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Sent: Friday, February 9, 2024 4:23 PM
To: Willow Slough ED@DOT
Cc: Sheya, Tanya@Wildlife; Kilgour, Morgan@Wildlife; Lopatin, Irina@Wildlife; Xiong, Mary@Wildlife; Wildlife R2 CEQA
Subject: CDFW's Comments on the IS/ND for the Willow Slough Bridge Replacement Project - EA 03-1J630

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Intent to Adopt an ND from State of California Department of Transportation (Caltrans) for the Willow Slough Bridge Replacement Project (Project) pursuant the California Environmental Quality Act (CEQA) statute and guidelines.

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. (Fish & G. Code, § 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 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 along State Route 99 (SR-99) between Dillard Road and Arno Road, in Sacramento County, from post miles 6.04 to 7.06, approximately six (6) miles north of the Sacramento and San Joaquin County line.

The Project consists of replacing the southbound Willow Slough Bridge with a new bridge, at a higher elevation. The existing center guardrail separating the northbound and southbound bridges will be removed and replaced with a concrete barrier. A new concrete barrier will also be placed on the west side of the southbound bridge. Type-III AF Service enclosure (TMS) elements will also be installed, including a service enclosure, a high-speed system controller and cabinet, and a closed-circuit television (CCTV) element on a 90-foot pole. Approximately 0.16 acre of permanent fill will be added to the slough to provide bridge support in the center median between the southbound and northbound bridges. Temporary fill will be added to 1.66 acres to the east and west of southbound SR-99 to provide access roads during construction. One (1) culvert will be removed for construction and replaced after access roads are removed.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist Caltrans in adequately identifying and, where appropriate, mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Based on the potential for the Project to have a significant impact on biological resources, CDFW concludes that a Mitigated Negative Declaration is appropriate for the Project.

Comment 1: *Chapter 1.6 Standard Measures and Best Management Practices Included in All Alternatives, Page 7*

Section 15370 of the CEQA Guidelines defines mitigation as:

- a. Avoiding the impact altogether by not taking a certain action or parts of an action;
- b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- c. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
- d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- e. Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements.

Issue: This section of the ND states the standard measures and best management practices for biological resources and water quality, among other environmental factors, included in this document are not considered mitigation measures because they are prescriptive and sufficiently standardized to be generally applicable. However, the measures are also referred to as avoidance and minimization measures in the second paragraph of this section. The ND also states these general measures resulted from laws, permits, agreements, guidelines, and resource management plans that predate the Project's proposal. General measures in documents like these, including, but not limited to Lake and Streambed Alteration (LSA) Agreements and California Endangered Species Act (CESA) Incidental Take Permits (ITP), are typically required to avoid, minimize, and/or mitigate impacts caused by projects that could significantly affect the environment.

Recommendation: CDFW believes that these measures should be considered mitigation under CEQA when the ND analyzes the effects of the Project with these measures in place. CDFW also recommends this document be identified as a "Mitigated Negative Declaration" considering the incorporation of measures that serve to avoid, minimize, and reduce/eliminate the effects of the Project to a point where no significant effect on the environment would occur. Subsequently, the Initial Study/Negative Declaration checklist should be updated to reflect which environmental factors would have impacts determined to be less than significant with mitigation incorporated.

COMMENT 2: *Chapter 2.4 Biological Resources, Animal Species - Bats, pages 32 and 35. Discussion of CEQA Environmental Checklist Question 2.4(d)—Biological Resources, page 47.*

Issue: Bats are considered non-game mammals and are protected by state law from take and/or harassment (Fish and Game Code §4150, CCR §251.1). The ND also does not have sufficient and enforceable avoidance measures to reduce impacts to bats to a less than significant level. For mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will reduce the environmental impacts from the project to a less than significant level. As currently proposed, the Project will have a significant and unmitigated impact on a known bat maternity colony both during and post-construction.

Insufficient Impact Analysis

The ND does not provide information on the bat species present or the type or quantity of roosts in the southbound or northbound bridge structures. The biological resources present must be known in order to effectively analyze Project impacts to them and incorporate appropriate mitigation measures.

The Animal Species section acknowledges the presence of a known bat colony within the southbound bridge structure and states that “bats were observed inhabiting the southbound bridge. Due to demolition of the southbound lane bridge the project may result in impacts to bats. However, the use of an exclusion device would prevent any impacts to bats.” The installation of exclusion devices is the only measure included in the ND to mitigate impacts to bats; however, excluding bats from their roosting habitat through the installation of bat exclusion devices is itself an impact as it will cause significant disruption to the colony. Exclusion devices will force individuals to expend their energy searching for new roosting habitat and will potentially be exposed to predators that they would otherwise be able to avoid had they not been excluded.

It's unclear from the analysis whether a bat colony is present in the northbound bridge, but if present, impacts to the colony may result during construction from increased noise, lighting, and vibrations. It is well documented that construction related disturbance has the potential to impact day roosting bats (Johnston et. al 2004, Johnston et. al 2019). Disturbance that results in post-construction roost abandonment should be considered a permanent impact (Johnston et. al, 2019). Any direct or indirect artificial lighting has the potential to degrade or eliminate roosts or potential roosting habitat (Johnston et. al 2019). Noise disturbance and displacement of bats from roosts or important foraging areas can potentially result in reduced survivability of individuals from increased susceptibility to predation, reduced quality of thermal and social environments, and decreased foraging efficiencies (Johnston et. al, 2019).

The ND does not have sufficient and enforceable avoidance measures to reduce impacts to the colony to a less than significant level. For mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will reduce the environmental impacts from the project to a less than significant level.

Impacts to Native Wildlife Nursery Sites

The Project will impede the use of a native wildlife nursery site by permanently 1) excluding the maternity colony from the southbound bridge during construction, 2) permanently removing the southbound maternity roost, and 3) disturbing any potential roosts in the northbound structure during multiple construction seasons. The single span design of the replacement bridge offers no suitable replacement roost habitat for bat maternity colonies. The ND does not prescribe compensatory mitigation for the loss of the southbound maternity roost or disturbances to roosts in the northbound bridge.

Disturbance of roost sites during the maternity and hibernation seasons are considered primary factors that may negatively impact bats and have the potential to result in take. During the hibernation period, bats are very slow to respond to disturbance and can lose fat stores needed to survive the winter while pups in the maternity colony may not have the ability to fly.

Recommendation: CDFW recommends Caltrans refer to *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions (Johnston et. al, 2019)* when analyzing and mitigating Project impacts to bats and their habitat. To reduce Project impacts to bats and native nursery sites to a less than significant level, CDFW recommends the following mitigation measures be incorporated into the ND:

Compensatory Mitigation for the Loss of Day Roosting Habitat

The Designated Bat Biologist shall determine the species of bats roosting in the bridge and quantify the available roosting habitat on the northbound and southbound bridges. Replacement roost habitat shall be designed to accommodate the displaced and impacted bat species. To mitigate Project impacts to nursery sites to a less than significant level, Caltrans shall 1) incorporate roosting habitat into the new bridge design; 2) create and install bat boxes on the northbound bridge structure, and 3) create and install one (1) free-standing bat condo on the adjacent Cosumnes River Ecological Reserve.

Impacted roost habitat on the southbound and northbound bridges shall be mitigated for at a ratio sufficient to compensate for the significant impacts to the colony. Bat replacement habitat shall be designed generally following the guidelines in *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions (Johnston et. al, 2019)*, which provides a review of mitigation options for bats in relation to Caltrans projects. Final plans for bat habitat replacement will be approved by Caltrans and CDFW.

The project proponent shall be responsible for monitoring replacement bat habitat over a 5-year period for a minimum of three (3) years (e.g., years 2, 3, and 5) to determine whether bats are using the habitat, determine whether the habitat is functioning as intended, and identify any corrective actions that need to be made to the habitat to improve its use by bats. Bat use shall be documented through a combination of visual observation (bats and bat sign), which could be conducted during the day when roosting bats are visible or at night during an emergence survey. Acoustic recordings shall be used in combination with emergence surveys to attempt to identify the species of bat(s) using the replacement habitat. The locations and amount of occupied habitat shall be recorded. Recommendations for corrective actions shall be presented to the project proponent and CDFW for approval. Annual monitoring reports shall be sent to the project proponent and CDFW.

Bat Pre-Construction Surveys

CDFW recommends that the Avoidance, Minimization, and Mitigation section be revised to include pre-construction surveys and ensure they are conducted prior to the start of construction activities in all previously undisturbed areas or areas where no construction has occurred for 14 days or longer. In addition, pre-construction survey methods consistent with *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions (Johnston et. al, 2019)* should be included in the mitigation measures. The qualified biologists performing pre-construction surveys should be approved by CDFW prior to initiating surveys. The survey results shall identify: 1) the exact location of all roosting sites (location shall be adequately described and shown on a digital map with GPS coordinates), 2) the number of bats present at the time of visit (count or estimate), 3) species of bat detected, if known (include how the species was identified), and 4) the type of roost(s) [i.e., maternity, hibernaculum, night roost (rest at night while out feeding), or day roost (resting during the day)].

Survey results should be provided to CDFW no later than 10 days following the survey and prior to the start of construction.

Bat Avoidance or Exclusion Plan (BAEP)

The Designated Bat Biologist shall develop and submit to CDFW for review and approval a BAEP. The BAEP shall include, at minimum, the following:

- a. Bat Roost Buffer. The Project proponent shall establish an appropriate no-disturbance buffer around bat roosts, in coordination with CDFW, during maternity (April 15 to August 31) or hibernation (October 15 to March 1) seasons. The Project proponent shall maintain the buffer until the Designated Bat Biologist determines the roost is no longer occupied. The Project proponent shall clearly delineate habitat and bat roosts within the Project Area with posted signs demarking the avoidance areas using stakes, flags, and/or rope or cord. The Project proponent shall delineate bat roosts with different materials than those used to delineate the Project Area. The Project proponent shall remove all materials used for delineation upon completion of the Project.
- b. Exclusion Devices. Exclusion devices shall be installed either (1) between approximately March 1 (or when evening temperatures are above 45°F and rainfall less than ½-inch in 24 hours occurs) and April 15, prior to parturition of pups; or (2) between September 1 and October 15 (or prior to evening temperatures dropping below 45°F and onset of rainfall greater than ½-inch in 24 hours). CDFW does not support eviction of bats during the maternity or hibernation periods. Specific exclusion devices may include one-way doors, lights and fans, or steel wool or other site-specific methods determined in coordination with CDFW. The Designated Bat Biologist shall monitor the roost prior to exclusion to confirm that it is not occupied.

If a lapse in project activities of six (6) months or longer occurs, the Designated Bat Biologist shall complete another habitat assessment before Project activities can be reinitiated. If the subsequent habitat assessment identifies bat habitat, the Project proponents shall: 1) conduct pre-construction surveys and 2) develop a BAEP, if applicable and in accordance with the parameters described above.

COMMENT 3: COMMENT 3: *Chapter 1, Plant Species, Sensitive Natural Communities, and ESHA*, page 10

Issue: As currently written, the ND does not provide adequate and enforceable measures for the control of invasive non-native plant species. The project site abuts the CDFW-owned Cosumnes River Ecological Reserve (Reserve). The introduction of invasive and/or non-native plant species has the potential to have a devastating effect on the efforts made to protect the Preserve. Invasive plant species outcompete the native flora by restricting the availability of resources for the native plant community, such as light, water, nutrients, and space (CDFW 2024). Invasive plant taxa can also change the biodiversity of a community, altering nutrient cycling and greatly diminish the ability for native plant species to thrive (Mack et al. 2000).

Recommendation: In order to ensure the proper minimization and prevention of the spread of invasive plant species, Caltrans should prepare and implement a plan for invasive plant control and eradication as part of its revegetation plan.

COMMENT 4: *Chapter 1, pages 24-27; Chapter 2, pages 26-47*

Issue: Throughout the ND, the document acknowledges a qualified biologist will be retained for the project and will conduct various necessary activities such as surveys and biological monitoring. However, the document fails to define and address the qualifying criteria that the biologist(s) must have in order to properly complete the necessary work laid out in the biological measures. In an effort to best protect the natural environment and species inhabiting the Project area, only a CDFW-approved Designated Biologist should be involved in activities that call for a qualified biologist to perform work.

Recommendation: CDFW recommends that all instances in the document that make reference to a “qualified biologist” be changed to “CDFW-approved Designated Biologist”.

COMMENT 5: *Chapter 1, Plant Species, Sensitive Natural Communities, and ESHA BR-4 B, page 10*

Issue: Section B in this measure states that Temporary High Visibility Fencing (THVF) and/or flagging will be installed around sensitive communities, sensitive habitats, rare plants, and water features. However, it does not address the appropriate entity responsible for ensuring that the THVF is placed appropriately and in the best interest of the species or natural community it is meant to protect. A CDFW-approved Designated Biologist should oversee these activities and monitor regularly to ensure that necessary measures are taken to protect sensitive species and their community.

Recommendation: CDFW recommends that this measure be revised to include a CDFW-approved Designated Biologist to oversee the installation and monitoring of all THVF.

COMMENT 6: *Chapter 2, Animal Species – Giant Garter Snake, page 24-26; Chapter 2, Affected Environment, pages 33-39*

Issue: In the Affected Environment section, the ND identifies Willow Slough within the Project area as suitable giant garter snake (GGS) (*Thamnophis gigas*) habitat. Giant garter snakes are known to occupy the nearby Badger Creek, which is hydrologically connected to the project area, as evidenced by a 2017 California Natural Diversity Database (CNDDDB) occurrences of GGS overlapping the Project site. The GGS is a highly aquatic, wetland obligate species endemic to California. They typically occur in slow-moving, warm aquatic environments like marshes, sloughs, and ponds and have adapted to using irrigation canals and rice fields as wetlands have been reduced in the Central Valley (Halstead et al. 2010). Small mammal burrows in upland habitat are generally used for cover and retreat during the active season and for refuge from flood waters during the dormant season (Halstead et al. 2015). Causes of decline are largely related to habitat loss and fragmentation of wetland habitat. Up to 98% of historic giant garter snake habitat in the Central Valley has been lost to development, including agricultural lands (Ellis 1987).

GGS is listed as a threatened species under CESA and as such it is afforded full protection under the act. It is unlawful to take a State-listed endangered or threatened species (Fish & G. Code §2050 et seq.). Take is defined as “hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture or kill” (Fish & G. Code §86).

The Animal Species section states that the Project will result in temporary and permanent loss of habitat, and could result in the disturbance, injury, and mortality of the CESA listed and threatened giant garter snake. As previously stated, there are known CNDDDB occurrences of GGS with a direct hydrologic connection to the Project. In particular GGS are known to occur in the wetland area between Arno Road and the Union Pacific Railroad. Additionally, the Project will have temporary and permanent impacts to suitable upland and aquatic GGS habitat. During a June 2023 visit to the

Project site with CDFW and Caltrans staff, most of the Project site was inundated with several feet of standing water. Historic aerials show the Project site contains aquatic habitat for GGS throughout the entire summer from a combination of natural flows and irrigation runoff. Furthermore, because this project will extend through multiple seasons, all impacts to GGS aquatic habitat are considered permanent. Regardless, the ND repeatedly states that there will be no significant impacts to GGS because the species was not observed within the BSA. Because suitable upland and aquatic GGS habitat will be impacted by the Project and there are known occurrences of GGS immediately adjacent to the Project, CDFW cannot support the conclusion that this project will have no significant impact on these species.

In addition to the habitat onsite and known occurrences adjacent to the Project, local management plans also address the assumed presence of GGS in this marshland. According to the 2022 Cosumnes River Ecological Reserve Management Plan (MP), Willow Slough falls within the Cosumnes River Ecological Reserve property boundaries and is a natural wetland with hydrological connectivity to the rest of the aquatic resources and sensitive habitat (2022 MP, pg. 66, 144). The MP also includes goals for restoring and maintaining the ponds to optimize available GGS foraging habitat and provide perennial wetland habitat for GGS west of Highway 99 (Goal 4.2.6, 2022 MP, page 134).

CDFW liaison staff participated in pre-consultation site visits and correspondence with Caltrans on the issue of Project impacts to GGS and their habitat. The recommendations provided by CDFW to Caltrans during the pre-consultation process are not included in the ND.

Recommendation: CDFW recommends the project be re-evaluated for impacts to GGS and if necessary, revise the CEQA document. If during Project analysis it is determined that the project may result in take of GGS, CDFW recommends that an Incidental Take Permit (ITP) is obtained prior to starting construction activities. If the project has the potential to result in take of species listed under CESA, either during construction or over the life of the Project, a CESA permit must be obtained. Issuance of a CESA Permit is subject to CEQA documentation; therefore, the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program.

Furthermore, permanent unmitigated impacts to GGS upland and aquatic habitat and potential take of the species from construction activities are considered significant Project impacts. To mitigate Project impacts to GGS to a less than significant level, CDFW recommends Caltrans provide compensatory mitigation for all GGS habitat impacts.

COMMENT 7: *Chapter 2, Avoidance, Minimization and Mitigation Measures, page 38*

Issue: Plant Species: The ND acknowledges that there are four (4) species of special status plants that have the potential to exist within the BSA. However, it fails to identify these species, and does not provide any avoidance, minimization, or mitigation measures, stating that “there were no special status plant species observed within the BSA during the 2023 survey season”. No details are provided within the ND on whether survey conducted were protocol level or the qualifications of the botanist who performed them. In addition, a copy of the Natural Environment Study (NES) was not provided for review and comment with the ND. Drought and other adverse conditions may mean that some plant taxa will not be evident or identifiable in a given year. This may be particularly true for annual and short-lived perennial plant taxa and plants with persistent long-lived seed banks that are known not to germinate every year. Because of these conditions, the failure to locate a plant during the floristic surveys of one season does not constitute evidence that the plant is absent from the surveyed location. The timing and number of visits necessary to conduct floristic surveys should be

determined by geographic location, the natural communities present and the weather patterns of the year, with the understanding that more than one field visit or field season may be necessary to accurately survey the floristic diversity of a site and detect the presence of special status plant taxa.

Recommendation: CDFW recommends protocol-level surveys be conducted by a qualified botanist per CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (2018)*. Surveys should be conducted at the appropriate time of year with proper weather conditions and the results incorporated into the ND for review and comment. Both future and past survey results should be used to provide an accurate assessment of special-status plants that may be impacted by the project (CEQA Guidelines, § 15126.4, subd. (a)(1)(B).). The ND should also discuss, in depth, the avoidance, minimization, and mitigation measures that will be taken in an effort to minimize impact to special status plant taxa.

COMMENT 8: *Chapter 2, Animal Species – Nesting Birds, page 38-39*

Issue: The ND acknowledges the presence of a nesting swallow colony on the Willow Slough bridge structure, as well as other nesting birds within the BSA. The ND states that there will be no significant impact to nesting birds and their nests due to the avoidance and minimization measures that will be taken during construction. However, the only minimization measures offered are the installation of bird exclusion devices and “on structures or parts of the structure where it’s not feasible to install bird exclusion devices, partially constructed and unoccupied nests within the construction area will be removed and disposed of on a regular basis”. CDFW does not support the ongoing removal of unoccupied nests during the nesting season. Egg laying often begins before the nest is finished, occasionally in nests only half completed. In addition, swallows have high site fidelity. They will continue nesting attempts well into the nesting season regardless of partial nest removal, resulting in reduced survivability of individuals from increased energetic cost, decreased reproductive success, decreased foraging efficiencies, increased territorial aggression within the colony, and depletion of fat reserves that may last throughout the incubation and nestling periods (Gauthier et al. 1994).

Recommendation: CDFW recommends the continuous removal of partially constructed nests be removed as an exclusion method. Bridge demolition should be timed to avoid the bird nesting season, or bird and bat friendly wildlife exclusion devices should be installed on the structure outside of the bird nesting season and bat hibernation and maternity season.

COMMENT 9: *Consistency with Regional, and Local Plans and Programs, Page 47. CEQA Environmental Checklist Question 2.4(f) – Biological Resources.*

Issue: In the Section titled “Discussion of CEQA Environmental Checklist Question 2.4(f) – Biological Resources”, the ND concludes that the Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan. The Project occurs within the South Sacramento Habitat Conservation Plan (SSHCP) area, the Cosumnes River Preserve, and within the Cosumnes River Ecological Reserve (Reserve). CEQA Guidelines section 15125(d) states that the ND must discuss any inconsistencies between projects and applicable plans (including habitat conservation plans/natural community conservation plans). The ND does not currently contain such a discussion.

Recommendation:

SSHCP

Because the SSHCP is currently being implemented, the ND must include a discussion of the Project’s consistency with the SSHCP and how Caltrans will ensure that Project implementation does

not impede with the SSHCP's ability to meet its biological goals and objectives. Furthermore, CDFW recommends that Caltrans coordinate with the implementing agency/plan of the respective plan to ensure significant environmental impacts assessed in the ND are adequately investigated. Particular focus in the ND's analysis should be directed to:

- Analysis of all SSHCP Covered Species,
- Assessment of habitat types identified in the SSHCP,
- Identification of applicable SSHCP avoidance, minimization, or mitigation measures; and

Reserve

CDFW recommends that the ND include a discussion of the Project's direct habitat and potential management impacts on the Reserve. Staging, access, and construction easements should be analyzed as potential impacts. If feasible, the Reserve should be fully avoided. If full avoidance is not possible, mitigation measures should be developed to mitigate impacts to the Reserve to a less than significant level.

COMMENT 10: *Chapter 1, Biological Resources, page 9*

Issue: Temporary artificial night lighting is proposed as part of the ongoing construction activities. The Project will also include the installation of Transportation Management System (TMS) elements, stating that TMS elements will include "including a Type III-AF service equipment enclosure, a high-speed weigh-in-motion system controller and cabinet, and closed-circuit television camera on a 90-foot-tall pole." However, it does not provide a full list of these elements and does not analyze impacts to biological resources resulting from temporary and permanent light pollution.

New lighting, especially in areas where no lighting or low levels of lighting currently exist, has potential for significant impacts to occur that could result in a finding of significance. Artificial light spillage beyond the prism of the roadway into natural areas may result in a potentially significant impact through substantial degradation of the quality of the environment. Artificial light pollution also has the potential to significantly and adversely affect biological resources and the habitat that supports them. Unlike the natural brightness created by the monthly cycle of the moon, the permanent and continuously powered lighting fixtures create an unnatural light regime that produces a constant light output. Continuous light output for 365 days a year can also have cumulatively significant impacts on fish and wildlife populations.

Artificial night lighting can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (e.g., bird song), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). For nocturnally migrating birds, direct mortality resulting from collisions with anthropogenic structures due to attraction to light (Gauthreux, 2006) is another direct effect of artificial light pollution. There are also more subtle effects, such as disrupted orientation (Poot et al. 2008) and changes in habitat selection (McLaren et al. 2018). There is also growing evidence that light pollution alters behavior at regional scales, with migrants occupying urban centers at higher-than-expected rates as a function of urban illumination (La Sorte et al. 2021). While artificial light pollution can act as an attractant at both regional (La Sorte et al. 2021) and local (Van Doren et al. 2017) scales, there is also evidence of migrating birds avoiding strongly lit areas when selecting critical resting sites needed to rebuild energy stores (McLaren et al. 2018).

Recommendation:

Due to the high potential for songbirds, marsh-birds, migratory birds, bats, and nocturnally active State listed and special status species to occur within and adjacent to the Project, CDFW strongly recommends that no new or replacement artificial lighting is installed as a result of Project completion. If the installation of artificial lighting is unavoidable, CDFW recommends the following mitigation measures be incorporated into the ND:

Light Output Analysis: Isolux Diagrams that note current light levels present during pre-Project conditions and the predicted Project light levels that will be created upon completion of the Project shall be included in the ND. If an increase in light output from current levels to the projected future levels is evident, additional avoidance, minimization or mitigation measures shall be developed in coordination with the natural resource agencies to offset indirect impacts to special status species. Within 60 days of Project completion, the lead agency shall conduct a ground survey that compares projected future light levels with actual light levels achieved upon completion of the Project through comparison of Isolux diagrams. If an increase from the projected levels to the actual levels is discovered, additional avoidance, minimization or mitigation measures may also be required in coordination with the natural resource agencies. This analysis should be conducted across all potential alternatives and compared in table and map format.

Light Output Limits: All LED's or bulbs installed as a result of the Project shall be rated to emit or produce light at or under 2700 kelvin that results in the output of a warm white color spectrum.

Reflective Signs and Road Striping: Retro-reflectivity of signs and road striping should be implemented throughout the Project to reduce the need for electrical lighting.

COMMENT 11: *Potential Significant Impacts to Tricolored Blackbird*

Issue: Tricolored blackbird (TRBL) (*Agelaius tricolor*) is CESA listed as threatened. Much of the area surrounding the Project area contains suitable foraging and nesting habitat for TRBL. There are 9 CNDDDB occurrences of TRBL within three (3) miles of the Project area. The Project has the potential to significantly impact TRBL by directly and indirectly impacting suitable nesting and foraging habitat both during construction and through long-term habitat conversion. However, TRBL are not addressed in the ND nor are avoidance, minimization, or mitigation measures proposed.

Construction generated noise from road use, generators, and other equipment may disrupt TRBL mating calls or songs which could impact their reproductive success (Patricelli and Blickley 2006, Halfwerk et al. 2011). Noise has been shown to reduce the density of nesting birds (Francis et al. 2009). Bayne et al. (2008) found that songbird abundance and density was significantly reduced in areas with high levels of noise. Water diversions can also create an impact through dewatering of wetland habitats (Bauer et al. 2015, Carah et al. 2015). Artificial light may attract or disorient TRBL, disrupting their navigation (Ogden 1996, Longcore and Rich 2004, 2016). It can also suppress the immune system of birds (Moore and Siopes 2000). Additionally, songbirds that live in areas with artificial lights often begin morning choruses during night hours (Derrickson 1988, Miller 2006, Fuller et al. 2007).

Recommendation: To reduce impacts to TRBL to a less than significant level, CDFW recommends the following appropriate avoidance, minimization, and mitigation measures are incorporated into the ND.

Compensatory Mitigation for Impacts to TRBL Foraging and Nesting Habitat: To mitigate Project impacts to a less than significant level, CDFW recommends the CEQA document: 1) quantify

permanent direct, indirect, and cumulative impacts to TRBL foraging and nesting habitat, and 2) include an enforceable mitigation measure requiring Caltrans to either purchase TRBL foraging and nesting habitat credits from a CDFW-approved conservation bank OR provide for both the permanent protection and management of Habitat Management (HM) lands including calculation and deposit of management funds as approved by CDFW. Prior to transfer of tricolored blackbird credits, Caltrans shall obtain CDFW approval to ensure the conservation bank is appropriate to compensate for the impacts of the Project. Caltrans shall submit to CDFW a copy of the executed Credit Transfer Agreement prior to initiating construction activities. The number of credits purchased shall be at a ratio appropriate to fully mitigate permanent habitat impacts.

Nesting Surveys. Prior to initiation of construction in all project work areas and within a ½ -mile of project work areas, the Designated Biologist(s) shall conduct protocol-level surveys to evaluate the presence of tricolored blackbird breeding colonies, suitable nesting and foraging habitats. Surveys shall be conducted during the nesting season (March 15 to July 31). If construction is initiated in the project work area during the nesting season, three (3) surveys shall be conducted within fifteen (15) days prior to the construction activity, with one of the surveys within three (3) days prior to the start of the construction. The surveys shall be based on survey methods identified in the Results of the 2017 Tricolored Blackbird Statewide Survey, Appendix 1 (Meese 2017). If breeding colonies are found, the foraging behavior of the colony shall also be documented. Many tricolored blackbird breeding colonies expand over time as additional birds are recruited at the edges of established colonies. For this reason, it is important to reassess the extent of a breeding colony before the start of construction activities. If a nesting colony or foraging habitat being used by a colony is present and established within 1/2 mile of the project site, construction shall be delayed until nesting is complete and the young have fledged as determined by the Designated Biologist. Work may not re-initiate until Caltrans has consulted with CDFW and can demonstrate compliance with CESA.

Foraging Surveys. During the nesting season, Designated Biologist(s) will conduct two (2) surveys within 1/2 mile of the project site to determine whether foraging habitat is being actively used by tricolored blackbird. The surveys will be conducted approximately one week apart, with the second survey occurring no more than two (2) calendar days prior to ground-disturbing activities. Two surveys are required because tricolored blackbirds may not visit a site during a single survey period, as they may be foraging elsewhere. The Designated Biologist(s) will conduct the foraging habitat survey by observing and listening from accessible vantage points that provide views of the entire survey area. Each survey shall last 4 hours and begin no later than 8:00 AM. If such vantage points are not available, the Designated Biologist(s) will survey from multiple vantage points to ensure that the entire survey area is covered. The Designated Biologist(s) will map the locations where tricolored blackbirds are observed, record an estimate of the numbers of tricolored blackbirds visiting the site (estimated by 10s, 100s, or 1000s), the frequency of visits (i.e., if individuals or a flock makes repeated foraging visits to the site during the survey period), whether tricolored blackbirds are leaving the site with food in their bills, and the direction they fly to/from. If tricolored blackbirds are found foraging in the survey area during the first survey, the site will be assumed to be actively used by foraging blackbirds and the second survey is not required. If tricolored blackbirds are found foraging within 1/2 mile of the project site at any point prior to or during construction, work shall be suspended, and CDFW notified. Work may not re-initiate until Caltrans has consulted with CDFW and can demonstrate compliance with CESA.

COMMENT 12: *Potential Significant Impacts to Swainson's Hawk*

Issue: The ND does not include Project impact analysis or mention Swainson's hawk (*Buteo swainsoni*). Swainson's hawk is listed as a threatened species under CESA and has additional protection under the Migratory Bird Treaty Act and section 3503.5 of the Fish and Game Code;

therefore, mitigation measures should be incorporated into the CEQA document to ensure take of the species does not occur.

There are known occurrences of nesting Swainson's hawk adjacent to the Project site and suitable foraging habitat within the Project site. The NES was not provided as an attachment to the ND and there are no acreages provided of habitat onsite. However, on page 46 of the ND, the affected environment is described as 27.81-acres in size and containing annual grassland, ruderal, agriculture, freshwater marsh, and ephemeral drainages present. Annual grassland, agricultural land including but not limited to low growing crops and fallow land, and dry wetland features are all considered Swainson's hawk foraging habitat. Although Swainson's hawk foraging habitat occurs within the Project site and will be impacted by construction activities, compensatory mitigation for impacts to foraging habitat is not included in the ND. The greatest threat to the Swainson's hawk population in California continues to be the loss of suitable foraging and nesting habitat in portions of the Swainson's hawks breeding range due to urban development and incompatible agriculture. This impact has greatly reduced their range and abundance in California in the last century (CDFW 2016, California Department of Conservation, 2011; Wilcove et al. 1986; Semlitsch and Bodie 1998).

As currently proposed, the Project will have a significant impact to Swainson's hawks unless enforceable mitigation measures are incorporated into the ND.

Recommendation: To reduce the Project's impact to Swainson's hawk to less than significant, CDFW recommends the following measures are incorporated into the ND:

Compensatory Mitigation for Permanent Impacts to SWHA Foraging Habitat: Caltrans shall quantify the total acreage of Project impacts to Swainson's hawk foraging habitat. Two seasons of temporary impacts to foraging habitat shall be considered and mitigated for as permanent impacts. To mitigate impacts to Swainson's hawk foraging habitat to a less than significant level, CDFW recommends Caltrans mitigate impacts at a 3:1 ratio by either purchasing SWHA foraging habitat credits from a CDFW-approved conservation bank OR providing for both the permanent protection and management of 30.0 acres of Habitat Management (HM) lands including calculation and deposit of management funds as approved by CDFW. Prior to transfer of SWHA foraging credits, Caltrans shall obtain CDFW approval to ensure the conservation bank is appropriate to compensate for the impacts of the Project. Caltrans shall submit to CDFW a copy of the executed Credit Transfer Agreement prior to initiating construction activities.

Swainsons' Hawk Protocol Level Surveys. Protocol-level surveys shall be conducted by a CDFW-approved Designated Biologist within a minimum 1/2-mile radius around the Project area 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)* as follows:

- January to March 20- One (1) Survey, All Day
- March 20 to April 5- Three (3) Surveys, Sunrise to 1000 / 1600 to Sunset
- April 5 to April 20- Three (3) Surveys, Sunrise to 1200 / 1630 to Sunset
- April 21 to June 10- Monitoring
- June 10 to July 30- Three (3) Surveys, Sunrise to 1200 / 1600 to Sunset

Results of the protocol-level surveys should be submitted to CDFW a minimum of 10 days prior to the start of construction. Based on the survey results, additional mitigation measures may be required.

Survey methods should be closely followed by starting early in the nesting season to maximize the likelihood of detecting an active nest (nests, adults, and chicks are more difficult to detect later in the

growing season because trees become less transparent as vegetation increases). Surveys should occur annually for the duration of the Project. The qualified biologist should have a minimum of two years of experience implementing the TAC survey methodology. If an active nest is identified, a 0.25-mile protective buffer should be maintained around the nest until the young fledge. The protective buffer should be clearly marked and be an area where no project-related activities or personnel are allowed while in place. If the 0.25-mile buffer must be reduced or take of Swainson's hawk cannot be avoided, the Project proponent should be required to obtain an Incidental Take Permit (ITP) as a condition of Project approval.

COMMENT 13: *Chapter 2, Cumulative Impacts, page 5, 96*

Issue: The ND does not discuss the Project's incremental effects on biological resources or analyze whether those effects may be cumulatively significant. The ND introduces the proposed *State Route 99 Grade Project (EA 03-4J480)* as a profile improvement project overlapping the Willow Slough Bridge Replacement Project. Given the overlap of the EA 03-4J480 and proposed Project sites, the same wildlife corridors, aquatic habitats, special-status species, open space, and adjacent natural habitats will be impacted in the cumulative effects analysis. However, no analysis is given pertaining to the cumulative effects of both projects.

Recommendation: The ND should include a cumulative impact analysis and prescribe scientifically supported appropriate and adequate avoidance, minimization, and/or mitigation measures for all direct, indirect, and cumulative impacts. The analysis should at a minimum include the cumulative effect of construction related noise, vibration, or lighting on biological resources including but not limited to special status species including TRBL, SWHA, GGS, and day roosting bats and swallows inhabiting the Willow Slough bridge structures. Specifically, the cumulative effects of construction noise on bat and bird taxa, the frequency of noise generated and the hearing sensitivity of the bat and bird species at risk should be evaluated in the ND and mitigated to a less than significant level. Mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines § § 15126.4(a)(4)(B), 15064, 15065, and 16355).

COMMENT 14: *Potential Impacts to Burrowing Owls*

Issue: The ND does not include Project impact analysis or mention burrowing owl (*Athene cunicularia*). Burrowing owl is listed as a bird species of special concern in California and is considered at risk throughout California; therefore, mitigation measures should be incorporated into the CEQA document to ensure that impacts for this species are reduced to less than significant.

There are known occurrences of burrowing owl adjacent to the Project site and suitable foraging habitat within the Project site. The NES was not provided as an attachment to the ND, and there are no acreages provided of habitat onsite. However, on page 46 of the ND, the affected environment is described as 27.81-acres in size and containing annual grassland, ruderal, agriculture, freshwater marsh, and ephemeral drainages present. Grassland and agricultural land including but not limited to low growing vegetation with sparse shrubs and some tall vegetation (Green and Anthony 1989, Haug et al 1993) are considered burrowing owl roosting and nesting habitat. Burrowing owls are also known to inhabit ditches, culverts, and roadsides that are surrounded by cropland. Because burrowing owls exhibit high fidelity to their nesting sites, their foraging habitat has significant overlap with their nesting habitat. Although burrowing owl nesting and foraging habitat occurs within and adjacent to the Project site and will be impacted by construction activities, mitigation measures to reduce impacts to burrowing owls are not included in the ND. The greatest threat to the burrowing owl populations in

California continues to be loss of suitable foraging and nesting habitat in portions of their breeding range due to urban development, incompatible agriculture, and fallow land (Gervais et al 2008).

Recommendation: Project activities impacting burrowing owls and their habitat should mitigate all impacts to nesting, foraging, wintering, and dispersal habitat to a less than significant level. To reduce the Project's impact to burrowing owl to less than significant, CDFW recommends the following measures are incorporated into the ND:

Burrowing Owl Surveys. Project proponent shall conduct a burrowing owl pre-construction survey over all suitable habitat present within the BSA. Burrowing owl surveys shall be conducted by the Designated Biologist in accordance with the protocol described in the *Staff Report on Burrowing Owl Mitigation* (CDFW, March 7, 2012). If possible, surveys should be conducted during both the breeding (February 1 – August 31) and non-breeding seasons (September 1 – January 31) immediately preceding the planned start of construction activities to ascertain the seasonal residency status of any owls occupying the site. Initial pre-construction surveys shall be conducted no more than 30 days prior to ground-disturbing activities. The time lapse between surveys and site disturbance shall not exceed seven days. Additional surveys are necessary when the initial disturbance is followed by periods of inactivity or the development is phased spatially and/or temporally over the project area.

The presence of burrowing owl or their sign anywhere on the Project site or within a 500-foot accessible radius around the project site shall be recorded and mapped. Surveys shall disclose all burrows and occurrence of sign of burrowing owl on the project site and within the 500-foot buffer. Results of the survey shall be submitted to CDFW.

EDITORIAL COMMENTS

Issue: Throughout the ND, much of the language used to describe avoidance, minimization, and mitigation actions within the ND use the term "would".

Recommendation: To ensure mitigation measures are both quantifiable and enforceable, CDFW recommends replacing instances of "would" with "shall" within all avoidance, minimization, and mitigation measures.

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 CNDDDB. The CNDDDB field survey form can be found at the following link:

<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be submitted online or mailed electronically to CNDDDB at the following email address: CNDDDB@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 in order 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 ND for the Willow Slough Bridge Replacement Project to assist Caltrans in identifying and mitigating Project impacts on biological resources. Due to the issues presented in this letter, CDFW concludes that the ND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts on biological resources. Deficiencies in the Caltrans CEQA document can affect later project approvals by CDFW in its role as a Responsible Agency. In addition, because of these issues, CDFW has concerns that Caltrans may not have the basis to approve the project or make "findings" as required by CEQA unless the environmental document is modified to eliminate and/or mitigate significant impacts, as reasonably feasible (CEQA Guidelines, §§ 15074, 15091 & 15092).

CDFW personnel are available for consultation regarding biological resources and strategies to minimize and/or mitigate impacts. If you have any questions regarding these comments, please contact me.

Thank you,

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North Central Region (Region 2)
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