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DEPARTMENT OF FISH AND WILDLIFE
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January 28, 2021

Stephanie Ponce
Environmental Scientist
California Department of Water Resources
3310 El Camino Avenue, Room 140
Sacramento, CA 95821
Stephanie.Ponce@water.ca.gov

Dear Ms. Ponce:

Subject: TISDALE WEIR REHABILITATION AND FISH PASSAGE PROJECT
DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)
SCH# 2019049093

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Availability of a DEIR from the California Department of Water Resources (DWR) for the Tisdale Weir Rehabilitation and Fish Passage (Project) pursuant the California Environmental Quality Act (CEQA) statute and guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish, wildlife, native plants, and their habitat. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802.). Similarly, for purposes of CEQA, CDFW provides, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW may also act as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

The Project site is located at the Tisdale Weir, on the east side of the Sacramento River, south of the town of Meridian in Sutter County, and four miles west of the Sutter Bypass.

The Project consists of rehabilitation and reconstruction of the Tisdale Weir, as well as construction of new fish passage facilities. Rehabilitation and reconstruction of the weir would include removing and replacing the southern abutment in kind and providing scour countermeasures around the reconstructed abutment; removing and replacing the northern abutment, which would incorporate an equipment pad to facilitate maintenance of the new connection channel and operable gate; filling in the depressed area between the existing gravel access road on the north side of the Tisdale Bypass and Garmire Road with engineered backfill material to construct a level area for the control building and equipment pad; patching, resurfacing, and sealing the existing concrete sill surface of the weir with a cementitious or epoxy material; partially demolishing, removing, and reconstructing the existing energy dissipation basin with a basin that would serve an energy dissipation function; installing provisions for monitoring equipment in the weir and/or on abutments or adjacent banks; and investigating the integrity of the sheet pile wall through excavation and rehabilitating if necessary.

The fish passage facilities constructed for the Project would include reconstruction of an integrated energy dissipation and fish collection basin on the downstream side of the weir; installation of a notch, an operable gate (for flow regulation), and attendant facilities at the north end of the weir; and construction of a channel connecting the notch in the weir to the Sacramento River. The fish passage facilities are intended to provide passage for all species; however, designs would focus on Chinook salmon (*Oncorhynchus tshawytscha*) and green sturgeon (*Acipenser medirostris*). The facilities' design is intended to meet fish passage criteria for Chinook salmon and green sturgeon migrating upstream from the Tisdale Bypass to the Sacramento River after river flows have overtopped the weir and spilled into the Tisdale Bypass. During and after a spill event, for several days to several weeks or longer, the facilities' gate would be operated to maintain a connection between the Tisdale Bypass and the area behind the weir, and to manage flow and water levels in a manner conducive to fish movement out of the Tisdale Bypass and into the Sacramento River.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations presented below to assist DWR in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on biological resources. CDFW has organized its comments based on the order information is presented in the DEIR.

Chapter 2. Project Description

2.3.2 Tisdale Weir Rehabilitation and Reconstruction

The DEIR describes installing provisions for monitoring equipment such as stage gages, cameras, and telemetry antennae in the weir and/or on abutments or adjacent banks. Although, the DEIR generally describes installation provisions for cameras, it does not describe installation provisions for specific fish monitoring equipment. To help ensure the project minimizes effects to fish, the DEIR should include fish monitoring to provide data that would guide adaptive management of operations. CDFW recommends that DWR also install fish monitoring equipment such as an Adaptive Resolution Imaging Sonar (ARIS) camera, which would be effective at the weir gate as well as within the fish collection basin. Having sonar monitoring at the gated notch would help assess the flow conditions that favor fish movement and document the effectiveness of the new fish passage facilities. The DEIR and designs should specify where space will be built into the structure to allow for monitoring equipment. Planning for monitoring equipment is encouraged and should be in place and ready for implementation for first operation of the notch gate to facilitate both real-time and long-term monitoring.

In addition to ARIS monitoring, acoustic telemetry or passive integrated transponder (PIT) tag arrays would provide important data on movement around and through the weir notch as well as throughout the Tisdale Bypass reach. CDFW recommends that arrays be strategically placed at the weir notch and throughout the Project area. Many programs in the Sacramento River and Butte Creek are marking juvenile salmon and sturgeon with acoustic tags. Having arrays at the weir and in the Tisdale Bypass would provide insight into the project's effects on marked fish migrating in the Sacramento River and Butte Creek systems. This additional monitoring could assist in meeting the Project objective of reducing fish stranding at the weir by identifying areas of stranding concern and direction of fish movement through the Tisdale Bypass to help facilitate improved fish passage through the weir and minimize impacts to special-status fish species.

2.3.3 Fish Passage Facilities

The DEIR discusses the use of sub-angular riprap to prevent scour and facilitate fish passage and drainage of the energy dissipation and fish collection basin. CDFW is concerned that the use of sub-angular riprap may: 1) cause injury to special-status fish species and 2) provide increased predator habitat. CDFW recommends the DEIR evaluate use of grouted cement, engineered concrete and energy dissipaters, or larger rounded material with a wider placement to minimize the potential of injury to fish and reduce predators from holding between materials.

Moreover, it is unclear whether the riprap roughness was included in the fish passage and other hydraulic modeling. The DEIR should indicate what was considered in the fish passage and hydraulic modeling. Additionally, less abrasive options mentioned above, that will both prevent scour and continue to improve ease of maintenance while still encouraging fish movement out of the energy dissipation and fish collection basins, should be analyzed in the fish passage and hydraulic modeling.

2.3.6 Operations and Maintenance

Normal operations and maintenance of the proposed Project are detailed in this document. However, operations during gate outages, power failures, or other foreseeable problems with the gate structure are not described. It is unclear how fish returning to the Sacramento River during outage situations may be impacted. CDFW recommends that operations be described during the following operations outage situations and the DEIR incorporate specific analysis that details how these outage scenarios will be addressed:

- Mechanical (Gate Failure)
- Electrical (Gate Failure)
- Debris lodging in notch causing dewatering and fish entrapment/stranding
- Debris blocking the fish passage basin causing fish entrapment/stranding

In the event of gate failure, the DEIR should also clarify how velocity and depth criteria will be maintained, as well as how the basin will be dewatered quickly to repair failed gates when the facility is operating as a fish passage structure

Chapter 3. Environmental Setting, Impacts, and Mitigation Measures

3.4.3 Environmental Setting

Table 3.4.2

Table 3.4-2 lists special-status fish species occurring or potentially occurring in the Project area. CDFW recommends the table include Sacramento splittail (*Pogonichthys macrolepidotus*), which occurs in the Sutter Bypass (DFG, 1999) and hardhead (*Mylopharodon conocephalus*), which occurs in the Sacramento River and Sutter Bypass. Both are listed as California species of special concern.

Spring-run Chinook Salmon

The DEIR states juvenile spring-run Chinook salmon emerge in March and April. It should be noted that emergence can occur as early as late November in Butte Creek (DFG, 2004). The DEIR also describes spring-run fry movement between February and June. The DEIR should also acknowledge that sac fry may be actively emigrating in Butte Creek as early as late November (DFG, 2004).

3.4.4 Impacts and Mitigation Measures

California Endangered Species Act

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to

the California Endangered Species Act (CESA). CDFW recommends that a CESA Incidental Take Permit (ITP) be obtained if the Project has the potential to result in "take" (Fish & G. Code § 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of State-listed CESA species, either through construction or over the life of the Project, including operations and maintenance.

Please note that mitigation measures that are adequate to reduce impacts to a less-than significant level to meet CEQA requirements may not be enough for the issuance of an ITP. To issue an ITP, CDFW must demonstrate that the impacts of the authorized take will be minimized and fully mitigated (Fish & G. Code §2081 (b)). To facilitate the issuance of an ITP, CDFW recommends the EIR include measures to minimize and fully mitigate the impacts to any State-listed species the Project has potential to take. CDFW encourages early consultation with staff to determine appropriate measures to facilitate future permitting processes.

State-listed species with the potential to occur in the area include but are not limited to: Giant garter snake (GGS)(*Thamnophis gigas*), Swainson's hawk (*Buteo swainsoni*), winter-run and spring-run Chinook salmon (*O. tshawytscha*).

The DEIR does not adequately discuss the potential of the Project to take State-listed species nor provide adequate avoidance, minimization, and mitigation measures. CDFW provides the following comments on specific Impact Analysis and Mitigation Measures to assist DWR in mitigating the project impacts to a less than significant level:

Mitigation Measure 3.4-3e states that "with prior approval by CDFW and USFWS, the designated biologist may capture the snake and relocate it unharmed to suitable habitat at least 200 feet from the project area." Please note that the designated biologist must be knowledgeable and experienced in the biology, natural history, capture, and handling of GGS (including possession of appropriate handling permits). Handling GGS will require a take authorization as "catch" and "capture" are methods of take. CDFW recommends an ITP is obtained for the Project. An ITP would require that a GGS relocation plan be developed and submitted to CDFW for approval prior to initiating Project activities.

Mitigation Measure 3.4-4b indicates preconstruction surveys for western pond turtle will occur within 7 days before the establishment of staging areas and the start of construction and maintenance activities. CDFW recommends that an additional survey is conducted within 48 hours prior to starting construction activities. If western pond turtle is encountered during surveys, CDFW recommends that a site-specific avoidance, minimization, and/or relocation plan be prepared by the designated biologist in coordination with CDFW.

Mitigation Measure 3.4-5b discusses buffer zones established around active nests of special-status birds or species protected under the Migratory Bird Treaty Act (MBTA). The measure states that the Project biologist shall determine the appropriate buffer zone(s) to be used, which are typically 100 feet for migratory bird nests and 250 feet for raptor nests. CDFW recommends against pre-determined buffer zones. As proposed, these could be inadequate to reduce impacts to nesting birds to a less than significant level. Buffer zones should be determined by the designated biologist in coordination with CDFW on a case-by-case basis depending on species, stage of nesting effort, type of construction activities and

any geographic or topographical barriers between the nest and the proposed activities. CDFW recommends that if any active nests are found, buffer zones shall be determined by the designated biologist in consultation with CDFW before commencement of construction activities.

Mitigation Measure 3.4-5d discusses surveys that would take place should vegetation removal begin during Swainson's hawk nesting season; however, the measure does not propose adequate actions the Project would implement to reduce impacts to a less than significant level should nesting occur. CDFW recommends that a designated biologist conduct Swainson's hawk protocol-level surveys during all survey periods throughout the nesting season prior to the commencement of all construction activities, regardless of potential vegetation removal. Protocol-level surveys should be conducted in accordance with Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000).

Mitigation Measure 3.4-5e discusses if active Swainson's hawk nests are found within 0.25 mile of construction or maintenance activities. CDFW recommends including nests that are found within 0.50 miles of the Project area. Nests found within 0.50 miles should be monitored either continuously or periodically depending on the construction or maintenance activities and level of disturbance until young have fledged, are feeding independently and are no longer dependent on the nest.

Furthermore, all measures to protect nesting birds should be performance-based. While some birds may tolerate disturbance within 250 feet of construction activities, other birds may have a different disturbance threshold and "take" could occur if the temporary disturbance buffers are not designed to reduce stress to that individual pair. CDFW recommends including performance-based protection measures for avoiding all nests protected under the MBTA and Fish and Game Code. Additionally, CDFW recommends on-site monitoring by a designated biologist familiar with the species, as buffers may need to be increased based on the birds' tolerance level to the disturbance as activities change and as the birds' transition through different stages of the nesting cycle.

Impact 3.4-8 discusses disturbance to fish species and their habitat by modifying aquatic habitat. The impact analysis indicates that fish in the Tisdale Bypass are expected to be found mostly in its southern portion due to the natural topography and the presence of mature riparian vegetation. CDFW agrees fish naturally navigate to the south side of the Tisdale Bypass and recommends the DEIR include a more detailed discussion of existing conditions, describing how implementation of the project may change the occurrences of stranding (baseline condition), and how the Project changes the way the Tisdale Bypass drains to encourage entrained juvenile special-status fish movement to prevent stranding.

Impact 3.4-8 discusses the placement of approximately 300 cubic yards of riprap to serve as scour protection for the new connection channel. The use of riprap may cause injury to State-listed fish species and increase predator habitat. To minimize impacts to special-status fish species, CDFW recommends the DEIR evaluate the use of grouted cement, engineered concrete and energy dissipaters, or larger rounded material with a wider placement to minimize impacts to fish species and reduce predator habitat.

Mitigation Measures 3.4-8b and 3.4-8c identify how a fish rescue plan would be in place to relocate any stranded fish within the project footprint before the start of construction activities; how fish would be rescued from the cofferdam area before dewatering actions; and how further fish rescues could be triggered once construction is completed. Please note that although the DEIR indicates fish rescue plans for the Project would be submitted to and approved in coordination with CDFW, as stated in the mitigation measures, CDFW would like to iterate fish rescue efforts are the responsibility of the Project proponent. Additionally, the DEIR states that winter-run and spring-run Chinook salmon are present in the project area, therefore potential fish rescues are likely to result in take. Handling CESA-listed species will require a take authorization as “catch” and “capture” are methods of take. CDFW recommends an ITP is obtained for any take likely to occur over the life of the Project, including operations and maintenance.

Impact 3.4-10 summarizes the risk of predation to native fish related to Project impacts from construction and operations and maintenance activities as less than significant because construction impacts are considered temporary and long-term operation of the Project is expected to reduce predation. However, the DEIR did not evaluate potential impacts associated with increased predator habitat and therefore increased predation due to the use of riprap within the energy dissipation, fish collection basin, and new connection channel. The DEIR should include the impacts associated with increased predation due to the use of riprap. CDFW recommends including an evaluation of the use of riprap against other materials such as grouted cement, engineered concrete and energy dissipaters, or larger rounded material with a wider placement, which would minimize the use of crevices by predators.

Impact 3.4-11 indicates once the Project is operational, the newly constructed notch in Tisdale Weir would improve fish passage conditions for adult special-status anadromous fish in the Tisdale Bypass and the marginal increase in flows from the Project are not expected to have a substantial effect on the attraction of anadromous fish into the Tisdale Bypass from the Sacramento River. However, it is unknown how fish will respond to the new weir notch and associated flow increases. The DEIR should acknowledge there is no data available on how the new notch may affect juvenile salmonids and sturgeon. Having longer periods of connectivity to the Sacramento River may attract more emigrating juveniles and sturgeon into the Tisdale Bypass while the notch is open. To ensure the Project is meeting its objectives to improve fish passage and reduce impacts to special-status fish, the DEIR should include monitoring to guide adaptive management of the operations of the facility. CDFW recommends the Project include focused monitoring, as described above in the Project Description section, to provide data necessary to look at behavior, movement, and problem areas for juvenile salmon and sturgeon in the Project area and Tisdale Bypass.

3.7 Hydrology

Impact 3.7-3 acknowledges the frequency of sediment removal activities may vary based on the type of water year; the rate at which sediment and debris accumulate at the site; and the effects of the magnitude of sediment and debris accumulation on conveyance capacity, energy dissipation, and/or fish passage conditions. Sediment removal activities

by DWR have taken place in 2007 and most recently in 2020. Accumulated sediment and vegetation or other debris, along with improperly functioning structures, can reduce channel capacity; deflect, divert, and inhibit flows; cause bank and levee erosion; or increase the risk of levee overtopping and failure. All these scenarios increase risk to special status fish species, particularly fish stranding occurrences. Deposited sediment also increases the likelihood of juvenile special-status fish species being stranded and unable to escape with the draining water. Sediment management should occur at greater frequency to limit creation of pockets or isolated pools and minimize stranding issues. No mitigation measures are proposed to reduce impacts associated with the effects of increased sediment deposition. To minimize impacts to special-status fish species, CDFW recommends DWR implement sediment management activities on a regular frequency to reduce build up rather than on an as needed basis. Regular sediment management along with fish monitoring in the Tisdale Bypass would help reduce impacts to special-status fish species.

Chapter 4. Other CEQA Considerations

4.1.2 Criteria for Identifying Related Projects in the Project Area

The DEIR must contain a reasonable analysis of the Project's contribution in the context of the significant cumulative impacts. It must identify related projects through a list or projection to summarize effects of the related projects, and reasonably analyze the cumulative contribution of the Project, as well as provide mitigation measures for that contribution (CEQA Guidelines §15130(b)).

The Mid and Upper Sacramento River Regional Flood Management Plan (MUSR RFMP) is one of six Regional Flood Management Plans that were funded by DWR following the adoption of the 2012 Central Valley Flood Protection Plan (CVFPP). The Tisdale Bypass is located within the boundaries of the MUSR RFMP. One of the key recommendations for the MSUR RFMP was to develop a sustainable plan for the long-term operations of the Tisdale & Sutter Bypass system. In 2020 DWR provided funding of the Sutter and Tisdale Bypasses Flood & Multi-Benefit Strategy and Management Plan (Management Plan) to develop a comprehensive plan for management of the Sutter and Tisdale Bypasses for sustainable flood operations conveyance while also improving floodplain habitat. The Management Plan is being coordinated with the Tisdale Weir Rehabilitation and Fish Passage Project and seeks to take advantage of the modifications being made to the Tisdale Wier by DWR. CDFW's 2019 Notice of Preparation comment letter for the DEIR recommended analyzing the Tisdale Weir Rehabilitation and Fish Passage Project as well as building the Tisdale Bypass Management Plan into the Project Description framework. CDFW recognizes the Tisdale Bypass Management Plan has evolved into what is now the Management Plan. CDFW would like to reiterate that not including the potential future Management Plan in the overall Project planning effort (weir rehabilitation and fish passage, as well as management of habitat within the Tisdale Bypass), could limit future management opportunities and needed flexibility. Additionally, a feasibility study has been funded and is being conducted for the replacement and/or removal of Weir 1 on the west borrow of the Sutter Bypass. This is a fish passage improvement project. Depending on the results of the study, it could show a potential change in water delivery to nearby ag lands or an increase in wells. The Sutter Bypass Weir 1 project is funded by Central Valley

Project Improvement Act (CVPIA). Finally, planning for the Sites Reservoir project is well underway.

CDFW recommends DWR analyze the cumulative impacts from the Tisdale Weir Rehabilitation and Fish Passage Project by disclosing the relationship with the proposed Project, the Management Plan, the Sutter Bypass Weir 1, and the Sites Reservoir projects and discuss how the projects could affect each other in the final EIR. By analyzing the cumulative impacts and disclosing project relationships, DWR can efficiently show a good faith effort at full disclosure to address potential significant impacts and can show how all potentially significant impacts will be avoided, minimized or mitigated.

Chapter 5. Alternatives

Consistency with the Central Valley Flood Protection Plan

The DEIR briefly discusses how the identified goals and planning objectives for rehabilitating Tisdale Weir and for addressing fish passage and stranding issues at the weir are consistent with the CVFPP goals in Table 5-1. Although the CVFPP is referenced in the DEIR, it is also vital the DEIR demonstrate consistency with the Central Valley Flood Protection Plan Conservation Strategy (CVFPPCS). CDFW recommends Chapter 2.2, Project Objectives, incorporate a discussion of how the proposed Project objectives achieve the goals of not only the CVFPP but also the accompanying CVFPPCS and ultimately the Central Valley Flood Protection Act (California Water Code, § 9616[a]). More specifically, how implementation of the proposed Project and associated ecosystem improvements will contribute to the measurable objectives identified within CVFPPCS. The CVFPPCS, developed by DWR for adoption and integration with the 2017 update of the CVFPP, overlaps the Project area. The CVFPPCS identifies long-term measurable objectives that will be used to guide and inform the planning, funding, and implementation of multi-benefit and strategic advance mitigation projects and the operations and maintenance activities needed to maintain them within the Central Valley Flood System.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be submitted online or mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

Payment of the fee is required for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

Pursuant to Public Resources Code §21092 and §21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the proposed project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670 or emailed to R2CEQA@wildlife.ca.gov.

CDFW appreciates the opportunity to comment on the DEIR to assist in identifying and mitigating Project impacts on biological resources. CDFW personnel are available for consultation regarding biological resources and strategies to minimize and/or mitigate impacts. Questions regarding this letter or further coordination should be directed to Lauren Mulloy, Senior Environmental Scientist (Specialist) at (916) 358-2909 or Lauren.Mulloy@wildlife.ca.gov.

Sincerely,

DocuSigned by:
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REFERENCES

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