Memorandum

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Date: November 3, 2026

To: Kiran Seibel, County of San Diego, Parks and Recreation

From: Laura Moreton

Subject: Addendum to the Biological Resources Report for the Alpine County Park Project in the County of San Diego

HELIX Project: 00187.00133.056

Message:

This memo serves as an addendum to the Alpine County Park Project Biological Resources Report (BRR) (ICF 2022) to comply with a court order related to biological resources in the Peremptory Writ of Mandate issued on January 23, 2026, for CASE NO: 37-2024-00000536-CU-WM-CTL (Writ), and as further detailed in the Minute Order issued on June 9, 2025, in the same proceeding (Minute Order). The court determined that the Environmental Impact Report (EIR; State Clearinghouse #2021030196, County of San Diego [County] 2023) required further substantial evidence and reasoned analysis to adequately address the petitioners' comments related to two special-status animal species: western spadefoot (*Spea hammondii*) and pallid bat (*Antrozous pallidus*). Changes made after public review of the 2026 RDEIR are shown in ~~double strike-out~~/underline and are shaded light gray for the ease of reader review.

PROJECT BACKGROUND

The County of San Diego Department of Parks and Recreation (DPR) is proposing to construct the approximately 25-acre Alpine Park Project (project) in the community of Alpine, California. The Biological Survey Area (BSA) studied in the 2022 BRR includes the 96.6-acre project site (of which 2.4 acres is in the public right-of-way in South Grade Road).

The County acquired the 96.6-acre project site in 2019 to build a County-owned public park and establish preserve land in the area outside Alpine County Park. The County plans to manage the approximately 70-acre Alpine Park Preserve in perpetuity, as part of the preserve assembly envisioned under the Multiple Species Conservation Program (MSCP; County 1998).

The project site is in the community of Alpine, California, in south-central San Diego County, approximately 1.3 miles south of Interstate 8. Specifically, the project site is located along South Grade

Road, approximately one mile east of the intersection of Tavern Road and South Grade Road. The project occurs within the U.S. Geological Survey (USGS) *Alpine, California* 7.5-minute topographical quadrangle map. The center coordinates for the project in decimal degree format (NAD 83) are 32.82058° N and -116.75918° W. The project site is currently an undeveloped grassy field with multiple informal use trails but no permanent structures or infrastructure.

WESTERN SPADEFOOT TOAD

Writ

The language included in the Writ regarding western spadefoot is included below:

> *Western Spadefoot Toad. Respondent shall address, providing reasoned analysis supported by substantial evidence in the record, comments submitted by Petitioners' expert stating that the Spadefoot can travel up to 600 meters from their breeding pools and noting that the USGS recommended an undeveloped buffer of 300 to 400 meters around breeding pools.*

Minute Order

The language included in the Minute Order regarding western spadefoot, which provides further details regarding the Writ's directive, is included below:

> *The Western Spadefoot Toad ("Spadefoot") is a candidate for listing under the federal endangered species act. AR 1497. Petitioners argue the EIR's finding that the Project will have no impact on the surrounding Spadefoot population lacks evidence. OB at p.16. They argue their expert showed the Spadefoot can travel up to 600 meters from their breeding pools, meaning they may migrate into the development footprint and thus transmit waterborne contamination from vehicles, animal waste and landscaping, and Argentine Ants that impact Spadefoot's prey.* Id.*, citing AR 1340-1342 (also noting the USGS recommended an undeveloped buffer measuring 300 to 400 meters around breeding ponds). Petitioners argue the EIR's conclusion that the Spadefoot would only travel approximately 262 meters from pools to conclude no impact would occur ignores petitioners' expert evidence, and the EIR failed to address this in response to petitioners' comments. OB at p.17, citing* Banning Ranch Conservancy v. City of Newport Beach *(2017) 2 Cal.5th 918, 940 (The Guidelines state that an EIR should identify '[a]reas of controversy known to the lead agency including issues raised by [other] agencies." (Guidelines, § 15123, subd. (b)(2).) 'Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts." (Guidelines, § 15151.) '[M]ajor environmental issues raised when the lead agency's position is at variance with recommendations and objections raised in the comments must be addressed in detail. (Guidelines, § 15088, subd.(c)."). The County argues petitioners' comments on the recirculated Spadefoot analysis was late and, thus, the County did not have a duty to respond. Oppo. at p.16, citing AR 5369 (Nov. 7, 2023 letter) and citing* Gray v. Cnty. of Madera *(2008) 167 Cal.App.4th 1099, 1111 (under CEQA* [California Environmental Quality Act]*, lead agency is not required to respond to late comments). Petitioners argue they submitted expert comments on the edge effects in the draft EIR in 2021,*

and the recirculated and final EIR did not respond to those comments. Reply at p.12- 13, citing AR 1336, 1341.

Here, the record shows petitioners submitted comments on the Spadefoot, including the need to mitigate potential adverse effects associated with the development edge to provide for buffer distances of 300 to 400 meters around breeding ponds in 2021. AR 1336, 1340-1341. The EIR does not appear to address petitioners' expert comments on this issue. The County's analysis of indirect impacts on Wright's Field biological resources -- potential impacts approximately 600 to 800 feet from the eastern edge of the field -- also does not respond to the issue.

In its briefing and at the hearing, the County argued it relied on the study cited by petitioners' own expert (the 2019 Baumberger study) to adopt the datapoint of 262 meters in the EIR. Oppo. at p.16, citing Claremont Canyon Conservancy v. Regents of Univ. of California *(2023) 92 Cal. App. 5th 474, 483 (for the proposition that an EIR does not need to analyze every permutation of the data or address all variations of the issues). Petitioner's expert review, however, explained that a more recent study – by Halstead et al. in 2021 – followed up on Baumberger's earlier study findings, and that Halstead's study found a distance of 486 meters. AR1339-1340. The expert's review also noted the USGS recommended an undeveloped buffer measuring 300 to 400 meters. AR 1340. Thus, the issue with the EIR's reliance on the 262 meters datapoint is not merely about an agency's discretion of what is ultimately included in an EIR. Rather, it is that the EIR does not address and provide a reasoned analysis as to why the smaller buffer distance would support the EIR's conclusions on the Project's impacts to Spadefoot despite the newer conflicting evidence in the record. Accordingly, petitioners have shown the County erred when it concluded the Project's impact to Spadefoot would be less than significant after mitigation.*

Technical Reports

The Draft EIR, published for public review from September 30, 2021, to November 15, 2021, did not include an analysis of western spadefoot. As a result of public comments, the 2021 Draft EIR was revised and recirculated, with a Final EIR (FEIR) completed in October 2023. The Recirculated Draft EIR included a western spadefoot analysis, including the results of a 2022 western spadefoot survey. The following information regarding western spadefoot was provided in the 2022 BRR, Recirculated Draft EIR, and in the FEIR:

Excerpt from Biological Resources Report (FEIR Appendix D) Section 4.1.13.3

The winter of 2018–2019 was an exceptionally wet winter for coastal San Diego County. During fairy shrimp surveys in 2019, a western spadefoot egg mass was observed in basin AP-7. These eggs were discovered on February 8, 2019; the basin was inundated through March 29, 2019, a total of seven weeks. It was dry after that date. No evidence of western spadefoot breeding was observed in any other basins on-site during the surveys. Larvae were never observed in basin AP-7 during weekly checks from February 8 through March 29, 2019. The single breeding attempt within AP-7 during February 2019 was very likely opportunistic in nature and indicative of the exceptionally wet winter. The basins on the County parcel appear to be too small and ephemeral in nature to allow for complete larval development during all but perhaps record rainfall years; they more often act as reproductive sinks for the species.

Based on the results of the 2022 western spadefoot survey, the seasonally inundated basins within the County's parcel are associated primarily with the trails that exist along the northern perimeter of the BSA. Approximately 48 ponded areas were surveyed within or adjacent to dirt access roads, of which approximately 35 were mapped within the County's parcel and 13 were mapped on Wright's Field.

No western spadefoot adults, larvae, or eggs were observed during surveys of seasonally inundated basins within the County's parcels in 2022. Based on the surveys conducted in 2022, the two basins on Wright's Field (WF-6 and WF-7) are the primary breeding pools for western spadefoot within the survey area, although successful western spadefoot recruitment was not observed in 2022. Based on the survey results, it appears basins within the County's parcel are too shallow and/or do not hold water long enough to support western spadefoot breeding activities during all but the wettest rain years.

*Three adults were observed within the County's parcel during the nocturnal survey on March 4, 2022. All three were on the western side of the County's parcel, within approximately 70 to 150 meters of the basins on Wright's Field and more than 250 meters away from the closest inundation areas on the County's parcel. It appears that the County's parcel does provide upland habitat for western spadefoot; they were observed foraging only in the far western portions of the parcel. Western spadefoot were not documented foraging within the proposed Alpine Park boundary in 2022. Potential impacts on western spadefoot are addressed in Section 2.2.3, below; mitigation measure **MM-BIO-4** is proposed to reduce those impacts.*

Appendix E provides additional details on the 2022 surveys for western spadefoot conducted in the BSA.

Excerpt from Biological Resources Report (FEIR Appendix D) Section 2.2.3.2

*Western spadefoot may be affected by the project. One breeding pool of approximately 157 square feet (AP-7) was documented within the active park development footprint in 2019. This breeding pool may be utilized by western spadefoot seeking to expand from the core population on Wright's Field Preserve during exceptionally wet years, such as 2019 when an egg mass was observed in AP-7. AP-7 would be filled in during construction of the active park (**Impact-BIO-4**). Impacts on this potential breeding pool would be significant absent mitigation.*

As described in the Western Spadefoot Survey Report (Appendix E), the core breeding population of western spadefoot is located within seasonally inundated basins on Wright's Field Preserve. Three adults were observed within the County's parcel during the nocturnal survey on March 4, 2022. All three were on the western side of the County's parcel, within approximately 70 to 150 meters of the basins on Wright's Field and more than 250 meters away from the closest inundation areas on the County's parcel. It appears that the County's parcel does provide upland habitat for western spadefoot, but western spadefoot were documented foraging only in the far western portions of the parcel during the 2022 surveys.

Based on a recent study (Baumberger et al. 2019) that documented the distances from breeding pools to burrow locations, burrows and estivating adults could be expected to occur within approximately 262 meters of the known breeding pools on Wright's Field Preserve. The area

within this 262-meter distance includes the western portion of the BSA but not areas within the proposed active park where grading would occur (see Figure 4.4-4).

Adult western spadefoot also emerge a few nights per year to forage and breed (San Diego Management and Monitoring Program 2022). These activities are most likely to occur within the same general area as burrowing habitat, although the presence of eggs within the basin AP-7 during 2019 demonstrate that they can migrate farther east and into the area proposed for park development during these nocturnal breeding events but very likely only during particularly wet years. Because these foraging and breeding events happen in the evening when construction equipment would not be active, it is unlikely that direct impacts on western spadefoot, such as crushing or illegal collecting, would occur during foraging and breeding events. However, there is a possibility that some estivating western spadefoots would occur within the proposed project footprint where grading would occur. If western spadefoots were estivating in areas where grading is proposed, individuals could be crushed from construction equipment. These impacts are significance, absent mitigation, as described further in Section 3.2. The County would address potential impacts with mitigation measure ***MM-BIO-4****; therefore, the impact would be less than significant.*

FEIR Comment

The comment referred to in the Minute Order (Comment 08-91 from Preserve Alpine's Heritage on November 15, 2021) is included below for reference.

Western Spadefoot Life History and Ecological Requirements
A recently published telemetry study of Western Spadefoots in southern California provides important current information on the species' life history and ecological requirements (Halstead et al. 2021), following on earlier telemetry studies in the same region (Baumberger 2013, Baumberger et al. 2019).

Movements of Adult Spadefoots Between Breeding Pools and Aestivation Sites Western Spadefoots spend large parts of the year aestivating underground, often well away from their breeding ponds. As observed by Halstead et al. (2021:1385).

The distance that western spadefoots move from breeding pools is a key metric for western spadefoot conservation. Distance from the breeding pool indicates how much terrestrial habitat around a breeding pool might be used by western spadefoots and provides a direct link to the effective reserve sizes needed to preserve western spadefoot populations.

The need for core terrestrial habitats around amphibian breeding sites is documented (Semlitsch 1998, Semlitsch and Jensen 2001, Semlitsch and Bodie 2003, Harper et al. 2008, Searcy et al. 2013), as are the negative consequences of roads separating adult habitat from breeding pools (Becker et al. 2007, Brehme et al. 2018). Ensuring that enough terrestrial habitat exists to provide the life cycle needs for western spadefoots is best measured by the predictive distribution of distance from breeding pools. The 95th percentile of the posterior predictive distribution for western spadefoot asymptotic distance from the breeding pool was 486 m at Crystal Cove. This predicted value encompassed the maximum distance from the breeding pool of all but 1 of the spadefoots at the site.

Baumberger et al. (2019:6) found the maximum distance the spadefoots were found from the pools ranged from 16 to 262 m (Table 1, S1 Table), with a mean maximum distance of 69 m ± 61.48. The spadefoots used a mean of 13 burrows (SD ± 8.5), and the mean distance between burrow locations was 18 m (SD ± 24.2). They used 4–31 unique burrow sites (mean 11 ± 7.8) during the study. Nine of the 15 spadefoots (60%) reused one or more burrows at least once after moving to a different burrow. Outside of their aestivation period, the spadefoots shifted their burrow location an average of every 8 ± 7 days, and 147 of 194 (~76%) movements between burrows were ≤ 25 m.

In order to mitigate potential adverse effects associated with development edge upon Western Spadefoots, and to accommodate the movement of the toads between breeding ponds and upland aestivation sites, the USGS (Rochester et al. 2017) recommended that the City of Santee protect an ***undeveloped buffer measuring 300 to 400 meters*** *around Western Spadefoot breeding ponds. This range is consistent with conservation recommendations for the Western Spadefoot contained in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (US Fish and Wildlife Service 2005:II-231).*

Based on calculations from upland habitat use data analyzed by Semlitsch and Brodie (2003), a minimum conservation area to preserve the ecological processes required for the conservation of amphibians may fall within a distance of approximately 368 meters (1,207 feet) from suitable breeding wetlands.

Note that even the larger recommended buffer distance of 400 meters falls far short of the 602-meter movement of an adult spadefoot recorded in coastal Orange County (Halstead et al. 2021), and does not encompass the 486-meter distance that represents "the 95th percentile of the posterior predictive distribution for western spadefoot asymptotic distance from the breeding pool" in coastal Orange County. Figures 1 and 2, on the following page, show what buffer distances of 300 and 400 meters would look like on the project site.

Figure 1 (left) and Figure 2 (right) [Refer to Comment O8-91 in Volume I of the October 2023 FEIR for figures]. *The yellow circle in Figure 1 represents a 300-m buffer around Western Spadefoot breeding pool AP-007, and the yellow circle in Figure 1 represents a 400-m buffer. These are the minimum and maximum undeveloped buffer distances that the USGS recommended around spadefoot breeding ponds in Santee, San Diego County (Rochester et al. 2017). Aerial Source: Google Earth Pro.*

Response Provided in the FEIR (Volume 1, Chapter 3, Section 3.3.1)

Master Response MR-1 (Western Spadefoot Recirculation)
*Commenters noted that western spadefoot (*Spea hammondii*) is known to occur on Wright's Field and an egg mass for this species was observed during the project's 2019 fairy shrimp surveys within the proposed Alpine Park footprint. The Draft EIR did not discuss impacts on western spadefoot. Since the public comment period closed for the Draft EIR, the County of San Diego (County) has conducted focused surveys for western spadefoot within its property, as well as within the known population on the Wright's Field Preserve. The results of these surveys and a complete impact analysis have been provided in the Recirculated Sections of the Draft EIR (RS-Draft EIR). Specifically, Section 4.4 of the Draft EIR and the Biological Resources Report (BRR)*

were revised to include this analysis. A western spadefoot survey report was also prepared and included in the RS-Draft EIR. Because impacts on western spadefoot from the project are anticipated to be significant absent mitigation, ***MM-BIO-4*** *would reduce impacts on this species to less-than-significant levels.*

Response to Writ

The Writ directs the County to address, providing reasoned analysis supported by substantial evidence in the record, comments submitted by Petitioners' expert stating that western spadefoot can travel up to 602 meters from their breeding pools and noting that the USGS recommended an undeveloped buffer of 300 to 400 meters around breeding pools.

The County's proposed 262-meter buffer around western spadefoot breeding pools is based on a recent Orange County study (Baumberger et al. 2019) that determined that the mean distance of burrows from breeding pools was 40 meters with a range from 1 to 262 meters. The County acknowledges that western spadefoot has been documented to travel up to 602 meters from their breeding pools in one instance in a different Orange County study (Halstead et al. 2021). Although western spadefoots are capable of traveling varying distances, this is not necessarily correlated with where they spend most of their time. The Halstead study concludes that most western spadefoot home range areas, or the location where they spend the majority of their time, are less than one hectare (a linear travel range of approximately 56 meters,[1] assuming the home range area is a circle around a pool). This range of 56 meters represents the linear distance a western spadefoot individual could travel from the breeding pool at the center of its one-hectare home range area in any given direction. The 262-meter buffer proposed by the project provides far more habitat than even the largest individual home range observed during the Halstead study, which was up to 6 hectares, or approximately 138 meters (again assuming the home range area is a circle around a pool). The observation of a western spadefoot traveling up to 602 meters from its breeding pool in the Halstead study does not invalidate the County's 262-meter buffer, as the same study confirms that the largest observed home range for the species is over 100 meters smaller than the County's buffer. The intent of the mitigation measure is to protect the western spadefoot from development. The 262-meter buffer adequately protects the home range of the western spadefoot, while the design of the project allows for dispersal of the western spadefoot to the north and east for distances greater than 602 meters, into the Wright's Field Preserve and the County's Alpine Park Preserve.

Halstead et al. (2021) found variations between the distances toads were found to travel in relation to breeding pools. For example, 95 percent of the toads were found within 486 meters of their breeding pool at one site, and 95 percent of the toads were within 187 meters at another site. This shows there is a wide variation in the distances that spadefoots will travel in relation to their breeding pools. This spatial variation was found with most western spadefoot populations, and this context-dependent behavior suggests that site-specific management is necessary for western spadefoot.

Further, the commenters cited Baumberger et al. (2019) in comments on western spadefoot. Baumberger et al. (2019) found that the mean distance of burrows from the breeding pools was 40

[1] The area of a circle is calculated as $A=\pi r^2$, where A is area; π is pi, a mathematical constant approximately equal to 3.14; and r is the radius of the circle, which is the distance from the center of the circle to any point on its circumference. Solving for the radius of circle with an area of one hectare (equivalent to 10,000 square meters) yields a distance of approximately 56 meters.

meters, with a range of 1 to 262 meters. The maximum distance from the breeding pool ranged from 262 meters down to a minimum of 16 meters. Outside of their aestivation period, the spadefoots shifted their burrow location an average of every eight days, and 147 of 194 (approximately 76 percent) movements between burrows were less than or equal to 25 meters (Baumberger et al. 2019). The average distance moved between burrow locations was 18 meters with a range of 1 to 204 meters (Baumberger et al. 2019). By using a 262-meter buffer, the County conservatively selected the outermost limit of toad movement from the Baumberger et al. study, 6.5 times the mean distance found in the study.

The County also acknowledges that the USGS recommended an undeveloped buffer of 300 to 400 meters around breeding pools for the City of Santee Subarea Plan (Rochester et al. 2017). However, this recommendation was due to site-specific characteristics where a larger buffer was necessary to connect pools to habitat outside of the Plan area. The Rochester study acknowledges Baumberger's documentation that western spadefoot travel as far as 262 meters from breeding pool sites and uses this finding to draft the buffers considered for the City of Santee Subarea Plan, as discussed on pages 5 through 7 of that study (Rochester et al. 2017). The decision to use larger buffers in the City of Santee's Subarea Plan does not invalidate the County's buffer, which was determined for the project site using the same research consulted for the City of Santee's Subarea Plan, both of which take into account the availability of adjacent habitat.

What's more, the 262-meter buffer is only the proposed distance between the breeding pools and the project's construction limits. There is a much larger buffer to the west (600 meters to the nearest development) and north (850 meters to the nearest development) of the occupied pool because of the location of Wright's Field Preserve, which provides additional western spadefoot habitat. As discussed in the BRR (Appendix D to the RS-DEIR), most of the pools occupied by western spadefoot were on the adjacent Wright's Field site, not within the project site. The distribution of western spadefoot locations shows that Wright's Field is more suitable than the project site, meaning that spadefoots would be more likely to move west and out of the project site than east toward the proposed park site. This behavior by spadefoots can be expected in existing conditions (no project) as well as future proposed conditions (developed park). Wright's Field is preserved, which adds 230 acres (or 930,000 square meters) to the western spadefoot territory identified within the 262-meter buffer on-site. This is a key site-specific difference between the project site and the City of Santee Subarea Plan; a buffer of 300 to 400 meters is not required because the project's 262-meter buffer is more than sufficient to connect breeding pools to additional western spadefoot habitat.

Finally, the County coordinated closely with the U.S. Fish and Wildlife Service (USFWS) to determine an appropriate buffer for the project site. The USFWS exercised their own expert judgement and determined a 262-meter buffer was sufficient in the Biological Opinion they issued for the project, which also concludes that any spadefoots potentially injured or killed by the project (though unlikely) would not have a meaningful effect to the population given the comparatively high density of spadefoots in adjacent, protected habitat (Attachment A, *Biological Opinion 2022-0004852-S7-F-SD*). The USFWS further concluded that the protection and management of spadefoot habitat within the Preserve, combined with restoration of breeding habitat, will fully offset impacts from construction of the recreational park such that the population trajectory will be equal to or better over time compared to a no project alternative. The following conservation measures, as required by the permit for the project (No. ESPER22013883), will be implemented to protect western spadefoot. This is in addition to the

requirements of the FEIR. If any measures are in conflict, the permit requirements supersede the mitigation measures.

CM 3. Spadefoot Avoidance Measures
To minimize impacts to spadefoot within the recreation park, spadefoot exclusionary fencing will be installed around the Park. Prior to construction, at least three spadefoot surveys will be conducted within the exclusionary fence, and all spadefoot observed will be relocated outside of the fencing. Surveys will continue until no spadefoot are observed. Exclusionary fencing will remain in place surrounding the Park following construction to prevent spadefoot from entering the area and subjecting themselves to impacts. During ongoing management of the Preserve, spadefoot will be surveyed prior to trail and road maintenance when water is ponding. Work will be halted if adults, eggs, tadpoles, or juveniles are observed within the proposed impact areas.

CM 4. Spadefoot Habitat Conservation and Creation
The County will create three permanent basins encompassing at least 471 square feet to support spadefoot breeding. The basins will be within dispersal distance (860 feet) to existing breeding sites within Wright's Field, and they will be sited as far away from access roads as possible to minimize road mortality. These basins will avoid Quino habitat enhancement areas. Details of the breeding habitat creation project are in the Habitat Restoration and Enhancement Plan (HREP). Long-term management of the Preserve will include spadefoot-specific measures, including maintenance of breeding pools and monitoring.

CM 5. General Minimization Measures During Construction

a. *Employees and contractors will strictly limit their activities, vehicles, equipment, and construction materials to the Park.*

b. *No pets will be allowed in the Park during construction activities.*

c. *The Project will include watering, pursuant to a Stormwater Pollution Prevention Plan, to minimize dust generation throughout the project construction.*

d. *All equipment maintenance, staging, and dispensing of fuel, oil, or coolant will occur within the Park site.*

e. *Contractor equipment will be checked for leaks prior to operation and repaired, as necessary.*

f. *No night lighting will occur within or adjacent to the construction area at any time during construction.*

g. *Signage will be installed to prevent unauthorized access to the Preserve.*

PALLID BAT

Writ

The language included in the Writ regarding pallid bat is included below:

> *Pallid bat. Prior to making any finding that the 200-foot avoidance buffer from potential pallid bat roost sites, as set forth in mitigation measure MM-BIO-8, will avoid or substantially reduce a significant impact, Respondent shall support such a finding with substantial evidence in the record.*

Minute Order

The language included in the Minute Order regarding pallid bat is included below:

> *The pallid bat species is known to roost in San Diego County and the bats rely on grasslands for foraging. AR 2575-78. Petitioners argue the EIR's proposed mitigation measures under MM-BIO-7 to install bat boxes before removing vegetation and commencing construction, and MM-BIO-8 requiring construction occur at least 200 feet from potential roost sites, lack substantial evidence to show these measures are effective to reduce the project's impact to less than significant. OB at p.18-19.*
>
> *The EIR provides substantial evidence that the bat boxes will be included with other measures to mitigate impacts to less than significant. Oppo. at p.18, citing AR 1948–49 and AR 1955 (discusses restoration of native grassland and preservation of property in addition to active management on-site for the proposed preserve land, plus implementing mitigation measures of pallid bat boxes, bat roost avoidance, native grassland restoration, preservation of sensitive habituates; and construction is expected to occur during daytime hours and it is not expected to alter bats' natural nocturnal behaviors), AR 2593–95. The EIR also contains substantial evidence to show consideration will be given regarding temperature and monitoring of the bat boxes. AR 2593 (County will work with a bat expert to design and install the bat boxes; and design and placement will be considered for how to best maintain proper roost temperature; monitoring will be conducted quarterly for first 2 years and twice-yearly for years 3 through 5 after installation).*
>
> *However, as for the sound buffer distance to potential roosting sites – the County's expert recommended that mitigation "preclude[] construction activities within a minimum 500 feet of potential roost sites during the pupping season." Reply at p.13, citing AR 12249. The County does not show that mitigation efforts of requiring construction occur at least 200 feet from the nearest potential roosting spot (AR 2593) is supported by substantial evidence. Accordingly, the petitioners have shown no substantial evidence supports the EIR's proposed mitigation of only a 200-foot buffer construction zone.*
>
> *At the hearing, the County argued that no known potential roost sites have been identified on the project site. This argument appears to have been raised for the first time at the hearing. The petitioners do not appear to cite to the administrative record or other authority on this point. Even assuming no pallid bats have been spotted, this does not change the analysis, as the record shows that pallid bats are very difficult to detect and the EIR identified pallid bat impacts that requires mitigation measures. AR 2578.*

Technical Reports

The following information related to pallid bats (*Antrozous pallidus*) was included in the 2022 BRR (Appendix D of the FEIR) and summarized in the DEIR and the FEIR.

Excerpt from Biological Resources Report (FEIR Appendix D) Section 1.4.13.5

> *During the 2019 and 2022 surveys, 15 of the 22 known bat species in San Diego County were detected. The bats detected were big brown bat, big free-tailed bat, California myotis, canyon bat, hoary bat, Mexican free-tailed bat, pallid bat, pocketed free-tailed bat, Townsend's big-eared bat, western long-eared myotis, western mastiff bat, western red bat, western small-footed myotis, western yellow bat, and Yuma myotis.*
>
> *Seven of the observed bats are listed as California Species of Special Concern: pallid bat, Townsend's big-eared bat, western red bat, western yellow bat, western mastiff bat, pocketed free-tailed bat, and big free-tailed bat. All of these species, except western yellow bat, are also listed as San Diego County Group 2 species. Suitable roosting and foraging habitat for these species can be found on-site.*

Excerpt from Biological Resources Report (FEIR Appendix D) Section 2.2.3.4

> *During the 2019 and 2022 bat surveys, 15 of the 22 known bat species in San Diego County were detected. [Of these, t]he [special status] bats detected are big-free tailed bat, a County Group 2 species; pallid bat, a County Group 2 species; pocketed free-tailed bat, a County Group 2 species; Townsend's big-eared bat, a County Group 2 species; western long-eared myotis, western mastiff bat, a County Group 2 species; western red bat, a County Group 2 species; western small-footed myotis, a County Group 2 species; western yellow bat; and Yuma myotis, a County Group 2 species. Seven of these species are listed as California Species of Special Concern: pallid bat, Townsend's big-eared bat, western red bat, western yellow bat, western mastiff bat, pocketed free-tailed bat, and big free-tailed bat. Permanent direct and temporary indirect impacts on these species are expected to occur.*
>
> *The bat species were observed foraging over most of the native habitats in the BSA, especially within the open Engelmann oak woodland, flat-topped buckwheat, and native and non-native grasslands within the project footprint. Direct impacts on sensitive habitats would remove foraging habitat for these bat species during vegetation clearing associated with construction of Alpine County Park. However, the County is proposing restoration of native grassland and permanent preservation of a portion of the County property, in addition to active management on-site for the proposed preserve land and Alpine Park. The restoration efforts and active management of the proposed preserve portion of the project would assist in preventing the spread of invasive plants and benefit the native habitats some of these species rely on for foraging. Signs would be posted and the public would be subject to park rules within the proposed preserve land and Alpine Park to prevent impacts from domestic and horses within sensitive habitats. Ranger-led hikes would also assist the public in learning further about the resources the County proposes to protect in perpetuity and the importance of staying on designated trails and picking up after domestic animals. Impacts would potentially be significant. However, through the design measures and on-site management through implementation of the Project, in addition to implementation of mitigation measures MM-BIO-6, pallid bat boxes; MM-BIO-7, bat roost avoidance; MM-BIO-9, native grassland restoration; and MM-BIO-10, preservation of sensitive habitat types, as well as through the establishment of the Alpine Park Preserve (APM-BIO-1), which would protect the remaining habitat for these species in perpetuity, the impact would less than significant.*

Implementation of the project would not directly affect any known roosting habitat or maternal colony sites; however, roost sites are difficult to detect and can shift from year to year. It is presumed that the bats present in the Biological Study Area (BSA) are utilizing oak woodlands and/or grasslands as foraging or roosting sites, but there also may be some potential for bats to use the rock outcrops or crevices within boulders as roost sites. No large rock outcrops or trees would be removed as part of construction of the project. However, construction would occur directly adjacent to oaks and in the vicinity of rock outcrops/boulders where bats could be roosting. These construction activities have the potential to disrupt the breeding success of pregnant females and their pups, potentially causing direct mortality in some instances. These potential effects are discussed further in Section 3.2, below, and would be mitigated to less than significant through MM-BIO-8, requiring bat roost avoidance.

Indirect impacts on bat species, such as disruption of foraging behavior, could occur if construction takes place during evening hours. Because bats are nocturnal species and construction is expected to occur during daytime hours, indirect impacts on these species due to construction activities are not expected to alter natural behaviors. Maintenance of existing trails near or within oak woodlands is not expected to alter the quality of forage or affect roosting habitat for these species because these trails occur within disturbed, bare-ground areas already, and trail maintenance would occur during daytime hours.

Excerpt from Biological Resources Report (FEIR Appendix D) Section 3.2

The following state Species of Special Concern mammal species were documented within the BSA or have moderate or high potential to occur and, therefore, could be affected by the proposed Project: big free-tailed bat, Northwestern San Diego pocket mouse, pallid bat, pocketed free-tailed bat, San Diego black-tailed jackrabbit, San Diego desert (Bryant's) woodrat, Townsend's big-eared bat, western mastiff bat, western red bat, and western yellow bat. The loss of approximately 22.4 acres of habitat for these species would result in a significant impact. Impacts would be reduced to less-than-significant through the establishment of the Alpine Park Preserve (APM-BIO-1), which would protect the habitat within the County's parcel (and potentially in some off-site locations) for these species in perpetuity. Furthermore, impacts on habitat would be mitigated in accordance with MM-BIO-9, which would require compensatory mitigation be provided.

There are only two known pallid bat colony sites in San Diego County (Stokes 2018). The pallid bat individuals observed during focused bat surveys are believed to belong to the maternal colony that roosts in Viejas on a private residence. This species has very specific foraging strategy and utilizes grasslands and open oak woodlands as its main foraging habitat. In addition, this species has characteristics that affect its success with increased urbanization. This includes its tendency to fly at low altitude, its inability to fly over prolonged distances, and its specialized foraging strategies. The loss of approximately 22.4 acres of pallid bat foraging habitat would result in a significant impact that would be mitigated through the establishment of the Alpine Park Preserve (APM-BIO-1) and compensatory mitigation provided under MM-BIO-9, which would protect habitat for pallid bat within the County's parcel (and potentially in some off-site locations) for this species in perpetuity. Furthermore, impacts on pallid bat would be further reduced through implementation of MM-BIO-7, which would require the County to further support pallid bat populations through the installation of bat boxes.

Bat species are particularly vulnerable to impacts on maternal roost sites, such as within oaks or rock crevices. As mentioned in Chapter 2, impacts on maternal roost sites may occur during construction activities that occur in proximity to these sites. These impacts would cause direct impacts on California Species of Special Concern, including the potential for direct mortality, especially of pregnant females or pups. These impacts would be significant under the County's guidelines (County of San Diego 2010b), absent mitigation. Impacts on roosting special-status bat species would be reduced through implementation of ***MM-BIO-8****, which would require bat roost sites to be avoided during construction to the extent possible.*

These significant impacts would be reduced to less-than-significant levels through implementation of ***APM-BIO-1****, which would protect the species' habitat in perpetuity, in addition to* ***MM-BIO-2****, which would implement Engelmann oak tree avoidance and minimization measures;* ***MM-BIO-6****, which would install and monitor bat boxes;* ***MM-BIO-7,*** *which would avoid bat roosts;* ***MM-BIO-8****, which would restore non-native grassland to native grassland within the proposed preserve portion of the Project and a portion of Wright's Field; and* ***MM-BIO-9****, which would require habitat-based mitigation and preserve sensitive habitats in perpetuity.*

The following County Group 2 mammal species were documented within the BSA or have moderate or high potential to occur within the BSA and are already analyzed in Threshold 3.B., above: big free-tailed bat, Northwestern San Diego pocket mouse, pallid bat, pocketed free-tailed bat, Townsend's big-eared bat, San Diego black-tailed jackrabbit, San Diego desert (Bryant's) woodrat, western mastiff bat, and western red bat.

The western long-eared myotis, western small-footed myotis, and Yuma myotis are County Group II bat species not previously discussed. The impacts on these three bats would be similar to those disclosed for the bats described in Threshold 3.B. Although it is less clear that these impacts would affect the long-term local survival of these species, the loss of approximately 22.4 acres of habitat could result in a significant impact. These significant impacts would be reduced to less-than-significant levels through implementation of ***APM-BIO-1****, which would protect the species habitat in perpetuity, and* ***MM-BIO-9****, which would require habitat-based mitigation and preserve sensitive habitats in perpetuity. Impacts on maternal bat roosts of these species may occur during construction, which would be significant. Impacts on roosting special-status bat species would be reduced through implementation of* ***MM-BIO-8****, which would require bat roost sites to be avoided during construction to the extent possible.*

Implementation of the Project would have the potential to affect the nesting success of sensitive animals if vegetation clearing for initial construction of the park or any subsequent fuel modification activities are conducted during the breeding season for avian species or the roosting/pupping season for bat species. Impacts on the nesting success of sensitive animals would be a potentially significant impact. Implementation of ***MM-BIO-5*** *would reduce impacts on avian species to less-than-significant levels. Implementation of* ***MM-BIO-8*** *would reduce impacts on roosting bats.*

Response to Writ

No specific comments were raised on the buffer issue during public review, but the section below is included to comply with the Writ. Pallid bats were found nearby, but no known roost sites occur on site. However, the County is taking a conservative approach to protect pallid bats.

The Writ instructs the County—prior to making any finding that the 200-foot avoidance buffer from potential pallid bat roost sites, as set forth in mitigation measure MM-BIO-8, will avoid or substantially reduce a significant impact—to support such a finding with substantial evidence in the record.

Pallid bats were acoustically detected five times within the preserve portion of the project site during the September 2019 passive survey (ICF 2022). This is outside of the maternity season (April 1 – August 31) for the species. Therefore, the detections made were likely foraging, as opposed to roosting, individuals. Additionally, four of the five detections were in the northern portion of the preserved area more than 2,000 feet away from the proposed project impacts where the developed park will be. The closest detection of pallid bat was more than 500 feet west of proposed project impacts, also in the preserved area of the project site. The pallid bat individuals observed during focused bat surveys are believed to belong to the maternal colony that roosts in the Viejas Reservation, on a private residence. The roost is within an occupied house, indicating that pallid bats will withstand some level of disturbance and noise associated with human disturbance.

A 200-foot construction avoidance~~survey~~ buffer around the roost~~project~~ site is sufficient to protect roosting pallid bats, if present. Several studies have documented smaller construction avoidance buffers for several different species of roosting bats, some as small as 39 feet, as being effective for protecting maternity roosts of sensitive bat species in the U.S. (O'Keefe 2009). Because studies specific to pallid bats are limited and very little is known about the pallid bat, studies on North American bat species in general have been included herein to illustrate effective avoidance buffers for protecting roosting (including maternity and non-maternity roosts) bats in addition to available literature specific to pallid bats. Studies reviewed to determine adequate avoidance buffers include studies on the northern long-eared bat, Indiana bat, little brown bat, tricolored bat, and big brown bat, among others. These bat species were chosen as comparisons because in-depth scientific research has been conducted on them. However, it should be noted that none is a perfect comparison given that the others are not within the same genus as the pallid bat and there are no other bat species within the same genus as the pallid bat to use as a comparison. Therefore, species with similar size, roost locations, and habitat were chosen.

The USFWS recommends a 150-foot avoidance buffer for ~~avoiding~~ tree removal during the maternity season for northern long-eared bat (*Myotis septentrionalis*), a federally endangered species of bat (USFWS 2022). Although this is a different species of bat, it is a federally listed species, giving it a higher level of protection compared to the pallid bat. Like the pallid bat, this species is known to roost in trees. Additionally, both species are insectivorous medium-sized bats with large ears. These characteristics indicate a similar life cycle, diet, and roosting sensitivity level. The 4(d) Rule for Northern Long-Eared Bat is housed in 50 Code of Federal Regulations Part 17, in which the USFWS states:

> "O'Keefe (2009 p. 42) documented that a 39-foot (12-meter) buffer around a maternity roost tree during a harvest in May allowed the roost to be successfully used through late July and that one buffered tree was used 2 years in a row. We have adopted a standard for exception of take that is almost four times that which proved effective in this example, in order to better account for the

> variation in forest types used by the northern long-eared bat and a variety of slopes that might influence how large a buffer may need to be in order to prove effective."

As described above, the 150-foot distance was selected to ensure sufficient protection of the northern long-eared bat under a variety of possible development scenarios, though the USFWS acknowledges that a smaller avoidance buffer has proven effective to protect roosting sites.

Like the USFWS, the U.S. Forest Service (USFS) calls for a 150-foot primary avoidance buffer for northern long-eared bat and three additional species of forest-dwelling bats, including Indiana bat (*Myotis sodalis*), little brown bat (*M. lucifugus*), and tricolored bat (*Perimyotis subflavus*; USFS 2024). They require a 150-foot primary roost avoidance buffer centered on all known suitable roosts (including maternity and non-maternity roosts), which protects the integrity and function of the roost and avoids impacts to roosting bats. The primary 150-foot avoidance buffer around a suitable roost safeguards the roost and its current condition, characteristics, and associated microclimate from direct effects (USFWS 2016). A 150-foot avoidance buffer will protect known roosts from intentional damage or destruction (e.g., felling, burning, girdling, etc.) at all times of the year. The USFS also designates a 'secondary' species-specific avoidance buffer of variable size around a known active maternity roost. The secondary avoidance buffer typically includes multiple known and undocumented primary and alternate roost trees used by the maternity colony. These known and unknown roosts collectively comprise the core maternal roosting area (USFS 2024). The construction avoidance buffer determined by the bat biologist in accordance with MM-BIO-8 will be large enough to protect the primary and secondary roosts, if present.

Specific to sites occupied by pallid bats in the northwest, timber harvest has been prohibited within 250 feet of the roost site. The 250-foot avoidance buffer originates with the *Standards and Guidelines for Survey and Manage, Certain Cavity-Nesting Birds, Canada Lynx and Some Bat Roosts* (USFS 2001), which was developed under the Northwest Forest Plan (NWFP) Survey and Manage Program to protect sensitive species in Washington, Oregon, and northern California. Like the 150-foot avoidance buffer established by the USFWS, the 250-foot avoidance buffer is a conservative standard designed to ensure bat protection under a variety of development scenarios. The ultimate intent of the 250-foot avoidance buffer is to protect sites from vandalism, disturbance from road construction or blasting, and any activity that could change cave temperatures or drainage patterns, thus interfering with bat activity. The NWFP Guidelines state that "the size of the buffer, and types of activities allowed within the buffer, may be modified through the management direction developed for the specific site." (USFS 2001). The forests that are targeted for timber harvest in the northwest support tall, dense tree growth, which could result in a dramatic temperature shift when removed. The height of the trees also creates more disturbance from tree fall when they are cut. By contrast, the project site supports lower-growing, more open vegetation, reducing the potential for temperature shifts from clearing or damage from falling trees. The project site is also located in an urbanized area, such that the potential for human access and vandalism would not change dramatically with park construction. Therefore, park construction on-site warrants ~~requires~~ a smaller construction avoidance buffer than the 250-foot avoidance buffer recommended for timber harvest.

At a city park in Santa Clara County, an acoustic monitoring study of a maternity colony of big brown bats found that there was no difference in their egress and ingress patterns on the nights after chainsaws and earthmovers were operated (H. T. Harvey & Associates 2006). The equipment was used approximately 100 feet from the roost, which was the limit of the construction avoidance buffer zone

around the construction area, and the bat colony did not abandon their roost. The noise levels recorded during the operation of the chainsaws and earthmovers were 80 decibels (dB) and 87 dB, respectively. Bats' hearing is not as sensitive at lower frequencies compared to human hearing, so the sound frequencies that disturb humans do not necessarily have a corresponding effect on most bat species, and vice versa. Humans may not be able to hear frequencies detected by bats. This study indicates that a~~n~~ construction avoidance buffer of 100 feet was sufficient to protect an active maternity roost for a common bat species that occurs on-site.

The California Department of Transportation (Caltrans) recommends a survey area that includes the entire project site plus a 100-foot-wide buffer for potential bat roosting habitat (H. T. Harvey & Associates 2019). Within the Caltrans report, Johnston et al. (2004) recommends a generalized construction avoidance buffer distance of 100 feet between work activities and active roosts. Caltrans also recommends different avoidance buffers for day and night roosts depending on the activity that will occur. For pallid bats, the following avoidance buffers are recommended by Caltrans between the active roost and the activity: construction trucks and heavy equipment, 120 feet; small vehicles, 90 feet; drilling, trenching, and small equipment, 150 feet; light source without shielding, 400 feet; pedestrian traffic, 65 feet; and stationary diesel/gasoline exhaust sources greater than 2 minutes, 250 feet. The project will comply with these avoidance buffers through MM-BIO-8 (below), and the avoidance buffers may be expanded as needed to protect identified roosts from these activities at the discretion of the bat biologist. To ensure that roosts requiring avoidance buffers from stationary sources and light sources without shielding are identified and subsequently protected, the County has updated mitigation measure MM-BIO-8 to clarify that the pre-construction survey will cover the entire project impact area plus a 400-foot survey buffer if construction must occur during the pupping season.

As described above, there is no agreed-upon construction avoidance buffer for bat maternity sites, and guidance from federal agencies acknowledges that management requirements are site-specific. The two studies discussed above (O'Keefe 2009 and H. T. Harvey & Associates 2006) indicate that avoidance buffers of 39 to 100 feet can be successful for bat roost protection. Although there are varying recommendations for avoidance buffer size around bat maternity colonies, the County has suggested a construction avoidance~~survey~~ buffer of at least 200 feet, which is documented to have provided successful protection of bat maternity roosts of many bat species during a variety of projects, as described above. ~~The County has updated mitigation measure MM-BIO-8 (below) to clarify that the pre-construction survey will cover the entire project impact area plus a 200-foot buffer if construction must occur during the maternity season.~~ An avoidance buffer of at least 200 feet around the roost (greater for the activities in the Caltrans guidance above) will be established if any active maternity roosts are found, and it will be established according to the Bat Roost Management, Monitoring, and Mitigation Plan, as directed by an experienced bat biologist. The mitigation measure also includes monitoring to confirm the adequacy of the avoidance buffers and increasing the buffers if needed.

As shown below, mitigation measure MM-BIO-8 has been revised herein to clarify that if any maternal roost sites within the project site and a ~~200~~400-foot survey buffer are identified, an appropriate construction avoidance buffer of at least 200 feet shall be established around that roost site in accordance with the requirements established in the Bat Roost Management, Monitoring, and Mitigation Plan. This language provides a construction avoidance buffer that a bat expert deems necessary to protect the well-being of a roosting bat during the maternity season, depending upon what work activities are proposed to occur within the construction avoidance buffer. For example, if the bat expert retained to ~~complete the survey~~implement the Bat Roost Management, Monitoring, and

Mitigation Plan recommends a 500-foot construction avoidance buffer, the mitigation measure would require it to be implemented.

Mitigation

The following mitigation measures will be undertaken to protect the pallid bat. MM-BIO-7, MM-BIO-9, and APM-BIO-1 were presented in the 2023 version of Section 4.4 of the EIR as shown below. As described above, changes made after public review of the 2026 RDEIR are shown in ~~double strike-out~~/underline and are shaded light gray for the ease of reader review. Consistent with the approach of the 2026 Recirculated Draft EIR (RDEIR), revisions to MM-BIO-8 that were made for the 2026 RDEIR are shown in double ~~strike-out~~/underline ~~for the ease of reader review~~. Single ~~strike-out~~/underline indicates changes that were made to the mitigation measures between the 2022 RDEIR and the 2023 FEIR ~~and are not new revisions made for the 2026 RDEIR~~.

MM-BIO-7: Support Pallid Bat. ~~The~~ County DPR shall work with a bat expert to design and install bat boxes that attract pallid bat prior to vegetation removal activities commencing on the site. These bat boxes should be designed to accommodate both solitary individuals and maternal roost sites. Bat box design should reflect the best practices at the time of installation and be specific to larger-sized bats like pallid bat with respect to roost chamber sizes, etc. Design and placement of bat boxes should also consider how to best maintain proper roost temperature. When possible, the bat boxes should be placed along the edges of the wooded areas on the site. Final design, numbers, and placement of bat boxes will be determined by the bat expert in consultation with County DPR using the best practices known at the time.

Monitoring of the bat boxes shall be conducted quarterly for the first 2 years and twice-yearly during years 3 through 5 after installation. Any problems that are noted (e.g., mortality, predation) shall be addressed in consultation with the bat expert. Occupancy status, including species, numbers, etc., shall be documented to the extent possible without disturbing the occupants. If, after the first 2 years, a bat box remains unoccupied by any bat species, ~~the~~ County DPR and bat expert will discuss if the bat box needs to be repositioned on the site or redesigned. An annual report shall be prepared by the bat expert or designee to document the findings of the monitoring visits. The County will provide copies of this annual report to the CDFW and also include updates on the bat box monitoring on the site in the County's annual report for the MSCP.

MM-BIO-8: Bat Roost Avoidance. Because of the difficulty in detecting all potentially occurring roosting bats (e.g., the western red bat within the Engelmann oaks, pallid bats within rock crevices), no construction activities that could disturb a maternal roost site will occur during the pupping season (typically April 1 through August 31). This measure specifically precludes high-frequency surveying as well as intensive noise-generating activities (e.g., jack-hammering, etc.) anywhere on the project construction footprint as well as a 200-foot buffer around the project construction footprint~~within 200 feet of any Engelmann oaks or rock outcrops~~ during the pupping season.

If construction activities must occur ~~within this 200-foot avoidance buffer~~ during the pupping season, the County will conduct definitive bat roost surveys to determine the presence or absence of maternal day-roost and/or night-roost locations ~~within the 200-foot avoidance buffer that overlaps the construction footprint~~. These surveys will be conducted throughout the entirety of the project construction footprint as well as a 400~~200~~ foot buffer around the project construction footprint. The bat

biologist(s) who conduct these surveys shall have the appropriate education, training, and experience. The bat roost survey methodology will be described in a Bat Roost Management, Monitoring, and Mitigation Plan, which will be prepared at least 30 days prior to the start of construction and provided to CDFW.

Bat roost survey methods may include mist netting and tracking individual bats using telemetry and/or additional acoustic surveys that are timed to determine if individual Engelmann oaks or rock outcrops on or within 400~~200~~ feet~~the 200-foot~~ of the project construction footprint~~avoidance buffer are~~ support~~ing~~ bat roost sites. Surveys will be conducted for at least one hour after sunset to monitor for emergence. If any maternal roost sites~~within the 200-foot avoidance buffer~~ are identified, an appropriate construction avoidance buffer of at least 200 feet shall be established around that roost site in accordance with the requirements established in the Bat Roost Management, Monitoring, and Mitigation Plan. Avoidance buffer distances will account for the ability of that individual bat species to tolerate specific types of low- and high- frequency construction noise and other human disturbance associated with the project. No construction activities that could disrupt the roost site will be permitted within the established construction avoidance buffer. Additionally, any roost identified during the bat roost survey~~occurring on site~~ will have at least a 400-foot buffer from light sources without shields and at least a 250-foot buffer from any stationary exhaust source present for more than two minutes.

Bat biologists will monitor construction activities occurring adjacent to the avoidance areas for the bat roost sites in accordance with the Bat Roost Management, Monitoring, and Mitigation Plan. Monitoring frequency and duration also will conform to the Bat Roost Management, Monitoring, and Mitigation Plan and be used to determine that the established bat roost avoidance buffers are large enough to prevent maternal roost site impacts, including, but not limited to, roost site abandonment. Avoidance buffers will be expanded if any stress or disturbance to the maternal roost site is observed during monitoring. In years 1, 3, and 5 following construction completion, the County will conduct bat surveys, including maternal bat roost surveys, within the areas originally surveyed prior to construction.

If the maternal bat roost sites previously observed prior to and during construction are still observed during these monitoring surveys, no additional mitigation will be required. If any maternal roost sites observed prior to or during construction are no longer present (i.e., are not observed in any of the three post-construction surveys), the County will mitigate for the loss of the maternal roost site at a 2:1 ratio using methods agreed upon in the Bat Roost Management, Monitoring, and Mitigation Plan. This may include planting additional Engelmann oaks within the proposed ~~preserve~~open space if the affected maternal roost site utilized Engelmann oak trees or by building artificial bat roosts specifically for the affected bat species.

MM-BIO-9: Provide Compensatory Habitat-Based Mitigation. To mitigate for potentially significant impacts on Tier I, Tier II, and Tier III habitats, the County will provide compensatory mitigation consistent with its BMO ~~to reduce significant impacts on sensitive vegetation communities. Mitigation will be provided within open space preserve and/or within offsite location(s), as summarized below~~mitigation ratios. Mitigation will be provided commensurate with the acres of impacts incurred during each phase of construction and will be provided through the following: 1) on-site preservation within the open space, 2) on-site restoration of non-native grassland (Tier III) to native grassland (Tier I) and 3) off-site restoration of non-native (Tier III) to native grassland (Tier I) within Wright's Field, anticipated only as a result of Phase 2 implementation and 4) off-site mitigation for non-native grasslands, anticipated only as a result of Phase 2 implementation.

Table 4.4-5~~.~~ summarizes the maximum mitigation requirements if both Phase 1 and Phase 2 are implemented.

Table 4.4-5. Maximum Mitigation Requirements

Tier[a]	Total Impacts	Mitigation Ratio	Maximum Mitigation Requirement	On-site Mitigation[b]	Off-site Mitigation (Phase 2 Only)
Tier I	14.86	2:1	29.73	17.48 acres of preservation plus 4.84 acres of restoration (see **MM-BIO-10**)	7.41 acres of restoration on Wright's Field Preserve (see **MM-BIO-10**)
Tier II	3.97	1.5:1	5.95	5.95	None
Tier III	3.57	1:1	3.57	None	3.57[b]

a. Tiers correspond to those described in the County's BMO.
b. Habitat-based mitigation for permanent direct impacts on non-native grassland during Phase 2 implementation will be satisfied through purchase of credits and/or land acquisition of a similar high-quality non-native grassland in an off-site location.

APM-BIO-1: Establishment of the Open Space Preserve: As required under the County's MSCP Subarea Plan, Alpine Park Preserve will be managed in perpetuity in accordance with an RMP. This plan will outline management activities to be carried out by the County. The activities that are likely to be included in the RMP would enhance and preserve the affected sensitive natural communities. These activities include long-term monitoring of on-site preservation areas, non-native and invasive species vegetation management, and habitat restoration in the ~~preserve~~open space, as applicable. Through these strategic measures to mitigate for impacts, the preserved sensitive natural communities will be managed to maintain high-quality and functioning habitat and ~~the~~ County DPR will demonstrate its long-term commitment to species conservation within the open space~~/preserve~~.

ATTACHMENTS

A. Biological Opinion 2022-0004852-S7-F-SD

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Attachment A

Biological Opinion

United States Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer To:
2022-0004852-S7-F-SD

August 11, 2025
Sent Electronically

Memorandum

To: Field Supervisor, Carlsbad Fish and Wildlife Office
Carlsbad, California

From: Division Supervisor, Carlsbad Fish and Wildlife Office
Carlsbad, California

Subject: Intra-Service Formal Section 7 Consultation and Conference on the Issuance of a Section 10(a)(1)(B) Permit for the Incidental Take of Quino Checkerspot Butterfly and Western Spadefoot in Conjunction with the Alpine Park Project, San Diego County, California

This document provides the U.S. Fish and Wildlife Service's (Service) biological opinion in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), based on our review of the County of San Diego's (County or Applicant) July 2024, *Habitat Conservation Plan for the Alpine Park Project, San Diego County, California* (HCP). The HCP was prepared by the County in support of an application to the Service for a section 10(a)(1)(B) permit for the incidental take of the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) and the federally proposed threatened western spadefoot (*Spea hammondii*; spadefoot). The biological opinion addresses the effects of the HCP on these species and critical habitat for the Hermes copper butterfly (*Lycaena hermes*; Hermes).

This biological opinion is based on information provided in the HCP; Quino, spadefoot, and Hermes listing documents; survey reports for Quino, spadefoot, and Hermes; the *Draft Environmental Impact Report for the Alpine County Park Project* dated September 2021; *Habitat Restoration and Enhancement Plan for the Alpine Park Project* dated July 2024; telephone conversations, in-person meetings, and email messages with the Applicant; and other sources of information available in our files. The complete project file addressing this consultation is maintained at the Service's Carlsbad Fish and Wildlife Office (CFWO).

CONSULTATION HISTORY

July 11, 2019: County presented project and discussed potential biological constraints at monthly meeting with the Service.

September 24, 2019: Site visit conducted with Back Country Land Trust, the County, the California Department of Fish and Wildlife (Department), and the Service.

October 10, 2019: The Service and the County discussed the site visit and the relevance of the site to Quino recovery.

February 13, 2020: At monthly meeting with the Service, the County presented data regarding presence of Quino and Hermes and determined that Quino should be addressed in an HCP, but that Hermes could be avoided.

May 14, 2020: At monthly meeting, the Service and County discussed covered activities and impact estimates.

August 20, 2020: The County provided the Service with the initial draft HCP.

November 30, 2021: The County published the Draft Environmental Impact Report under the California Environmental Quality Act.

May 13, 2022: The County provided the Service with a revised draft HCP.

May 27, 2022: The Service provided comments on draft HCP, including a recommendation to cover spadefoot.

November 23, 2022: The County provided the Service with an updated draft HCP.

December 8, 2022: The County and Service discussed spadefoot impacts and mitigation at the monthly meeting.

December 21, 2022: The Service provided comments on the November 23, 2022, draft HCP.

January 12, 2023: The Service and County discussed spadefoot incidental take limits at the monthly meeting.

March 9, 2023: The County submitted to the Service their approach to estimate incidental take of Quino.

March 20, 2023: The County provided a draft Habitat Restoration and Enhancement Plan to the Service describing mitigation for Quino and spadefoot.

August 21, 2023: The County presented to the Service a conceptual proposal for spadefoot mitigation.

November 22, 2023: The County announced publication of the Final Environmental Impact Report for the proposed project under the California Environmental Quality Act (CEQA).

February 29, 2024: The County provided the Service with an updated draft HCP.

March 25, 2024: The Service provided comments on the latest draft HCP to the County.

May 1, 2024: The Service provided comments on the draft HREP to the County.

June 12, 2024: The County provided an updated draft HCP and HREP to the Service.

July 31, 2024: The County provided the Service with the draft HCP used for the Federal Register notice.

January 21, 2025: A Notice of Availability (NOA) for the proposed HCP and Environmental Assessment pursuant to the National Environmental Policy Act was published in the Federal Register.

February 20, 2025: The comment period for the NOA closed. We received 23 comments from the public.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed Federal action is the issuance to the County of an incidental take permit (permit) under section 10(a)(1)(B) of the Act for a period of 25 years. The permit will authorize the incidental take of Quino and spadefoot during construction and operation of an active recreation park (Park) and incidental take associated with habitat restoration and management.

The property is adjacent to the Back Country Land Trust's Wright's Field Preserve (Wright's Field), located to the north of South Grade Road and east of Tavern Road in the unincorporated community of Alpine, San Diego County, California. The County proposes to establish the 25-acre Park with turf areas, a baseball field, an all-wheel area, a bicycle skills area, recreation courts, fitness stations, a leash-free dog area, restroom facilities, an administrative facility, an equestrian staging area, a nature play area, a community garden, a volunteer pad, picnic areas, a game table plaza, and trails. Infrastructure supporting the Park will include parking for 240 vehicles, a septic system, and stormwater retention basins. Park construction will be done in two phases. Phase 1 (8.7 acres) will include utilities and construction of the northern facilities while the remainder of the site will be constructed in Phase 2 (14.4 acres).

As mitigation for the proposed impacts, the County will establish the 67.5-acre Alpine Park Preserve (Preserve). Phase 1 of the project will include long-term protection of the Preserve, initiation of Preserve management, habitat restoration and enhancement, and fire prevention measures. Habitat restoration and enhancement will focus on Quino and spadefoot habitat and restoration and enhancement of native grasslands.

The following activities have potential to impact covered species and are addressed in the permit: vegetation clearing for the Park; indirect construction impacts such as noise and dust; operations and maintenance; trail access and road maintenance; future trail realignment; trail closures; Preserve management, restoration, and enhancement; and fire prevention.

Conservation Measures

The County will implement the following conservation measures (CM) as described in the HCP to avoid, minimize, and mitigate adverse effects to Quino and spadefoot:

CM 1. Quino Avoidance Measures

The County will minimize ground-disturbing activities during the Quino flight season, defined as February 15 to May 15. If the flight season cannot be avoided, biologists familiar with Quino will be on site during construction activities and will halt activities if a Quino adult is observed. If 5 or fewer Quino larvae are observed, they will be moved to suitable habitat nearby, and if more than 5 larvae are observed, the Service will be notified and consulted for relocation of larvae.

CM 2. Quino Habitat Conservation and Enhancement

The proposed Preserve includes 57.8 acres of occupied Quino habitat with approximately 32,542 host plants. Habitat enhancement will add Quino larval habitat to the Preserve with the goal of replacing impacts to Quino host plants at a minimum of a 1:1 ratio. A total of 3 acres of habitat will be enhanced to augment the Preserve with at least 17,695 host plants. For context, the adjacent Wright's Field MSCP Preserve has approximately 1,117,046 host plants. The details of the habitat enhancement plan are within the Habitat Restoration and Enhancement Plan (HREP) referenced in the HCP.

The County will include invasive plant control and other Quino-specific habitat management measures in the long-term management of the Preserve. In addition, Quino monitoring will be implemented within the Preserve consistent with the HCP or future regional monitoring plans.

CM 3. Spadefoot Avoidance Measures

To minimize impacts to spadefoot within the recreation park, spadefoot exclusionary fencing will be installed around the Park. Prior to construction, at least three spadefoot surveys will be conducted within the exclusionary fence, and all spadefoot observed will be relocated outside of the fencing. Surveys will continue until no spadefoot are observed. Exclusionary fencing will remain in place surrounding the Park following construction to prevent spadefoot from entering the area and subjecting themselves to impacts. During ongoing management of the Preserve, spadefoot will be surveyed prior to trail and road maintenance when water is ponding. Work will be halted if adults, eggs, tadpoles, or juveniles are observed within proposed impact areas.

CM 4. Spadefoot Habitat Conservation and Creation

The County will create three permanent basins encompassing at least 471 square feet to support spadefoot breeding. The basins will be within dispersal distance (860 feet) to existing breeding sites within Wright's Field, and they will be sited as far away from access roads as possible to minimize road mortality. These basins will avoid Quino habitat enhancement areas. Details of the breeding habitat creation project are in the HREP. Long-term management of the Preserve will include spadefoot-specific measures, including maintenance of breeding pools and monitoring.

CM 5. General Minimization Measures During Construction

a. Employees and contractors will strictly limit their activities, vehicles, equipment, and construction materials to the Park.

b. No pets will be allowed in the Park during construction activities.

c. The Project will include watering, pursuant to a Stormwater Pollution Prevention Plan to minimize dust generation throughout the project construction.

d. All equipment maintenance, staging, and dispensing of fuel, oil, or coolant will occur within the Park site.

e. Contractor equipment will be checked for leaks prior to operation and repaired as necessary.

f. No night lighting will occur within or adjacent to the construction area at any time during construction.

g. Signage will be installed to prevent unauthorized access to the Preserve.

CM 6. Habitat-Based Mitigation

The County will restore 12.25 acres of exotic annual grassland to native perennial grassland, including 4.84 acres in the Preserve and 7.41 acres in Wright's Field. Quino were observed in native grassland habitat within both the proposed Preserve site and Wright's Field, and we expect this grassland restoration will benefit Quino. Native grassland restoration details are in the HREP.

Action Area

Regulations implementing the Act (50 CFR § 402.02) describe the action area as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. For purposes of this consultation, we define the action area as the 67.5-acre

proposed Preserve area, the 25-acre Park, and the 7.41 acres within Wright's Field that will be subject to native grassland restoration as shown in Figure 3 of the HCP. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area as determined by the Service.

ANALYTICAL FRAMEWORK FOR THE SECTION 7(A)(2) DETERMINATIONS

Jeopardy Determination

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion relies on four components: (1) the Status of the Species, which describes the range-wide condition of the species, the factors responsible for that condition, and their survival and recovery needs; (2) the Environmental Baseline, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the Effects of the Action, which are all consequences to listed species caused by the proposed action that are reasonably certain to occur; and (4) the Cumulative Effects, which evaluate the effects of future, non-Federal activities in the action area on the species.

For the section 7(a)(2) determination regarding jeopardizing the continued existence of the species, the Service begins by evaluating the effects of the proposed Federal action and the cumulative effects. The Service then examines those effects against the current status of the species to determine if implementation of the proposed action is likely to reduce appreciably the likelihood of both the survival and recovery of the species in the wild.

Adverse Modification Determination

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. "Destruction or adverse modification" of critical habitat means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species (50 CFR § 402.02).

In accordance with policy and regulation, the adverse modification analysis in this biological opinion relies on four components: (1) the status of critical habitat, which describes the condition of all designated critical habitat in terms of its physical and biological features, the factors responsible for that condition, and the intended recovery function of the critical habitat overall; (2) the environmental baseline, which analyzes the condition of the designated critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the effects of the action, which analyze all consequences to critical

habitat caused by the proposed action that are reasonably certain to occur and their influence on the recovery role of the affected designated critical habitat units; and (4) cumulative effects, which evaluate the effects of future non-Federal activities in the action area on the physical and biological features of critical habitat and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on the designated critical habitat are evaluated in the context of the condition of all designated critical habitat, taking into account any cumulative effects, to determine if the consequences of the proposed action are likely to appreciably reduce the value of critical habitat as a whole for the conservation of the species.

STATUS OF THE SPECIES AND CRITICAL HABITAT

Quino Checkerspot Butterfly

The status of Quino is described in detail in the 5-year reviews for the species (Service 2009a; 2023a). More detailed information on Quino life history, threats, and conservation needs are described in the Recovery Plan for the Quino Checkerspot Butterfly (*Euphydryas editha quino*) (Service 2003) and the Amendment to the Quino Checkerspot Butterfly Recovery Plan (Service 2019). Please refer to these documents for detailed information on Quino's life history, threats, and conservation needs.

Summary of Species' Distribution and Numbers Rangewide

Quino are found in open areas and ecotones within a variety of plant communities, including grasslands, chaparral, and coastal sage scrub from western Riverside County south into Baja California, with highest remaining concentrations in southwestern Riverside County and southern San Diego County. Habitat patch suitability is determined primarily by larval host plant density, topographic diversity, nectar resource availability, and climatic conditions (Service 2003). Quino was listed as endangered in 1997 (Service 1997), and critical habitat was designated in 2002 (Service 2002) and revised in 2009 (Service 2009b). The action area is not within designated Quino critical habitat.

Status of Quino in the Vicinity of the Action Area

Although the action area is not within a Quino recovery unit, the site is located within the Alpine Occurrence Complex, which falls within the possible future Central San Diego Recovery Unit described in the recovery plan (Service 2003). Possible future recovery units are identified in the recovery plan as potentially important areas for recovery pending information unavailable at the time the plan was written. Wright's Field and the action area have most of the known Quino habitat in the Alpine Occurrence Complex and based on a 2020 habitat assessment (ICF 2020), there are 172.8 acres of Quino habitat on Wright's Field abutting the 84.4 acres of Quino habitat in the proposed Park and Preserve. As an assessment of larval habitat quality, the County mapped Quino host plants in both the action area and Wright's Field and counted 1.1 million host plants in Wright's Field and over 50,000 host plants within the proposed Park and Preserve.

The closest Quino recovery unit to the action area is the Southwest San Diego Recovery Unit, and the closest offsite core occurrence complexes are the Otay Core Occurrence Complex and West Barrett Lake Core Occurrence Complex, located approximately 10 miles to the south and southeast, respectively (Service 2003, 2009a). The closest non-core occurrence complexes are Willits Road, Sycuan Peak, and Dehesa, which are located between 2 to 5 miles to the southwest of the Alpine Park Occurrence Complex. Areas to the north of the action area, east of El Capitan Reservoir, are consistently modeled as high-quality Quino habitat, but no focused surveys have been conducted to assess occupancy in this area. Quino occupancy in this area is likely but uncertain.

Landscape connectivity among core occurrence complexes is recognized as key to the long-term persistence of the Quino within the region (Service 2003). Because connectivity among core occurrence complexes in the northern and eastern portion of the Southwest San Diego Recovery Unit and the future Central San Diego County Recovery Unit is constrained by intervening mountains, development, and agriculture (Service 2003), maintenance and long-term management of even isolated Quino occurrence complexes are important to support dispersal and connectivity among populations.

Western Spadefoot

The status of spadefoot is described in detail in the Species Status Assessment Report for Western Spadefoot (*Spea hammondii*) Version 1.1 (Service 2023b). The Service proposed to list the northern and southern distinct population segments (DPS) as threatened in 2023 (Service 2023c). No critical habitat was proposed in the listing rule. Please refer to these documents for detailed information on the spadefoot's listing status, life history, threats, and conservation needs.

Summary of Species' Distribution and Numbers Rangewide

Spadefoot are found in grasslands, scrub, or mixed woodland and grassland areas where aquatic breeding habitat is available (Stebbins and McGinnis 2012). Spadefoot eggs and larvae inhabit a variety of permanent and temporary wetlands, both natural and altered, including rivers, creeks, artificial ponds, livestock ponds, sedimentation and flood control ponds, irrigation and roadside ditches, roadside puddles, tire ruts, and borrow pits (Service 2023b). Throughout most of the year, spadefoots aestivate in underground burrows in upland areas surrounding their aquatic (breeding) habitat. Baumberger *et al*. (2019) determined that most aestivation burrows are within 860 feet of breeding ponds. The southern DPS includes areas in southern California from Santa Barbara County south through Ensenada, Baja California. The southern DPS extends east to San Bernardino, Riverside counties in California and to Tecate in Baja California (Service 2023c).

Status of the Species in the Vicinity of the Action Area

In San Diego County, spadefoots occur from the Mexican border north to Camp Pendleton along the coast and east to the mountainous areas of eastern San Diego County at approximately 4,500 feet in elevation. Known locations are fragmented by urban development with limited viable connectivity. The proposed Park and Preserve site and adjacent Wright's Field likely represent the only location of this species in the Alpine area or within common dispersal distance. Most other sites in the vicinity lack the flat topography, soils, and ponding water

needed to support the species. Other spadefoot occurrences in the vicinity include one approximately 5 miles to the northwest, near the El Capitan Reservoir Dam in the Cleveland National Forest, one approximately 7 miles to the southeast, in Horsethief Canyon in the Cleveland National Forest, and one approximately 13 miles to the southwest, near Singing Hills Golf Course (SDMMP 2022).

Hermes Copper Critical Habitat

The Service listed Hermes as threatened and designated critical habitat in December 2021 (Service 2021). The current Hermes distribution is restricted to San Diego County and northern Baja California. The range of Hermes is greatly reduced since 2003, and the species is now only known to occur on the southeastern margin of its historic range (Marschalek *et al*. 2024). The latest estimates show 26 Hermes occurrences categorized as known or presumed extant, 56 presumed extirpated, and 16 as permanently extirpated (Service 2022).

Hermes occurs in coastal sage scrub and southern mixed chaparral where its larval host plant, spiny redberry (*Rhamnus crocea*), is available. Presence of spiny redberry and California buckwheat (*Eriogonum fasciculatum*), the most common nectar plant, is the strongest predictor of the presence of Hermes. Hermes are found as adults from mid-May to mid-July with a flight season of approximately 30 days. Wildfire, drought, habitat loss, and habitat fragmentation from urbanization are the primary threats to Hermes. Wildfires in 2003 and 2007 led to the extirpation of many populations throughout the County (Service 2021).

The physical or biological features identified as essential for Hermes critical habitat are the presence of spiny redberry and nectar sources. The Park and Preserve sites are within a core area for Hermes due to historical Hermes sightings in the northwestern portion of Wright's Field and on a private parcel directly west of Wright's Field. No Hermes have been documented from the area since June 2011, when six sightings were reported by Deutschman *et al*. (2011).

The proposed Park and Preserve, Wright's Field, and adjacent habitat to the north, west, and south are within Unit 3 of designated Hermes critical habitat. Hermes critical habitat Unit 3 (Southeast San Diego) is 27,525 acres. These parcels make up one of 24 subunits within Unit 3, and the total area of the subunit is roughly 350 acres.

ENVIRONMENTAL BASELINE

The regulations implementing the Act (50 CFR § 402.02) define the environmental baseline as the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR § 402.02).

Status of the Species in the Action Area

Quino Checkerspot Butterfly

Quino were observed in the action area during focused surveys in 2019 and 2020 as well as incidentally in 2010 (Klein 2010, pers. obs.; ICF 2019a, 2020). Quino were observed along the southern boundary of the proposed Preserve and within the Park site. Quino were also observed in a central location within Wright's Field during the 2020 focused surveys. Based on these observations, we estimate there are 84.4 acres of Quino-occupied habitat within the action area. Quino host plants were mapped within the action area and the remainder of Wright's Field in 2020, and 95 percent of the individual host plants (84,944 of 104,863) were found Wright's Field (Figure 5 in the HCP). Within the project site, 32,542 host plants were found in the proposed Preserve, and 17,695 were found in the proposed Park.

Western Spadefoot

A spadefoot egg mass was observed in basin AP-7 during focused fairy shrimp surveys within the proposed Park area in 2019 (ICF 2019b). Basin AP-7 and all other basins within the Park and Preserve sites were determined to be unsuitable for spadefoot development because they do not hold water long enough. Focused spadefoot surveys were conducted within 48 ponded areas, including 35 in the action area and 13 in Wright's Field, and no spadefoot were observed (ICF 2022). Most of the ponded areas in the action area are associated with the trail along the northern boundary of the proposed Park. The County's biologists determined that the primary spadefoot breeding area in the vicinity is located centrally within Wright's Field (Figure 7 in the HCP). We expect that spadefoot aestivation and foraging is concentrated within 860 feet of the breeding pools in Wright's Field, defined as the spadefoot use area in Figure 7 of the HCP. The entire Park and Preserve sites are suitable for spadefoot foraging and aestivating.

Status of Critical Habitat of the Species in the Action Area

Eighty-nine acres in the Park and Preserve are within designated Hermes critical habitat, and we estimate that 6 acres in the Park and 50.7 acres in the Preserve contain physical and biological features of critical habitat. We include all coastal sage scrub and chapparal vegetation in this estimate, both disturbed and intact. The remaining land within the action area is dominated by grassland or oak woodland habitat. Spiny redberry is found scattered throughout the northern portion of the proposed Preserve, and no spiny redberry is found within the proposed Park. Hermes have not been observed within or near the action area since 2011 despite focused surveys within the Park and Preserve in 2019 and in the both the action area and the remainder of Wright's Field in 2020. All recorded Hermes observations in the project vicinity have been within the western portion of Wright's Field or the adjacent property to the west, all a minimum of 2,000 feet from the proposed Park.

EFFECTS OF THE ACTION

Regulations implementing the Act (50 CFR § 402.02) define the effects of the action as all consequences to listed species or critical habitat that are caused by the proposed action, including

the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (50 CFR § 402.02).

Quino Checkerspot Butterfly

Effects from Park Construction

We worked with the County biologists to develop the concept of a Quino adult equivalent to assess population-level impacts from loss of individual Quino. Immature Quino life history stages (eggs, larvae, and pupae) have low survivorship, meaning that the loss of an egg, larva, or pupa has less impact to the Quino population than loss of an adult female. Murphy *et al*. (1983) estimated that total egg production for bay checkerspot butterfly (*Euphydryas editha editha*), a species to closely related to Quino, was 400–800 eggs per season, and we use the upper limit of that estimate for our Quino formula. We estimate take as adult equivalents whereby females lay up to 800 eggs with 25 percent hatch rate to larvae, and 1 percent rate of survival from larva to adult. This approach assumes a 50:50 sex ratio and population stasis such that one adult female produces 1 male and 1 female (800 eggs × 0.25 × 0.01 = 2). By this logic, 100 larvae are functionally equal to 1 Quino adult equivalent.

Construction of the recreation park will impact 22.4 acres of occupied Quino habitat, including two locations where Quino adults were observed in surveys. Because plant abundance likely tracks Quino abundance in occupied habitat, we can estimate impacts based on loss of host plants. A total of 17,695 host plants were recorded within the 22.4 acres that will be impacted by construction of the recreation park. Assuming the 2 adult Quino observed in the Park site were female, the adult equivalent formula works out to four Quino adult equivalents harmed, killed, or injured with removal of habitat within the Park site (each adult female is expected to produce one male and one female). The impacts could be to any life history stage, using the conversion formula above to calculate the estimated impacts to individuals. Because of the difficulty observing and quantifying impacts to Quino, particularly in the early life history stages, the limits to impacts will be based on the amount of habitat impacted as opposed to number of individuals observed dead or injured.

The County intends to avoid the Quino flight season (February 15 to May 15) during project construction. In the unlikely event that construction must proceed during the flight season, Quino surveys will be conducted ahead of construction, and direct impacts to any adult Quino observed will be avoided. We expect that Quino adults will be able to escape direct impacts. If up to five Quino larvae are observed during construction, they will be relocated to suitable habitat within the Preserve by project biologists. If more than five Quino larvae are observed, construction will be halted, and the County will consult with the Service prior to relocating the larvae. Although CM 1 requires the County to notify and coordinate with the Service if five Quino larvae are observed during construction, additional larvae could be moved under the County's permit if the Service agrees that no additional avoidance and minimization measures are needed. As described above, the total limit for impacts to Quino is based on the amount of habitat impacted as opposed to the number of individuals captured or observed dead or injured.

Effects from Habitat Restoration and Enhancement

Direct impacts to Quino may occur in the Preserve and Wright's Field during habitat restoration and enhancement described in the HREP. The County estimates that approximately 15.3 acres will be impacted for habitat restoration and enhancement; however, we will assume that up to 17 acres in total will be impacted in order to provide flexibility for unforeseen circumstances during this process Impacts to adults will be minimized by avoiding the flight season to the extent practicable. During the initial phases of Quino habitat restoration, the Quino host plant density is expected to be too low to attract oviposition, and immature stages of Quino are unlikely to be present. With habitat restoration and enhancement, host plant density will increase over time, and Quino may begin laying eggs within the restoration and enhancement areas. At this stage, Quino habitat restoration and enhancement activities have potential to cause loss of Quino eggs, larvae, or pupae. Although it is difficult to estimate the specific number of Quino that will be impacted during habitat restoration and enhancement, as with the initial construction, we use our best professional judgement to estimate that these activities will result in the loss of up two adult equivalents based on the oviposition and survivorship rates defined above (i.e., 2 adults = 800 eggs = 200 larvae). Although the take could occur at any Quino life stage, larvae are the most likely life stage to be killed or injured because they are present most of the year and are unable to escape. As with the effects from Park construction, limits on impacts to Quino are based on the amount/location of proposed restoration and enhancement activities as opposed to number of individuals observed dead or injured.

Effects from Long-Term Management and Fuel Reduction

During long-term management, which will be described in a Resource Management Plan (RMP) for the Preserve, there may be additional loss of Quino individuals through trampling, weed control, or other management activities within the 67.5-acre Preserve. The RMP will include Quino avoidance and minimization measures, including avoidance of all areas with known Quino host plants, but some impacts may still occur. Similar to impacts from construction activities and habitat restoration and enhancement, we estimate up to two Quino adult equivalents will be impacted every 5 years from implementation of the RMP. Thus, we estimate that RMP implementation will impact a total of up to 10 Quino adult equivalents during the 25-year Permit Term, although the impacts will be limited based on the location/amount of habitat affected by proposed long-term management and fuel reduction activities.

Fuel reduction activities have potential to directly crush Quino eggs, larvae, and pupae and indirectly impact larvae by removing food resources (host plants). The County estimates that 3.1 acres will need to be mowed for fuel reduction, and we assume up to 3.5 acres will be impacted in case additional area will need to be mowed in practice. No host plants have been observed within proposed fuel reductions areas, but routine mowing and trimming may introduce Quino host plants because they are known to invade disturbed areas. There are nectar plants in these areas; however, these plants will be permanently removed as part of fire fuel-reduction activities, which will reduce habitat quality for Quino. Thus, some direct impacts would be anticipated either from mowing or crushing if eggs, larvae, or pupae are present. Because fuel reduction will affect a smaller area of lower quality habitat than the RMP, we anticipate that fewer Quino will be killed or injured by this

activity. Over the course of the 25-year permit term, we estimate that fuel reduction will affect up to two adult equivalents.

Effects from Non-Native Plant Species and Dust

Indirect effects to Quino could result from disturbance associated with construction and habitat manipulation by opening habitat for invasive plants that outcompete Quino host and nectar plants or reduce availability of basking sites. The County will avoid invasive species in their landscaping pallets and will focus on restoration, enhancement, and management of native vegetation throughout the Preserve. Based on these measures, we do not anticipate an increase in invasive plants as a result of the project. Dust from construction has potential to inhibit photosynthesis and reduce plant vigor as well as clog spiracles (breathing holes) of Quino directly. The County will water area with potential dust to minimize impacts away from the construction site. With these measures, it is unlikely that dust will have a measurable impact to Quino outside of the construction site, where direct impacts to Quino would be unavoidable. Overall, indirect effects are unlikely to result in incidental take of Quino beyond that described in the direct effects section.

Proposed Conservation

The objective of the Quino conservation strategy for this project is to maintain the ecological function of the population within Wright's Field and the action area. We assume that this population is small enough to be subject to extirpation and recolonization events through typical demographic fluctuations at a time scale of decades. This area is isolated to a degree from other populations but may serve as a steppingstone for rare but important dispersal events that support genetic and demographic connectivity. There are known populations to the southwest and likely population(s) to the north in unsurveyed areas that may be within dispersal distance.

To meet this objective, the County proposes to restore and enhance habitat within the Preserve to mitigate the loss of larval habitat within the Park. Specifically, the County will offset host plant impacts by replacing the number of individual host plants lost (17,695). The Preserve already has 56.2 acres of Quino habitat with 32,542 host plants. An equal or greater number of host plants will be added to the Preserve through habitat enhancement. In addition, 12.25 acres of grassland will be restored to promote native grasslands with native, perennial grasses and native forbs. We expect that native grassland restoration will increase nectar and basking site availability for Quino. Overall, we anticipate the carrying capacity (maximum sustainable population size) for Quino will be unchanged or increased as a result of the project, and the ecological function of the population for connectivity will be equal or better.

Effects on Recovery

As described above, the action area supports a Quino population that may periodically become extirpated and recolonized, and it may have a role in connectivity between the Southwest San Diego Recovery Unit and a future proposed recovery unit to the northwest. The possible future recovery units were identified as being potentially necessary for recovery depending on information unavailable at the time the recovery plan was written, and the importance of the possible future Central San Diego recovery unit remains uncertain. By maintaining or improving the current

ecological function for Quino in the action area, we expect that the project will have no effect or a potential positive effect on Quino recovery.

Western Spadefoot

Because breeding habitat will be removed during the dry season, there is effectively no chance immature spadefoots will be impacted directly. In the unlikely event that basins do fill during construction, ponded areas will be surveyed, and if spadefoot eggs or larvae are observed, occupied basins will be avoided until they have dried. Therefore, project construction will not directly impact spadefoot breeding within the action area.

Spadefoots can forage or aestivate in burrows within 23.1 acres of spadefoot habitat within the Park footprint. Three active spadefoots were observed during nocturnal surveys within the proposed Preserve, but none were observed in the proposed Park. While no spadefoots were observed during surveys, the presence of egg masses within the proposed Park demonstrates that they can be present in the Park site, at least part of the time. We expect that aestivating and foraging spadefoots are concentrated near suitable breeding habitat, which is primarily in a central area within Wright's Field. Given the distance to this breeding habitat, we expect low numbers of spadefoots within the Park site. Spadefoot fencing will be installed around the perimeter of the Park site, and spadefoots will be trapped and relocated to adjacent habitat prior to grading or vegetation clearing. Based on the 2022 surveys, we estimate arroyo toad density to be about 1 spadefoot per 5 acres. Thus, we anticipate no more than five spadefoot adults or juveniles to be present in the 23.1 acres of spadefoot habitat in the Park footprint. All of these individuals could be trapped and relocated, and any individuals that are not relocated will be injured or killed during Park construction. A fraction of those trapped (we estimate no more than one) may be injured or killed during trapping and relocation. Because any individuals remaining in the project footprint are likely to be buried and difficult to detect, we anticipate that only a fraction (no more than one) will be observed dead or injured during Park construction.

As described in the HCP, impacts to spadefoots during habitat restoration and trail maintenance were estimated within a 63.5-acre spadefoot use area identified using a radius of 860 feet around known breeding ponds. We assume a density of 1 spadefoot per 5 acres and estimate 4.33 acres of habitat restoration and 0.53 acre of habitat management (e.g. trail maintenance) every 5 years in the spadefoot use area. Using these assumptions, an estimated one spadefoot would be harmed during habitat restoration. Impacts from habitat restoration are only anticipated during initial project work when relatively large patches of vegetation will be impacted. Thus, we anticipate that no more than one spadefoot will be injured or killed during habitat restoration over the 25-year permit term. Given the small estimated impacts to habitat from management activities in any given year, we do not anticipate harm to more than one spadefoot over the 25-year permit. We anticipate no more than two individuals will be injured or killed over the permit term from habitat restoration and management and no more than one injured or killed individual will be observed.

Proposed Conservation

Because the spadefoot population within the action area and its surroundings is likely not within frequent dispersal distance of other populations, the goal of the spadefoot conservation is to maintain a self-sustaining population. We assume that breeding habitat is the limiting factor for spadefoot population, and the conservation proposal is to create additional breeding habitat while maintaining foraging and aestivation habitat within the proposed Preserve. As described in the HCP and in more detail within the HREP, the County will construct three basins in clay soil that total at least 471 square feet and will ensure that the basins are deep enough to hold water for the duration of typical spadefoot development in average precipitation years. This will result in a net increase of 471 square feet of spadefoot breeding habitat. These basins will be sited away from the Park and from any maintenance roads that may incur road mortality to the extent feasible.

We expect that the creation of spadefoot breeding habitat will result in a population increase and increase the likelihood that the population remains self-sustaining. Although project construction will eliminate 23.1 acres of habitat that spadefoot could use for foraging and aestivation, we do not anticipate that these habitat functions will limit the spadefoot population size given the remaining habitat within the Preserve and Wright's Field.

Hermes Copper Butterfly Critical Habitat

The fact that all Hermes observations have been on the western edge of Wright's Field, or the adjacent property suggests that the Hermes habitat quality within the critical habitat subunit is highest on the western side and declines to the east, where the Park is proposed. Park construction will impact 22.5 acres of designated Hermes critical habitat of which 6 acres have the physical and biological characteristics of critical habitat. There are no spiny redberry within the Park site, but 6 acres have California buckwheat, which is considered a physical or biological feature of Hermes critical habitat. Loss of 22.5 acres of Hermes critical habitat, including 6 acres with physical and biological features of critical habitat, represents a minor impact within the 454-acre critical habitat subunit and a smaller impact within the 27,525-acre Unit 3.

The Preserve has 50.7 acres with the physical and biological features of critical habitat including 68 spiny redberry individuals. The County will avoid impacts to any spiny redberry during project construction and through ongoing management of the Preserve. If Hermes are observed within the Preserve, the County will also avoid impacts to California buckwheat. These minimization measures will limit impacts to physical and biological features to the 6 acres lost within the Park. Despite the anticipated impacts to 6 acres of critical habitat with nectar resources, the remaining habitat, including habitat within the Preserve and Wright's Field, contain sufficient flower resources to be meet the nectar requirements of a Hermes population.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section

because they require separate consultation pursuant to section 7 of the Act. We have not identified any State, Tribal, local, or private actions within the action area that should be considered in this biological opinion.

CONCLUSION

After reviewing the current status of the Quino checkerspot butterfly, western spadefoot and critical habitat for the Hermes copper butterfly; the environmental baseline for the action area; the effects of the action; and the cumulative effects, it is the Service's biological opinion that issuance of an incidental take permit for implementation of the HCP, as proposed, is not likely to jeopardize the continued existence of the Quino checkerspot butterfly or western spadefoot, and it is not likely to adversely modify Hermes copper butterfly critical habitat. We reached this conclusion by considering the following:

1. With the conservation measures proposed, no more than 22.4 acres of occupied Quino habitat will be lost, and no more than 18 Quino checkerspot butterfly adult equivalents will be killed as a direct result of project construction, Preserve management, fuel reduction, and habitat restoration and enhancement over the 25-year permit term. This amount of impact, when combined with the proposed conservation measures, is not anticipated to substantially impact the size or long-term persistence of the Quino population in the action area.

2. Protection and management of Quino habitat within the Preserve combined with enhancement of larval habitat and native grassland restoration will fully offset impacts from construction of the recreational park such that the population size and long-term persistence are likely to be similar to or greater when compared to a no project alternative.

3. The potential recovery function of the Quino population within and surrounding the action area will continue because the likelihood of a population persisting on the site to augment population connectivity will be improved or unchanged.

4. With the conservation measures proposed, including trapping and relocation within the Park site, no more than 23.1 acres of occupied spadefoot habitat and seven spadefoots will be injured or killed as a result of project construction, Preserve management, and habitat restoration. This number will not have a meaningful effect to the population given the comparatively high density of spadefoots in adjacent, protected habitat.

5. Protection and management of spadefoot habitat within the Preserve combined with restoration of breeding habitat will fully offset impacts from construction of the recreational park such that the population trajectory will be equal or better over time compared to a no project alternative.

6. Based on the acreage and physical and biological features affected, in combination with the proposed conservation measures, including the protection of 50.7 acres of Hermes critical habitat in the Preserve, the project is not anticipated to substantially affect the function of the subunit within Unit 3.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat reduction or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The proposed HCP, its associated documents, and this biological opinion clearly identify anticipated impacts to Quino checkerspot butterfly and western spadefoot which are likely to result from the proposed taking and the measures that are necessary and appropriate to minimize those impacts. All conservation measures described in the proposed HCP, together with the terms and conditions described in any section 10(a)(1)(B) permit issued with respect to the proposed HCP, are hereby incorporated by reference as reasonable and prudent measures and terms and conditions within this Incidental Take Statement pursuant to 50 CFR 402.14(i). Such terms and conditions are non-discretionary and must be undertaken for the exemptions under section 10(a)(1)(B) and section 7(o)(2) of the Act to apply. If the permit is issued, and the permittee fails to adhere to these terms and conditions, the protective coverage of the section 10(a)(1)(B) permit and section 7(o)(2) may lapse. The amount or extent of incidental take anticipated under the proposed HCP, associated reporting requirements, and provisions for disposition of dead or injured animals are as described in the HCP and its accompanying section 10(a)(1)(B) permit.

AMOUNT OR EXTENT OF TAKE

As described in the effects of the action, we use Quino adult equivalents to account for differential impacts of loss of different life stages. Quino may be killed during project construction, Preserve maintenance, fuel reduction, and habitat restoration and enhancement.

The regulations for section 7(a)(2) clarify that the Service may use surrogates to express the amount or extent of anticipated take when “exact numerical limits on the amount of anticipated incidental take may be difficult” (80 FR 26832). The implementing regulations [50 CFR § 402.14(i)(1)(i)] require that the Service meet three conditions for the use of a surrogate. To use a surrogate, the Service must describe the causal link between the surrogate and take of the listed species, describe why it is not practical to express the amount of anticipated take or to monitor take-related impacts in terms of individuals of the listed species, and set a clear standard to determine when the proposed action has exceeded the anticipated amount or extent of the taking.

For Quino, we use impacts to habitat as a surrogate for impacts to individuals. Quino use host plants and nectar sources within the action area to support feeding of all life history stages, so the

amount of habitat impacted is correlated with the number of individuals that will be impacted. In addition, in the "Effects of the Action" section of the document, we provide our best estimate of the number of individuals (adult equivalents) that will be impacted by covered activities in the HCP. Although we have provided estimates of impacts to Quino based on anticipated impacts to adult equivalents, the observation and documentation of injury or mortality of immature Quino will be very difficult because eggs, larvae, and pupae are relatively small and cryptic. Therefore, we have set clear limits for take based on the amount of habitat impacted, as described in more detail below.

Take of Quino checkerspot butterflies is exempted as follows for the duration of the permit:

IT 1. Death or injury of an estimated four Quino checkerspot butterfly adult equivalents within 22.4 acres of habitat during project construction. The amount or extent of incidental take will be exceeded if more than 22.4 acres are impacted.

IT 2. Death or injury of an estimated two Quino checkerspot adult equivalents during habitat restoration and enhancement activities. The amount or extent of incidental take will be exceeded if more than 17 acres are impacted during restoration and enhancement activities as described in the HREP. These activities will be in both the Alpine Park Preserve and Wright's Field.

IT 3. Death or injury of an estimated 10 Quino checkerspot adult equivalents during habitat management activities. The amount or extent of incidental take will be exceeded if habitat management activities exceed the 67.5-acre Alpine Park Preserve.

IT 4. Death or injury of an estimated two Quino checkerspot adult equivalents during fuel reduction activities. The amount or extent of incidental take will be exceeded if more than 3.5 acres are impacted annually by fuel reduction activities.

IT 5. Capture, handling, and release of Quino checkerspot butterfly larvae within the 22.4-acre construction area if project construction occurs between February 15 and May 15.

Aestivating western spadefoots may be killed during project construction, habitat restoration, and Preserve maintenance but may not be observed because they are relatively small and may be concealed underground. Therefore, we anticipate that no more than two western spadefoots remaining in the construction site following pre-project trapping and relocation will be observed dead or injured.

Take of western spadefoots is exempted as follows for the duration of the permit:

IT 6. Death or injury of five western spadefoots within the 23.1 acres of habitat in the project footprint. The amount or extent of incidental take will be exceeded if more than 23.1 acres of spadefoot habitat are impacted or more than one dead or injured western spadefoot is observed as a likely result of project construction.

IT 7. Death or injury of an estimated two western spadefoots during habitat restoration and Preserve management activities combined. The amount or extent of incidental

take will be exceeded if more than one dead or injured western spadefoot is observed as a likely result of restoration or maintenance activities.

IT 8. Death or injury of one western spadefoot during trapping within the exclusion fence prior to project construction.

IT 9. Capture, handling, and release of up to five western spadefoots within the exclusionary fencing prior to project construction.

REASONABLE AND PRUDENT MEASURES

No reasonable and prudent measures beyond those included in the proposed HCP have been identified to minimize and mitigate the effects of incidental take.

TERMS AND CONDITIONS

No terms and conditions are necessary because no additional reasonable and prudent measures have been identified.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans or to develop information. We have no conservation recommendations related to the proposed project.

REINITIATION NOTICE

This concludes formal consultation on the proposed issuance of the Applicant's requested incidental take permit for implementation of the Santa Maria Wastewater Treatment Plant Expansion Project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions or concerns about this biological opinion, please contact Eric Porter[1] of this office at 760-431-9440.

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