Sample Site 1b: 100 m upstream of Sample Site 1a
  - Sample Site 1c: 100 m downstream of Sample Site 1a
  - Sample Site 1d: 200m downstream of Sample Site 1a
  - Sample Site 1e: 300m downstream of Sample Site 1a

- Sample Area #2: Railroad Crossing just upstream of Highway 70 (38°58'27.56"N and 121°32'6.36"W)
  - Sample Site 2a: At the railroad crossing
  - Sample Site 2b: 100 m upstream of Sample Site 2a
  - Sample Site 2c: 100 m downstream of Sample Site 2a
  - Sample Site 2d: 200m downstream of Sample Site 2a

- Sample Area #3: Dry Creek Confluence (38°58'42.03"N and 121°31'0.13"W)
  - Sample Site 3a: At the confluence
  - Sample Site 3b: 100 m upstream of Sample Site 3a (Bear River)
  - Sample Site 3c: 100 m downstream of Sample Site 3a (Bear River)
  - Sample Site 3d: 200m downstream of Sample Site 3a (Bear River)
  - Sample Site 3e: 300m downstream of Sample Site 3a (Bear River)

- Sample Area #4: Highway 65 Crossing (38°59'59.37"N and 121°24'23.68"W)
  - Sample Site 4a: At the tail of the pool below the Highway 65 Crossing
  - Sample Site 4b: 100 m upstream of Sample Site 4a

- Sample Site 4c: 100 m downstream of Sample Site 4a
- Sample Site 4d: 200m downstream of Sample Site 4a

- Sample Area #5: Second pool below non-Project diversion dam (approximate coordinates: 39° 2'15.92"N and 121°20'18.19"W)
  - Sample Site 5a: At the tail of the pool
  - Sample Site 5b: 100 m upstream of Sample Site 5a
  - Sample Site 5c: 100 m downstream of Sample Site 5a
  - Sample Site 5d: 200m downstream of Sample Site 5a

- Sample Area #6: First pool immediately below non-Project diversion dam (39° 2'29.40"N and 121°19'58.38"W)
  - Sample Site 6a: At the tail of the pool
  - Sample Site 6b: 100 m downstream of the tail of the pool
  - Sample Site 6c: 200 m downstream of the tail of the pool

CDFW believes the sampling effort will be much more informative and useful for relicensing purposes if conducted in two events during the time period and flows proposed above. We developed this proposal in consideration of the following:

- CDFW anadromous fish biologists' knowledge of anadromous fish habitat preferences and where those habitats may exist in the lower Bear River as well as the timing of the potential presence of certain anadromous species in the lower Bear River.
- The location of sturgeon observations in the lower Bear River as reported by the Department of Water Resources.
- Sampling considerations for eDNA sampling communicated by our Department geneticist Jeff Rodzen.
- The sampling design of Bergman et al. (2016) (Full citation: Bergman, P.S., Schumer, G., Blankenship, S., Campbell, E. 2016. Detection of adult green sturgeon using environmental DNA analysis. PLoS ONE 11(4): e0153500).

Thank you for considering this proposal.

Anna

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APPENDIX E4

Attachment 2

Genidaqs' May 31, 2019, E-mail Regarding eDNA Sampling

Vertucci, Charles

From: Scott Blankenship <scott.blankenship@fishsciences.net>
Sent: Friday, May 31, 2019 2:05 PM
To: Onanian, Benjamin
Cc: Poxon, Brian; Vertucci, Charles
Subject: RE: Bear River eDNA Questions

I just forwarded two emails (threads) to you Ben. One was the results spreadsheet and .kml, while the other was the only reference I had to design. Design email did not mention anything about sample volume though, so we must have spoken about that on the phone.

As flows were super high, far in excess for original sampling purpose re: 2000 cfs flow migration trigger, I recall having a discussion about turbidity and sampling volume. On the order of aggregating proximate samples during interpretation. I also recall that the number of filters collected increased from 2 to 5 per site to accommodate conditions at time of sampling.

While the exact probability of detection (per filter) was not estimated prior to sampling (as that task was not requested and well beyond project scope), sampling should have been fine for Camp Far West application, given the replication of both sites and filters. Volumes should be sufficient for DNA detection. We had positive DNA detections from species other than sturgeon during eDNA field survey, so it is unlikely that volume, varying (by filter) across survey, had a material effect on design. It is more likely that sturgeon were not present during surveys. With all that said, we have a sampling (statistical error) model showing effect sizes on DNA detection given relevant covariates (filter volume, distance from source, etc). We could simulate an eDNA survey given assumed covariates.

Scott

From: Onanian, Benjamin <Benjamin.Onanian@hdrinc.com>
Sent: Thursday, April 25, 2019 2:22 PM
To: Scott Blankenship <scott.blankenship@fishsciences.net>
Cc: Poxon, Brian <Brian.Poxon@hdrinc.com>; Vertucci, Charles <Charles.Vertucci@hdrinc.com>
Subject: Bear River eDNA Questions

Hey Scott,

Hope everything is well, just had a few questions regarding the lower Bear River eDNA analysis Genidaqs did for us in 2017.

The first is regarding a personal communication from February 2017, the purpose of the communication was to discuss the volume of water we were able to filter during sampling. Originally, it was stated that 2 L of water would be filtered, however, due to high turbidity the actual sampling volume ended up being closer to 1 L per sampling location. The personal communication in question would have likely been with Joel Passovoy to discuss any potential ramifications of reducing the volume of water filtered at each location. Is it possible that you still have an email record of that conversation?

The second question I have is whether or not a pdf report, like the one prepared for the Piru Creek sampling, was ever generated for the lower Bear analysis? I was going through our files and located a excel spreadsheet with the detection results but could not find an official report with a coversheet, methods, etc.

Thanks for your time Scott, let me know if you need any further clarification or information.

Ben Onanian
Aquatic Scientist I

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