

**LA GRANGE HYDROELECTRIC PROJECT  
FERC NO. 14581**

**FINAL LICENSE APPLICATION**

**ATTACHMENT B  
COMMENTS ON THE LA GRANGE DRAFT LICENSE APPLICATION  
(DLA) AND DISTRICTS' RESPONSES**



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**Table B-1. Districts’ response to comments received on the La Grange Draft License Application.**

Comment Number	Entity (Page[s])	Document and Section (if applicable)	Comment (Quote or Paraphrase)	Districts’ Response
1	FERC Cover Letter pp. 1-2	DLA Exhibit E	<p>In the sections of the Exhibit E in the DLA on environmental resources you indicate that additional information would be provided regarding final and additional study results. Specifically, you state that you are in the process of completing five studies that pertain to various environmental resources, as described in the Updated Study Report filed on February 1, 2017, the results of which will be provided in the final license application: Fish Passage Facilities Alternative Assessment including the reservoir transit study; La Grange Project Fish Barrier Assessment; Fish Presence and Stranding Assessment; La Grange Project Flow Records for Discharge Structures and Recreation Access and Safety Assessment. You also state that that you are in the process of completing nine of voluntary studies in the upper Tuolumne River basin that pertain to anadromous fish reintroduction; fish migration barriers; water temperature modeling; spawning gravel mapping; fish habitat mapping; macroinvertebrate assessment; instream flow; hatchery and stocking practices; regulatory context for potential anadromous fish reintroduction; and social economic evaluation of anadromous fish reintroduction. In addition, in section 2.2.3 you say that your analysis of project effects and proposed environmental measures provided in the final license application (FLA) will also be informed by the results of two ongoing NMFS studies on fish habitat carrying capacity and genetics of <i>O. mykiss</i>. Pursuant to section 5.22 of the Commission’s regulations, the Commission may find that the FLA is not ready for environmental analysis until the results of all studies are filed. These studies shall be completed and filed with the final license application or with any Commission-approved schedule change.</p>	<p>The Districts appreciate this comment and would like to provide several corrections to FERC’s assessment of La Grange Hydroelectric Project study status. Several studies that FERC listed as not yet complete have already been filed as final study reports, and they are as follows:</p> <ul style="list-style-type: none"> <li>▪ Recreation Access and Safety Assessment, filed as final with the La Grange DLA on April 24, 2017;</li> <li>▪ Fish Migration Barriers (a voluntary study being conducted by the Districts), filed as final with the La Grange Updated Study Report (USR) on February 1, 2017; and</li> <li>▪ Hatchery and Stocking Practices (a voluntary study being conducted by the Districts), filed as final with the La Grange USR on February 1, 2017.</li> </ul> <p>Additionally, the Districts have filed final study reports for all FERC-required studies that were not previously completed as attachments to the La Grange Hydroelectric Project Final License Application (FLA), including:</p> <ul style="list-style-type: none"> <li>▪ Fish Passage Facilities Alternatives Assessment</li> <li>▪ La Grange Project Fish Barrier Assessment</li> <li>▪ Fish Presence and Stranding Assessment</li> <li>▪ La Grange Project Flow Records for Five Discharge Structures</li> </ul> <p>With regard to implementation of a reservoir transit study, per the Study Plan Determination issued by FERC on February 2, 2015, staff’s recommendation states that this study would be implemented if results of the Fish Passage Facilities Alternatives Assessment indicate that the “most feasible concept for fish</p>

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				<p>passage at either project would involve passage through the project reservoirs...". Results of the Fish Passage Facilities Alternatives Assessment (attached to this FLA) have concluded that a downstream passage option is not technically feasible and that an upstream option would consist of bypassing project reservoirs. Given the results of the assessment, a reservoir transit study is not required.</p> <p>Given the assessment results that downstream fish passage engineering alternatives are not feasible, the Districts have concluded that the results of the NMFS studies, although important to assessing biological feasibility, are not necessary to inform project effects or proposed environmental measures in the La Grange Hydroelectric Project FLA. Furthermore, as explained in Exhibit E of the La Grange Hydroelectric Project FLA, based on the results of the Fish Passage Facilities Alternatives Assessment and other reintroduction studies and relevant information, the remaining voluntary studies do not require completion at this time. In addition to the two voluntary studies noted above, the one additional voluntary study completed and submitted with the FLA is the the Water Temperature Modeling Study (attached to the La Grange Hydroelectric Project FLA).</p>
2	FERC Cover Letter p. 2	DLA Exhibit E: Section 3.0	In section 3.0 of the Exhibit E of the DLA, you describe the baseline conditions only for geology and soils, water resources, and aquatic resources. You also state that the effects of the existing project facilities and operations on the various environmental resources will be described in the final license application.	In Section 3.0 of Exhibit E of the La Grange Hydroelectric Project FLA, the Districts have described baseline conditions for each of the environmental resources, including: geology and soils; water resources; aquatic resources; wildlife and botanical resources; Rare, Threatened, Endangered, Protected, and Special Status Species; recreation and land use; aesthetic resources; cultural and tribal resources; and socioeconomic resources. In the section discussing each resource, the effects of the

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				existing Project facilities and operations on the resource are described in detail.
3	FERC Cover Letter p. 2	DLA Exhibit E	In most cases you do not propose any environmental measures or changes to existing project design or operations for protection, mitigation, or enhancement (PM&E) of environmental resources. You suggest that until the necessary studies are complete, you are not proposing any new environmental PM&E measures. The FLA must include, by each resource area, a description of the baseline conditions, an analysis of project effects, and any proposed PM&E measures, including but not limited to, changes in project design or operations. The FLA must also address the environmental effects of your proposed PM&E measures, as required by section 5.18(b)(5)(ii) of the Commission regulations.	See comment no. 2 response regarding the description of baseline conditions and Project effects by resource area in the La Grange Hydroelectric Project FLA. In addition, the Districts have proposed several PM&E measures, which are presented in Section 3.0 of Exhibit E of this FLA. The PM&E measures are described by resource area, including changes to Project design and operations. In Exhibit E of this FLA, the Districts have also discussed the environmental effects of each proposed PM&E measure.
4	FERC App. A, p. 1	DLA Exhibit A	In Exhibit A, please provide a description of any project roads.	There are no roads that are specific to the La Grange Hydroelectric Project. Therefore, the Districts have not described any Project roads in Exhibit A of the La Grange Hydroelectric Project FLA.
5	FERC App. A, p. 1	Fish Passage Facilities Alternatives Assessment Study Report	The DLA included a progress report on the Fish Passage Facilities Alternatives Assessment that was required by the Director's study determination. The report provided general discussions on facilities considerations, criteria, and guidelines for fish passage design, and factors that require further consideration. In the Updated Study Report, the Districts say the alternatives assessment will be complete in 2017 and the results will be filed with the FLA. As required by the study determination, we expect the final report will address: (1) available information to establish existing baseline conditions relevant to impoundment operations and siting passage facilities; (2) evaluate available hydrologic data and biological information for the Tuolumne River to identify potential types and locations of facilities, run size, fish periodicity, and the anticipated	The Fish Passage Facilities Alternatives Assessment was filed as an attachment to the La Grange Hydroelectric Project FLA. In the final report, the Districts have provided detailed information to address all of the specific items that FERC requests in their comment.

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			range of flows that correspond to fish migration; (3) formulate and develop preliminary sizing and functional design for select, alternative potential upstream and downstream fish passage facilities; and (4) estimate construction cost and annual operation and maintenance costs for select fish passage concept(s).	
6	FERC App. A, p. 1	DLA Exhibit E: Section 3.6.3 Wildlife and Botanical Resources	In Exhibit E, section 3.6.3 Botanical Resources states that vernal pools occur throughout the annual grasses and forbs alliance. However, section 3.7.1 Federal and State Listed Species states in the first paragraph that no vernal pool habitats are known to occur around the La Grange headpond. Please clarify whether vernal pools exist in the project area.	The Districts have conducted a GIS analysis of the USFWS National Wetland Inventory in the Project study area (a one-mile area surrounding the proposed Project Boundary). Based on this analysis, no vernal pools exist within this area, and this information has been provided in the La Grange Hydroelectric Project FLA, Exhibit E, Section 3.6.3.
7	FERC App. A, p. 2	DLA Exhibit E: Section 3.6 Wildlife and Botanical Resources	In the FLA, please quantify and provide the acreage for each of the vegetation alliances listed in the DLA.	The Districts have quantified and provided the acreage for each of the vegetation alliances in Section 3.6 of the La Grange Hydroelectric Project FLA.
8	FERC App. A, p. 2	DLA Exhibit E: Section 3.6 Wildlife and Botanical Resources	In 2017, the California Invasive Plant Council updated their invasive plant inventory. Please review the updates to make any applicable revisions to the FLA's list of potential noxious weeds occurring in the project vicinity.	The Districts have reviewed the 2017 California Invasive Plant Council invasive plant inventory, and updated in Section 3.6 of Exhibit E of the La Grange Hydroelectric Project FLA the list of potential noxious weeds occurring in the Project vicinity, as needed.
9	FERC App. A, p. 2	DLA Exhibit E: Section 3.6.6 Wildlife and Botanical Resources	In Exhibit E, section 3.6.6 Potential Resource Effects, you list potential resource issues identified in Scoping Document 2 including the presence and spread of water hyacinth. However, with exception to discussions of water hyacinth in the attached document "Fish Passage Facilities Alternatives Assessment Workshop No. 3", no information was provided in the DLA regarding water hyacinth. Please provide information in the FLA on the presence and distribution of water hyacinth in the Tuolumne River.	The Districts have evaluated information regarding the presence and spread of water hyacinth, and presented their findings in Section 3.6.8, Cumulative Terrestrial Resource Effects, of Exhibit E of the La Grange Hydroelectric Project FLA.
10	FERC	DLA Exhibit E:	In Exhibit E, section 3.7.1 Federal and State Listed	The Districts have used the online FWS IPaC system

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	App. A, p. 2	Section 3.7.1 Rare, Threatened, Endangered, Protected, and Special Status Species	Species you state that in May 2013 the Districts generated an official list of Endangered Species Act-listed species for the La Grange project. This consultation is outdated and therefore you will need to re-consult with the U.S. Fish and Wildlife Service (FWS) regarding potential for threatened and endangered species in the project area, which can now be accomplished using FWS's online IPaC system. Please provide a copy of the consultation report generated by the IPaC system.	to conduct an updated search of Federal and State Listed Species in the Project area and have presented the results in Section 3.7 of Exhibit E of the La Grange Hydroelectric Project FLA. The Districts have provided a copy of the search report generated by the IPaC system as an attachment to Exhibit E of this FLA.
11	FERC App. A, p. 2	DLA Exhibit E: Section 3.8.1 Recreation Resources	On page 3-58, section 3.8.1, paragraph 5, you appear to describe Basso Bridge as being located approximately two river miles downstream from the La Grange tailrace. In the FLA, please clarify that Basso Bridge is located approximately two river miles downstream from the La Grange Road Bridge (J59), and approximately four river miles from the La Grange tailrace. See the attached maps, which provide confirmation of the correct approximate distances.	Please note that the comment letter provided by FERC did not contain an attached map.  The Districts have used GIS to calculate the river mile (RM) locations of Basso Bridge and La Grange Road Bridge. Basso Bridge is located at RM 47.4 (4.8 RM downstream of La Grange Diversion Dam [LGDD]), and Old La Grange Bridge is located at RM 50 (2.2 RM downstream of LGDD). These RM locations have been provided in Section 3.8 of Exhibit E of the La Grange Hydroelectric Project FLA.
12	FERC App. A, p. 2	DLA Exhibit E: Section 3.8.4 Recreation Resources	On page 3-63, section 3.8.4, paragraph 1, you state that by requiring users to check in and out of the proposed walking trail, this would allow the Districts to limit the use of the trail, if necessary. In the FLA, please discuss how use would be limited based on self-reporting check-in/check-out data.	Upon FERC approval of the Districts' proposal to implement a walking trail, the Districts will prepare a plan that provides details regarding the construction and implementation of this recreation facility.
13	FERC App. A, p. 2	DLA Exhibit E: Section 3.8.4 Recreation Resources	On page 3-63, section 3.8.4, you state that installing information signage at the trailhead could be an improvement to consider, and then in section 6.0 of the Recreation Access and Safety Assessment, you state that it would be a necessary improvement. You also state that providing safety-related signage and signage delineating private property boundaries would be necessary. In the FLA, please describe the information that could be included on the information signage at the trailhead.	Upon FERC approval of the Districts' proposal to implement a walking trail, the Districts will prepare a plan that provides details regarding the construction and implementation of this recreation facility.

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14	FERC App. A, p. 3	DLA Exhibit E: Section 3.8 Recreation Resources	In the FLA, please provide a map that shows the potential route of the proposed walking trail.	Upon FERC approval of the Districts' proposal to implement a walking trail, the Districts will prepare a plan that provides details regarding the construction and implementation of this recreation facility.
15	FERC App. A, p. 3	DLA Exhibit E: Section 3.8 Recreation Resources	In the DLA, you describe existing parking lots and public river access sites downstream of the project. However, you have not identified those sites on any of the maps provided in the DLA. In the FLA, please identify, on new or edited maps, the locations of the existing parking lots and public river access sites, and include river mile measurements.	The Districts have included a map that shows existing parking lots and public river access sites within 2 miles downstream of the Project in Section 3.8 of Exhibit E of the La Grange Hydroelectric Project FLA.
16	FERC App. A, p. 3	HPMP	Prior to filing the Historic Properties Management Plan (HPMP) with the FLA, it should be reviewed and commented on by the interested parties, and modified or revised, accordingly. Add all specific comments/recommended changes made on the HPMP as an appendix, and detail whether you adopted such changes, or give reasons why you did not.	The Districts have filed an HPMP as an attachment to the La Grange Hydroelectric Project FLA. The HPMP has been distributed to all interested parties for review and comment.
17	NMFS p. 1	DLA and USR Study Reports	The Districts' (2017a), USR, summarized the progress of 22 studies for the Project, where only 36.4% of the studies had been completed at that time. Currently, in the Districts' (2017b), DLA, 12 studies (55%) are complete. In addition, several sections of the document are incomplete; presumably awaiting the completion and evaluation of studies. Therefore, NMFS is not providing further comments on the DLA at this time because many of the studies are unfinished and we believe it is more productive to consider all of the relevant information collectively. NMFS looks forward to reviewing and commenting on the Final License Application (FLA) and final study results as well as gaining an understanding of how the Districts interpret these studies as supporting proposed actions in the FLA.	The Districts appreciate this comment from NMFS. Please see the response to comment No. 1 above regarding the status of studies filed as attachments to the La Grange Hydroelectric Project FLA.
18	CDFW Enclosure A, p. 1	DLA Exhibit E: Section 5.0 Developmental	The La Grange Hydroelectric Project, FERC Project No. 14581, Draft License Application (DLA) lacks a Developmental Analysis (Section 5.0, Page 5-1, and	The Districts have included a Developmental Analysis in the La Grange Hydroelectric Project FLA. Please see Exhibit E, Section 4.0 for a complete La

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		Analysis	Lines 1-2) and therefore, the analysis portion of the application is complete.	Grange Hydroelectric Project Developmental Analysis.
19	CDFW Enclosure A, p. 1	DLA Attachment E: La Grange Project Fish Barrier Assessment Progress Report	1.3 Study Plan. This document continues to question whether La Grange Diversion Dam (LGDD) is a barrier to fish migration. Resource agencies raised this issue in comments on the study plan but the Districts have not adequately addressed those comments.	Per the February 2, 2015 Study Plan Determination, FERC approved the implementation of the Fish Passage Barrier Assessment stating that information collected would help define the "nature and degree" to which the dam and powerhouse are barriers to migration. The Districts have implemented the study consistent with the Study Plan Determination and filed it as an attachment to the La Grange Hydroelectric Project FLA.
20	CDFW Enclosure A, p. 1	DLA Attachment E: La Grange Project Fish Barrier Assessment Progress Report	6.0 Discussion and Findings. CDFW has the following questions regarding the studies:  What are the plans to analyze the brood production year 2016/2017 data when significantly more fish were in the river to spawn? Do the Districts expect to be able to identify individual fish again? If not, how will the 2016/2017 data be compared to the 2015/2016 data?	During the 2016/2017 monitoring season there was a significantly higher number of Chinook passage events at the La Grange weirs (21,783 vs. 3,264 in 2015/2016). Due to the high number of passages, there was no attempt to identify individual fish based on morphological characteristics. Statistical inference was used to estimate the total number of individuals present near the La Grange facilities in 2016/2017 based on the number of uniquely identified fish and passage events recorded during the 2015/2016 monitoring period. This approach assumes that descriptive statistics from 2015/2016 accurately describe 2016/2017, and methods are further described in the final report included in the La Grange Hydroelectric Project FLA.
21	CDFW Enclosure B, p. 1	DLA Exhibit E: Section 1.3.7	Upper Tuolumne Reintroduction/Fish Passage Assessment Framework. Footnote #2 (Page 1-11) states that "[t]he Districts issued Technical Memorandum (TM) No. 1 to licensing participants [...] The Districts explained that [the] data gaps required resource agency input in order to continue to make progress on the Fish Passage Assessment[.] Despite continuing requests, the Districts have still received no input or comments on TM No.1 from any participant in the collaborative process. At subsequent workshops in	The Upper Tuolumne River Reintroduction Assessment Framework (Framework) was a process to assist in the development of information to address the gaps identified in TM No. 1 as well as to evaluate fish passage in the broader context of reintroduction. This process was consistent with recent peer-reviewed literature from NMFS and state agencies from the Pacific Northwest (Anderson et al. 2014). The Framework, developed during 2016 and 2017, was a collaborative, voluntary process with excellent participation from federal, state, non-governmental

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			<p>2016, the Districts continued to highlight the need for comment and input from licensing participants in order to proceed with the next steps in the Fish Passage Facilities Alternatives Assessment." CDFW thinks that the Districts should be able to identify any assumptions and associated empirical values required to proceed with the Fish Passage Alternatives Assessment. In addition, CDFW anticipates collaborating with the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service, West Coast Region (NMFS) as they take the lead on addressing the anadromous fish passage issue.</p>	<p>organizations and the public and included CDFW and NMFS. Several technical subcommittees were formed as part of the Framework and two work products were developed and approved by participants including a Reintroduction Goal statement and water temperature index values for which to assess thermal suitability of the upper Tuolumne River for spring Chinook salmon and steelhead. Additionally, several voluntary studies were completed and filed (as part of the La Grange Hydroelectric Project FLA). Unfortunately, critical data gaps identified in TM No. 1 to further develop the Fish Passage Facilities Alternatives Assessment were not fully addressed and given the La Grange Hydroelectric Project licensing schedule, the Districts have proceeded ahead with developing the necessary assumptions (as requested by CDFW) to complete the Fish Passage Facilities Alternatives Assessment and file the report with this FLA. However, the Districts are concerned with the statement that CDFW anticipates collaborating with NMFS on anadromous fish passage issues going forward. Anadromous fish passage and the establishment of salmon populations in the upper Tuolumne River is a significant action. The Framework served to provide a transparent and collaborative platform for a diverse group of stakeholders to identify, evaluate, and discuss the necessary information in which to make informed decisions about the prudence of such an action. The Districts believe that a partnership between CDFW and NMFS would be a disservice to the process moving forward and would undo the progress made in the collaborative Framework that both entities participated in.</p>
22	CDFW Enclosure B, p. 1	DLA Exhibit E: Section 1.3.7	Footnote #3 (Page 1-11) claims that "[s]ince all the available information regarding historical spring-run Chinook and steelhead distribution in the Tuolumne	The Districts do not agree that these species have been shown to have consistently populated the river upstream of the Don Pedro Project given the available

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			<p>River is anecdotal, the Districts do not agree that these species have been shown to have consistently populated the river upstream of the Don Pedro Project, and as such, do not necessarily consider this potential action under consideration to be a 'reintroduction". CDFW noted that this claim has been published by the Districts in different FERC filings; however, evidence does not lend support to this statement [e.g., Yoshiyama et al. (2001) studies conclude that salmon runs in the Tuolumne River were likely some of the biggest in the Central Valley]. Empirical evidence suggests that salmon possess the intrinsic drive to expand their population range and that removal of Old La Grange, Old and New Don Pedro Dams would allow salmon to recolonize previously utilized habitat as they historically did. CDFW informed Licensing Participants on the February 16, 2016 Fish Passage Facilities Alternatives Assessment Technical Committee Conference Call about the existence of evidence of the presence of juvenile Chinook salmon in Don Pedro Reservoir (i.e., Upper Tuolumne River) (Perales et al. 2015). These findings support the viability of a self-sustaining population of spring-run Chinook salmon and/or steelhead in the Upper Tuolumne River and justify potential actions for their reintroduction to this reach. For instance, the Districts should justify their opposition to a reintroduction effort by conducting studies to determine if there are marine-derived nutrients in some of the older trees in the Upper Tuolumne River.</p>	<p>information is anecdotal and not empirical, and as such, do not necessarily consider this potential action to be a reintroduction.</p> <p>The Districts noted CDFW's comments during the Framework process and had reviewed Perales et al. (2015). The paper states that over two sampling events in 2012, 8 and 2 juvenile Chinook were collected above the reservoir. These collected fish were "silvery bright, which suggests they were smolts moving downstream". The paper also notes the stocking of Don Pedro Reservoir between 2007 and 2012 with juvenile Chinook salmon ranging from 90,000 to 100,000 fish annually. The paper concludes by stating that the evidence is limited to observational data and that the only "population" that authors can conclude is maintaining itself is the Folsom Reservoir population (setting it apart from Don Pedro Reservoir, which has received constant annual stocking). Given the evidence, the Districts do not agree that these findings support the viability of a self-sustaining population of spring-run Chinook salmon and/or steelhead in the upper Tuolumne River.</p> <p>Of equal interest is the paper's conclusion that most salmon planted in Central Valley reservoirs originate from the Klamath River (Iron Gate Hatchery) which are genetically distinguishable from local salmon populations below reservoirs. The authors state the possibility of behavioral and genetic interactions that may lead to complications in restoration efforts via trap and haul programs and that this phenomenon should be evaluated fully prior to the initiation of such programs. These conclusions are consistent with the conclusions of the Hatchery and Stocking Practices Study conducted by the Districts (attached to the La Grange Hydroelectric Project FLA).</p>

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23	CDFW Enclosure B, pp. 1-2	DLA Exhibit E: Section 3.3.5 Geomorphology	<p>Previous findings by the Districts (TID/MID 2013) suggest that gravel augmentation might be necessary to restore the loss of coarse sediment supply caused by sediment trapping in upstream reservoirs (Page 3-13, 3rd paragraph). However, the Districts also imply that the total estimated volume of coarse sediment lost from storage in the reach is comparable to the quantity of sediment added during gravel augmentation projects since 2002. The Districts should clarify this apparent contradiction.</p> <p>CDFW recommends the placement of an average annual range of sediment into the lower Tuolumne River to replace the sediment that has been, and is currently being, impeded by the La Grange dam.</p>	<p>As noted in the Spawning Gravel in the lower Tuolumne River Study Report (TID/MID 2013), topographic differencing (2012 vs. 2005) as well as sediment transport modeling (WY 1971 through WY 2012) was assessed downstream of the LGDD (See Table 5.1-2). For the reach extending from RM 52.2 to 45.8, approximately 4,549–6,707 yd<sup>3</sup> of coarse bed material (5,913–8,720 tons assuming a density of 1.30 tons yd<sup>-3</sup>) was lost from bed storage between 2005 and 2012. This loss is comparable in magnitude to the quantity of coarse sediment added during 2002 and 2003.</p> <p>With regard to the recommended augmentation amount, it should be noted that trapping by the LGDD does not occur and would be considered as a cumulative effect. To address the trapping by upstream reservoirs, the Amended Final License Application for the Don Pedro Hydroelectric Project includes a proposal for gravel augmentation below LGDD in the amount of 55,600 tons over ten years, and that the amount of gravel exceeds what study results have shown to be lost to the lower reach.</p>
24	CDFW Enclosure B, pp. 1-2	DLA Exhibit E: Section 3.4.3.1 Water Quality Objectives for the Lower Tuolumne River	<p>The La Grange Hydroelectric Project, FERC Project No. 14581, Updated Study Report (Section 5.1-Weir Operations; Page 5-1, Lines 33-35) showed that low instantaneous dissolved oxygen (DO) levels (under 6.0 mg/L), potentially unsuitable for migrating fish, were recorded in the tailrace channel during the 2015/2016 monitoring season. The water quality objectives to support beneficial uses in the vicinity of the La Grange Project as designated by the Central Valley Regional Water Quality Control Board (CVRWQCB) Basin Plan for the Sacramento-San Joaquin River Basins (DLA Table 3.4-12) require that DO concentrations shall not be reduced below</p>	<p>The low instantaneous dissolved oxygen levels reported during the 2015/2016 monitoring season appeared to be a localized event associated with high levels of aquatic vegetation in the La Grange powerhouse forebay and penstock intake. Instantaneous readings below 8.0 mg/L were recorded 35 times between 9/23 and 11/3. These low levels were observed only in the tailrace channel, as levels in the main channel during the same period ranged from 9.1-11.1 mg/L.</p> <p>The Districts continue to evaluate the potential cause of this isolated event and have proposed a resource protection measure to investigate and address the</p>

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			<p>8.0 milligram/liter (mg/L) from October 15 through June 15 from Waterford to La Grange. The DO threshold for water designated as warm freshwater habitat (WARM) is 5.0 mg/L. Moreover, the DO threshold for waters designated as cold freshwater habitat (COLD) or spawning (SPWN) habitat is 7.0 mg/L. Therefore, the Districts must consider modifications to La Grange Project operations and maintenance to meet the water quality objectives and avoid impacts on anadromous salmonids and other native fish in the lower Tuolumne River. Specifically, CDFW recommends modifying operations based on monitoring data to avoid suboptimal oxygen levels for anadromous salmonids downstream of the La Grange powerhouse.</p>	<p>occurrence of reduced DO levels in the tailrace (see Section 3.4 Water Resources).</p>
25	CDFW Enclosure B, pp. 2-3	DLA Exhibit E: Section 3.5.3.2 Fish Species in the Lower Tuolumne River	<p>This subsection includes a discussion about population size (2nd paragraph); however, it is unclear about which life stage is under discussion. CDFW recommends that the discussion is refined to avoid confusion.</p> <p>The environmental analysis for fall-run Chinook salmon concludes that "many of the juvenile Chinook salmon in the Tuolumne River are consumed by introduced predators between RM 5.1 (location of the Grayson rotary screw trap) and RM 30.3 (location of the Waterford rotary screw trap) (TID/MID 2013e, W&amp;AR-07)" (Page 3- 39). CDFW would like to remind FERC that the agencies, including CDFW, soundly refuted the methods, analysis, and conclusions presented in the heavily criticized Predation Study Report attached to the Don Pedro Hydroelectric Project Draft License Application from December 2013 (W&amp;AR-07). The end result of this refutation is that this study has been rendered scientifically indefensible and should not be used in any capacity by FERC, or the State Water Resources</p>	<p>The Districts maintain that the methods used to estimate predator abundance in the 2012 study are statistically valid, appropriate, and consistent with the study plan filed with FERC and previously reviewed by the agencies. In response to potential biases in the methods, FERC ordered a follow up study, which included the objective of identifying potential hot spots. In coordination with Relicensing Participants a follow up study was designed and the Districts filed the final 2014 Predation Study Plan with FERC and relicensing participants on September 16, 2013. FERC approved the study plan.</p> <p>In response to the comment that the Districts declined to work with CDFW to design a new study, the Districts note numerous attempts to engage and receive constructive input from CDFW. On June 19, 2013, the Districts held a meeting with relicensing participants, including CDFW, regarding 2014 study plan development and the Districts' conceptual approach to the study. The Agencies agreed to work collaboratively in developing a study plan for 2014</p>

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			<p>Control Board, when considering what terms/conditions should be placed upon the final license issued for this project.</p> <p>In summary, in W&amp;AR-07, predator abundance estimates were expanded after sampling pools known to have predators. In addition, predation rate was determined based on a small sample size and expanded to the entire salmon out-migration season, while flow manipulation resulted in high water temperatures during one of the predation rate sampling events. A Predation Panel by Grossman and others characterized predation rates from this study as "low" (Grossman et al. 2013) (also see Grossman et al. 2016). Finally, predation may be the ultimate cause of demise for some of these fish, but they may also be suffering from the effects of high water temperatures making them susceptible to predation. For instance, a NMFS study at Mossdale found catfish had the highest rate of salmon DNA in system, thus supporting the hypothesis that catfish were eating dead or dying Chinook salmon (unpublished data).</p> <p>FERC requested the repetition of the W&amp;AR-07 study with the use of different methods. The Districts designed a new study using "Robust Mark Recapture" methodology, which required frequent electrofishing during the juvenile rearing season. CDFW will not permit the study in its current form, and the Districts have declined to work with CDFW to design a new study that focuses on assessing "hot spot" predation rates by non-native fish species. It is important to note, once again, that juvenile salmon are part of a natural food web (i.e., chain) whereby many different kinds of species predate upon them for their survival (e.g., native fish, birds, and mammals). One of the expected outcomes of the license conditions placed on</p>	<p>sampling, and CDFW staff indicated no significant concerns with the approach, including electrofishing aspects.</p> <p>On July 23, 2013, the Districts distributed an initial, informal draft of the 2014 study plan ("2014 Predation Study Plan") to relicensing participants in order to identify and address any major concerns prior to the formal 30-day review. No comments were provided by CDFW on this working draft.</p> <p>On August 7, the final draft 2014 Predation Study Plan was submitted for formal 30-day review. On September 6, 2013, CDFW submitted comments to the Districts and FERC regarding the draft 2014 Predation Study Plan. Again, these comments did not express any concerns regarding the use of electrofishing as the proposed sampling method. A permit was never issued by CDFW for the follow-up study ordered by FERC citing concerns over electrofishing during the drought. Now after the drought has passed, it appears that CDFW still will not permit electrofishing during the juvenile rearing season, yet even during the drought, others were permitted to use this technique for predation studies in the San Joaquin River.</p> <p>With regard to the comment that predator abundance estimates were expanded after sampling pools known to have predators. This is incorrect and CDFW continues to ignore the content of the report and previous responses to this same comment. On page 4-1 of the Updated Study Report it is clearly stated that unit selection was based on the ability to launch the electrofishing boat at the site or very close by, and twelve sites between RM 3.7 and 38.5 selected to represent three habitat types: (1) slow-water (pools</p>

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			<p>the final license will be that sufficient juvenile salmon are produced not only to sustain a viable population of salmon in the Tuolumne River, as well as providing substantial contribution to ocean and in-river consumptive fisheries on a Central Valley wide ecological fair share basis, but that the ecological resources in the lower Tuolumne River will also have an abundant food supply provided by a healthy adult and juvenile Chinook population inhabiting the lower Tuolumne River.</p> <p>This section also states that "there is no empirical evidence of a self-sustaining 'run' or population of steelhead in the lower river (TID/MID 2013c, W&amp;AR-05)" (Page 3-39). This statement is true; however, there is a self-sustaining population of rainbow trout which can, and do, give rise to steelhead (Zimmerman et al. 2008, 2009) and therefore, sufficient protections must be in place (e.g., suitable temperatures) for juvenile <i>O. mykiss</i> to survive 1-3 summers in the river in order to smolt and become steelhead.</p>	<p>and special run pools [SRP]), (2) fast-water (riffles and runs), and (3) run-pools in the sand-bedded reach downstream of RM 25 were sampled. The potential presence or abundance of predators was not considered in unit selection. Also, as no riffles were sampled, riffle habitats were excluded from the expansion.</p> <p>CDFW infers that higher water temperatures during one of the predation rate sampling events biased the study results (i.e., flow manipulation resulted in high water temperatures during one of the predation rate sampling events). However this comment is incongruent with the finding of no statistically significant difference in predation rates during March and May despite differences in water temperature between the sampling events.</p> <p>Grossman (2016) acknowledges the Tuolumne river as a potential predation hot spot based on the results of the 2012 study. This paper also characterizes prey consumption of salmon by striped bass, largemouth bass, and smallmouth bass as moderate, not low, based on the 2012 study. It is also important to note that the moderate ranking was based on the frequency of occurrence of salmon in the stomach samples analyzed. As noted in Grossman (2016), frequency-of-occurrence data are not necessarily correlated with predation intensity. It does not account for the possibility that one predator may consume multiple individual salmon. The 2012 study found up to 5 salmon in a single predator.</p> <p>Regarding NMFS finding that catfish had the highest rate of salmon DNA in the SJR near Mossdale, the comment implies that catfish only eat dead or dying fish. This is incorrect and stomach samples were</p>

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				<p>collected from catfish because they are known potential predators. Notably, CDFW also previously identified catfish as a potential predator in an early study of the occurrence and abundance of predator fish in Clifton Court Forebay (Kano 1990).</p> <p>We agree that juvenile salmon are part of a natural food web whereby they may be preyed upon by <i>native</i> fish as indicated by CDFW. Predation by non-native, introduced predators is not part of a natural food web.</p>
26	CDFW Enclosure B, p. 3	DLA Exhibit E: Section 4.0 Cumulative Effects of the Proposed Action	The DLA indicates that "[a] detailed account of factors contributing to cumulative effects in the Tuolumne River basin, the San Joaquin River basin, and in the Bay Delta can be found in Section 4 of the FLA for the Don Pedro Hydroelectric Project (TID/MID 2014)." CDFW anticipated that the DLA would be an independent document. As such, any relevant portions from the cumulative effects analysis for a different FERC project could be included and discussed in this DLA. At this time, FERC may find that an analysis of cumulative effects on this DLA would be incomplete.	The cumulative effects section of the La Grange Hydroelectric Project FLA addresses specific issues as detailed in FERC's SD2 for the La Grange Hydroelectric Project. For a detailed account of all factors contributing to cumulative effects in the Tuolumne River basin, the San Joaquin River basin, and in the Bay Delta, this FLA cites the Don Pedro Hydroelectric Project Amended Final License Application. Also note that the entire amendment of application for the Don Pedro Hydroelectric Project has been filed in the La Grange Hydroelectric Project docket number to ensure relevant information is included in the La Grange proceeding's record.
27	CDFW Enclosure B, p. 4	DLA Exhibit E: Section 5.0 Developmental Analysis	This DLA lacks a Developmental Analysis (Section 5.0) (Page 5-1).	The Districts have included a Developmental Analysis in the La Grange Hydroelectric Project FLA. Please see Exhibit E, Section 4.0 for a complete Project Developmental Analysis.
28	CDFW Enclosure B, p. 4	DLA Attachment E: La Grange Project Fish Barrier Assessment Progress Report	<p>5.2.1. Chinook Salmon near La Grange Facilities:</p> <p>The report states that Chinook "often made multiple, consecutive upstream and downstream passages." This seems to indicate a search-type pattern of behavior displayed by salmon when migrating upstream to spawning grounds. These search patterns of behavior, classified as "Fallback reascension", are most often observed around man-made structures such as dams or other fish barriers, and sometimes</p>	<p>"Fallback, reascension" as cited in the provided citations is defined as fish passing upstream of a dam and moving back downstream. Given that there is currently no passage at LGDD, this definition does not seem applicable to the patterns observed in this study.</p> <p>Okland et al. (2001), as cited in Reischel and Bjornn (2003), identified three migration phases of Atlantic salmon migrating in a free-flowing river. The first</p>

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			<p>observed around river confluences.</p> <p>Fallback reascension has been well-documented in the scientific literature (e.g., Reischel and Bjornn 2003; Boggs et al. 2004; Keefer et al. 2005, 2006, 2008; Frank et al. 2009). In addition, results indicate that surveyors recorded at least 400 fewer upstream transits than downstream (Page 5-3). These results suggest that the study might have missed or did not record more transits.</p> <p>The report indicates that individual fish can be identified using morphology (Page 5-3). CDFW does not think that morphology can reliably determine if a fish is the same or different, with fish passing both the main channel and the tailrace weir, as well as making multiple passages and with long upstream residence times (up to 20 days)</p>	<p>was migratory, the second and <b>most common phase was search</b> (moving upstream or back downstream), and finally a holding phase near the spawning area.</p> <p>Boggs et al. (2005) found that fallback percentages were nearly 3 to 13 times greater for transported vs. non-transported Chinook spawning in the Snake River, WA. Similar patterns were also seen with transported vs. non-transported steelhead, suggesting that transportation of migrating juveniles disrupts the sequential imprinting for efficient homing to spawning tributaries. A review of California's anadromous fish hatchery programs found that off-site releases promote straying among populations (California HSRG 2012). As most salmon return at three years of age, the majority of adult salmon observed in the Tuolumne River during fall 2015 and 2016 were likely from brood years 2012 and 2013. During those brood years, 98-100% of juvenile Chinook salmon born at hatcheries on the Merced, Mokelumne, and Feather rivers were transported to off-site locations for release (Regional Mark Processing Center 2017). Given the high percentage of hatchery origin strays in the Tuolumne River, it is possible that a similar "search" pattern as identified by Reischel and Bjornn (2003) was observed in this study, as out-of basin strays would have no site fidelity to the Tuolumne River spawning reach.</p> <p>There were passage events that were missed and/or not positively identified as Chinook. During the 2015/2016 monitoring season, there were a total of 1,617 upstream and 1,647 downstream Chinook passages detected at the tailrace and main channel weirs. This indicates <b>30</b> fewer upstream transits than downstream, <b>not 400 as indicated by CDFW</b>. During the 2016/2017 monitoring season there was a</p>

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				<p>much higher discrepancy between detected upstream and downstream Chinook passage events, and resulted in using statistical inference to estimate the total number of passages. Periods of missed passage events were often associated periods of non-operation, low light, or high turbidity.</p> <p>Missed counts of passage events is a known limitation of video review techniques, but this study design was chosen to minimize the potential impact on individual fish (no handling of fish). Alternative techniques requiring handling of fish (i.e., trapping, tagging) would have been much more intrusive, and likely not permitted by the Agencies. Given that this study occurred during the spawning period, and to avoid the inherent stress associated with fish handling during this period, the Districts did not consider techniques requiring intensive handling</p> <p>Although there is a subjective nature to identification of individual fish, we are confident that 2015/2016 provided a reasonable estimation of the number of salmon present at the 2 weir sites. Further identification of individual fish would require intensive handling (i.e., trapping, tagging), and was not recommended, as stated above.</p> <p>Given the close proximity between the main channel and tailrace monitoring locations, it is likely that some individuals may have been detected at both weirs. Evaluation of these movements between the two channels was not evaluated, as it was beyond the scope of this study.</p>
29	CDFW Enclosure B, p. 4	DLA Attachment E: La Grange Project Fish	5.2.3 Non-target Species near La Grange Facilities: The study found that "[o]n multiple occasions during the monitoring period, attempted predation events by	During the 2015/2016 monitoring season, striped bass were observed holding in the tailrace passing chute and video monitoring shows these fish making multiple predation attempts (quick, darting actions) at

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		Barrier Assessment Progress Report	striped bass were observed within the tailrace weir passing chute." CDFW requests clarification as to what was seen (e.g., type of observed behaviors)	juvenile fish (likely <i>O. mykiss</i> and/or pikeminnow).
30	CDFW Enclosure B, p. 4	DLA Attachment E: La Grange Project Fish Barrier Assessment Progress Report	<p>5.3 Pre-spawn Mortality:</p> <p>The report indicates, "[a] single, unspawned Chinook salmon carcass was recovered in the sluice gate channel on December 25, 2015 (TID/MID 2017). After evaluation for egg retention, this carcass was frozen and delivered to CDFW La Grange staff. This fish likely entered the sluice gate channel during a powerhouse outage event, and became stranded and de-watered when the powerhouse came back online" (Page 5-7) CDFW requests that the Districts explain how this determination was made.</p> <p>The report highlights that "CDFW escapement surveys conducted in the Tuolumne River did not document any prespawn or partial spawn Chinook mortalities during the 2015 fall-run monitoring period (Gretchen Murphey, CDFW pers. comm., January 2017)" (Page 5-7). The report should also mention that CDFW only tagged 8 fish that year, which constitutes a very small sample size and as such, no definitive statements regarding pre-spawn mortality can be concluded based upon this data set.</p>	<p>This carcass was found dewatered on the edge of the sluice gate channel on 12/25/15. Although it was not observed during the 12/24 stranding survey, it likely entered the sluice gate channel on 12/23 during a powerhouse outage event when ~155 cfs flowed down the channel for 1.25 hrs. This carcass did show fresh signs of predation, so it is possible it was pulled from another location to where it was discovered.</p> <p>CDFW did not share the concern regarding effects of the low number of individuals evaluated during the initial correspondence, but this is reflected in the final report. Escapement survey reports have not been released by CDFW for the past few years, so data have not been available for evaluation. Previously, pre-spawn mortality evaluations conducted by CDFW in 1993, 1999, 2008, and 2013-2016 documented low levels of pre-spawn mortality. The maximum occurrence of pre- or partial spawn mortality has been reported to be 5 individuals in 2013.</p>
31	CDFW Enclosure B, pp. 4-5	DLA Attachment E: La Grange Project Fish Barrier Assessment Progress Report	<p>6.1 Chinook Salmon Passage:</p> <p>According to the report, "[c]onsidering that all but one of the Chinook salmon approaching the facilities moved downstream to spawn, and the relatively low rates of pre-spawn mortality observed in the lower Tuolumne River [...], it does not appear that the La Grange facilities affected Chinook production during the 2015/2016 study period" (Page 6-1). CDFW believes insufficient data exists to support this claim. The salmon run is so small in this study that no</p>	<p>The study concluded that although Chinook salmon were documented migrating upstream to the La Grange facilities there was no negative affect on production, as the overwhelming majority of fish moved back downstream to spawn.</p> <p>During the 2015/2016 monitoring season, the median time between initial passage and final detection was 101 hrs (4.2 days) at the tailrace weir and 154 hrs (6.4 days) at the main channel weir. This is consistent with typical observations of a 1-2 week delay between</p>

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			<p>definitive conclusions can be drawn either way (i.e., that salmon would or would not continue upstream in the absence of the dams). However, evidence suggests that the La Grange facilities delayed fish in locating suitable spawning grounds, especially considering the number of passes fish made through the weirs as well as the residence time above them. This increased time attempting to migrate upstream instead of finding spawning areas could be detrimental to spawning success.</p> <p>The study found that "[o]verall, 28.5 percent (n=33) of Chinook salmon observed at the tailrace and main channel weirs were ad-clipped, suggesting hatchery origin, during the 2015/2016 monitoring season. Additionally, 23.9 percent of Chinook passing the lower Tuolumne weir (RM 24.5) were ad-clipped. Given that 25 percent of Central Valley fall-run Chinook salmon hatchery production is marked annually, and that there is no hatchery in the Tuolumne River, this suggests that nearly all Chinook salmon entering the lower Tuolumne River and in the vicinity of the La Grange facilities during the study period were hatchery strays." CDFW finds that even though by the Constant Fractional marking (CFM) Program expansion there appears to be no salmon of Tuolumne origin, we do not know this is the case unless every salmon (100%) in the Tuolumne has been definitely determined to have been produced elsewhere (e.g., otolith analysis). Some hatcheries (e.g., Mokelumne) have done 100% tagging in the past. (See Table 1 below)</p>	<p>arrival on the spawning grounds and spawning as documented by comparison of weir counts and redd mapping conducted by the Districts and by live counts and redd counts reported by CDFW.</p> <p>Okland et al. (2001) identified a "search" phase in 67% radio tagged Atlantic salmon in a free-flowing river. Characterized as erratic movements with more than one down river movement near or at the later spawning area. The timing of this search behavior ranged from 11 to 101 days, in a river without a dam. If the La Grange facilities delayed fish in locating suitable spawning grounds, it is expected that there would be elevated levels of pre-spawn mortality detected.</p> <p>Given that the annual Constant Fractional Marking analysis of CV escapement has only been conducted for 2010-2012, we do not have a reliable estimate of hatchery contribution for the past 4 years. Table 1 (provided by CDFW on page 14 of its DLA comment letter) does little to help support evaluation of Tuolumne origin fish, as only 8 CWTs were recovered. Weir monitoring (RM 24.5) observed 95 ad-clipped Chinook during the 2015/2016 monitoring period, so only 8% of ad-clips were evaluated. As found in the Tuolumne River otolith study (TID/MID 2016), out of five years analyzed (n=598 otolith samples) straying rates from other rivers (hatchery and wild fish) ranged from a low of 33-44% in 1998 to as much as 85-90% in 2009.</p>
32	CDFW Enclosure B, p. 5	DLA Attachment H: Fish Presence and Stranding Assessment	<p>5.2 Sluice Gate Channel Stranding Surveys:</p> <p>The technical memorandum reports that, during stranding surveys, "a single unspawned female salmon carcass was recovered on December 25</p>	<p>See comment response #30.</p> <p>This represents a single fish that was "missed" for one day over a seven-month monitoring period. Given the relatively fresh appearance of this carcass, it is</p>

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		Technical Memorandum	(Figure 5.2-1). This salmon mortality likely occurred after sluice gate event #10 (December 23). No fish were observed in the sluice gate channel during the December 24 stranding survey; however, it is possible that this fish was near the channel margin under heavy vegetation. When the carcass was found on December 25 it showed signs of fresh predation, and had likely been moved into the center of the channel where it was discovered" (Page 5-2). Based on this information, CDFW disagrees with the implication of the sluice gate operation as the cause of mortality. The Districts should consider other mortality causes since it could be just as likely the fish died due to delay, or another cause. Additionally, if a fish died in the sluiceway and surveyors did not discover the carcass during multiple survey events, the methodology of the survey must not be appropriate to the survey site.	unlikely that mortality was due to delay. It is unreasonable to say that the methodology was not appropriate.
33	CDFW Enclosure B, pp. 5-6	DLA Attachment I: Investigation of Fish Attraction to La Grange Powerhouse Draft Tubes Study Report	6.1 Summary of Findings:  In the summary of findings, it was stated that "there is no risk of fish entering unit draft tubes while in operation and furthermore, being injured as a result of being in contact with the turbine runners at La Grange Diversion Dam"(Page 6-2, Lines 32-34). While the results of this study did not find evidence of such interaction, CDFW disagrees with the conclusion that the risk does not exist. The study should state that the risk is negligible rather than non-existent.	The Districts have revised this portion of the La Grange Powerhouse Draft Tubes Study Report to state, "the risk of fish entering unit draft tubes while in operation and being injured by the turbine runners is extremely low." The revised study report is filed with FERC as an attachment to the La Grange Hydroelectric Project FLA.
34	CDFW Enclosure B, p. 6	DLA Attachment J: Fish Passage Facilities Alternatives Assessment Progress Report	2.0 Study Goals and Objectives:  Footnote #3 on this report indicates that "[w]hile the word "reintroduction" is used commonly herein to denote the study of establishing anadromous fish runs to the upper Tuolumne River, there is no documented, empirical evidence of either spring-run Chinook salmon or steelhead populations using this reach of	The Districts do not agree that these species have been shown to have consistently populated the river upstream of the Don Pedro Project given the available information is anecdotal and not empirical, and as such, do not necessarily consider this potential action to be a reintroduction. However, regardless of how one categorizes the establishment of salmon and steelhead populations to the currently unoccupied

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			<p>the Tuolumne River" (Page 2-1). The CDFW acknowledges that the Districts have brought the "reintroduction" issue up repeatedly in their FERC filings; however, we request that the Districts support their statement in opposition to anadromous fish reintroduction in the Tuolumne River. Based on limited historical data, the Districts do not accept that spring-run Chinook salmon and steelhead have consistently populated the Upper Tuolumne River above the Don Pedro Project (FERC Project No. 2299). On the other hand, CDFW does not support a preliminary conclusion against potential actions to facilitate the reintroduction of anadromous salmonid populations to the river upstream the Don Pedro Project.</p>	<p>upper Tuolumne River reach (be it an introduction or reintroduction), the Districts would like to clarify that they have not stated their opposition to anadromous fish "reintroduction" in the Tuolumne River. Rather the Districts have taken the position that anadromous fish passage for the reintroduction/introduction of salmon and steelhead populations into the upper Tuolumne River would be a significant action and as such require a comprehensive evaluation that considers technical, biological, and socioeconomic factors (i.e., benefits, risks, and constraints) to determine if the action is feasible and to support informed and prudent decision-making. To this end, the Districts hosted a Reintroduction Assessment Framework (Framework) process that was consistent with recent peer-reviewed literature from NMFS and state agencies from the Pacific Northwest (Anderson et al. 2014) which cited the need for careful, comprehensive reintroduction planning, evaluation, and decision-making. The Framework, which occurred in 2016 and 2017, was a collaborative, voluntary process with excellent participation from federal, state, non-governmental organizations and the public and included CDFW and NMFS. The Districts hope that should continued evaluation of this action occur, it does so within a framework that is transparent, collaborative, and allows for the participation of a diverse set of stakeholders similar to the Framework process.</p>
35	CDFW Enclosure B, p. 6	DLA Attachment J: Fish Passage Facilities Alternatives Assessment Progress Report	<p>4.0 Methodology:</p> <p>In Table 4.2, Incident Likelihood Ratings are based on number of "occurrences" (i.e., visits to the site) rather than the chances that something is going to happen; thus, during the analysis the likelihood was increased to "very likely" for everything, which artificially inflates the chances or risk. Generally, the</p>	<p>[The Districts believe that this comment pertains to the Recreation Access and Safety Assessment Study instead of the Fish Passage Facilities Alternatives Assessment as stated in CDFW's comment letter.]</p> <p>The FERC-approved Recreation Access and Safety Assessment Study Plan for the La Grange Project stated that the Canadian Dam Association's (CDA)</p>

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			<p>likelihood ratings were based on how likely something is to happen rather than "occurrences" as illustrated by the following academic references (accessed on June 20, 2017):</p> <ul style="list-style-type: none"> <li>▪ Risk Likelihood and Consequence Descriptor <a href="http://scu.edu.au/risk_management/index.php/4">http://scu.edu.au/risk_management/index.php/4</a></li> <li>▪ Incident Reporting Risk Matrix <a href="http://safety.unimelb.edu.au/incident-reporting/incident-reporting-risk-matrix">http://safety.unimelb.edu.au/incident-reporting/incident-reporting-risk-matrix</a></li> <li>▪ Risk Assessment Guidance <a href="https://www.thesubath.com/pageassets/health-and-safety/Risk-Assessment-Guidance.pdf">https://www.thesubath.com/pageassets/health-and-safety/Risk-Assessment-Guidance.pdf</a></li> </ul>	<p>risk assessment process, as outlined in the Guidelines for Public Safety Around Dams (CDA 2011), would be used to assess the risk to public safety of using Project lands and facilities for recreation.</p> <p>The CDA is a leading authority on public safety related to hydroelectric facilities. CDA's Guidelines for Public Safety Around Dams are generally applicable to facilities located throughout the United States and provide an objective and established methodology to assess public safety risks.</p> <p>As described in the CDA's Guidelines for Public Safety Around Dams, generally any analysis of the risk associated with public interaction at a dam involves the determination of:</p> <ul style="list-style-type: none"> <li>▪ Exposure to hazards (number of people exposed to hazardous event);</li> <li>▪ Likelihood of adverse consequences occurring if a person is exposed to the hazards; and</li> <li>▪ Consequences (outcome of the adverse event).</li> </ul> <p>This approach is widely used in risk analyses of occupational health and safety, where exposure to industrial hazards can be quite accurately assessed. Occupational health and safety practices generally include reporting of incidents, so that data on frequencies of incidents for employees exposed to hazards at the site is often available.</p> <p>However, similar data for the public exposed to hazards around dams is generally not available, so the exposure to such hazards often has to be estimated from indirect evidence. Since the public is quite often unaware of the magnitude of potential danger, a precautionary approach leading to a conservative estimate of incident likelihood is appropriate. Such a</p>

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				<p>conservative estimate can be obtained by assuming that the consequences will occur if the person is exposed to the hazard.</p> <p>The Districts followed this conservative approach and methodology as detailed in the FERC-approved study plan and assigned an Incident Likelihood Rating based on the assumption of future increased public use at the La Grange Project.</p>
36	CDFW Enclosure B, pp. 6-7	DLA Attachment J: Fish Passage Facilities Alternatives Assessment Progress Report	<p>5.0 Assessment of Recreation Access and Risk/5.3.5.1 Upstream Area:</p> <p>The report offers the following example about estimating incident likelihoods:</p> <p>"Assuming an increase in use by the public, the incident likelihood rating (ILR) for each activity was increased to a "5" (more than 10 occurrences in the hazardous area in any one of the last 3 years, or 25 or more occurrences in total in the last 3 years) in this assessment. Note that an "occurrence" represents a single visit by a single person on a given day. For example, 5 individuals visiting on a given day and then returning the following day would represent 10 occurrences."</p> <p>The CDFW thinks that this approach to risk assessment seems to inflate risk; especially since the likelihood is based on "occurrences"(i.e., site visits) rather than how likely and incident is to occur.</p>	<p>[The Districts believe that this comment pertains to the Recreation Access and Safety Assessment Study instead of the Fish Passage Facilities Alternatives Assessment as stated in CDFW's comment letter.]</p> <p>As detailed in Section 4.2.6 of the CDA's Guidelines for Public Safety Around Dams (CDA 2011): "Occurrence refers to the presence of members of the public in the hazardous area of the component under consideration, whether or not an 'incident' occurs". Each time a person is present in the hazardous area they are at risk and exposed to hazards therefore each visit is counted as a separate "occurrence". The Incident Likelihood Rating for each activity was increased to a "5" based on the assumption of future increased public use at the La Grange Project.</p>
37	CDFW Enclosure B, p. 7	DLA Attachment J: Fish Passage Facilities Alternatives Assessment Progress Report	<p>6.0 Discussion and Findings:</p> <p>The Districts state that Licensing Participants (LPs) "identified January 27, 2016 for a meeting to begin the Upper Tuolumne River Reintroduction/Fish Passage Assessment Framework process. For this meeting, a draft process and schedule, a summary of</p>	<p>The Fish Passage Facilities Alternatives Assessment Progress Report attached to the DLA is dated February 2016, and all information contained in that attachment is current as of the February 2016 publication date. The DLA stated that the Fish Passage Facilities Alternatives Assessment Study Report would be attached to the La Grange</p>

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			potential information gaps, and a preliminary studies list (to address information gaps) will be developed to help define 2016 activities. At the time of report development, meeting information was not available for inclusion in this document. However, if at the January 27, 2016 meeting, consensus is achieved on framework process and schedule, information gaps, and needed 2016 studies, this information will be presented at the ISR meeting on February 25, 2016 and included in meeting notes filed with FERC" (2nd Paragraph; Lines 25-32). The CDFW thinks that this statement does not make sense. It is not accurate to include this statement in the Draft License Application, which was released more than a year after the La Grange Project Initial Study Report (ISR).	Hydroelectric Project FLA. As planned, the final Fish Passage Facilities Alternatives Assessment study report is provided as an attachment to this FLA, and all information in this FLA and the study report are current as of September 2017. Any confusion as to the framework process and schedule, information gaps, and needed studies should be eliminated with the issuance of this FLA and the final study report.
38	CDFW Enclosure C, p. 1	DLA References	5.0 References:  The following references have been listed but were not cited in the Draft License Application (DLA): Schweickert et al. (1988); Jayasundara et al. (2014)  The following references have been cited in the DLA but were not listed in the References section: CDWR (2013); TID/MID (2014a), W&AR-10; TID/MID (2013h), W&AR-20; Zimmerman et al. (2008); TID/MID (2013d); Tuolumne County (1996)	The Districts have ensured that all references cited in the La Grange Hydroelectric Project FLA are included in the respective References sections.
39	CDFW Enclosure C, p. 1	DLA Attachment F: Topographic Survey Technical Memorandum	Figure 5.1-5 Mid-channel island LiDAR topography:  Please add the elevation units (ft) to the LiDAR Topography legend.	To clarify, the elevation units for Figure 5.1-5 are feet, and the text in the report that describes the figure clearly states that the units are feet. The report has previously been filed as final.
40	CDFW Enclosure C, p. 1	DLA Attachment H: Fish Presence and Stranding Assessment	Figure 5.3-2 Tailrace channel water surface elevation levellogger data:  Please refine the time (date) axis on the graph illustrating the tailrace channel water surface	This was a formatting issue in the previously released report. The graph has been updated and axis is visible in the final report included in the La Grange Hydroelectric Project FLA.

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		Technical Memorandum	elevation levellogger data to show the dates of the sluice gate channel stranding surveys and redd dewatering surveys.	Figure 5.3-2 represents recorded water surface elevations in the tailrace channel on a 15-minute interval throughout the 2015/2016 monitoring period. The dates/times of sluice gate stranding surveys are presented in Tables 5.2-1 and 5.2-3 of the final report.

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