



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
(559) 243-4005  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

GAVIN NEWSOM, Governor  
CHARLTON H. BONHAM, Director



April 12, 2021

Governor's Office of Planning & Research

**Apr 12 2021**

**STATE CLEARINGHOUSE**

Serge Stanich  
Director of Environmental Services  
California High-Speed Rail Authority  
770 L Street, Suite 620 MS1  
Sacramento, California 95814

**Subject: California High-Speed Rail Project, Bakersfield to Palmdale Section  
(Project) Revised Draft Environmental Impact Report/Supplemental Draft  
Environmental Impact Study (RDEIR/SDEIS)  
SCH No. 2009082062**

Dear Mr. Stanich:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a RDEIR/SDEIS from the California High-Speed Rail Authority (Authority) for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup> CDFW previously commented on related environmental documents as stated in our comment letter for the Draft EIR/EIS for the Bakersfield to Palmdale Section on April 28, 2020.

Following the Authority's publication of the Draft EIR/EIS in February 2020, the Authority learned that the California Fish & Game Commission advanced the Southern California and Central Coast mountain lion (*Puma concolor*) populations to candidacy for listing under the California Endangered Species Act. The Authority also learned that the U.S. Fish & Wildlife Service (USFWS) determined that listing the monarch butterfly (*Danaus plexippus*) under the Federal Endangered Species Act is warranted, but that listing is precluded by other priorities; therefore, the monarch butterfly is now a candidate species under the Federal Endangered Species Act. The U.S. Fish & Wildlife Service will review the species' status annually until a listing decision is made. These listing actions led to the Authority to revise the DEIR/EIS for analysis of impacts to mountain lion and monarch butterfly, as well as including additional mitigation measures for impacts to wildlife resulting from lighting during construction and during project operation.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those

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<sup>1</sup> 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.

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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 Fish and Game Code.

## **CDFW ROLE**

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW 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 & 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.), related authorization as provided by the Fish and Game Code will be required.

## **PROJECT DESCRIPTION SUMMARY**

**Proponent:** California High-Speed Rail Authority (Authority)

**Objective:** Bakersfield to Palmdale (B-P) Project Section, which extends approximately 80 miles between High-Speed Rail (HSR) stations in Bakersfield and Palmdale, from the southern San Joaquin Valley and northern Antelope Valley. The Project Section extends from Kern County in the north to Los Angeles (LA) County in the south, with the Bakersfield and Palmdale HSR stations making up this section's beginning and ending points, or the project termini. Four primary build alternatives are considered with two design options.

**Location:** The proposed Bakersfield to Palmdale Section is located in Kern and Los Angeles counties. The Project northern termini is located in the City of Bakersfield at the intersection of 34<sup>th</sup> and L streets (latitude 35°23'25.90"N/longitude -119°0'58.97"W). The southern Project terminus is in the City of Palmdale, terminating at Spruce Court, just past the proposed Palmdale Station (latitude 34°33'47.8"N/longitude -118°6'55.4"W).

**Timeframe:** Unspecified.

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## COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the California High-Speed Rail Authority in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Comments that were provided in the April 28, 2020 comment letter for the DEIR/EIS remain the same and will not be restated in this letter. Editorial comments or other suggestions may also be included to improve the document.

Currently, the RDEIR/SDEIS indicates that the Project's impacts would be less than significant with the implementation of mitigation measures described in the RDEIR/SDEIS. However, as currently drafted, it is unclear whether the mitigation measures described will be enforceable or sufficient in reducing impacts to a level that is less than significant. CDFW is concerned regarding adequacy of mitigation measures for special-status species including, but not limited to: the State Candidate Species for listing as threatened, Southern California/Central Coast evolutionarily significant unit (ESU) mountain lion (*Puma concolor*) and the U.S. Fish and Wildlife Service (USFWS) candidate for listing monarch butterfly (*Danaus plexippus plexippus*).

### I. Mitigation Measure or Alternative and Related Impact Shortcoming

**Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or United States Fish and Wildlife Service (USFWS)?**

#### COMMENT 1: Mountain Lion (ML)

**Issue:** The Project alignment transects the Southern California/Central Coast ESU and the Western Sierra Nevada (WSN) population. The RDEIR/SDEIS acknowledges that mountain lion have the potential to occur within or near the Project. However, the RDEIR/SDEIS (Section 3.7 and BIO Impact #2) lacks the Project impact analysis of the genetically distinct subpopulations of the Southern California ESU (San Gabriel San Bernardino (SGSB), the Central Coast-South (CC-S), Santa Monica Mountains (SAM)) and the WSN as a source of genetics. The SGSB, CC-S, and SAM, have small population numbers. The effective subpopulation size for SGSB is **5** and the estimated adult subpopulation size of **10-20** (Yap et al., 2019). The RDEIR/SDEIS does not address impacts of the potential gene-flow disruption between these subpopulations, nor does it address how impacts to the WSN population (genetic source) would impact the other subpopulations. The Impact BIO#2 is a generalized analysis of Project impacts to mammals that included mountain lion. CDFW recommends Section 3.7 be revised to contain specific analysis on the mountain lion Southern California/Central Coast ESU (SGSB, WSN, CC-S, and SAM genetic subpopulations) impacts to dispersal and genetic exchange between populations, including issues of connectivity and fragmentation of habitat adjacent to the Project, which will be impacted by the alignment. CDFW also recommends the DEIR/EIS be revised to include robust feasible

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avoidance, minimization, and mitigation measures to reduce impacts to these isolated subpopulations providing connectivity for WSN mountain lion population to less than significant. CDFW recommends referencing the attached mapping (Attachment 1) for analysis.

**Specific impacts:** The Project as proposed will impact the Southern California/Central Coast ESU mountain lion subpopulations by cutting off the source of genetics and impede movement between the WSN and the SGSB, CC-S, and SAM. These subpopulation islands (SGSB, SAM, and CC-S) can currently persist by genetic connectivity to a larger population (WSN), without this connection the subpopulations would go extinct. The Project has the potential to cause impacts during construction by increasing human presence, traffic, noise, vibration, air pollutants and dust, artificial lighting, and will significantly and permanently reduce and potentially eliminate the existing wildlife movement corridor.

**Evidence impact would be significant:** The mountain lion is a specially protected mammal in the State (Fish and G. Code, § 4800). In addition, on April 21, 2020, the California Fish and Game Commission accepted a petition to list an ESU of mountain lion in southern and central coastal California as threatened under CESA (CDFW 2020a). As a CESA-candidate species, the mountain lion in southern California is granted full protection of a threatened species under CESA.

The Project would continue to have significant impacts because mitigation as proposed would not result in adequate and successful mitigation for the unavoidable direct and indirect, permanent, or temporal losses, of genetic connectivity between subpopulations of mountain lion.

The WSN population provides a source of genetic diversity for the rest of the State and Nevada (Gustafson et al., 2019). The WSN population appear to be large (i.e., high effective population size), genetically diverse, and well-connected. (Gustafson et al., 2019). It is important that this population remain connected to adjacent populations via suitable habitat and unobstructed sizeable movement corridors. Currently, the only area connecting the WSN population to adjacent areas in southern and central California is the Tehachapi Mountains in Kern County. Decreased and impeded connectivity in this area would quickly increase the decline in genetic diversity of mountain lions in southern and central parts of the State (Dellinger et al., 2020). Loss of wildlife connectivity is another primary driver for the potential demise of the southern California mountain lion population (Yap et al. 2019). Habitat loss and fragmentation due to roads and development has driven the southern California mountain lion population towards extinction (Yap et al. 2019). Conserving and restoring habitat connectivity and corridors is essential for mitigating impacts to mountain lions.

Mountain lions will use caves and other natural cavities, thickets in brush, and timber for cover and denning. Mountain lions require extensive areas of riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree/brush edges. These habitat types are throughout the Project area. Mountain

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lions are active yearlong (mostly nocturnal and crepuscular). The home range for male are a minimum of 40 km<sup>2</sup> (15 mi<sup>2</sup>) and female home ranges usually are 8-32 km<sup>2</sup> (3-12 mi<sup>2</sup>). The main diet for mountain lion is mule deer (CWHR). Mule deer migration corridors will also be impeded by the Project. Mountain lions have a wide-ranging nature and large territories, as well as the need for dispersal (especially of young males). In order to maintain genetic diversity, large blocks of conserved habitat and unobstructed and sizable safe travel corridors between them are essential for long term population persistence and stability (Vickers, 2014). Thermal characteristics cause mountain lions to select north-facing slopes at high elevations, with more vegetation and cooler temperatures in the summer and south-facing slopes with little snow cover in winter. These habitats were also strongly correlated with the density and distribution of deer. Den sites are preferentially located in nearly impenetrable vegetation areas and mountain lion feed on cached prey primarily after sunset and often rested long distances from the cache site during the day (Pierce and Bleich 2003). Cutting off or restricting access to these habitats will reduce opportunities for genetic exchange, foraging, and fecundity.

**Recommended Potentially Feasible Mitigation Measure(s):**

Because the RDEIR/SDEIS identifies the potential for mountain lion to occur within the Project footprint, CDFW recommends conducting the following evaluation of the Project, updating the RDEIR/SDEIS to include the following measures, and that these measures be made Conditions of Approval for the Project. CDFW recommends quantitative and enforceable measures that will reduce the impacts to less than significant levels.

**Recommended Mitigation Measure 1: ML Habitat Assessment**

CDFW recommends that a qualified biologist conduct a habitat assessment and suitable habitat mapping of individual Project areas in advance of Project implementation, to determine if the Project area or its vicinity contains suitable habitat as well as caves and other natural cavities and thickets of brush and timber which provide cover and are used for denning. Mapping should also include the following: the project area with identified wildlife linkages within the ESU subpopulations, identified Project undercrossing, overcrossing, tunnels, viaducts, and designated wildlife crossing locations and adjacent habitat to assist with development and implementation of avoidance, minimization, and mitigation measures.

**Recommended Mitigation Measure 2: ML Wildlife Crossing Monitoring**

CDFW recommends that the Authority devise and implement a Mountain Lion Crossing Monitoring Plan. CDFW recommends the Authority consult with CDFW during the drafting of the Monitoring Plan and obtain approval of the Plan prior to Project implementation. CDFW recommends that the proposed Mitigation Measure #64 Establish Wildlife Crossings, include a design that establishes specific criteria for monitoring the performance of the crossings (viaducts, undercrossing, overcrossings) for routine and ongoing use by mountain lion and its prey. The monitoring plan should be contingent with action-based monitoring performance objectives and be adaptive. Goals of the monitoring plan should at a minimum include: 1) to provide data to assist in designing crossings and inform placement for future HSR segments in Southern

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California (Palmdale to Burbank and Burbank to LA); 2) conduct long-term population monitoring for use by the mountain lion sub-populations; 3) track progress of use; and 4) evaluate overall effectiveness of the crossings.

**Recommended Mitigation Measure 3: ML-Avoidance-Buffer for Corridor Areas**

CDFW recommends that during construction, movement corridors such as drainages and riparian areas maintain a ¼ mile buffer to minimize impacts to mountain lion movement through these areas.

**Recommended Mitigation Measure 4: ML-No Night Work in Corridor Areas**

To minimize impacts to movement of mountain lion during construction, CDFW recommends that no night work occur in drainages and riparian areas of the Project.

**Recommended Mitigation Measure 5: ML-Avoidance Use of Rodenticides**

CDFW discourages the use of rodenticides and second-generation anticoagulant rodenticides due to their harmful effects on the ecosystem and wildlife. CDFW recommends the Authority include a mitigation measure prohibiting the use of such materials during construction and operation and maintenance of the HST.

**Recommended Mitigation Measure 6: ML-Provide Dedicated Wildlife Crossings**

CDFW recommends that recurrently positioned dedicated wildlife crossings for mountain lion and deer be a “required” design feature in the final design of the Project.

**Recommended Mitigation Measure 7: ML-Take Authorization**

There should be no net loss of suitable habitat for mountain lions. CDFW recommends that the Authority identify opportunities for the Project to enhance nearby areas and create movement opportunities including wildlife corridor restoration or enhancement as potential mitigation strategies. Since the RDEIR/SDEIS assumes wildlife movement and corridor impacts, the inherent loss of gene-flow, cannot be avoided between the subpopulations, thus the Authority must ensure some level of conservation is present in the areas that provide connectivity. CDFW recommends improving habitat connectivity (e.g., wildlife road-crossing structures) to facilitate unimpeded wildlife movement and gene-flow between adjacent areas of the WSN. CDFW recommends the replacement habitat be located adjacent to the Project and Wildlife Linkage and Corridor, see Attachment 1.

The Authority should consult and collaborate with CDFW to conserve areas beneficial to the Southern California ESU and the WSN subpopulation that may improve and maintain connectivity. The mitigation lands should be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved by CDFW to hold and manage mitigation lands.

In the event that a mountain lion or den is detected during surveys, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If

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avoidance as described in the above Mitigation Measure 4 is not feasible, acquisition of an Incidental Take Permit (ITP), pursuant to Fish & Game Code section 2081 subdivision (b) prior to any ground-disturbing activities may be warranted in order to comply with CESA.

## **COMMENT 2: Monarch Butterfly (MB)**

**Issue:** The Project falls within the monarch butterfly spring and summer breeding area (Pelton 2016). Project related activities have the potential to impact monarch butterfly. It is unclear how the following BIO-IAMFs (BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, and BIO-IAMF#1) are avoiding and minimizing impacts from construction to monarch butterflies. Without appropriate avoidance and minimization measures for the species mentioned above, potential significant impacts associated with the Project's milkweed removal activities include, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of eggs and/or larvae, and direct mortality of individual monarch butterflies.

**Specific impact:** The document lacks appropriate analysis on how operations and maintenance (O&M) activities such as herbicide and vegetation removal adjacent to the HSR would remove and degrade habitat and host plants, or how train strike could injure/kill monarch butterflies. CDFW recommends addressing the following O&M impacts: dust impacts and groundwater impacts to the host plants (*Asclepia ssp.*, milkweed) and nectar producing flowers during construction and operation.

**Evidence impact would be significant:** The availability of milkweed is essential to monarch butterfly reproduction and survival, the reductions in milkweed is cited as a key driver in monarch butterfly decline (USFWS 2020). Habitat loss and fragmentation is among the primary threats to the population (USFWS 2020). During the breeding season monarch butterflies lay their eggs on the milkweed host. Monarchs also need milkweed for both oviposition and larval feeding and nectar producing habitat (USFWS 2020). Project activities have the potential to significantly impact the species by reducing possible nectar producing plants and milkweed host plant for breeding. Habitat where monarch butterflies are found may be subject to insecticide use and these impacts are primarily influenced by the extent to which monarch butterflies are exposed to insecticides throughout their range (USFWS 2020).

## **Recommended Potentially Feasible Mitigation Measure(s)**

To evaluate potential impacts of the Project to special-status species, CDFW recommends conducting the following assessment of the Project area, including the following mitigation measures, and requiring them as Conditions of Approval for the Project.

## **Recommended Mitigation Measure 8: MB Habitat Assessment**

CDFW recommends that a qualified biologist conduct a habitat assessment, well in advance of Project implementation, to determine if the Project area or its immediate vicinity contain habitat suitable to support life stages of the monarch butterfly.

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**Recommended Mitigation Measure 9: MB Surveys**

If suitable habitat is present, CDFW recommends assessing presence of monarch butterflies and milkweed by conducting surveys following recommended protocols or protocol-equivalents.

**Recommended Mitigation Measure 10: MB Take Avoidance**

CDFW advises that all milkweed be avoided if ground-disturbing activities will occur during the overwintering period (October through February) by a minimum of 50 feet to avoid potentially significant impacts. Avoidance of insecticide use within the Project area during construction and operation. Detection of special-status species within or in the vicinity of the Project area, warrants consultation with CDFW and USFWS to discuss how to implement ground-disturbing activities and avoid take, such as restoring and enhancing milkweed and nectar resources a possible minimization measure.

**COMMENT 3: Section 3.7.4 Pre-field Investigation and Consultation, Wildlife Movement Corridor Page 1**

This section states, “The focal species included in the local permeability analysis Mountain lion (*Puma concolor*) Southern California/Central Coast ESU of the RDEIR.” CDFW recommends that the focus of analysis be the movement of the WSN population.

**COMMENT 4: Section 3.7.5.5 Special-Status Wildlife Species Page 2**

Technical reports were not included as appendices to the RDEIR/SDEIS. The DIER/EIS’s appendices had to be referenced instead, this did not allow easy referencing of the data. CDFW recommends providing a figure (mapping) of the mountain lion ESU subpopulations.

**COMMENT 5: Table 3.7-7 Intersection of the Bakersfield to Palmdale Project Section Build Alternatives (Station to Station) and Modeled Federal and State Threatened/Endangered Species Habitat Pages 6-8**

CDFW recommends adding the mountain lion ESU subpopulations (SGSB, WSN, CC-S, and SAM) as a study area to this table. CDFW also recommends that this table describes how direct, indirect, permanent, and temporary impacts were calculated for each species and specifically for mountain lion and monarch butterfly. Table 3.7-7 and Section 3.7.6.4 Impact BIO# 2 for Insects and Mammal lacks a description of the methodology used to calculate mountain lion and monarch butterfly impacts acreages.

**COMMENT 6: Section 3.7.6.4 Impact BIO #5: Construction Impacts on Wildlife Movement- Temporary Page 16**

CDFW recommends that the gene-flow between each of the subpopulations of mountain lion and specifically from the source populations of the WSN to the SGSB and the CC-S and SAM to the SGSB subpopulations need to be analyzed. The BIO #5 impact analysis is a generalized assessment. Also, the period of construction is not a



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short-term period, construction can last up to 5 years or more. There are also temporal impacts to wildlife from the construction period activities.

**COMMENT 7: Section 3.7.6.4 Impact BIO #5: Construction Impacts on Wildlife Movement-CEQA Conclusion Page 17**

CDFW recommends that BIO-MM#42, BIO-MM#37, BIOMM#56, BIO- MM#64, BIO-MM#77, BIO-MM#78, BIO-MM#86, and IAMF pertaining to mountain lion movement of the subpopulations be quantified and enforceable. CDFW also recommends including a CEQA significance conclusion for impacts to the mountain lion ESU and the genetic impacts to the subpopulations.

**COMMENT 8: Section 3.7.6.5 Operations Impacts Impact BIO #8: Operational Impacts on Special-Status Wildlife Species Page 17**

Please quantify the train operation and maintenance; "infrequent" does not provide information for the analysis. It should be noted that avian line strikes, and electrocution are permanent operational impacts. Take of any State fully protected species (SFP) is prohibited, and CDFW cannot authorize their take for any Project-related reason.

CDFW recommends quantifying the train operation and maintenance including the duration of time the train will travel through this segment daily for the full build-out analysis. CDFW also recommends including the following to properly analyze operational impacts: the maximum number of trains and the physical length of the train, the durational impacts for all special-status wildlife species, daytime and night-time train frequency during full operation, not just start-up years. It is unclear how many times "daily" is. CDFW recommends quantifying the special-status wildlife species that are impacted in number of acres based on impacts from train-travel sound, vibration, and light, that the train will impact from active travel and frequency during night and day-time operation. It should be noted, mountain lions are active not only during the midnight hours (active through the day, particularly the crepuscular periods, and den year-round) and can be disturbed by noises at all times of the night and day. Please clarify if maintenance of the HSR will routinely occur every night. Please clarify how thresholds-based analysis was done for mountain lion.

**COMMENT 9: Section 3.7.6.5 Operations Impacts Impact BIO #8: Operational Impacts on Special-Status Wildlife Species-Mammals Page 18**

This section lacks discussing O&M activity impacts to mountain lion. CDFW recommends including impacts from O&M activities to the subpopulations of mountain lion which will be impacted by the proposed Project. This section states, "Indirect impacts from noise, vibration, and wind could result in the displacement of mammal species. These impacts may result in shifts in foraging patterns or territories, shifts in dispersal movements, increased predation, decreased reproductive success, and reduced population viability." CDFW recommends addressing these impacts in terms of the mountain lion subpopulations found in and adjacent to the Project and provide analysis of noise and vibration to all mammals, comparable to the analysis in Section

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3.4 of the DEIR/EIS that analyzed noise and vibration impacts to humans. Please clarify, how these temporary disruptions of wildlife movement would impact the gene-flow between the three subpopulations of mountain lion, please provide this analysis. CDFW recommends analysis of mountain lion movement and/or their prey-base and impacts to their foraging opportunities. Potential effects could result in additional stressors during breeding cycles, effects of den selection, and force animals into movement paths/areas that could increase their vulnerability to vehicle strikes.

**COMMENT 10: Section 3.7.6.5 Operations Impacts Impact BIO #8: Operational Impacts on Special-Status Wildlife Species-Native Fauna Page 19**

This section lacks discussing O&M activity impacts to mountain lion and their prey base. CDFW recommends including an impact analysis of O&M activities to mountain lion and their prey base.

**COMMENT 11: Section 3.7.6.5 Operations Impacts Impact BIO #8: Operational Impacts on Special-Status Wildlife Species CEQA Conclusion Page 19**

CDFW recommends including a CEQA significance conclusion for impacts to the mountain lion ESU and the genetic impacts to the subpopulations.

**COMMENT 12: Section 3.7.6.5 Impact BIO #11: Operation Impacts on Wildlife Movement-Temporary Page 21**

This section states, "Intermittent maintenance activities are unlikely to have a long-term effect on wildlife movement corridors in terms of their effectiveness for gene flow and dispersion." CDFW recommends analysis of intermittent maintenance activities impact on the mountain lion subpopulations.

**COMMENT 13: Section 3.7.6.5 Impact BIO #11: Operation Impacts on Wildlife Movement-Permanent Pages 21-22**

This section states, "This result could lead to further habitat fragmentation, restricted movement within wildlife corridors, habitat shifts, increased foraging competition, and possibly increased predation near undisturbed crossings." It is unclear what this statement means to the ESU subpopulations of mountain lion. CDFW recommends that these claims should be tied to the mountain lion subpopulations. CDFW recommends analyzing the impact beyond a generalized statement of habitat fragmentation. Please correlate location of vehicle strikes and current highway locations then address the cumulative impact of the addition of the HSR to these locations to the disruption of gene-flow between the two subpopulations.

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**COMMENT 14: Section 3.7.6.5 Impact BIO #11: Operation Impacts on Wildlife Movement-CEQA Conclusion Page 22**

It should be noted that the IAMFs and BIO-MM#76, BIO-MM#77, BIO-MM#78, and BIO-MM#64 lack measurable, quantifiable actions and therefore enforceability to minimize, avoid, or mitigate impacts on wildlife movement during project operation.

**COMMENT 15: Section 3.7.7.2 Mitigation Measures for Biological and Aquatic Resources BIO-MM#85: Provide Compensatory Mitigation for Impacts on Mountain Lion Core and Patch Habitat Page 24**

It should be noted, mountain lion Core and Patch Habitat is not described or depicted in a figure in the RDEIR/SDEIS to allow for analysis of the effectiveness of this mitigation measure. "Compensatory mitigation would be provided using one or more of the methods described in BIO-MM#53 and would, where feasible and acceptable to CDFW, contribute to preserving important movement lands across the HSR alignment." Measure# 53 is not described in the 3.7.7 mitigation section of this document.

**COMMENT 16: Section 3.7.7.2 Mitigation Measures for Biological and Aquatic Resources BIO-MM#64: Establish Wildlife Crossings Pages 22-23**

This section states, "For terrestrial wildlife, all crossings will conform to the minimum spacing and dimensions identified in the Wildlife Corridor Assessment (Appendix I of the *Biological and Aquatic Resources Technical Report*), unless different dimensions are specified in authorizations issued under the ESA or CESA." CDFW recommends that the specifics that pertain to establish wildlife crossings for mountain lion in the *Biological and Aquatic Resources Technical Report* from the DEIR/EIS be included in this measure. CDFW recommends that additional language be added to include mountain lion. Please clarify how the data from this report was used in RDEIR/EIS or in the Wildlife Corridor Assessment (WCA). It should also be noted that recommendations of this measure are not enforceable design requirements for wildlife crossings.

"...the Authority will incorporate features to accommodate wildlife movement into the design of bridges and culverts that are replaced or modified as part of project construction, wherever feasible." This statement does not ensure that established crossings will be required. CDFW recommends the Authority coordinate with the California Department of Transportation (Caltrans) in their effort in conducting a SR-58 wildlife crossing study (Bakersfield to Mojave), to obtain roadkill data, inventoried culvert and bridges identified to be improved for connectivity and to ensure that these locations are not impaired by the Project and correspond with improvements of crossing locations of the Project. This study area is within one of the wildlife movement barrier priorities identified in CDFW Region 4 (CDFW 2021).

CDFW recommends that the creation of new crossing structures incorporate land-overcrossings to facilitate movement of mountain lion and other wildlife. It is unclear how this measure would be enforced and CDFW recommends that these be required crossing features. Please provide the crossing design requirements for openness factor

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and clear line of sight from end to end (entrance to exit) distances. Crossing designs and locations must not result into pushing animals to small areas adjacent to highways subject to vehicle strikes. CDFW has concerns with what the wildlife crossing connects to; this is an important element to consider in the design and locations of crossings. CDFW recommends that crossing location entrance/exits be collocated with habitat areas that will be immediately encountered/adjacent and further, these habitat areas be conserved/protected to maintain effective movement corridors to sustain functional habitat for mountain lions in perpetuity.

**COMMENT 17: Section 3.7.7.2 Mitigation Measures for Biological and Aquatic Resources BIO-MM#84: Conduct Pre-Construction Surveys and Implement Avoidance and Minimization Measures for Mountain Lion Dens Pages 23-24**

“Prior to any ground-disturbing activity, regardless of the time of year, the Project Biologist would conduct pre-construction surveys for known or potential mountain lion dens within suitable habitat located within the work area and within 2,000 feet of the work area, where access is permitted.” It is unclear how areas not accessible to the Project would be surveyed and it is unclear what the suitable habitat components are.

“The Project Biologist will use location-specific survey methods to identify known and potential dens. The survey method will consider topography, vegetation density, safety, and other factors. Surveys will be conducted by a qualified biologist (i.e., a biologist with demonstrated experience in mountain lion biology, identification, and survey techniques) and may involve the establishment of camera stations, scent stations, pedestrian surveys (looking for tracks, caches, etc.), or other appropriate methods. Survey methods used will be designed to avoid the disturbance of known or potential dens to the extent feasible.” CDFW is concerned with the overall practicability of this approach. Please provide a way to minimize impacts prior to construction that is feasible. CDFW recommends that should employment of scent dogs for detection surveys be used, CDFW considers this as potential for take in the form of pursuit as defined in Fish and Game Code section 86. Therefore, CDFW advises prior to employing scent tracking dogs, the Authority consult with CDFW to determine if take authorization through the acquisition of an ITP is warranted. It should be noted that dens can be very difficult to detect even for mountain lion experts. Another possible approach to be incorporated into detection surveys is camera station surveys.

“If known, or potential, mountain lion dens are identified or observed during pre-construction surveys, mountain lion dens will be assumed to have kittens present until the Project Biologist can document that they are not present and/or that the den is not being used.” CDFW recommends additional information be included in the measure on how dens will be checked to see that dens are no longer occupied without disturbing the adult female and kittens.

“However, ground disturbance would be limited to those days between October 1 and January 31 within 2,000 feet of known or potential dens to the extent feasible.” If it is not feasible to work within the proposed work window, CDFW recommends including

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another option to minimize and avoid impacts. To the “extent feasible”, means aspects of the measure are not enforceable requirements. Buffer establishment should be implemented if a den is detected with kittens. If such a discovery is made, then project activities in the defined buffer area would need to halt for 2 months and a re-survey conducted to determine if the female has abandoned the den and relocated the kittens. Also recommended, is immediate consultation with CDFW upon detection of an active den. Mountain lions will den throughout the year so a proposed work window is ineffective for a minimization measure and such reference to a work window to reduce impacts to mountain lions should be removed from the document.

**COMMENT 18: Section 3.7.7.2 BIO-MM#85: Provide Compensatory Mitigation for Impacts on Mountain Lion Core and Patch Habitat Page 24**

The Authority has proposed to provide compensatory mitigation for impacts on mountain lion core and patch habitats. The RDEIR/SDEIS indicates that each alternative for the Project has approximately 33.4 acres of permanent impacts and 12 acres of temporary impacts to core and patch habitats. CDFW believes the proposed ratios of 2:1 for permanent impacts on breeding/foraging habitat and high priority foraging and dispersal habitat; and 1:1 for low priority foraging and dispersal habitat do not sufficiently account for loss of habitat and is not well supported based on the RDEIR/SDEIS analysis of the impacts which was a coarse level spatial modeling exercise. Overall, the analysis of direct, indirect, permanent, and temporal impacts is lacking including the impact to loss of gene-flow between subpopulations and impacts to ESUs due to the loss of connectivity. Therefore, it is unclear whether the proposed 2:1 mitigation to impacts ratio is sufficient to reduce the impacts to the subpopulations to less than significant. The proposed mitigation ratios should ensure the persistence of the mountain lion subpopulations.

**COMMENT 19: Section 3.7.7.2 Mitigation Measures for Biological and Aquatic Resources BIO-MM#86: Implement Lighting Minimization Measures During Construction Pages 24-25**

CDFW recommends including mitigating for impacts of vehicle lighting during construction. “The Authority would avoid conducting ground-disturbing activities within known wildlife habitat during nighttime hours, to the extent feasible.” It should be noted that aspects of the measure are not requirements, therefore not enforceable. CDFW recommends that there be measure(s) to avoid impacts if it is not feasible to implement the proposed measure. CDFW recommends there be specifications and quantification of the proposed shielding for this mitigation measure. CDFW recommends that the analysis of light impacts calculate and consider the zone of operation of the lighting level to which it meets ambient light level. Calculate the perimeter of the light until the light is reduced to ambient light levels to create a minimum light level. CDFW also recommends analysis of night glow and construction lighting between urban areas. It is unclear if the limitation on the number of days/months lighting would be used, or the number of hours in an evening. CDFW recommends the duration of lighting be

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analyzed for operational impacts as well. CDFW also recommends manual operation of lighting.

**COMMENT 20: Section 3.7.7.2 Mitigation Measures for Biological and Aquatic Resources BIO-MM#87: Implement Lighting Minimization Measures for Operations Page 25**

This section states, “To address the permanent and intermittent impacts from lighting, the Authority would implement measures to minimize the intensity and duration of operational lighting of permanent facilities (e.g., traction power facilities, radio sites, and maintenance facilities), as well as intermittent train lighting, to the extent feasible.” It should be noted that aspects of the measure are not requirements and are therefore not enforceable.

“Train headlights would use the minimum standard allowed by the FRA under 49 CFR 229.125 (a single headlight of at least 200,000 candelas) within non-tunnel portions of the Project Section.” It is unclear if this minimum standard amount has been analyzed for impacts in the impact section. It is also unclear if 200,000 candelas is a quantity of light that reduces or avoids impacts to wildlife. It is also unclear what the full distance is, and the extent of, a single train headlight and associated illumination zoom-cast on a moonless night considering lowest level of night glow in the non-urban areas. The range of light and impacts to species is needed in the analysis. Please clarify if lighting from the tunnel portal entrances will be omitted only during operation of the train (timeframe of lighting at the portal) and does this measure address the light impacts from the tunnel portals.

**COMMENT 21: Section 3.19 Cumulative Impacts Page 1**

This section indicates that no revisions were made because the DEIR/EIS addressed cumulative impacts and the conclusions reached for mountain lion and monarch butterfly and lighting are the same and new mitigation measures ensure that cumulative impacts do not occur. CDFW does not agree with this conclusion and recommends that the cumulative impacts and conclusions be reanalyzed to address the gene-flow impacts to each of the subpopulations adjacent and within the Project.

**COMMENT 22: Section 3.19.5.7 Biological and Aquatic Resources Page 2**

This section states the following: “The cumulative impact analysis for biological and aquatic resources evaluates the potential effects of the proposed improvements within the Bakersfield to Palmdale Project Section the specific projects identified in Appendix 3.19-A,...” It should be noted that Appendix 3.19-A is missing the proposed high-speed rail from Victorville, California to Las Vegas, Nevada (XpressWest), which has a connection at the Palmdale Station.

“Widening of existing transportation corridors or new transportation improvements could result in additional impacts on biological and aquatic resources. Each of these improvement projects would be subject to environmental review, including evaluation of

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the impacts of habitat loss, habitat degradation, and “take” of special-status species. Impacts on biological and aquatic resources would be mitigated as part of those projects, including avoidance of “take” during construction, minimization of impacts during construction and operation, restoration of disturbed sites, and preservation of compensatory.” CDFW does not agree with nor recommend assuming that other projects environmental evaluation and minimization and mitigation measures will be appropriate to offset cumulative impacts. CDFW advises that throughout the RDEIR/SDEIS addressing cumulative impacts of take of mountain lion from the SGSB, SAM, and CC-S subpopulations from multiple projects, the effectiveness of mitigation for a subpopulation that has such low numbers, and the compounded impacts to these subpopulations by future projects.

**COMMENT 23: Section 3.19.5.7 Construction Wildlife Movement Corridors Pages 2 and 3**

This section states the following: “Construction of the proposed improvements within the Bakersfield to Palmdale Project Section and cumulative projects such as High Desert Corridor (LA-4) and Northwest 138 Corridor Improvement Plan (LA-5) could result in construction activities and placement of wildlife movement barriers in natural lands such that they would interfere with the movement of wildlife species. Opportunities for wildlife movement in the cumulative RSA would be diminished because the HSR project is a linear project, spanning hundreds of miles, which could affect known and modeled wildlife movement corridors. Similarly, the High Desert Corridor and Northwest 138 Corridor Improvement Plan are linear projects that could also restrict wildlife movement corridors.” CDFW recommends including these impacts to wildlife impacts in Section 3.7 when addressing impacts to mountain lion ESU subpopulations.

**II. Editorial Comments and/or Suggestions**

**Western Joshua Tree:** The RDEIR/SDEIS did not address western Joshua tree (*Yucca brevifolia*) (YUBR) as a candidate species. On November 1, 2019, CDFW accepted a petition for western Joshua tree as a threatened species for listing under the CESA (Commission 2019). CDFW determined that listing “may be warranted” and advancing the species to the candidacy stage of the CESA listing process (CDFW 2020a). On September 22, 2020, the California Fish and Game Commission determined that listing western Joshua tree as threatened or endangered under CESA may be warranted (CDFW 2020b). Possession or removal of any additional trees, portions or trees, and/or dead trees may require a permit under CESA. According to the RDEIR/SDEIS “Impacts to the western Joshua tree, however, were analyzed in the Draft EIR/EIS, and no changes were necessary based on the subsequent change in legal status.” CDFW provided comments in the B-P DEIR/EIS April 28, 2020 comment letter and are currently recommending additional analysis on western Joshua tree.

The Project will remove approximately 268.2 to 300.3 acres of western Joshua tree habitat resulting in a net loss of a valuable habitat type. The Project falls within the one of the two geographically separate populations, YUBR South, in the Mojave Basin

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Range (CDFW 2020). Joshua tree woodland is considered a California Native Plant Society 3 listed rare vegetation community that has limited distribution in California. Project implementation would result in a substantial adverse effect, either directly or through habitat modifications, on a rare vegetation community identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS. CDFW advises that throughout the Project footprint, the Joshua tree habitat appears to be of good to excellent functional quality displaying a high percentage of recruitment (juvenile trees). This is significant given the recent drought experienced in the region.

Beyond the physical removal of mature Joshua trees, Project activities are likely to have compounding negative impacts to the local population. Fruit and seed production of western Joshua trees fluctuates yearly depending on factors that include availability of pollinators (Sirchia et al. 2018). The yucca moth (*Tegeticula synthetica*) is the sole pollinator of western Joshua trees. After feeding on fruits, yucca moth caterpillars drop onto the soil and retreat to pupate underground (Baker 1986; Bogler 1995). The Project would pave over soils that may otherwise support the yucca moth's pupal stage. Regional collapses of yucca moth populations have led to complete failure of fruit production in the closely related banana yucca (*Y. baccatta*) in the Mojave Desert (St. Clair and Hoines 2018).

Furthermore, the permanent placement of rail may result in permanent loss of seeds buried by abiotic processes and seed caches made by rodents (Waitman et al. 2010). Local extirpation of western Joshua trees may occur in the absence of a seed source that could be dispersed to adjacent areas. Due to Project site clearing, grading, and rail placement, Western Joshua trees and their supportive ecology would be permanently extirpated from the Project site.

CDFW acknowledges that Joshua tree habitat was addressed in the DEIR/EIS for the Project, however the DEIR/EIS lacked analysis and mitigation for the temporal loss of Joshua tree habitat. BIO-MM# 1 does not include a specific and enforceable avoidance buffer for Joshua trees. CDFW notes that the DEIR/EIS does not discuss or propose compensatory mitigation to offset the loss of the habitat type in the implementation of the Project. Therefore, it is unclear how Project impacts would be reduced to less than significant without specific and enforceable avoidance, minimization, or mitigation measures identified in the DEIR/EIS. As stated in the DEIR/EIS COMMENT #12 from CDFW comment letter dated April 28, 2020. CDFW recommends the RDEIR/SDEIS identify, map, and discuss the specific vegetation communities and habitat communities within the Project Area following CDFW's "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (Survey Protocols) see:

(<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>). Please note, this protocol was updated, and the 2018 version referenced here should be used. In order to determine the rarity ranking of vegetation communities potentially affected by the Project, the Manual of California Vegetation (MCV) alliance/association community



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names should be provided as CDFW tracks rare natural communities using this classification system.

Joshua tree mitigation areas should be protected against anthropogenic impacts for the life of the Project. CDFW recommends mitigation lands be preserved and managed in perpetuity under a conservation easement and managed by a local land conservancy. The proposed specific mitigation location should be identified in the CEQA document in order to ensure that mitigation is not deferred until some future time; however, the RDEIR/SDEIS document "may specify performance standards which would mitigate the significant effect of the Project and which may be accomplished in more than one specified way" (CEQA Guidelines, § 15126.4(a)(1)(B)).

As a CESA candidate species, western Joshua tree is granted full protection of a threatened species under CESA. If impacts to western Joshua trees cannot be avoided, please be advised that acquisition of an ITP may be required (pursuant to Fish & Game Code, § 2080 et seq.) prior to vegetation and ground disturbance activities.

**Wildlife Corridor Movement:** The RDEIR/SDEIS asserts, "As part of the B-P Build Alternatives and both CCNM Design Options, the project would minimize impacts on wildlife movement through the incorporation of tunnels and viaducts into the design that allow wildlife to freely move over or under the alignment." This statement assumes that the viaduct locations will remain in place; however, as with other HSR segments currently under construction, these viaduct locations could later be redesigned to be fenced at-grade and impermeable to wildlife. CDFW advises that a stronger design criterion be developed and included in the RDEIR/SDEIS to ensure that areas of planned viaduct and tunnel cannot be changed to less permeable features by the Design-Build contractor.

As CDFW has discussed during early consultation and in previous comment letters to the Authority, the single biggest potential biological impact arising from construction of the HSR project is the impact on regional movements of wildlife and connections between habitats. The HSR has the potential to disrupt wildlife movement corridors that are already hindered with existing obstacles, create long stretches of impediments, and further narrow areas of low or compromised permeability, many of which are already threatening the continued viability of mountain lion, deer, and several species. Construction of access-controlled rail lines may create barriers to the movement of wildlife, thereby cutting them off from important food, shelter, and breeding areas. Resulting isolation of mountain lion subpopulations (WSN, SGSB, SAM, and CC-S) limits the exchange of genetic material and puts populations at risk of local extirpation through genetic and environmental factors. Barriers can prevent the re-colonization of suitable habitat following natural population expansions, ultimately putting the species at risk of extinction of the SSB, SAM and CC-S subpopulation of mountain lion.

The construction and operation of the HSR will severely inhibit north-south as well as east-west wildlife movement along the B-P segment. While the Authority suggests it will examine the feasibility of implementing a variety of wildlife passages to aid animal

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movement along both sides of the rail alignment, it is unclear where and at what intervals these will be placed. This is a concern, especially considering recent design changes in the Fresno to Bakersfield segment of the Project where originally designed elevated structures are being changed to an at-grade design and elevated structures over waterways are being significantly reduced in length, narrowing the available space for wildlife passage. Later changes of this nature could limit the ability of mountain lion to move unimpeded throughout its range.

Potential future design changes that could result in reduced wildlife permeability and increased wildlife impacts need to either be considered in the DEIR/EIS, or somehow precluded from occurring at the construction phase. An elevated or below ground rail design could reduce the impacts that the HSR system would have on animal movement and migration, by allowing wildlife to pass unimpeded underneath or over the top of the entire length of the railway while providing access-controlled tracks. Elevated or below ground railways would be more effective in facilitating animal movement than the proposed wildlife underpasses and overpasses, which are not always effective or have untested efficacy for most taxa. Because wildlife would be more likely to move underneath an elevated rail, or over a below ground rail, as opposed to using a tunnel or vegetated overpass, CDFW advises the inclusion of the at-grade embankment in the DEIR/EIS as an impact to wildlife movement and that this impact be thoroughly analyzed as a barrier to movement, gene-flow, reproductive success, loss of colonization opportunities, and to discuss this in the context of planned wildlife crossings.

If wildlife passage structures will be used instead of elevated or below ground rail, CDFW continues to recommend that an extensive evaluation be conducted before final wildlife passage locations are selected to determine the appropriate and most effective locations and number and types of such wildlife passage structures. As was recommended in previous correspondence, methods to determine best locations of wildlife passage structures or avoidance should include things such as: 1) track station surveys; 2) ditch and canal crossing surveys; 3) monitoring trails with infrared or Trailmaster cameras; and 4) geographic information system (GIS) habitat modeling to identify likely wildlife travel corridors and anthropogenic barriers (such as highways, canals, reservoirs) at the landscape level. In addition, wildlife habitat passage structures, such as underpasses, overpasses, elevating or placing below grade the alignment and tunnels, may not be suitable for all species and locations and would need to be evaluated carefully. Dedicated wildlife crossing structures should ensure permeability, be evaluated on a species-specific basis, and be required to meet specific minimum dimensions for increased probability of wildlife utilizing these structures for crossing opportunities.

Specific care should be afforded to ensure that any wildlife crossing structure design incorporates generous openness and clear line of sight from entry to exit to maximize detection of the crossing by species at the time of encounter and to ensure use. Currently, the RDEIR/SDEIS does not provide specific dimensions listed for the openness, what constitutes a "slight grade of approaches to prevent flooding", and the

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number of crossings that would ensure permeability for such a long linear feature. Without these specifics and other relevant assumptions, it is not possible to determine if the effectiveness of this mitigation measure will reduce the level of significance. CDFW recommends that wildlife crossing locations, configurations, and demonstrated efficacy for mountain lion and other target species use (e.g., desert kit fox, Mohave ground squirrel, desert tortoise, etc.) be a requirement of the final design.

Finally, the RDEIR/SDEIS does not analyze the impact of design elements, such as the Intrusion Protection Barriers (IPBs) and Access Restriction (AR) fencing, in terms of impacts to wildlife corridor movements and/or the reduction of effectiveness of wildlife crossings compounded by the additional infrastructure fencing. The RDEIR/SDEIS includes information that the at-grade segments of the project would be entirely fenced or walled and thereby eliminate adverse interactions with wildlife, including direct strikes. While this may be true in some instances at the individual or localized level, the total length and linear nature of the project's fencing/walls, along with other projects in the area, may cause site-specific and cumulative impacts involving species fragmentation and impediments to wildlife movement. CDFW agrees that inclusion of proper placement and design of the dedicated wildlife crossings will be a very important component of the environmental planning process for the Project.

It is paramount that the final appropriate and effective design features, dimensions, and locations for elevated rail, viaduct, tunnel, and wildlife crossings through the Tehachapi Mountains remain as minimum criteria and are not a design-build option to reduce dimensions or alter locations without approval from the wildlife agencies to ensure connectivity of gene-flow for the WSN to the other mountain lion subpopulations (CC-S, SGSB, and SAM).

### **Use of Modeling for Impact Analysis**

CDFW has previously expressed its concern with using coarse-level predictive models for the impact analysis without having site-specific surveys to supplement the modeling effort. We are concerned that the lack of current, site-specific information to accurately quantify the magnitude of impact to CESA-listed species may cause delays in the impact of the taking analyses necessary for CESA and issuance of an ITP. CDFW is also concerned how the modeled output is proposed to be used for areas where there are no occurrence data. As a reminder, CNDDDB captures voluntarily reported detections only; areas without records should not be treated as areas where species do not occur. Our primary concerns with using modeling without site-specific protocol surveys to assess and quantify impacts for purposes of CESA include the following:

- Modeling alone may not capture the full extent of species occurrences and habitat suitability due to data sources, timing of surveys, limited access to significant portions of the alignments, and the inherent accuracy issues associated with using regionally-based data to determine site-specific impacts without a reliable verification method (e.g., protocol surveys). Using predictive modeling only to evaluate species presence/absence and to quantify project-specific impacts (acres) could miss marginal or atypical habitat usage,

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especially by highly mobile species, and impose a risk of unauthorized take. In addition, some areas not ranked as suitable have not been surveyed recently or have never been surveyed.

- Due to the stochasticity and cryptic nature of some species, it is very difficult to accurately “detect” species and determine mitigation requirements using modeling. Some species are unpredictable due to variables the modeling may not or cannot adequately capture, habitat requirements that are constantly evolving over time or space and/or have distributions that can be analyzed statistically but not be predicted precisely. For example, opportunistic species can have dynamic ranges and use areas not ranked at all by the model based on its current parameters.
- As an estimation of reality, the current model includes a defined range of species and conditions (using the rules selected) based on a snapshot of time and may not accurately capture use by all species when impacts occur and/or translate down to the site-specific (e.g., footprint) level. Modeling alone can provide a statistically significant underrepresentation of habitats potentially occupied by State-listed species. For example, some listed plants may only occur at specific times of the year under certain conditions and only be adequately evaluated with protocol surveys within the project footprint at the appropriate time. Likewise, some SFP bird species not known to nest or breed in the project area (e.g., white-tailed kite, peregrine falcon and bald eagle) could be transient to the area at certain times of the year.

It should be noted that the WCA is not an adequate analysis of the genetic landscape. The landscape connectivity/permeability vs. the genetic connectivity. Habitat quality landscape does not capture the movement through the Project for WSN population of mountain lions who breed and pass on genes to other subpopulations. The WCA (Appendix 3.7B of the DEIR/EIS) modeling limitations pose issues and assumptions that are problematic in addressing the genetic permeability of mountain lion.

CDFW continues to emphasize that although the current modeling can be a helpful tool for the Authority’s own preliminary evaluation, as well as for compensatory mitigation planning, it will not be a substitute for our analysis when it comes to CESA permitting. CDFW will need to conclude whether or not listed species will be impacted by the project. If predictive modeling is used in lieu of biological surveys by the CHSRA, CDFW’s ITP related analysis we will need to err on the side of assuming presence in the Project footprint. Our impact and take analysis and required minimization and mitigation measures will be reflective of this assumption.

**Nesting Birds:** CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any

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bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

**Water Pollution:** Pursuant to Fish and Game Code section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without mitigation measures implementation of the Project could result in pollution of Waters of the State from storm water runoff or construction-related erosion. Potential impacts to the wildlife resources that utilize these watercourses include the following: increased sediment input from road or structure runoff; toxic runoff associated with development activities and implementation; and/or impairment of wildlife movement along riparian corridors. The Regional Water Quality Control Board and United States Army Corps of Engineers also have jurisdiction regarding discharge and pollution to Waters of the State.

In this role, CDFW is responsible for providing, as available, biological expertise during public agency environmental review efforts (e.g., CEQA), focusing specifically on project activities that have the potential to adversely affect fish and wildlife resources. CDFW provides recommendations to identify potential impacts and possible measures to avoid or reduce those impacts.

**Federally Listed Species:** CDFW recommends consulting with the USFWS on potential impacts to federally listed species including, but not limited to, monarch butterfly. Take under the Federal Endangered Species Act (FESA) is more broadly defined than CESA; take under FESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with FESA is advised well in advance of any ground-disturbing activities.

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

## FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice


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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).

CDFW appreciates the opportunity to comment on the Project to assist the Authority in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>). Please see the enclosed Mitigation Monitoring (MMRP) table which corresponds with recommended mitigation measures in this comment letter. If you have any questions, please contact Ms. Primavera Parker, Senior Environmental Scientist (Specialist), at the address provided on this letterhead, by telephone at (559) 320-6666, or by e-mail at [Primavera.Parker@wildlife.ca.gov](mailto:Primavera.Parker@wildlife.ca.gov).

Sincerely,

DocuSigned by:  
  
5343A684FF02469...  
Julie A. Vance  
Regional Manager

Attachment 1- Mountain Lion ESU Subpopulation Mapping  
Attachment 2- MMRP

ec: See Page Twenty-three

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ec: Office of Planning and Research  
State Clearinghouse ([state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov))

Nina Bicknese ([Nina\\_Bicknese@fws.gov](mailto:Nina_Bicknese@fws.gov))  
United States Fish and Wildlife Service

Jessica Nadolski ([Jessica.Nadolski@waterboards.ca.gov](mailto:Jessica.Nadolski@waterboards.ca.gov))  
Cliff Harvey ([Clifford.Harvey@waterboards.ca.gov](mailto:Clifford.Harvey@waterboards.ca.gov))  
State Water Resources Control Board

Zachary Fancher ([Zachary.J.Fancher@usace.army.mil](mailto:Zachary.J.Fancher@usace.army.mil))  
Zachary Simmons ([zachary.m.simmons@usace.army.mil](mailto:zachary.m.simmons@usace.army.mil))  
United States Army Corps of Engineers

Matt Scroggins ([Matt.Scroggins@waterboards.ca.gov](mailto:Matt.Scroggins@waterboards.ca.gov))  
Debra Mahnke ([Debra.Mahnke@waterboards.ca.gov](mailto:Debra.Mahnke@waterboards.ca.gov))  
Central Valley Regional Water Quality Control Board

CDFW Region 4: Ferranti, Tomlinson, Parker  
CDFW Region 5: Wilson-Olgin, R. Rodriguez, M. Evans

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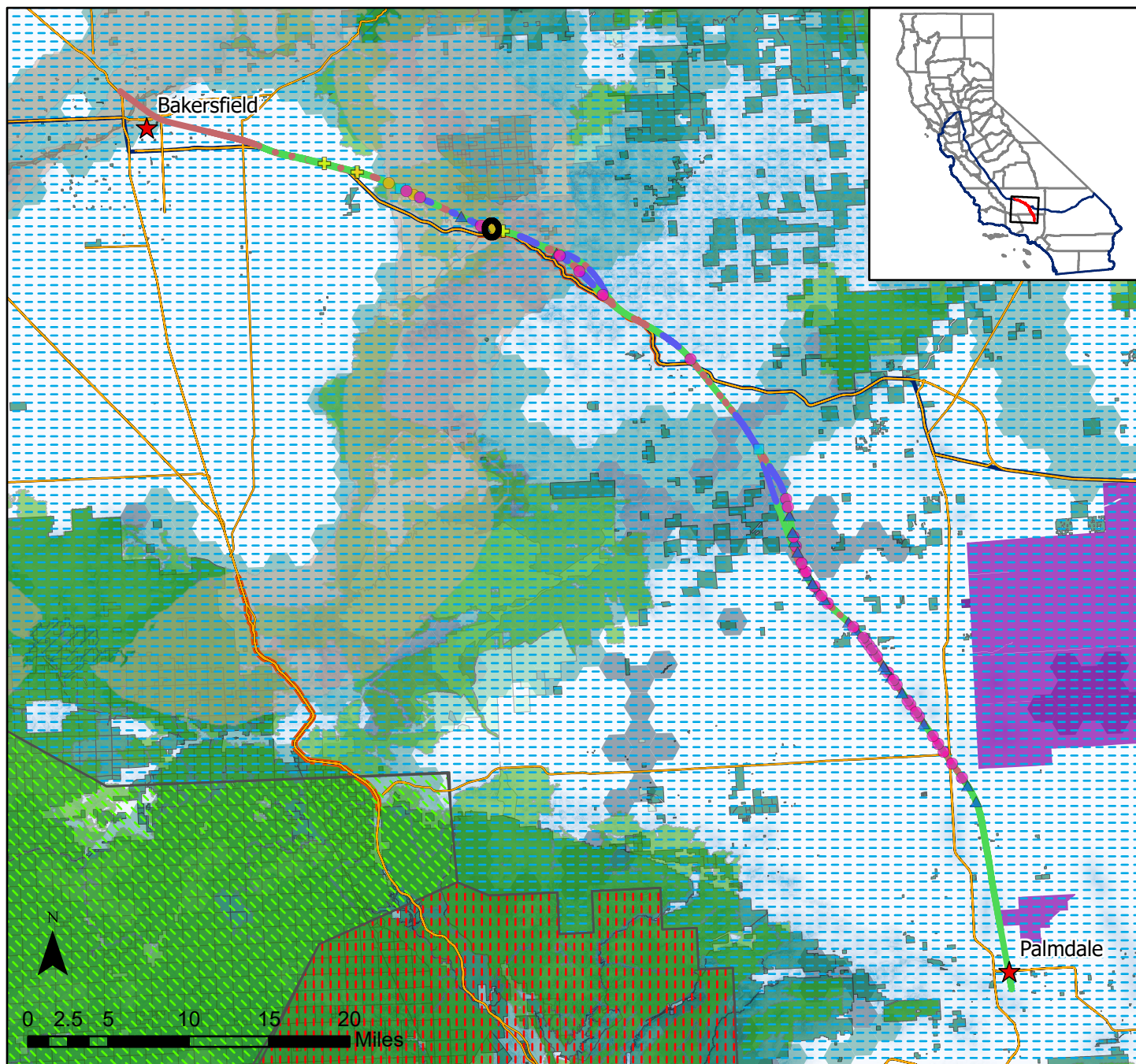
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**Figure 1**

Data sources:  
 HSR Alignment and Proposed Crossings: High Speed Rail Program  
 CPAD: California Protected Areas Database  
 Mountain Lion Suitability Model: Dellinger et al. 2020  
 Mountain Lion Populations: CDFW Dataset numbers (e.g., ds1234) refer to the CDFW BIOS ([www.wildlife.ca.gov/Data/BIOS](http://www.wildlife.ca.gov/Data/BIOS)) dataset number.

**Wildlife Crossing Type**

- Small Dedicated Wildlife Undercrossing (0.4 OF)
- Large Dedicated Wildlife Undercrossing (0.9 OF)
- ⊕ Road and Wildlife Overcrossing
- ⊕ Drainage and Wildlife Overcrossing
- ▲ Road and Wildlife Undercrossing

**Viable Wildlife Crossing**

**HSR B-P Alignments Under Consideration**

- Elevated
- Surface
- Underground
- Highways

**Southern CA/Central Coast Mountain Lion ESU**

- Population
- Central Coast
- Western Sierra
- Santa Monica

**CDFW 2020 Wildlife Barrier Priorities [ds2867]**

**Regional Connectivity Data [ds2693]**

- Core Reserve Central Valley (UC Davis)
- Corridor Central Valley (UC Davis)
- Natural Landscape Blocks (CEHC) [ds621]
- CPAD DOD Lands
- CPAD Protected Lands

**California Conservation Easements Database**

- California Conservation Easements Database
- Terrestrial Connectivity - ACE [ds2734]

**Connectivity Rank**

- 5 - Irreplaceable and Essential Corridors
- 4 - Conservation Planning Linkages

**Mountain Lion Suitability Model (Summer)**

- High : 0.595018
- Low : 0



**Attachment 2****CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)****PROJECT: California High-Speed Rail Project (Bakersfield to Palmdale  
Section)****SCH No.: 2009082062 (Revised DEIR/Supplemental DEIS)**

<b>RECOMMENDED MITIGATION MEASURE</b>	<b>STATUS/DATE/INITIALS</b>
<b><i>Before Disturbing Soil or Vegetation</i></b>	
Mitigation Measure 1: ML Habitat Assessment	
Mitigation Measure 2: ML Wildlife Crossing Monitoring	
Mitigation Measure 3: ML Avoidance-Buffer for Corridor Areas	
Mitigation Measure 4: ML No Night Work in Corridor Areas	
Mitigation Measure 5: ML Avoidance Use of Rodenticides	
Mitigation Measure 6: ML Provide Dedicated Wildlife Crossings	
Mitigation Measure 8: MB Habitat Assessment	
Mitigation Measure 9: MB Surveys	
<b><i>During Construction</i></b>	
Mitigation Measure 2: ML Wildlife Crossing Monitoring	
Mitigation Measure 3: ML Avoidance-Buffer for Corridor Areas	
Mitigation Measure 4: ML No Night Work in Corridor Areas	
Mitigation Measure 5: ML Avoidance Use of Rodenticides	
Mitigation Measure 6: ML Provide Dedicated Wildlife Crossings MB Take Avoidance	
Mitigation Measure 7: ML Take Authorization	
Mitigation Measure 10: MB Take Avoidance	