

Memorandum

Date: February 12, 2020

To: Ms. Heather Green
California Department of Water Resources
3500 Industrial Boulevard
Sacramento, CA 95691

From: 
Mr. Gregg Erickson, Regional Manager
California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: Lookout Slough Tidal Habitat Restoration and Flood Improvement Project, Draft Environmental Impact Report, SCH #2019039136, Solano County

The California Department of Fish and Wildlife (CDFW) has reviewed the above Lookout Slough Tidal Habitat Restoration and Flood Improvement Project (Project) draft Environmental Impact Report (EIR) as proposed by the lead agency, the California Department of Water Resources (DWR) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹ We appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of 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 and Game Code, §§ 711.7, subd. (a) and 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 is charged by law to provide, 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 is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory 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 and Game 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 and Game Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

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.

REGULATORY REQUIREMENTS

California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project will result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of a CESA ITP is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA ITP.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with CESA.

Lake and Streambed Alteration

CDFW requires a Lake and Streambed Alteration (LSA) Notification, pursuant to Fish and Game Code section 1600 et. seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement (or ITP) until it has complied with CEQA as a Responsible Agency.

PROJECT DESCRIPTION SUMMARY

Proponent: California Department of Water Resources

Objective: The objective of the Project is to restore approximately 3,164 acres of tidal marsh and subtidal habitats and increase flood conveyance and storage within the Yolo Bypass. Primary Project activities include dewatering internal water features, remove existing infrastructure, vegetation clearing, invasive plant species control, creation of the Duck Slough Setback Levee, improvements to the Cache/Hass Slough Levee, excavating internal ponds and channels, constructing access peninsulas, installing temporary cofferdams at breaches, excavating 11 breaches, degrading portions of the Shag Slough Levee, creating Delta smelt spawning habitat, and ecosystem restoration compliance and effectiveness monitoring.

Location: The Project is located in the Cache Slough Complex, in unincorporated southeastern Solano County, with a small portion of work extending into Yolo County. The Project is bounded by Liberty Island Road to the north, Duck Slough to the northwest, Cache and Hass Sloughs to the south and southwest, and Shag Slough to the east.

Construction Timeframe: June 2020 – April 2022

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist DWR in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

Project Description and Related Impact Shortcoming

Comment 1: Duck Slough Setback Levee Construction, page III-38. The draft EIR states that "The Duck Slough Setback Levee would include a soil-bentonite cutoff wall ranging in depth from 25 to 50 feet below the existing ground surface". No additional information is provided about the cutoff wall. Because of the lack of information about construction of the cutoff wall, CDFW cannot adequately evaluate potential environmental impacts associated with the cutoff wall. Furthermore, the draft EIR does not evaluate potential impacts from the cutoff wall to subsurface water flow in the Environmental Impacts section of the draft EIR. According to the draft EIR, groundwater in the Proposed Project is between 3 and 12 feet below the ground surface. Because of the shallow groundwater depth, CDFW has concerns that a 25- to 50-foot-deep cutoff wall could significantly impact local subsurface water flow between the wetlands and adjacent land.

CDFW recommends DWR provide additional construction methods (such as trenching, volume of soil-bentonite mixture, how and where it will be mixed, any potential water quality impacts, bentonite spill contingency plan) for the soil-bentonite cutoff wall in the draft EIR and analyze the potential impacts to subsurface water flow between the Project site and adjacent land.

Comment 2: The Project description does not mention the fate of the Shag Slough Bridge. CDFW is concerned that the bridge could become a navigational hazard without a land-based route to maintain or remove the bridge. CDFW recommends DWR analyze the impacts associated with removing road access to the bridge and the potential impediments to maintenance or removal of the bridge.

Regulatory Framework

Comment 3: California Endangered Species Act, page IV.D-43. The draft EIR description of CESA is misleading. The statement "CESA requires State agencies to coordinate with CDFW to ensure that State-authorized or State-funded actions do not jeopardize a state-listed species" implies that only State agencies are subject to CESA. However, CESA applies to agencies, groups, organizations, and individuals.

CDFW recommends revising this section of the draft EIR to better describe CESA and CDFW's role in working with agencies, organizations, and other interested parties to study, protect, and preserve CESA-listed species and their habitats. Additional information on CESA and ITPs can be found on our website (<https://wildlife.ca.gov/Conservation/CESA>).

Comment 4: California Fish and Game Code 1600, page IV.D-44. The draft EIR states that "The term 'stream', which includes creeks and rivers, is defined in the California Code of Regulations as follows: 'a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life'. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (California Code of Regulations Title 14, Section 1.72)". However, California Code of

Regulations Title 14, Section 1.72 does not apply to Fish and Game Code section 1602. CDFW recommends deleting this stream definition from the draft EIR.

The draft EIR also uses information and language from a 1994 CDFW document, *A Field Guide to Lake and Streambed Alteration Agreements*. This document is outdated is not used by CDFW. CDFW recommends deleting all information cited from *A Field Guide to Lake and Streambed Alteration Agreements*, specifically the following sentences from the draft EIR:

~~"In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.¹⁵ Riparian is defined as "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself".¹⁶ Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW"~~

Environmental Impacts

Comment 5: The draft EIR has several minimization and mitigation measures that are not strong enough or specific enough to be implemented. Wording such as "to the extent feasible" and portions of measures that will be determined at a later date such as buffer distances are not able to be implemented consistently during construction. The vague language used in the draft EIR provides no protections to the species.

To reduce the risk to species, CDFW suggests revising any minimization or mitigation measure that includes undefined areas, buffers, or other vague language to better define measures to be implemented.

Comment 6: The draft EIR does not predict the amount of time it will take for wetland or other habitats to naturally regenerate on-site post-construction. Post-construction acreages of habitat types are asserted but there is no discussion of the amount of time it will take to achieve those acreages. The draft EIR does not analyze the impacts related to loss of habitat and potential increase in turbidity prior to wetland and other habitat types colonizing the site. Depending on the length of time it takes for habitat to develop and post-construction conditions, there are potentially significant impacts to species, habitats, and water quality due to a lag in development of habitats.

Comment 7: Loss of Riparian Habitat and Mitigation Measure BIO-1, page IV.D-51. The draft EIR states that the proposed Project "would result in impacts to approximately 24.8 acres of sensitive Great Valley mixed riparian forest..." and that "Implementation of Mitigation Measure BIO-1, which requires a minimum 1.1:1 replacement ratio for riparian vegetation removal, would result in an approximate 10% increase in riparian acreage." CDFW disagrees with the latter statement because a 10% increase would require 100% survival of the replanted riparian habitat. It is very unlikely that such a high survival rate would occur over 5 years, let alone 10 years, especially for riparian habitat planted on the access roads subject to periodic Yolo Bypass flooding. Prolonged flooding could erode or kill newly planted riparian vegetation. Additionally, a 1.1:1 ratio does not mitigate for the temporal loss of riparian habitat function because it could take as long as a decade for the replanted riparian habitat to grow into a mature mixed riparian forest.

To reduce the loss of riparian habitat to less-than-significant, CDFW recommends that the 1:1:1 riparian vegetation mitigation ratio in Mitigation Measure BIO-1 be replaced with a 3:1 ratio. A 3:1 ratio would mitigate for the direct loss and the temporal loss as the replanted riparian habitat matures and regain its biological and ecological functions. CDFW also recommends that DWR monitor and maintain the replanted riparian habitat for at least 5 years and maintain a minimum 75% survival rate at year 5.

Comment 8: Mitigation Measure BIO-2, page IV.D-54. The draft EIR states a restoration plan shall be prepared for avoidance and mitigation of special-status plants and will be provided to DWR prior to construction. The restoration plan for special-status plants should be submitted for CDFW for review and approval.

Comment 9: Mitigation Measure BIO-2, page IV.D-54 Number 4 and 5 of Mitigation Measure BIO-2 state that mitigation of special-status plants should be at least 1:1 ratio. A 1:1 ratio of seeds and propagules is unlikely to offset impacts to special-status plants. CDFW recommends mitigation of 3:1 for most special-status plants and 5:1 for Mason's lilaeopsis.

Comment 10: Mitigation Measure BIO-2, page IV.D-54 In number 5 of Mitigation Measure BIO-2, the draft EIR indicates that CDFW will be consulted if pre-construction surveys indicate Mason's lilaeopsis (*Lilaeopsis masonii*), State listed as rare, will be impacted by Project activities. Although the currently known locations of Mason's lilaeopsis are outside any earth disturbing footprint, an ITP will be required for transplanting any newly discovered plants from the construction footprint. If there is a likelihood of Mason's lilaeopsis newly colonizing in the construction footprint due to suitable habitat and a nearby population, CDFW recommends adding Mason's lilaeopsis to your ITP application.

Comment 11: Nesting Birds, Mitigation Measure BIO-5A, page IV.D-58. Number 4 of Mitigation Measure BIO-5A does not specify a buffer for special-status species. CDFW recommends a minimum work buffer of 250 feet for all nests of non-raptor, special-status species. A buffer of 500 feet is recommended for raptor species except those listed as threatened or endangered. If work must take place within the specified buffer, CDFW should be consulted.

Comment 12: Swainson's Hawk Nesting and Foraging Habitat, Mitigation Measure BIO-5B, page IV.D-59. The proposed Project will result in the conversion of approximately 1,850 acres of Swainson's hawk (*Buteo swainsoni*), State listed as threatened under CESA, foraging habitat consisting of irrigated pasture and non-native grassland to tidal and subtidal marsh. DWR proposes to reduce this significant impact to less-than-significant through implementation of Mitigation Measure BIO-5B which requires "an establishment of an off-site easement and/or purchase of credits at a CDFW-approved mitigation bank. The mitigation shall permanently conserve a minimum of approximately 1,000 acres of Swainson's hawk foraging habitat of equal or greater forage quality than irrigated pasture (a 0.54:1 mitigation ratio)".

CDFW agrees that the loss of Swainson's hawk foraging habitat is significant and requires mitigation; however, the proposed 0.54:1 ratio will result in a net loss of at least 850 acres of foraging habitat. CDFW considers the unmitigated loss of 850 acres of foraging habitat a significant impact. The primary threat to the Swainson's hawk population in California continues to be habitat loss, especially the loss of suitable foraging habitat, but also nesting habitat in some portions of the species' breeding range in the Central Valley.

CDFW strongly recommends that DWR use a minimum 1:1 mitigation ratio to reduce the loss of Swainson's hawk foraging habitat to less-than-significant. To reduce this impact to less-than-significant, DWR may either purchase 850 acres of Swainson's hawk foraging credits at a CDFW-approved conservation bank (see <https://www.wildlife.ca.gov/Conservation/Planning/Banking/Approved-Banks>) or by placing a conservation easement over lands providing 850 additional acres of foraging habitat, including funding an endowment for managing the lands for the benefit of Swainson's hawk in perpetuity, and preparation and implementation of a long-term management plan by the land manager.

Comment 13: Mitigation Measure BIO-5B, page IV.D-60. In Mitigation Measure BIO-5B, the measure states that there is the "potential for adverse impacts to Swainson's hawk..." and "If permitting for potential take of Swainson's hawk is determined to be necessary..." This implies that there is a potential for take. CDFW agrees there is a potential for take and recommends that the lead agency include Swainson's hawk in their ITP application for this project.

Comment 14: Mitigation Measure BIO-5B, page IV.D-60. Mitigation measure BIO-5B sets nests buffers of various distances. Nest buffers should be 0.5 miles from any active Swainson's hawk nest. Any reduction in buffers should be done only after consultation with CDFW which may require additional minimization and mitigation measures.

Comment 15: Winter Refugia/Brumation discussion, page IV.D-68. The proposed Project draft EIR identifies approximately 127 acres of existing winter refugia habitat for giant garter snake (*Thamnophis gigas*), a State listed threatened species under CESA. Upon Project completion, approximately 24 acres of suitable winter refugia habitat would remain on Duck Slough and 46 acres of upland habitat would be available on the interior Pacific Gas and Electric Company access peninsulas, that are approximately at the 2-foot flood elevation, and along the remnant sections of the Shag Slough Levee. The draft EIR states that "The overall acreage of brumation habitat would decrease; however, the quality of this habitat is expected to increase..." and that "the loss of winter refugia is a less than significant impact".

The proposed Project includes nine breaches and degradation of two 1,500-foot segments of remnant levee which will provide up to 40,000 acre-feet of overbank water storage during large flood events in the Yolo Bypass. CDFW is concerned that increased flooding of the once suitable winter refugia habitat, including the overtopping of the proposed access peninsulas, could have a significant impact on giant garter snakes. The draft EIR does not fully discuss how levee maintenance activities such as rodenticides will be kept separate from the 24-acre Duck Slough winter refugia habitat nor whether a buffer has been set between the toe of the levee and the area designated for giant garter snake winter refugia. In order to reduce this potential impact to less-than-significant, CDFW recommends DWR fully mitigate the loss of 103 acres of winter refugia habitat on or adjacent to the Project site. If rodenticides could encroach upon the 24-acre Duck Slough winter refugia habitat, then the CDFW recommends mitigating for the loss of 127 acres of winter refugia habitat. For example, DWR could raise sections of the access roads to provide refugia habitat from a 5-year flood or put a conservation easement on suitable winter refugia habitat adjacent to the new Duck Slough Levee or purchase credits at a CDFW-approved conservation bank (see <https://www.wildlife.ca.gov/Conservation/Planning/Banking/Approved-Banks>).

Comment 16: Western Pond Turtle. BIO-5E, page IV.D-73. The draft EIR does not discuss the currently available nesting habitat on-site nor the quantity nor availability of nesting habitat post construction. Impacts to western pond turtle nesting should be analyzed. Additionally, the

mitigation measure states western pond turtles or their nests may be relocated out of the work area or off-site. Prior to any western pond turtles being relocated, CDFW shall be consulted.

Comment 17: Roosting Bats, Page IV.D-73. The draft EIR does not mention surveys for western red bat. Western red bat, including maternity colonies, are found in riparian habitat in the Project area. Surveys should be conducted for western red bat on the Project site. If western red bat are detected, the current roosting bat minimization and mitigation measures are insufficient as they are not building or cavity roosting bats. Additional measures will need to be implemented to protect western red bat.

Comment 18: Noise Impediments to Fish Migration, page IV.D-82. The draft EIR indicates that construction equipment noise and vibrations could cause disruptions to special-status fish migrations and with implementation of Mitigation Measure BIO-6 and other measures specified in Mitigation Measure BIO-4B would reduce this impact to less-than-significant. However, there is no Mitigation Measure BIO-4B in the draft EIR. This mitigation measure is likely misnumbered.

To further reduce potential noise and vibration impacts to special-status fish, especially Delta smelt that are present year-round in the waters adjacent to the Project, CDFW recommends implementing two additional measures to Mitigation Measure BIO-6 or as a new vibratory/pile driving mitigation measure:

- 1) Initiate a soft start to allow fish to leave the area prior to operating the vibratory hammer at full capacity. The hammer operator shall initiate noise from the hammer for 15 seconds at reduced energy followed by a one-minute waiting period. This procedure shall be repeated two additional times before commencing hammering at full capacity.
- 2) Pile driving activities shall only occur between two hours after sunrise till two hours before sunset. If fish species are detected during pile driving activities, all piles shall cease until the fish leave the Project area.

Comment 19: Dewatering Fish Injury and Mortality, page IV.D-83. The draft EIR states that the interior aquatic features would be dewatered as part of excavation and channel creation. Although native and special-status fishes are not likely present or occur in low numbers in the interior aquatic features, nonnative sportfish and other fish species do occur in these water bodies. Dewatering the internal canals and ponds could result in a fish kill and wanton waste of fish.

In order to reduce this impact to less-than-significant, CDFW recommends including a mitigation measure that implements a staged dewatering plan to chase fish down existing canals to the southern ponded area, which was discussed in our meeting on December 5, 2019 at the Stockton office. CDFW also recommends including a backup fish rescue plan in case fish become isolated in disconnected or poorly connected interior channels during the dewatering phase.

Comment 20: Dewatering Fish Injury and Mortality- Wakasagi, page IV.D-83. Wakasagi (*Hypomesus nipponensis*), a nonnative smelt that is known to hybridize with Delta smelt (*Hypomesus transpacificus*), were identified during fish surveys of internal water features (draft EIR Appendix F- Biological Resources Assessment). If Wakasagi are in high abundance in certain agriculture ponds, CDFW may recommend measures to minimize their eventual release into the surrounding waterways that are inhabited by Delta smelt. As part of the dewatering and fish rescue mitigation measure (see Comment #6), CDFW recommends that DWR first consult with CDFW regarding Wakasagi before conducting any pond dewatering operations.

Comment 21: Recreation; page IV.J-1. The Liberty Island Ecological Reserve (LIER), a CDFW managed property located east of the Project, is connected to the Project Site via the Shag Slough Bridge (Bridge). The draft EIR states that “there are no officially sanctioned public recreational facilities with the Proposed Project Site; though there are private facilities and access points to public areas with recreational opportunities” and that “the bridge provides pedestrian access to a small portion of the western shoreline of Shag Slough in the Reserve (LIER) where bank fishing is allowed”. The proposed Project would eliminate pedestrian access to bank fishing along the shoreline of the LIER as well as fishing access along the Shag Slough Levee. The draft EIR goes on to conclude that impacts resulting from a decrease in opportunities to fish from the shoreline within the Delta regions would be less-than-significant. However, CDFW disagrees and believes the loss of public land-based access to LIER via the Bridge is a significant impact.

The draft EIR states that the Bridge only allows access to a small portion of the LIER; however, the Bridge provides access to more than three miles of shoreline along Shag Slough and the “stairstep” at the north end of the island. Although some portions of this bank are heavily vegetated and difficult to fish from, a large proportion of this bank is accessible to fishing. The draft EIR acknowledges that much of the interior of LIER is only accessible by kayak or shallow-water boats. Currently, the Bridge provides public access to hand-launch kayaks or small boats within LIER. Kayaking is very common on LIER for year-round fishing and especially for hunting during the waterfowl season. From roughly the middle of October through the end of January, waterfowl hunting is open seven days a week on LIER for no access fee. While some hunters can boat the more than ten miles from the nearest launches, many only have access to kayaks or small watercraft and rely on the Bridge as the main access point to hand-launch onto LIER. Those that rely on the bridge and shoreline access are predominately from disadvantaged communities. The loss of foot-access to LIER via the Bridge will eliminate recreational opportunities for many hunters, anglers, and bird watchers who don’t have the ability to purchase and maintain a boat capable of accessing the island from the nearest boat launches, making recreation impacts by the Project disproportionately affect lower income individuals and communities. Furthermore, public bank fishing is already very limited in the Cache Slough Complex as most of the levees are on private property or have restricted access. For these reasons, CDFW believes the proposed Project will have a significant impact on recreational opportunities on Shag Slough and at LIER.

To reduce this impact to less-than-significant, CDFW recommends DWR provide a new public access point to Shag Slough and LIER. DWR could construct a small boat ramp for hand-launching small vessels and a fishing access point on the northeast corner of the Project, where Liberty Island Road meets Shag Slough. This would allow recreational users access to Shag Slough and LIER. Alternatively, DWR could allow the public to hand-launch from the new agency ramp. CDFW recommends keeping the agency boat ramp to mitigate CDFW’s loss of access to LIER but is willing to allow the public to hand-launch kayaks and small crafts from this ramp. If this alternative is used to mitigate the public’s land-based access loss, CDFW recommends installing a gate on the access road to prevent public vehicles from launching boats on the agency ramp, i.e. the public would be restricted to launch small boats by hand only.

Cumulative Impact Analysis

Comment 22: Biological Resources- special-status fish, page V-9. The draft EIR indicates that based on available information on Project status, two projects within the Cache Slough Complex (phase two of Dutch Slough and Lower Yolo Ranch) could have overlapping construction

schedules. However, the Dutch Slough Project, which is referenced in several paragraphs in this cumulative impact section, is not in the Cache Slough Complex. CDFW recommends replacing the Dutch Slough Project with the Prospect Island Tidal Habitat Restoration Project and reevaluate the potential cumulative impacts. The Prospect Island project is located in the Cache Slough Complex and the construction schedule would overlap with the proposed Project's schedule. If all three of these restoration projects are conducting in-water work during the same time, fish in the area could experience cumulative impacts from noises, vibrations, and decreased water quality from levee work and breaching activities.

Mitigation Measure 4A and 4B are mentioned in this cumulative impact section; however, these mitigation measures are not found in the document. These measures are likely misnumbered. CDFW recommends checking and cross-referencing mitigation numbering in the draft EIR.

Comment 23: Biological Resources- Swainson's hawk foraging habitat, page V-9. The draft EIR indicates that the loss of Swainson's hawk foraging habitat is less than cumulatively considerable with implementation of Mitigation Measure BIO-3B and that nearby restoration projects, specifically Lower Yolo Ranch, loss of foraging habitat would not be cumulative considerable with implementation of their mitigation measure. However, the mitigation measures will only mitigate roughly half of the Swainson's hawk foraging habitat loss from Project activities (proposed Project mitigates at 0.54 to 1 ratio, Lower Yolo Ranch at 0.5 to 1 ratio). This could result in the loss of over 1,700 acres of Swainson's hawk foraging habitat between these two projects alone. CDFW considers this loss a cumulatively considerable impact.

To help reduce this impact to less than cumulatively considerable, CDFW recommends DWR mitigate the loss of Swainson's hawk foraging habitat at a minimum 1:1 ratio. Please see above Comment 6 for more details on mitigating Swainson's hawk foraging habitat.

Mitigation and Monitoring Program

CEQA requires that a draft Mitigation and Monitoring Reporting Program be prepared and submitted by the trustee agency to the lead agency for any proposed mitigation measures to mitigate significant impacts. The following table summarizes the revised or new mitigation measures, from the above comments on the draft EIR, for inclusion in the Project's Mitigation and Monitoring Reporting Program.

Draft Mitigation and Monitoring Reporting Program				
Comment Number	Mitigation Measure	Timing	Responsibility	Reporting Date/Initials
7	Mitigation Measure BIO-1. Re-Plant Riparian Vegetation at a 3:1 ratio. To mitigate the loss of riparian habitat, DWR shall replant permanently impacted riparian habitat on-site at a 3:1 ratio. DWR shall monitor and maintain the replanted habitat for a minimum of 5 years and ensure a minimum 75% survival rate at year 5.	During construction and post-construction	DWR	
8,9,10	Mitigation Measure BIO-2. Special-Status Plant Avoidance, Preservation, and Replanting. A Restoration Plan shall be prepared that includes the following elements to avoid and mitigate for potential impacts to Mason's lilaeopsis, woolly rose mallow, Suisun Marsh aster, and Parry's rough tarplant. The Plan shall be prepared and provided to CDFW for approval prior to the start of construction and may be included as part of the	Pre-construction	DWR	

	<p>Proposed Project's Adaptive Management and Monitoring Plan or Long-Term Management Plan.</p> <p>4) Seeds and propagules shall be planted into suitable habitat after restoration activities are complete. Planting areas shall be adequate to ensure a minimum of 3:1 replacement of occupied habitat for each of the impacted special-status species. Planted habitat shall be maintained and adaptively managed for five years to ensure successful species establishment.</p> <p>5) Performance shall be monitored to evaluate success of replacement of special-status species habitat. Target replacement shall be at a minimum 3:1 ratio of impacted to established habitat acreage for each of the directly impacted special-status plant species. Success would be considered achieved when an equal area of habitat is occupied at a plant density similar to pre-project conditions. Monitoring shall be conducted for a minimum of five growing seasons following initial planting or until performance has been achieved.</p> <p>If individuals of Mason's lilaeopsis are newly detected during pre-construction surveys in areas to be impacted by Proposed Project activities and complete avoidance is not feasible, EIP shall consult with CDFW prior to the start of construction to obtain authorization for Project implementation and develop an appropriate type and amount of compensatory mitigation. Mitigation shall be provided at a minimum 5:1 ratio of impacted individuals to replanted; final mitigation ratios and other specific compensatory requirements shall be determined through consultation with CDFW.</p>			
11	<p>Mitigation Measure BIO-5A. Nesting birds.</p> <p>4) All active nests of native birds found during the survey shall be protected by a no disturbance buffer until all young from each nest fledge or the nest otherwise becomes inactive. Special-status species shall have a minimum buffer of 250 feet (500 feet for raptors). CDFW shall be consulted prior to any work within the specified buffer area. Buffers are typically a minimum of 50 feet for non-special-status birds and may be larger for special-status or raptor species.</p>	During construction	DWR	
12, 13, 14	<p>Mitigation Measure BIO-5B. Swainson's Hawk Nesting and Foraging Habitat.</p> <p>1) and 2) A no disturbance buffer shall be created within ½ mile of any active Swainson's hawk nest. If work must occur in the buffer area during nesting season, CDFW shall be consulted prior to any work occurring in the buffer. At that time, CDFW may require additional minimization and mitigation measures.</p> <p>5) The loss of approximately 1,850 acres of foraging habitat shall be mitigated through establishment of an off-site easement and/or purchase of credits at a CDFW-approved mitigation bank. The mitigation shall permanently conserve a minimum of approximately 1,850 acres of Swainson's hawk foraging habitat of equal or greater forage quality than irrigated pasture (a 1:1 mitigation ratio). This may include perennial grassland, tomatoes, alfalfa, beets, dryland pasture, or irrigated pasture.</p>	Pre-construction and during construction	DWR	
15	<p>Mitigation Measure BIO-5D. Giant Garter Snake.</p> <p>6) The loss of 103 acres of winter refugia habitat shall be mitigated at a 1:1 ratio through establishment of an off-site</p>	Pre-construction	DWR	

	easement and/or purchase of credits at a CDFW-approved mitigation bank.			
16	Mitigation Measure Bio-5E. Western Pond Turtle. 6) CDFW shall be consulted prior to any western pond turtle or western pond turtle nests being relocated.	During construction	DWR	
18	Mitigation Measure BIO-6. Special-Status Fish Species. 8) Initiate a soft start to allow fish to leave the area prior to operating the vibratory hammer at full capacity. The hammer operator shall initiate noise from the hammer for 15 seconds at reduced energy followed by a one-minute waiting period. This procedure shall be repeated two additional times before commencing hammering at full capacity. 9) Pile driving activities shall only occur between two hours after sunrise till two hours before sunset. If fish species are detected during pile driving activities, all piles shall cease until the fish leave the Project area.	During construction	DWR	
19 & 20	Mitigation Measure BIO-6. Special-Status Fish Species. 10) To prevent an unintentional fish kill, DWR shall develop and implement a staged dewatering plan to force fish to migrate through existing canals to the southern ponded area. This plan shall also include a backup plan to rescue any stranded fish during the dewatering phase. DWR shall consult with CDFW regarding Wakasagi prior to dewatering any ponds that contain a large number of Wakasagi.	Pre-construction and during construction	DWR	
21	New Recreation Mitigation Measure. Agency and Public Access to Liberty Island Ecological Reserve and Shag Slough. To mitigate the loss of CDFW staff access to Liberty Island Ecological Reserve (LIER) and public land-based recreational access to LIER and Shag Slough, DWR shall construct either 1) an agency only use boat ramp and a small public hand-launch boat ramp and fishing access point on Shag Slough or 2) provide restricted access to the agency ramp that would only allow the public to hand-launch kayaks and small boats.	During construction	DWR	

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 (CNDDDB). The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data#44524420-pdf-field-survey-form>. The completed form can be mailed electronically to CNDDDB at the following email address: cnddb@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

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 in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California's fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

Questions regarding this letter or further coordination should be directed to Mr. Andy Rockriver, Senior Environmental Scientist (Specialist), at (209) 234-3433 or Andy.Rockriver@wildlife.ca.gov; or Ms. Gina Van Klompenburg, Senior Environmental Scientist (Supervisory), at (209) 234-3432 or Gina.VanKlompenburg@wildlife.ca.gov.

cc: State Clearinghouse #2019039136