

**State of California
Department of Fish and Wildlife**

Memorandum

Governor's Office of Planning & Research

MAY 13 2020

Date: May 13, 2020

STATE CLEARINGHOUSE

To: Cassie Nichols, Environmental Coordinator
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From: **Curt Babcock**, Habitat Conservation Program Manager
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Subject: **South Eel River Bridge Seismic Project (State Clearinghouse No. 2020040082)**

On April 8, 2020, California Department of Fish and Wildlife (CDFW) received an Initial Study with proposed Mitigated Negative Declaration (ISMND) from the California Department of Transportation (Lead Agency) for the South Eel River Bridge Seismic Project (Project), Mendocino County, California. CDFW understands that the Lead Agency will accept comments on the Project through May 15, 2020. As a Trustee for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and the habitat necessary to sustain their populations. As a Responsible Agency, CDFW administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. CDFW offers the following comments and recommendations in our role as a Trustee and Responsible Agency under the California Environmental Quality Act (CEQA), California Public Resource Code section 21000 et seq.

CDFW has four primary concerns with the ISMND:

1. The ISMND lacks sufficient information about impacts to riparian habitat and does not propose mitigation for impacts to riparian habitat.
2. The ISMND lacks sufficient information about impacts to rare plants and sensitive natural communities (SNCs).
3. The ISMND defers mitigations for impacts to bat habitat and does not fully analyze these impacts.
4. The ISMND lacks sufficient information about potential impacts to habitat for Vaux's swift (*Chaetura vauxi*), a State Species of Special Concern.

Project Description

Caltrans proposes to replace or retrofit the South Eel River bridge on State Route (SR) 162 in Mendocino County, near Longvale, approximately 8 miles east of U.S. Highway 101. The existing bridge was identified in the Statewide Seismic Safety Program's Structure Replacement and Improvement Needs Report as a bridge with seismic vulnerability, therefore the Project is necessary in order to ensure that the bridge structure is capable of resisting a maximum credible earthquake.

Alternatives

The ISMND proposes three alternatives (Alternatives A-C).

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Alternative A

This alternative entails retrofit work to improve the bridge's capability of resisting a maximum credible earthquake. This alternative involves retrofits to piers and footings. The bridge would be accessed through a temporary road under the northern side of the bridge that would be used for staging. Dewatering of the Project area would occur during construction, using water bladders or cofferdams. Construction would be completed within one year.

Alternative B

This alternative would replace the existing bridge using staged construction. The bridge would be reduced to one lane and would require a signal for 24-hour traffic control. Construction of a partial width of the new bridge would be completed on the southeast side of the existing bridge. The bridge would be accessed through a temporary road under the northern side of the bridge that would be used for staging. Dewatering of the Project area would occur during construction, using water bladders or cofferdams. A temporary trestle would be constructed to facilitate removal of the existing bridge. Construction would be completed within two years.

Alternative C

This alternative would replace the existing bridge with a new bridge to the south. Shoulders would be increased from one to four feet. This alternative would require the largest roadway realignment. The bridge would be accessed through a temporary road onto the area under the northern side of the bridge that would be used for staging. Dewatering of the Project area would occur during construction, using water bladders or cofferdams. A temporary trestle would be constructed to facilitate the removal of the existing bridge and access. Construction would be completed within two to three years.

The ISMND does not identify a preferred alternative. Based on the information provided, CDFW has not identified an environmentally superior alternative, but will identify components of alternatives that appear to be environmentally superior, and correspondingly, impacts from each alternative that should be minimized to the greatest extent feasible.

Riparian Mitigation

The ISMND states:

“Due to construction access associated with all alternatives, the proposed project would temporarily impact up to approximately 0.64 acre of riparian vegetation (consisting mostly of white alder, oregon ash, willows and herbaceous vegetation) on the banks of the channel above the Ordinary High-Water Mark (OHWM) and up to approximately 0.71 acre of upland riparian vegetation (consisting mostly of interior live oak (Quercus wislizeni), coyote brush (Baccharis pilularis), poison oak (Toxicodendron diversilobum), and herbaceous vegetation) that occurs on the banks of the channel at the estimated high water mark. There are no anticipated permanent impacts to any riparian vegetation.”

The document does not describe what the temporary impacts to 1.35 acres of riparian vegetation would entail. If riparian vegetation must be removed, there will be a temporary loss of habitat even if the area is replanted. For mature riparian habitat, full replacement of habitat can take many years. CDFW typically recommends revegetation at a greater than 1:1 ratio for impacts to riparian, wetland, and other SNCs to account for less than 100 percent survival, and for temporal habitat loss, which in some cases could last as long as 10-20 years, until riparian trees mature. For impacts to riparian vegetation, it is likely that a measure requiring revegetation at a greater than 1:1 ratio would be included in a draft Lake or Streambed Alteration Agreement for the Project.

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Therefore, it would be appropriate to describe these impacts and the proposed mitigation in the ISMND as part of the whole of the action so that CDFW and the public can determine if these mitigations are effective at reducing impacts to less than significant. CDFW recommends that the ISMND include details of proposed mitigations, including performance standards, such as mitigation ratios of greater than 1:1 in order to achieve a no-net-loss standard, and a draft Mitigation Monitoring Reporting Plan (MMRP) in the ISMND prior to notification for adoption.

Rare Plants and Sensitive Natural Communities

The ISMND identified a population of congested-headed hayfield tarweed (*Hemizonia congesta* ssp. *congesta*), a plant with a California Rare Plant Rank (CRPR) of 1B.2, meaning the plant is “rare, threatened, or endangered in California and elsewhere” (1B) and “moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)” (0.2).

The ISMND states:

“The population on the northernmost hillside has the potential to be affected by the construction scenario associated with Alternative C. If the slope needs to be cut to make way for a new alignment, it is possible that a few individual plants would be lost. Due to the strong health and number of H. congesta spp. congesta within the BSA, particularly within that population, the project is not likely to have a permanent negative impact on this species. Environmentally Sensitive Area (ESA) fencing would be placed around areas containing this species where feasible.”

Because there is a lack of information about the construction activities and specific impacts to this population of hayfield tarweed, CDFW recommends that the ISMND 1) more accurately quantify the potential impacts, 2) identify a threshold of significance for these impacts, and 3) develop mitigations that will be implemented if the threshold is exceeded.

Regarding impacts to the SNCs onsite, the ISMND states:

“...up to 0.05 acre of the 1.74-acre common manzanita community could be removed during construction, which would not have a substantial impact on the overall quality, characteristics, or structure of the community.”

CDFW concurs that removing approximately 3 percent of this SNC is unlikely to constitute a significant impact, particularly because the ISMND indicates that a Revegetation Plan will be prepared, and the area will be replanted with seeds collected onsite.

Regarding another SNC onsite, the ISMND states:

“Similarly, the interior live oak/gray pine/common manzanita community would be minimally impacted by the proposed cuts, as this community is dominant throughout the BSA.”

CDFW recommends quantifying “minimal” impacts by providing an estimated percentage of habitat removed to allow reviewers to better understand the potential significance of these impacts. The information provided is not sufficient to determine potential significance of impacts to this SNC.

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Impacts to Bats

According to the ISMND, surveys by Caltrans staff have documented substantial use of the bridge by both day (maternity roosts) and night-roosting bats, including the pallid bat (*Antrozous pallidus*), a State Species of Special Concern. According to the 2019 report “California Bat Mitigation: A Guide to Developing Feasible and Effective Solutions,” prepared for Caltrans by H.T. Harvey and Associates (Johnston et al. 2019), the permanent loss of roosting habitat is considered one of the primary conservation issues for bat populations. Yuma myotis (*Myotis yumanensis*), another of the myotis species likely to be using the bridge, are considered “*at high risk because a large percentage of their population occurs in bridges and culverts, which, makes them susceptible to habitat loss when bridges are retrofitted or replaced*” (Johnston et al. 2019).

CDFW is concerned that the impact assessments for all three alternatives may not fully address the potential impacts on roosting bats. Further, the ISMND defers mitigation for these impacts, and does not propose monitoring to ensure mitigation is successful.

Regarding Alternative A, the ISMND states:

“Prior to construction and at the appropriate timing (after pups are volant and before maternity roosting occurs), bat exclusion devices would be installed. No habitat would be available on the bridge during the single season of construction. Habitat within the bridge would be available to bats post construction once exclusion devices are removed. Temporary exclusion from habitat for one breeding season is not expected to cause permanent impacts to the maternity roosting colonies.”

The ISMND should analyze whether the retrofit has the potential to negatively impact existing bat habitat by changing the microclimate or structure, and should propose post-Project monitoring to ensure that bats return to the habitat after temporary exclusion. If successful, this alternative would likely result in lesser impacts to bats than Alternative B. Johnston et al. (2019) provides some important considerations:

“Some environmental documents pursuant to CEQA have identified the loss of bat roosts as a less than-significant impact when the original roost is lost but a new roost will be built as mitigation. Although replacement roosts may mitigate the loss of the original roost, such mitigation should only be considered effective if the new roosts are used by the same species in numbers that are comparable to the original roost. Projects that are anticipated to temporarily exclude bats from a roost for a single maternity season, but result in an extended absence of bats from the roost, should be considered to have had a permanent impact on maternity roosting habitat.”

Regarding Alternative B, the ISMND states:

“No habitat would be available on the bridge during two seasons of construction. Lack of habitat throughout two breeding seasons could cause permanent impacts to bat species and may prevent the return of maternity roosting colonies. Temporary or permanent replacement bat housing may be required as a result of this loss. A full mitigation and monitoring plan would likely be required for this alternative.”

The mitigation for Alternative B is as follows:

“If Alternative B is chosen, a plan will be developed, in coordination with CDFW, for bat housing outside of the project disturbed area.”

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Although the document states that Alternative B could cause permanent impacts to bats and could result in the loss of the maternity colonies at the bridge site, the ISMND does not commit to specific mitigations, only that a plan will be developed for bat housing. This measure lacks sufficient detail about the type, quantity, and location of compensatory habitat, and does not include performance standards. Temporary bat housing is rarely successful and requires specific parameters to succeed, thus it must be carefully designed and located (Johnston et al. 2019). In terms of impacts to bats, Alternative B appears to have greater potential impacts and a lower probability of success. As proposed, the mitigation for Alternative B does not appear adequate to reduce impacts to less than significant. Furthermore, the ISMND does not propose long-term monitoring to determine whether mitigation measures are implemented successfully.

Regarding Alternative C, the ISMND states:

“The habitat on the current bridge would remain available throughout construction of the new structure. The new structure would be built with habitat either inside the box girder or on the outside in the form of species-specific bat boxes. This habitat would be available to bat species prior to being excluded from the old structure before demolition. Because habitat would be available throughout the duration of the project, impacts to crevice/cavity roosting bat species would be minimal.”

The ISMND does not evaluate the impacts of construction disturbance to bats under Alternative C. Under Alternative C, bats would be able to use the existing bridge structure as roosting habitat while the new bridge is being constructed, which would be preferable to exclusion and loss of a breeding season. However, it is possible that construction disturbance could preclude bat use of the structure during construction. Further, if maternity colonies are established and construction commences during the maternity season, there is a possibility that the colonies could fail due to disturbance. This could result in the death of non-volant young if they are abandoned during the maternity season due to disturbance from construction. The demolition of the existing bridge could also result in disturbance to maternity colonies that may have become established on the new bridge.

Johnston et al. (2019) provides the following guidance on evaluating construction noise impacts:

“To adequately assess construction noise impacts on bat species, the noise levels emitted by the anticipated equipment to be used should be tested and compared to ambient noises. Section 7 discusses the recommended buffer distances for the operation of equipment in proximity to bat roosts.”

If Alternative C is chosen, CDFW recommends the ISMND analyze potential impacts of construction noise on bats at the Project site, and propose appropriate buffers, or exclusion techniques if buffers cannot be implemented using the guidance in Section 7 of Johnston et al. (2019).

One mitigation strategy that has proven successful at other sites, as described in Johnson et al. (2019), and that may be compatible with Alternative C would be to retain the old bridge structure permanently as bat habitat. If this strategy is not feasible, CDFW recommends incorporating roosting habitat on the new bridge that is designed to be as similar to the existing habitat as possible, by replicating conditions in the existing box girders. Additionally, Oregon wedge roosting boxes or other panels as described in Johnson et al. (2019), should also be incorporated in the design for the replacement bridge if Alternative C is chosen, to provide additional options for bat roosting and increase chances of successful use of the habitat. Incorporation of roosting habitat would mitigate for potentially significant temporary impacts to bats occurring from both disturbance

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and exclusion due to construction, and from permanent removal of roosting habitat on the existing bridge. Post-Project monitoring should be proposed to compare bat use pre-Project and post-Project to determine whether mitigation is successful. Regardless of which alternative is selected, CDFW recommends ensuring that roosts on the existing bridge are protected to the greatest extent feasible during construction, or bats are humanely excluded, as recommended by a qualified bat expert and in consultation with CDFW.

For all proposed alternatives, the ISMND should include measures to ensure that the Project avoids permanent impacts to the bat roosting habitat onsite, and that the MMRP provides adequate plans by which to do so, including monitoring plans to determine whether bats continue to use existing or replacement habitat after the Project is complete.

Impacts to Vaux's Swifts

The Vaux's swift (*Chaetura vauxi*) is a Priority 2 State Species of Special Concern. The ISMND states that Vaux's swifts are using the space inside box girders as nesting habitat by entering through the bridge weep holes. This species has rarely been documented to use bridge habitat for nesting, and loss of nesting and roosting habitat has been identified as a primary threat to the species (Shuford and Gardali 2008). The ISMND does not provide survey data specific to this species, and no estimated numbers of swifts nesting on the bridge are provided. The ISMND indicates that swifts will be excluded during construction for Alternatives A and B. CDFW recommends that the ISMND proposes dates and methods for exclusion that incorporate nesting and roosting season dates for both swifts and bats, to ensure that no birds or bats are inadvertently trapped during the exclusion process. Further, the alternative selected should ensure that habitat on the new or retrofitted bridge preserves the habitat characteristics that will allow Vaux's swifts to continue nesting within the structure. Specifically, Shuford and Gardali (2008) states:

"Cavities apparently need to be large enough to allow the birds to fly while within the cavity and place the nest at a distance from the opening that provides a dark, sheltered environment"

If Alternative C is chosen, the ISMND should evaluate potential impacts of construction disturbance on nesting swifts at the Project site, and propose appropriate buffers, or exclusion techniques if buffers cannot be implemented. Given the relative scarcity of nesting structures for this species, retaining the old bridge structure as habitat for this species as well as bats, as discussed above, may be an effective mitigation for impacts to both species.

Summary of Recommendations

CDFW has several recommendations for the Lead Agency to ensure that potentially significant impacts of the Project are reduced to less than significant:

1. The ISMND should include mitigation for impacts to riparian habitat, including performance standards, such as mitigation ratios of greater than 1:1 in order to achieve a no-net-loss standard, and a draft MMRP in the ISMND prior to notification for adoption.
2. The ISMND should 1) more accurately quantify the potential impacts to congested-headed hayfield tarweed, 2) identify a threshold of significance for these impacts, and 3) develop mitigations that will be implemented if the threshold is exceeded.
3. CDFW recommends quantifying "minimal" impacts to SNCs to allow CDFW and the public to better understand their potential significance.
4. The ISMND should analyze whether the bridge retrofit (Alternative A) has the potential to

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- negatively impact existing bat habitat by changing the microclimate or structure. The ISMND should include post-Project monitoring to determine whether bats return to the habitat after temporary exclusion.
5. Alternative B could cause permanent impacts to bats and could result in the loss of the maternity colonies at the bridge site. The ISMND should describe specific mitigations and include performance standards and post-Project monitoring to ensure these impacts are less than significant.
 6. For Alternative C, the ISMND should analyze potential impacts of construction and demolition noise and disturbance on bats at the Project site, and propose appropriate buffers, or exclusion techniques if buffers cannot be implemented using the guidance in Section 7 of Johnston et al. (2019).
 7. For all proposed alternatives, the ISMND should ensure the Project avoids permanent impacts to the bat roosting habitat, and provides detailed plans by which to do so, including monitoring plans to determine whether bats continue to use the habitat after the Project is complete.
 8. For Alternative C, the ISMND should evaluate potential impacts of construction noise on nesting swifts at the Project site, and propose appropriate buffers, or exclusion techniques if buffers cannot be implemented.
 9. Retaining the old bridge structure as habitat for nesting birds and bats may be an effective mitigation for impacts to these species. CDFW recommends that the ISMND evaluate whether this is a feasible mitigation measure if Alternative C is chosen.

Thank you for the opportunity to comment on this draft ISMND. CDFW staff are available to meet with you to consult with or address the contents of this letter in greater depth. If you have questions on this matter or would like to discuss these recommendations, please contact Senior Environmental Scientist (Specialist) Jennifer Olson at (707) 499-5081 or by e-mail at jennifer.olson@wildlife.ca.gov.

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