Attachment 1

City of Hesperia
PLANNING DIVISION

APPLICATION FOR APPEAL

FEES

$364.00 ☐ Appeal from Staff to Planning Commission
$324.00 ☒ Appeal from Planning Commission to City Council

NOTICE: This form must be filed prior to the effective action date for the project action being appealed (normally 10 days). Appeal applications received after this time period will not be accepted.

As every project action is based upon a set of findings and conditions, you should focus your appeal toward changing those findings, and/or conditions. If you need assistance, contact the City of Hesperia, Planning Division at 947-1200.

For appeals to Planning Commission, completed application should be submitted with the specified fee, to the Community Development Department, 9700 Seventh Ave., Hesperia.

You may attach additional pages or other documentation to this application.

Project Action Date: September 11, 2025

File No.: SCH 2025060948 Date Appeal Filed: 9/16/2025

Project Applicant(s): Cargo Solutions Express

Appellant's Name: Supporters Alliance for Environmental Responsibility ("SAFER")

Appellant's Address: 1939 Harrison Street, Suite 150

City: Oakland Zip: 94612 Phone No. 510-836-4200

Assessor's Parcel No. of Subject Property: 3064-591-17, -18, -12, and -13 and 3064-631-01

General Location of Property: Southeast intersection of Poplar Street and Three Flags Avenue in the City of Hesperia, San Bernardino County, California.

A P P E A L S T A T E M E N T

1. I/We hereby appeal to the City of Hesperia: (Check One)

☐ Planning Commission

☒ City Council

2. I/We are appealing the project action taken to:

☐ DENY the project ☐ DENY the project without prejudice

☒ APPROVE the project ☐ APPROVE the project with conditions (attach a copy of the conditions, if they are the subject of the appeal).

☐ ADOPT a Negative Declaration

☐ OTHER (specify) ____________________

3. Detail what is being appealed and what action or change you seek. Specifically address the findings, mitigation measures, conditions and/or policies with which you disagree. Also, state exactly what action/ changes you would favor.

SAFER appeals the Planning Commission's September 11, 2025 decision to adopt Resolution No. PC-2025-15, approving CUP22-00016 and Tentative Parcel Map No. 20883 (TPM24-00003) and adopting a Mitigated Negative Declaration(“MND”).The prepared MND does not adequately analyze or mitigate the Project's significant adverse environmental impacts, including impacts on biological resources. SAFER requests that the City instead prepare an Environmental Impact Report to adequately analyze and mitigate the Project’s significant adverse environmental impacts.

4. State why you are appealing - be specific. Reference any errors or omissions - attach any supporting documentation.

The reasons for this appeal are set forth in the attached letter dated September 10, 2025.

I/We certify that I/We are the:

☐ Legal Owner(s)

☐ Authorized Legal Agent(s)

☒ Other Interested Person(s)

[signature]

Signature of Appellant(s)

DATE: 9/16/2025

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Via Email

September 10, 2025

Raymond "Roger" Abrea, Chair
Sophie Steeno, Vice Chair
Earl Hodson V, Commissioner
Timothy Auman, Commissioner
Dale Burke, Commissioner
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Re: Comment on Mitigated Negative Declaration, Cargo Solutions Truck Warehouses Hesperia Project (SCH 2025060948), Agenda Item No. 4

Dear Chair Abrea, Vice Chair Steeno, Mr. Hodson, Mr. Auman, Mr. Burke, Mr. Hearn, Ms. Sayre, and Ms. Henry,

This comment is submitted on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") regarding the Initial Study and Mitigated Negative Declaration ("IS/MND") prepared for the Cargo Solutions Truck Warehouses Hesperia Project, which proposes the development of two truck warehouse buildings totaling 151,788 square-feet on an approximately 20.32-acre site at the southeast intersection of Poplar Street and Three Flags Avenue on Accessor's Parcel Numbers 3064-591-17, -18, -12, and -13 and 3064-631-01 in the City of Hesperia ("Project").

SAFER is concerned that the IS/MND is improper under the California Environmental Quality Act due to the IS/MND's failure to adequately assess the Project's potentially significant environmental impacts. SAFER requests that an environmental impact report (EIR) be prepared for the Project rather than an MND because there is a fair argument that the Project may have adverse environmental impacts on biological resources. An EIR will ensure that potentially significant impacts of this Project are fully disclosed, analyzed, and mitigated.

SAFER's comments are supported by expert wildlife ecologist, Shawn Smallwood, Ph.D. Dr. Smallwood's comments and CV are attached as Exhibit A.

SAFER reserves the right to supplement this comment throughout the administrative process. *Galante Vineyards v. Monterey Peninsula Water Management Dist*., 60 Cal. App. 4th 1109, 1121 (1997).

Sincerely,

Kylah Staley
Lozeau Drury LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Ryan Leonard, Senior Planner
City of Hesperia
9700 Seventh Avenue
Hesperia, CA 92345

8 September 2025

RE: Cargo Solutions Truck Warehouse and Truck Stop Hesperia Project

Dear Mr. Leonard,

I write to comment on the Initial Study/Mitigated Negative Declaration (IS/MND) that was prepared for the proposed Cargo Solutions Truck Warehouse and Truck Stop Hesperia Project (City of Hesperia 2025), specifically on potential impacts to biological resources (UltraSystems 2022). I understand the project would add two truck warehouses and parking lots for a total 502,724 square-feet of development, all on 20.32 acres at the southeast corner of Poplar St. and Three Flags Ave. in Hesperia, California. My comments that follow address my concerns that the IS/MND mischaracterizes the existing environmental setting, and that its impacts analysis is flawed and its mitigation measures are inadequate.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

THE WILDLIFE COMMUNITY AS A BIOLOGICAL RESOURCE

Most environmental reviews pursuant to the California Environmental Quality Act (CEQA) focus on special-status species because CEQA's Checklist Evaluation of Environmental Impacts specifies that such evaluation includes potential impacts to special-status species. However, an important policy of CEQA is "to prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history." Pub. Res. Code § 21001(c). This policy is not restricted to special-status species, but it also applies to wildlife populations and plant and animal communities. In fact, the CEQA Guidelines Section 21155.1 defines wildlife habitat as "the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection." This definition is consistent with the scientific definition of habitat, which is that portion of the environment that is used by members of a species for survival and reproduction (Hall et al. 1997). An essential portion of the environment used by any special-status species is composed of the collection of other species of plants and wildlife, because these species are forage, provisioners of refugia and nest substrates, and ecological mutualists; no special-status species can exist in a vacuum of other wildlife. The CEQA Checklist Evaluation assigns priority to special-status species to balance information and cost, but it does not exclude the need to evaluate environmental impacts to other species, which, after all, are members of the very communities within which special-status species inter-depend for survival and reproduction.

All wildlife species should be of concern in a CEQA review, but the CEQA prioritizes special-status species. The species I consider to be special-status species are those listed in California's Special Animals List inclusive of threatened and endangered species under the California and federal Endangered Species Acts, candidates for listing under CESA and FESA, California's Fully Protected Species, California species of special concern, and California's Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406), continental and region-specific US Fish and Wildlife Service Birds of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf), and naturally rare species such as raptors protected by California's Birds of Prey laws, Fish and Game Code Sections 3503, 3503.5, 3505 and 3513 (see https://wildlife.ca.gov/Conservation/ Birds/Raptors).

What follows is a summary of a site visit to detect as many of the species of wildlife as possible within the short time available. The survey was also intended to detect as many of the special-status species as possible, but with the understanding that most special-status species are less readily detectable due to rarity and crypticity. Nonetheless, the species detected can indicate the ecological integrity of the site and thus the likelihood of occurrence of special-status species not yet detected.

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master of Science Degree from California State University Los Angeles, visited the site of the proposed project for 3.2 hours from 06:25 to 09:37 hours on 27 August 2025, and for 2 hours of diurnal survey from 17:39 to 19:39 hours and 2.78 hours of nocturnal survey from 19:11 to 21:58 hours on 28 August 2025. During daylight, Noriko walked the site's perimeter where accessible, stopping to scan for wildlife with use of binoculars. At night, Noriko strapped a Pettersson M500 acoustic bat detector to a 30-foot pole, and cabled the detector to her computer, which ran Sonobat Live. Sonobat Live identifies bats to species based on the bats' sonograms that are detected by the M500. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen just off the site. Animals of uncertain species identity were either recorded to the Genus or higher taxonomic level.

Conditions were sunny with 4 MPH south wind and temperatures of 65-79° F on 27 August 2025. On 28 August 2025, conditions were mostly cloudy with 10 MPH south wind and temperatures of 78-72° F during the diurnal survey, and clear with 9 MPH south wind and temperatures of 72-68° F during the nocturnal survey. The site shows evidence of disturbance in the past (e.g. mowing or discing) but contains one California juniper and multiple Joshua trees. A large warehouse was under construction at the site north of the project during the time of the surveys (Photos 1, 2, and 3).

Noriko saw red-tailed hawk and common raven (Photos 4 and 5), American kestrel (Photo 6), California horned lark (Photos 7, 8, and 9), greater roadrunner (Photo 10), house sparrow (Photo 11), house finch (Photo 12), California ground squirrel (Photos 13 and 14), among the other species listed in Table 1. Noriko detected 13 species of vertebrate wildlife at or adjacent to the project site, including four species with special status (Table 1).

Photos 1, 2, and 3. *Views of the project site, 27 August 2025. Photos by Noriko Smallwood. The middle photo shows the construction of a warehouse north of the project.*

Photo 4. *Common raven harassing a red-tailed hawk just off of the project site, 27 August 2025. Photo by Noriko Smallwood.*

Photos 5 and 6. *Common raven on the project site (left), and American kestrel just off the project site (right), 27 and 28 August 2025. Photos by Noriko Smallwood.*

Photos 7, 8, and 9. *California horned larks on the project site (top), and just off the project site (bottom), 27 August 2025. Photos by Noriko Smallwood.*

Photo 10. *Greater roadrunner just off the project site, 27 August 2025. Photo by Noriko Smallwood.*

Photo 11. *House sparrows perched on a Joshua tree on the project site, 27 August 2025. Photo by Noriko Smallwood.*

Photo 12. *House finches perched on a Joshua tree on the project site, 28 August 2025. Photo by Noriko Smallwood.*

Photos 13 and 14. *California ground squirrels on the project site, 27 and 28 August 2025. Photos by Noriko Smallwood.*

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood

Table 1a. *Species of wildlife Noriko observed during 3.2 hours of diurnal survey on 27 August 2025, and during 2 hours of diurnal survey and 2.78 hours of nocturnal survey on 28 August 2025*

Common name	***Species name***	**Status[1]**	**Notes**
Rock pigeon	*Columba livia*	Non-native	
Mourning dove	*Zenaida macroura*		
Greater roadrunner	*Geococcyx californianus*		Foraged just off site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Soared and harassed by CORA just off site
American barn owl	*Tyto furcata*	BOP	Flew over and called during nocturnal survey
American kestrel	*Falco sparverius*	BOP	Perched on California juniper just off site
Common raven	*Corvus corax*		Harassed RTHA, foraged on site
California horned lark	*Eremophila alpestris actia*	WL	Many flocks, foraged and flew over
European starling	*Sturnus vulgaris*	Non-native	
House sparrow	*Passer domesticus*	Non-native	Many, foraged and perched on Joshua trees
House finch	*Haemorphous mexicanus*		Foraged and perched on Joshua trees
Desert cottontail	*Sylvilagus audubonii*		Scat
California ground squirrel	*Otospermophilus beecheyi*		Observed 5 on site, likely more present on site

[1] Listed as WL = CDFW's Taxa to Watch List; BOP = protected by Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors).

Table 1b. *Species of wildlife Noriko observed during multiple surveys for a total of 22.27 hours at the project site and at sites within 1.5 miles of the project site.*

Common name	***Species name***	**Status[1]**	**Steeno 2020, 2023**	**Pixior 2021**	**US Cold Storage 2021**	**Cargo Solutions 2025**
Southern alligator lizard	*Gerrhonotus multicarinatus*		X			
Lizard sp.			X			
Snake sp.				X		
Mallard	*Anas platyrhynchos*			X		
California quail	*Callipepla californica*				X	
Rock pigeon	*Columba livia*	Non-native	X	X		X
Mourning dove	*Zenaida macroura*		X	X	X	X
Greater roadrunner	*Geococcyx californianus*			X		X
Hummingbird sp.	*Trochilidae*		X			
Anna's hummingbird	*Calypte anna*				X	
Costa's hummingbird	*Calypte costae*	BCC		X		
Allen's hummingbird	*Selasphorus sasin*	BCC		X		
Red-tailed hawk	*Buteo jamaicensis*	BOP		X	X	X
American barn owl	*Tyto furcata*	BOP				X
Great horned owl	*Bubo virginianus*	BOP			X	
Northern flicker	*Colaptes auratus*				X	
American kestrel	*Falco sparverius*	BOP			X	X
Cassin's kingbird	*Tyrannus vociferans*				X	
Western kingbird	*Tyrannus verticalis*		X			
Say's phoebe	*Sayornis saya*				X	
Loggerhead shrike	*Lanius ludovicianus*	SSC2			X	
American crow	*Corvus brachyrhynchos*				X	
Common raven	*Corvus corax*		X	X	X	X
California horned lark	*Eremophila alpestris actia*	WL	X	X	X	X
Bushtit	*Psaltriparus minimus*			X		
Cactus wren	*Campylorhynchus brunneicapillus*		X	X	X	
Northern mockingbird	*Mimus polyglottos*				X	
European starling	*Sturnus vulgaris*	Non-native		X	X	X

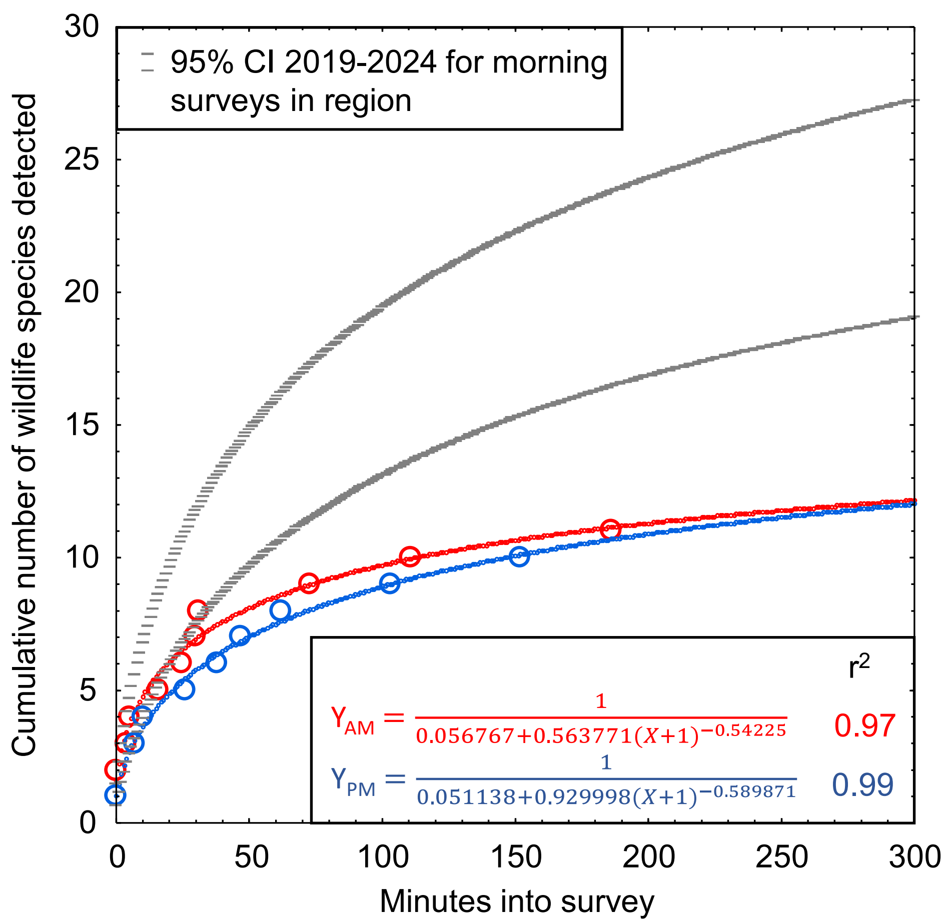
Common name	***Species name***	**Status[1]**	**Steeno 2020, 2023**	**Pixior 2021**	**US Cold Storage 2021**	**Cargo Solutions 2025**
House sparrow	*Passer domesticus*	Non-native	X	X		X
House finch	*Haemorphous mexicanus*		X	X		X
Purple finch	*Haemorhous purpureus*			X		
Lesser goldfinch	*Spinus psaltria*				X	
White-crowned sparrow	*Zonotrichia leucophrys*				X	
Bell's sparrow	*Amphispiza b. belli*	WL			X	
Western meadowlark	*Sturnella neglecta*				X	
Orange-crowned warbler	*Oreothlypis celata*			X		
Yellow-rumped warbler	*Setophaga coronata*				X	
Black-tailed jackrabbit	*Lepus californicus*		X		X	
Desert cottontail	*Sylvilagus audubonii*				X	X
California ground squirrel	*Otospermophilus beecheyi*		X	X		X
White-tailed antelope squirrel	*Ammospermophilus leucurus*			X	X	
Coyote	*Canis latrans*			X	X	
Western harvest mouse	*Reithrodontomys megalotis*			X		
Kangaroo rat	*Dipodomys sp.*				X	
Merriam's kangaroo rat	*Dipodomys merriami*			X		
California vole	*Microtus californicus*			X		

[1] Listed on CDFW's Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID =109406) as FC = federal candidate for listing; BCC = U.S. Fish and Wildlife Service's Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); SSC = California Species of Special Concern, and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively); WL = CDFW's Taxa to Watch List; WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); BOP = protected by Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors).

ANALYSIS OF RECONNAISSANCE SURVEY DATA

Noriko detected 13 species of vertebrate willdife, which was a smaller number for the region and for her survey effort. The likely reason for the smaller number of species detections was the ongoing construction activity next to the project site. Nonetheless, the species of wildlife Noriko detected at the project site were not the only species that were present during her surveys, as there are always species that are not detected. To demonstrate this, I fit nonlinear regression models to Noriko's cumulative numbers of vertebrate species detected with time into her daytime surveys to predict the number of species that she would have detected with longer surveys or perhaps with additional biologists available to assist her. The type of model is a logistic growth model, which reaches an asymptote that corresponds with the theoretical maximum number of vertebrate wildlife species that could have been detected during the survey. The models fit to Noriko's survey data from 27 and 28 August predict 18 and 20 species of vertebrate wildlife were available to be detected in each respective survey, or 7 and 10 more species than she detected (Figure 1).

Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys on 27 and 28 August 2025.*



Unknown are the identities of the species Noriko missed, but the species that Noriko did and did not detect on 27 and 28 August 2025 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence, some require more survey effort because they are highly cryptic, and the members of other species would visit the site only periodically while patrolling large home ranges. A survey on only two days cannot possibly detect all of the species of the local wildlife community.

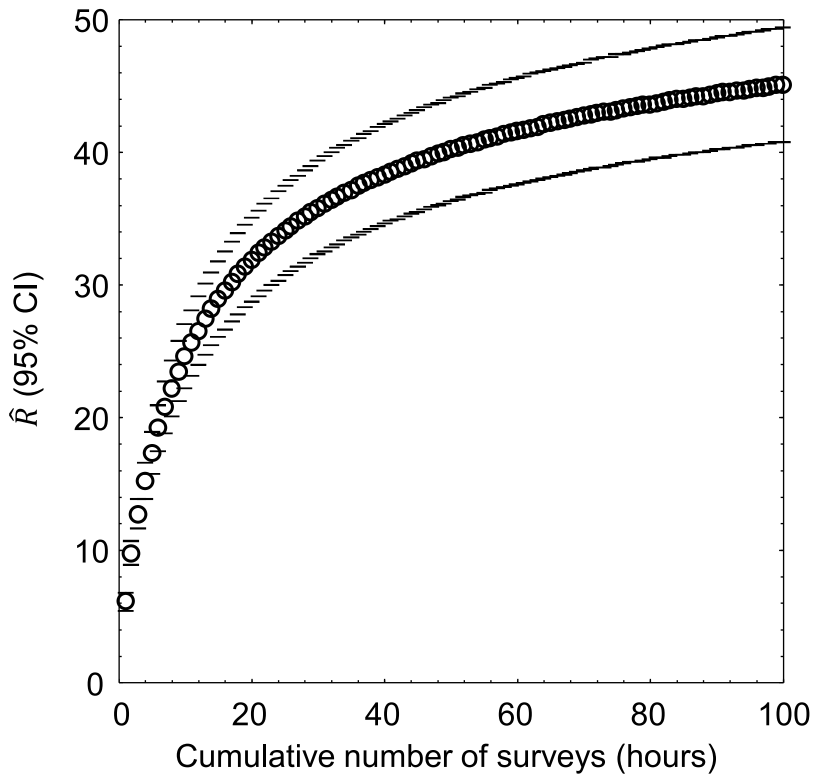
At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's two surveys. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. This analytical bridge draws inference from the pattern of species detections more than it does from the research site, and I note that the pattern, i.e., rate, of species detections is consistent from site to site.

As part of my research, I completed a much larger survey effort across 167 km^2 of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a + b \times (Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 17.7 species over my first 5.2 hours of diurnal surveys at my research site in the Altamont Pass (5.2 hours to match the 5.2 hours Noriko surveyed during daylight hours at the project site), which composed 31% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 13 diurnally active species Noriko detected after her 5.2 hours of daylight survey at the project site likely represented 31% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko would likely detect $13/_{0.31} = 42$ species of diurnally active vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 42 predicted species, then continued surveys would eventually detect 13 special-status species of diurnally active vertebrate wildlife.

Because my prediction of 42 species of vertebrate wildlife, including 13 special-status species, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the wildlife community of the site must be larger. Noriko's reconnaissance surveys should serve only as a starting point toward characterization of the site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed than her two surveys to produce an inventory the project site's wildlife community, and specialized surveys such as nocturnal acoustic detection and live-trapping would be needed. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*



EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the wildlife community and any key ecological relationships and known and ongoing threats to special-status species. A reasonably accurate characterization of the environmental setting can provide the baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project site's regional setting, is one of the CEQA's essential analytical steps. Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of the proposed project, these required steps remain incomplete and misleading.

Environmental Setting informed by Field Surveys

To the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should be informed of which biological species are known to occur at the proposed project site, which special-status species are likely to occur, as well as the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources. In the case of this project, however, no analysts obtained the information needed to accurately predict impacts to wildlife.

A biologist from UltraSystems (2022) conducted a reconnaissance survey in pursuit of the following objectives: Habitat assessment and land cover type mapping, Sensitive plant community assessment, General plant survey, General wildlife survey, Jurisdictional waters/wetlands assessment, Wildlife movement evaluation, Step-1 Burrowing owl and desert tortoise habitat assessment, evaluate the initial results of the literature review, and collect additional data on existing site conditions. I count 11 objectives in this list, and all these objectives were pursued simultaneously over a survey that lasted a mere 1.25 hours. It was highly unlikely that any of the 11 objectives were satisfactorily achieved in a 1.25-hour survey. A 1.25-hour survey qualifies as a de minimis survey effort, and it was therefore unlikely to detect more than only a few species of wildlife.

In fact, UltraSystems (2022) reports that its biologist detected only three species of vertebrate wildlife, none of which was a special-status species. In comparison, Noriko Smallwood detected 3.25 times the number of species, including four with special status. The extremely brief survey by the UltraSystems biologist likely explains part of the difference in survey outcome, but two additional explanations would be the large number of objectives pursued by the UltraSystems biologist and the start time of 14:45 hours. The middle of the afternoon is when wildlife activity is least, and this pattern would have been magnified by the survey date in late August (24 August 2022) in the desert. UltraSystems could not have selected a worse time to begin a wildlife survey.

If I did not know better, the disparity in survey findings is large enough to question whether Noriko and the UltraSystems biologist surveyed the same wildlife community. The UltraSystems biologist detected no species that Noriko did not, and Noriko detected 10 species that the UltraSystems biologists did not. Applying the Sørensen $Index\ of\ Similarity = \frac{2c}{a+b}$ (Sørensen 1948), where a is the number of species found by UltraSystems (2022), b is the number of species found by Noriko, and c is the number of species found by both UltraSystems and Noriko, the Index of Similarity of the two wildlife communities is only 0.375 on a scale that ranges 0 to 1. For perspective, the mean Index of Similarity among 40 comparisons of surveys I completed over the same time periods and at the same place in Rancho Cordova, California, but on different days over three years 2020-2023, was 0.755 with a high value of 0.90. An Index value of

0.375 is low – one of the lowest I have calculated between the survey outcomes of consultants and either Noriko or myself.

The survey by UltraSystems (2022) did not meet the minimum standards of CDFW's (2018) survey guidelines for rare plants. No evidence was reported that would suggest that the surveys were timed to overlap the blooming periods of potentially occurring rare plants. No reference sites were surveyed. And most of the standards of stating qualifications, of preparation, of survey conduct, and of reporting were not met in UltraSystems (2022).

UltraSystems (2022) reports on no live-trapping for small mammals and no surveys for bats, even though multiple special-status species of small mammals and bats are known to the project area. UltraSystems completed no surveys consistent with the CDFW (2022) survey protocol for special-status species of bumble bees. Nor did UltraSystems complete the needed detection surveys for burrowing owl, which is a candidate for listing under the California Endangered Species Act. Due to its candidate status, the CDFW's (2012) survey guidelines need to be implemented.

For the burrowing owl, there are three types of surveys recommended and described in the CDFW's (2012) survey and mitigation guidelines: (1) Habitat assessment, (2) Detection surveys, and (3) Preconstruction survey. The habitat assessment is intended to evaluate the likelihood that the site supports burrowing owls, and to decide whether detection surveys should be performed. The detection survey, otherwise described as either or both breeding-season or non-breeding-season survey, is intended to detect whether the site truly supports burrowing owls, and if so, where and how many. The preconstruction survey, otherwise known as a take-avoidance survey, is intended to determine whether burrowing owls immigrated to the site since completion of the detection survey, or whether they returned to the site since passive or active relocations were performed as mitigation. The three types of survey carry distinct but inter-related purposes, and CDFW (2012) intends them to be completed in chronological order as numbered above.

The first two types of survey support impacts analysis, whereas the third type of survey is a mitigation measure. Burrowing owls can be determined absent based on evidence derived from the habitat assessment or detection survey, but only if the surveys achieved the minimum standards of CDFW (2012). Whereas an absence determination naturally follows from the negative findings of properly performed detection surveys, the following three questions must be answered negatively to determine absence based on the habitat assessment:

A) Are there occurrence records nearby the project site?
B) Is the site's vegetation cover and height typical of where burrowing owls are found?
C) Are there fossorial mammals present which typically construct burrows useable by burrowing owls, or are there surrogate cavities that can serve as nest sites?

If the answers to these questions are compellingly negative, then detection surveys are not necessary, but they could be implemented to make certain that burrowing owls are absent on the project site. If the answers to these questions are affirmative or not compellingly negative, then it should be assumed that burrowing owl habitat exists on the site until detection surveys prove otherwise.

To question A, the nearest burrowing owl occurrence record are within 1.5 miles of the project site, and Noriko and I have detected burrowing owls only 9 km from the site. Moreover, UltraSystems (2022) determines that the occurrence likelihood of burrowing owls is high.

To question B, the vegetation on site is typical of the area, and it is typical of vegetation often used by burrowing owls. The answer to question B is affirmative, and so this part of the habitat assessment warrants a detection survey effort.

To question C, ground squirrels are known to occur on the project site. Ground squirrels were detected on site by both Noriko Smallwood and by UltraSystems (2022). Ground squirrels construct burrows used by burrowing owls, and these two species mutually alarm-call for predators and survive better together (K. S. Smallwood, unpublished data). The answer to question C is affirmative, and so this part of the habitat assessment warrants a detection survey effort.

The answers to all three questions are affirmative. Therefore, breeding-season detection surveys are needed, and these surveys are not to be confused with preconstruction take-avoidance surveys. Breeding-season detection surveys are needed to publicly disclose potential impacts on the burrowing owl. Moreover, the applicant needs to consult with the CDFW for the purpose of obtaining an incidental take permit.

On the whole, the field surveys are incomplete. Detection survey protocols have not been implemented for rare plants or for special-status species of wildlife. Without an adequate survey effort, the wildlife community remains incompletely and inaccurately characterized, and the basis for predicting impacts on wildlife remains unsound. At least a fair argument can be made for the need to prepare an EIR to appropriately characterize the wildlife community as part of the existing environmental setting, and for the purpose of predicting project impacts and formulating appropriate mitigation strategies.

Environmental Setting informed by Desktop Review

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths. In the case of this project, the desktop review was incomplete, and the review that was completed was distorted to minimalize the likelihoods of occurrence of special-status species.

UltraSystems (2022) queried the California Natural Diversity Data Base (CNDDB) for occurrence records of special-status species within 10 miles of the project site. By querying the CNDDB to establish the pool of special-status species for analysis of occurrence likelihoods, UltraSystems (2022) screened out many special-status species from further consideration in the characterization of the wildlife community as part of the existing environmental setting. The CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community. As noted by the CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." UltraSystems (2022) and hence the IS/MND misused the CNDDB.

The CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to the CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to the CNDDB. Furthermore, the CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to the CNDDB than were species assigned special status since the inception of the CNDDB. Therefore, occurrence records in the CNDDB are most abundant for species assigned special status decades ago, but fewest for species only recently assigned special status. And because negative findings are not reported to the CNDDB, the CNDDB is also inappropriate as a basis for weighting occurrence likelihoods such as absent, not expected, unlikely, low, moderate or high. Whereas the CNDDB can be confirmatory of species presence, it cannot support absence determinations or assignments of low likelihood of occurrence. And again, the screening out of a species due to lack of occurrence records in the CNDDB is the same as an absence determination, and this step is being taken without adequate support of field surveys.

In my assessment based on a database review and site visits, 113 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Of these 113 species, 4 were recorded on or just off the project site, and another 13 (12%) species have been documented within 1.5 miles of the site (Very close), another 13 (12%) within 1.5 and 4 miles (Nearby), and another 73 (65%) within 4 to 30 miles (In region). One quarter of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports at least seven special-status species of wildlife and carries the potential for supporting many more special-status species of wildlife based on the proximities of recorded occurrences.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. Entries in bold font identify species detected by Noriko Smallwood during her site visit.*

Common name	***Species name***	**Status[1]**	**Occurrence potential**		
			UltraSystems		**Data base records, Site visits**
			2022	**App.**	
Monarch	*Danaus plexippus*	FC		None	In region
Crotch's bumble bee	*Bombus crotchii*	CCE	Low	Low	In region
Southwestern pond turtle	*Actinemys pallida*	FC, SSC		None	In region
Mojave desert tortoise	*Gopherus agassizii*	FT, CE	Low	Low	In region
Blainville's horned lizard	*Phrynosoma blainvillii*	SSC	Low	Low	In region
Brant	*Branta bernicla*	SSC2			In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL			In region
Redhead	*Aythya americana*	SSC2			In region
Barrow's goldeneye	*Bucephala islandica*	SSC			In region
Western grebe	*Aechmophorus occidentalis*	BCC			Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC			In region
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE		None	In region
Black swift	*Cypseloides niger*	SSC3, BCC			In region
Vaux's swift	*Chaetura vauxi*	SSC2			In region
Costa's hummingbird	*Calypte costae*	BCC			Nearby/**Very close**
Calliope hummingbird	*Selasphorus calliope*	BCC			In region
Rufous hummingbird	*Selasphorus rufus*	BCC			In region
Allen's hummingbird	*Selasphorus sasin*	BCC			In region/**Very close**
American avocet	*Recurvirostra americana*	BCC			In region
Mountain plover	*Charadrius montanus*	SSC2, BCC			In range
Snowy plover	*Charadrius nivosus*	BCC			In region
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC			In range
Long-billed curlew	*Numenius americanus*	WL			In region
Marbled godwit	*Limosa fedoa*	BCC			In region
Pectoral sandpiper	*Calidris melanotos*	BCC			In region

Common name	*Species name*	Status[1]	Occurrence potential		
			UltraSystems		Data base records, Site visits
			2022	App.	
Short-billed dowitcher	*Limnodromus griseus*	BCC			In region
Lesser yellowlegs	*Tringa flavipes*	BCC			In region
Willet	*Tringa semipalmata*	BCC			In region
Franklin's gull	*Leucophaeus pipixcan*	BCC			In region
Heermann's gull	*Larus heermanni*	BCC			In region
California gull	*Larus californicus*	BCC, WL			Very close
California least tern	*Sternula antillarum browni*	FE, CE, CFP			In region
Black tern	*Chlidonias niger*	SSC2, BCC			In region
Common loon	*Gavia immer*	SSC			In region
Double-crested cormorant	*Phalacrocorax auritus*	WL			Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1			Nearby
Least bittern	*Ixobrychus exilis*	SSC2			In region
White-faced ibis	*Plegadis chihi*	WL			In region
Turkey vulture	*Cathartes aura*	BOP			Very close
Osprey	*Pandion haliaetus*	WL, BOP			Nearby
White-tailed kite	*Elanus luecurus*	CFP, BOP			In region
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL		None	Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP		None	In region
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP			Nearby
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Low	Low	Nearby
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP		None	In region
Red-shouldered hawk	*Buteo lineatus*	BOP			In region
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Low	Low	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP			Very close/**Adjacent**
Ferruginous hawk	*Buteo regalis*	WL, BOP			In region
Zone-tailed hawk	*Buteo albonotatus*	BOP			In region
Rough-legged hawk	*Buteo lagopus*	BOP			In region
American barn owl	*Tyto furcata*	BOP			Nearby/**On site**

Common name	*Species name*	Status[1]	Occurrence potential		
			UltraSystems		Data base records, Site visits
			2022	App.	
Western screech-owl	*Megascops kennicotti*	BOP			In region
Great horned owl	*Bubo virginianus*	BOP			Nearby/**Very close**
Burrowing owl	*Athene cunicularia*	BCC, CCE, SSC2, BOP	High	High	Very close
Long-eared owl	*Asio otus*	BCC, SSC3, BOP		None	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP			In region
Lewis's woodpecker	*Melanerpes lewis*	BCC			In region
Nuttall's woodpecker	*Picoides nuttallii*	BCC			Nearby
American kestrel	*Falco sparverius*	BOP			Very close/**Adjacent**
Merlin	*Falco columbarius*	WL, BOP			Very close
Peregrine falcon	*Falco peregrinus*	BOP			Nearby
Prairie falcon	*Falco mexicanus*	WL, BOP	Low	Low	Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2			In region
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE		None	In region
Brown-crested flycatcher	*Myiarchus tyrannulus*	WL			In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2			In region
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE		None	In region
Gray vireo	*Vireo vicinior*	SSC2		None	In region
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Moderate	Moderate	Very close/**Very close**
Oak titmouse	*Baeolophus inornatus*	BCC			Nearby
Verdin	*Auriparus flaviceps*	BCC			Very close
California horned lark	*Eremophila alpestris actia*	WL			Very close/**On site**
Bank swallow	*Riparia riparia*	CT			In region
Purple martin	*Progne subis*	SSC2			In region
Wrentit	*Chamaea fasciata*	BCC			In region
Black-tailed gnatcatcher	*Polioptila melanura*	WL			In region
Bendire's thrasher	*Toxostoma bendirei*	SSC3, BCC			In region
California thrasher	*Toxostoma redivivum*	BCC			Nearby

Common name	*Species name*	Status[1]	Occurrence potential		
			UltraSystems		Data base records, Site visits
			2022	App.	
LeConte's thrasher	*Toxostoma lecontei*	SSC1, BCC		None	Nearby
Cassin's finch	*Haemorhous cassinii*	BCC			In region
Lawrence's goldfinch	*Spinus lawrencei*	BCC			Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC			In region
Gray-headed junco	*Junco hyemalis caniceps*	WL			In region
Bell's sparrow	*Amphispiza b. belli*	WL			In region/**Very close**
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2			In range
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL			In region
Yellow-breasted chat	*Icteria virens*	SSC3		None	In region
Yellow-headed blackbird	*X. xanthocephalus*	SSC3			In region
Bullock's oriole	*Icterus bullockii*	BCC			Nearby
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1			In region
Lucy's warbler	*Leiothlypis luciae*	SSC3			In region
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC			In region
Yellow warbler	*Setophaga petechia*	SSC2		None	In region
Summer tanager	*Piranga rubra*	SSC1		None	In region
California myotis	*Myotis californicus*	WBWG:L			In region
Small-footed myotis	*Myotis ciliolabrum*	WBWGM			In region
Canyon bat	*Parastrellus hesperus*	WBWG: M			In region
Big brown bat	*Episticus fuscus*	WBWG:L			In region
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M			In range
Hoary bat	*Lasiurus cinereus*	WBWG:M		None	In range
Spotted bat	*Euderma maculatum*	SSC, WBWG:H			In range
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H			In region
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	Low		In range
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L			In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H			In range
Desert kit fox	*Vulpes macrotis macrotis*	CCR Title 14		Low	In region

Common name	*Species name*	Status[1]	Occurrence potential		
			UltraSystems		Data base records, Site visits
			2022	App.	
Mohave ground squirrel	*Xerospermophilus mohavensis*	CT	Low	Low	In region
Pallid San Diego pocket mouse	*Chaetodipus fallax pallidus*	SSC		None	In range
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	SSC			In region
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC			In range
American badger	*Taxidea taxus*	SSC		None	In region

[1] Listed on CDFW's Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered; FC = federal candidate for listing; BGEPA = Bald and Golden Eagle Protection Act; CT or CE = California threatened or endangered; CCT or CCE = Candidate California threatened or endangered; CFP = California Fully Protected (California Fish and Game Code 3511); SSC = California Species of Special Concern, and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively); WL = CDFW's Taxa to Watch List; WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); BCC = U.S. Fish and Wildlife Service's Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); and BOP = protected by Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors); CCR Title 14 = California Code of Regulations Title 14, §460, protection against any take (https://govt.westlaw.com/calregs/Document/I1350BAF65B4D11EC976B000D3A7C4BC3?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)).

UltraSystems (2022) assesses the occurrence likelihoods of only 28 (24.7%) of the special-status species listed in Table 2. Of these, one (burrowing owl) is given high potential to occur, one (loggerhead shrike) is given moderate potential to occur, and the rest are given either low potential or no potential to occur. The two special-status species given moderate and high likelihoods of occurrence comport with site conditions and the occurrence records, but the 26 special-status species given low to no occurrence likelihoods do not comport so well with site conditions or the occurrence records. Two of these species have been recorded within 1.5 miles of the site, three more have been recorded between 1.5 and 4 miles of the site, and 16 have been recorded between 4 and 30 miles from the site, which in desert environments is not far. Most of the 28 special-status species analyzed by UltraSystems have been detected close enough to the project site to consider them likely to occur. The UltraSystems analysis is unlikely to be accurate, and it errs on the side of incaution.

On the Presence of Special-status Species of Wildlife

There is no doubt that at least four special-status species of wildlife occur on the project site. Modeling the rate of species detections during Noriko's surveys, and analytically bridging Noriko's survey results to a larger research effort, predicts 13 special-status species of vertebrate wildlife should be detectable on the project site after a larger survey effort conducted over the period of a year or longer. Indeed, species occurrence records reveal that 17 special-status species of vertebrate wildlife have been detected within 1.5 miles of the site, and 30 special-status species of vertebrate wildlife have been detected within four miles of the site. The evidence is overwhelming that the project site provides habitat to multiple special-status species of wildlife.

Considering Noriko's observations of at least four special-status species, and the occurrence records of multiple other special-status species very close to the project site the project site is habitat as defined in the scientific literature (Hall et al. 1997). These species are using the site for migration stopover, survival, and likely for reproduction. These species are members of a larger wildlife community, the entire composition of which has yet to be characterized but which undoubtedly adds to the habitat value of the project site.

BIOLOGICAL IMPACTS ASSESSMENT

The impacts analysis involves prediction. Predictions are necessary because measuring the impacts directly could not happen until after the impacts occur, and this type of measurement would prevent the formulations of avoidance and minimization mitigation strategies that are prioritized by the CEQA. Impact predictions are necessary as part of the environmental review. The accuracy of the predictions of impacts and their significance ultimately relies on the degree of accuracy in the characterization of the existing environmental setting (Figure 3).

Assess species occurrence likelihoods

1. Desktop review
   a. Species geographic range overlap or database occurrence records
   b. Crosswalk habitat associations with mapped ground cover
2. Reconnaissance survey/Habitat assessment
3. Detection surveys for special-status species

Characterize wildlife community

4. Lists of species detected and of those expected but not yet detected, and any known trends

Note: Impact predictions and significance determinations have been of unknown accuracy in the absence of experimental measurement

Outcomes

5. Predict impacts
6. Formulate mitigation strategy
7. Determine significance of impacts

Figure 3. *General flow of information from the gathering stage through the characterization of the existing environment to predictions of impacts and their significance.*

Impact predictions can derive from speculation or from some level of experience (Figure 4). Speculation is repeatedly discouraged in the CEQA Guidelines, and for good reason because prediction accuracy improves with experience. But the experience that can be brought to bear on impact predictions ranges from anecdotes to careful use of scientific inference. Any type of experience is usually better than relying on speculation, but careful scientific inference, especially inference drawn from experiments, has proven most effective. An analogy would be predicting the boiling temperature of water at a certain place with a known atmospheric pressure after having measured it hundreds of times at other places under various atmospheric pressures. The experience of measuring the boiling temperature at all these other places would certainly result in a more accurate prediction of the boiling point as compared to a speculative prediction. We know that use of inference in this example is certainly more predictive, and not potentially more predictive, because we have a long successful history with the application of this type of experimentation to draw predictive inference.

In the following, I analyze several types of impacts likely to result from the project, none of which are analyzed by the City of Hesperia.

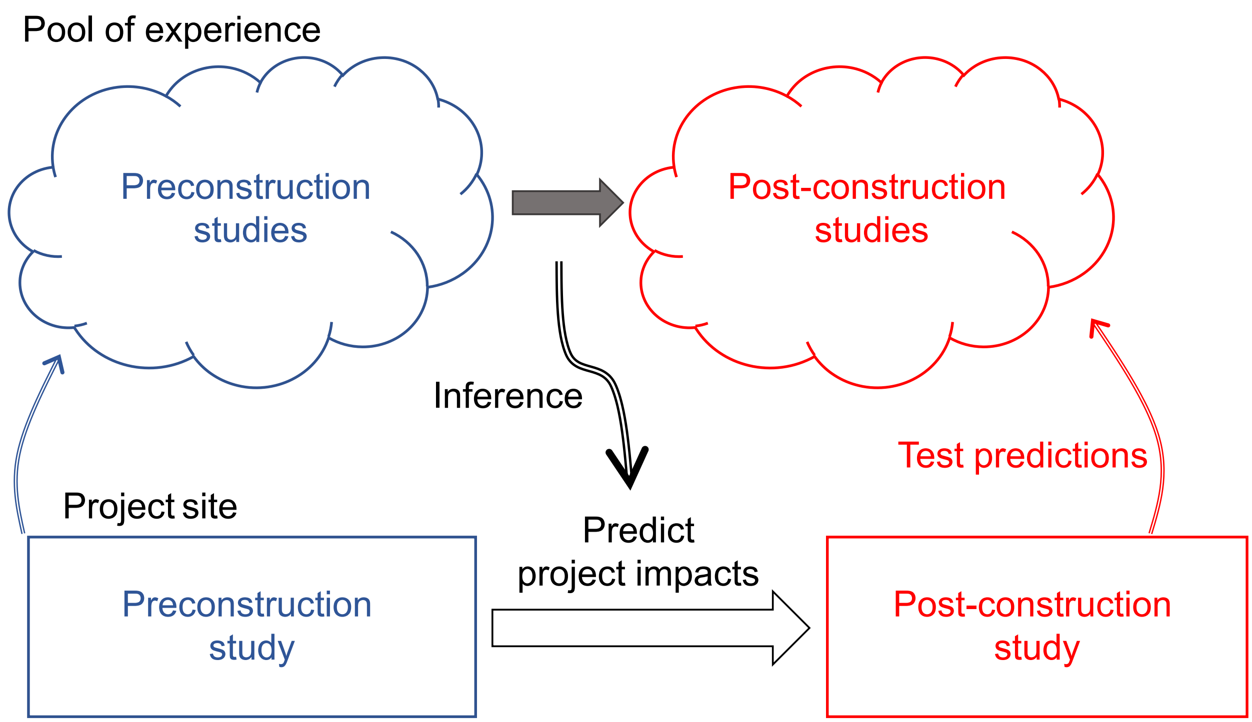


Figure 4. *A framework for arriving at predicted project impacts based on experience with other project sites. Ideally, there is a pool of similar projects in similar circumstances where predicted impacts were compared to realized impacts, and into which the proposed project can also contribute to experience.*

REDUCED PRODUCTIVE CAPACITY FROM HABITAT LOSS

Habitat loss results in a reduced productive capacity of affected wildlife species. The site is proven to serve as habitat to at least 13 species of vertebrate wildlife which Noriko observed on the site, but the number of avian nest sites remains unknown. Because Noriko's survey was only a reconnaissance survey and therefore unsuitable for detecting all bird nests on the site, estimating total nest density of birds was not possible. The alternative method would be to infer productive capacity from estimates of total nest density elsewhere. Noriko has completed several studies to estimate total avian nest density in similar environments in the local area.

Noriko estimated 5.56 nests/acre on a 3.6-acre site of ruderal grassland bordering a woodland strip in Murrieta, and 1.86 nests/acre on another 4.83-acre grassland site bordering a strip of woodland in Murietta. The average of the above two estimates is 3.71 nests/acre. This density applied to the 20.32 acres of the project site would predict 75.4 nest sites. Assuming 1.39 broods per nest site based on a review of 322 North American bird species, which averaged 1.39 broods per year, then I estimate 105 nest attempts per year on the project site. Assuming Young's (1948) study site typifies bird productivity of 2.9 fledged birds per nest attempt, then I predict 305 fledglings/year at the project site.

The loss of 75.4 nest sites and 105 nest attempts per year would qualify as significant impacts that have not been analyzed by the City of Hesperia. But the impacts would not end with the immediate loss of nest sites. The reproductive capacity of the site would be lost. The project would prevent the production of 305 fledglings per year. Assuming an average bird generation time of 4 years, the lost capacity of both breeders and annual fledgling production can be estimated from an equation in Smallwood (2022): {(nests/year × chicks/nest × number of years) + (2 adults/nest × nests/year) × (number of years ÷ years/generation)} ÷ (number of years) = 343 birds per year denied to California.

The loss of 343 birds per year would be a loss of significant habitat value that is currently provided by the project site. Most if not all these birds are protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, both of which are intended to most strongly protect breeding migratory birds. The loss of 343 birds per year would easily qualify as an unmitigated significant impact.

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. The species Noriko detected on the project site had at some point moved to the site, and in fact members of some of these species were in flight when she detected them. At minimum, the project site provides wildlife with stopover opportunities during migration or dispersal of young. However, the City of Hesperia provides only a cursory, flawed analysis of whether and how the project would interfere with wildlife movement in the region.

As part of its analysis of wildlife movement impacts, UltraSystems (2022:41) speculates that wildlife seen on the project site are only resident animals that do not move to or from the project site: "UltraSystems biologist Dr. Tuma observed California ground squirrels during the field survey. These sightings of fossorial mammals and their burrows indicate that there may be resident populations of these species onsite. Thus, it is likely that fossorial mammal species give birth and raise young within the burrow complexes located onsite." This speculation, however, is at odds with more than a century of scientific study of metapopulation dynamics. Animal populations are not static, and they naturally shift locations every several generations or so (Taylor and Taylor 1979). Neither are individual animals static. In my own studies I have documented animals moving great distances in a single day. Animals patrol home ranges, disperse, reconnoiter, and migrate. The animals seen by Noriko Smallwood are also prone to large-distance movements. I can assure that the red-tailed hawk she saw on the site was not a resident to the project site, but rather only visiting the project site as part of the hawk's daily home range patrol and foraging circuit. Neither would any common raven or greater roadrunner be static residents of the site. UltraSystems' speculation on this matter lacks scientific foundation and credibility.

The analysis in the IS/MND is flawed by focusing entirely on whether the project site included a corridor or was situated within a corridor. According to UltraSystems

(2022:13), “To determine the potential for the BSA to contain wildlife corridors, UltraSystems biologists reviewed the USGS 7.5-Minute Topographic Map *Baldy Mesa* Quadrangle and viewed aerial imagery to search for physical features that might serve as a wildlife corridor. Biologists also used the BIOS Habitat Connectivity Viewer to search for CDFW Essential Connectivity Areas …” However, the CEQA Checklist question that goes to potential project interference with wildlife movement in the region only mentions corridors as an example of how to address the question. The Checklist question is not just about corridors.

The IS/MND itself adds another speculative take on the potential impact, where it offers the following conclusory argument: “The areas adjacent to the project to the south and west are developed with structures intended for commercial use. Although the project area and its surroundings contain undeveloped areas that could function as a local wildlife movement corridor, the proposed project will be constructed in an area that would not result in significant new habitat fragmentation, and would not significantly impede the passage of wildlife because there will still be available local movement corridors in the vicinity after construction of the project, therefore resulting in less than significant impact.” However, the IS/MND provides no evidence that the project’s development would avoid significant new habitat fragmentation. In fact, evidence in the IS/MND suggests the opposite. The project site currently connects open space to the north and south, and it provides pathways to two substantial geographic features that can channel wildlife movement (Figure 5). I have observed wildlife using the large northeast-southwest feature to the west of the project site, so I have no doubt that that feature is important to wildlife movement in the region. However, the project, along with the planned or approved additional projects, would cumulatively – through the process of habitat fragmentation –eliminate the available movement pathways across the site (Figure 6). The IS/MND is inaccurate in its analysis.

UltraSystems does not consider wildlife movement other than as affected by a corridor, and in my experience most wildlife is not channelized by corridors. In fact, the most common scientific description of wildlife movement corridors is of narrow bands of open space that are left by the process of habitat fragmentation (Smallwood 2015). UltraSystems reportedly searched for topographic features it assumes channelizes wildlife movement, but no evidence is provided in support of its assumption, and no effort is directed to understanding wildlife movement in the region that has nothing to do with corridors.

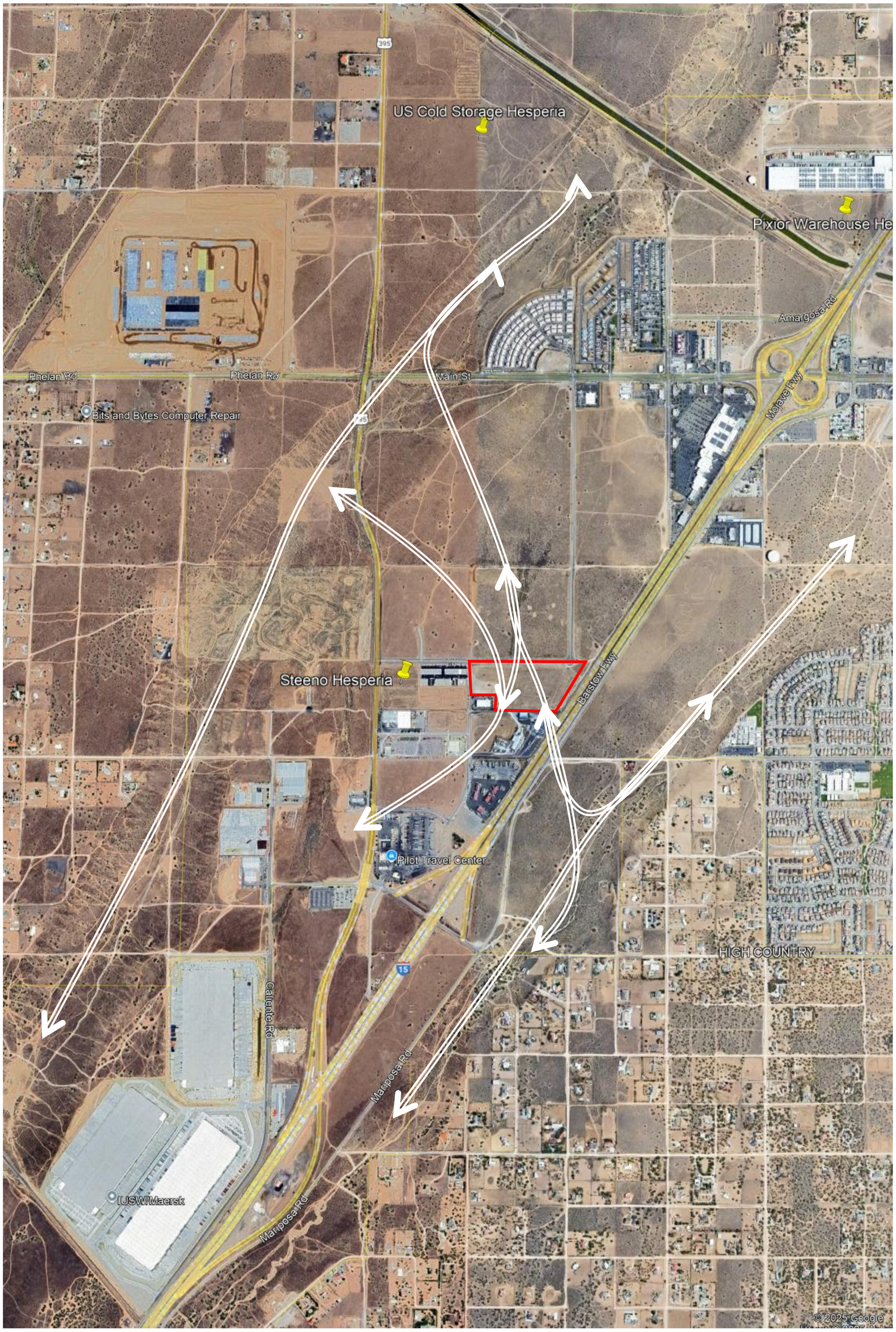


Figure 5. *Example pathways (white arrows) across the available open space of the existing project site (red polygon) and its surrounds, linking to two nearby geographic features that naturally channel wildlife movement in the region.*

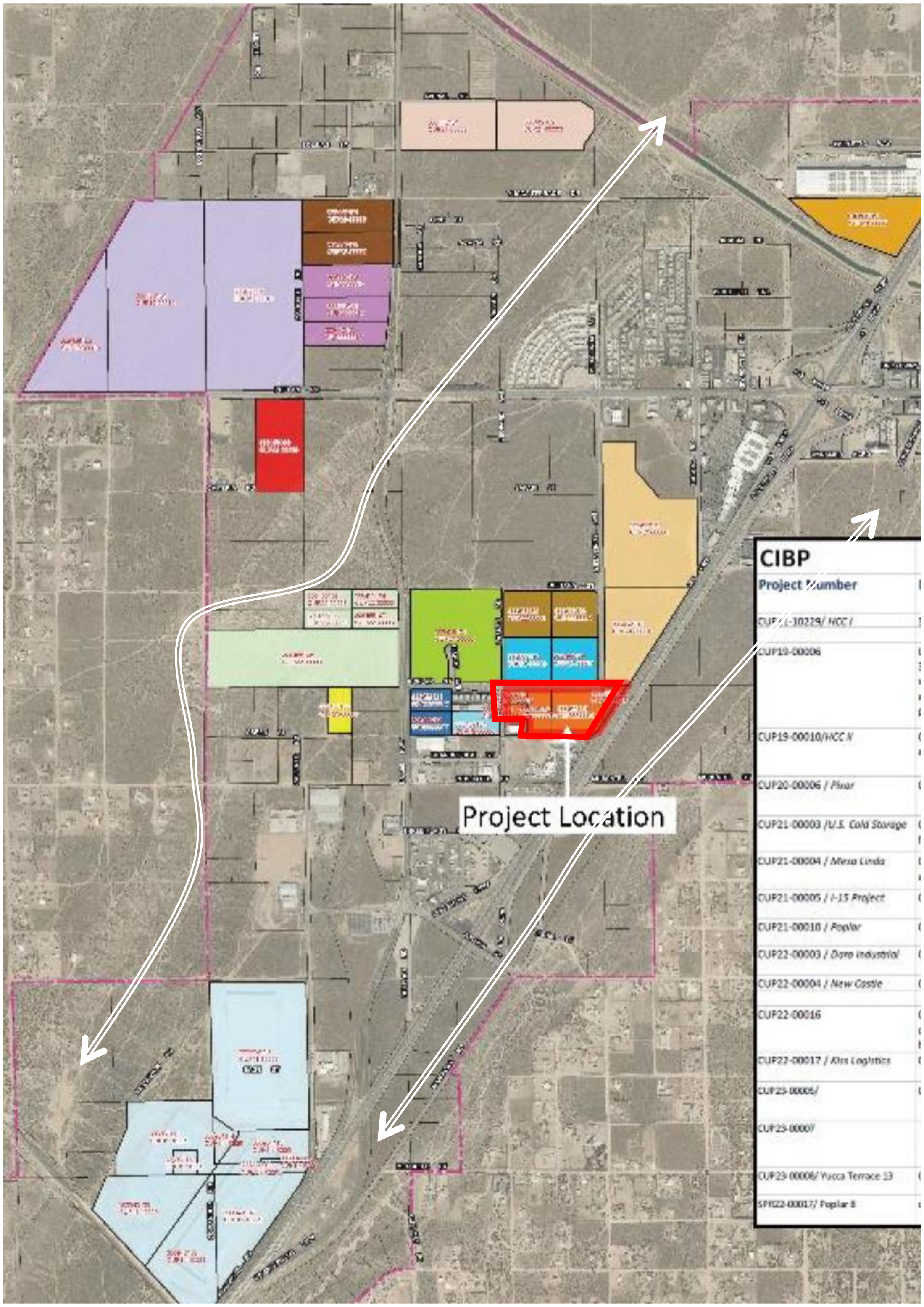


Figure 6. *Example pathways (white arrows) that would remain after the massive level of habitat fragmentation from cumulative buildout of the project (red polygon) and its surrounds, which would eliminate links between two nearby geographic features that naturally channel wildlife movement in the region.*

TRAFFIC IMPACTS ON WILDLIFE

Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic to get to and from the project site (Photos 15–19), including along roads far from the project footprint. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 15. *A Gambel's quail dashes across a road* on *3 April 2021. Such road crossings are usually successful, but too often prove fatal to the animal. Photo by Noriko Smallwood.*

Photo 16. *Desert cottontail dashing across a Riverside County road in 2021. Another lay dead in the road nearby.*

Photo 17. *California kingsnake killed on an El Dorado County road in 2024.*

Photo 18. *Mourning dove killed by vehicle on a California road. Photo by Noriko Smallwood, 21 June 2020.*

Photo 19. *Raccoon killed on Road 31 just east of Highway 505 in Solano County. Photo taken on 10 November 2018.*

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The City's IS/MND predicts 850,912 annual VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted annual VMT would predict 362 vertebrate wildlife fatalities per year.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The City does not analyze this potential impact, nor does it propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated, traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of project-generated automobile traffic on wildlife.

CUMULATIVE IMPACTS

The cumulative impacts analysis is fundamentally flawed. The IS/MND includes a map of cumulative projects, although no details are legibly provided of the mapped project areas (Some details appear in the map of Figure 4.21-1, but they are illegible). Without mentioning biological resources, the text that cites this map includes the following premise and conclusion: "as analyzed throughout this document, the proposed project would create less than significant impacts with mitigation incorporated. Therefore, the project would not significantly contribute to cumulative impacts in the area with mitigation incorporated." The premise is that mitigation of individual direct impacts negates cumulative impacts, contrary to how the CEQA Guidelines define cumulative impacts. Essentially, the IS/MND's premise is that cumulative impacts are really just residual impacts of incomplete or inadequate mitigation. But this is not the case.

I have often seen the IS/MND's claim of no cumulative impacts to wildlife due to the project's adequate mitigation of direct impacts and its compliance with existing laws, regulations, policies, pr programs, and so I decided to test the veracity of this frequent claim. In collaboration with Noriko Smallwood, I measured the impacts – inclusive of cumulative impacts – of wildlife habitat loss that was caused by mitigated development projects. We revisited 80 sites of proposed projects that we had originally surveyed in support of comments on the CEQA review documents (Smallwood and Smallwood 2023). We revisited the sites to repeat the survey methods at the same time of year, the same start time in the day, and the same methods and survey duration to measure the effects of mitigated development on wildlife. We structured the experiment in a before-after, control-impact experimental design, as some of the sites had been developed since our initial survey and some had remained undeveloped. We found that mitigated development resulted in a 66% loss of species on site, and 48% loss of species in the project area. Counts of vertebrate animals declined 90%. "Development impacts measured by the mean number of species detected per survey were greatest for amphibians (-100%), followed by mammals (-86%), grassland birds (-75%), raptors (-53%), special-status species (-49%), all birds as a group (-48%), non-native birds (-44%), and synanthropic birds (-28%). Our results indicated that urban development substantially reduced vertebrate species richness and numerical abundance, even after richness and abundance had likely already been depleted by the cumulative effects of loss, fragmentation, and degradation of habitat in the urbanizing environment," and despite all the mitigation measures per existing laws, policies and regulations. We also specifically tested for the cumulative effects of projects on wildlife in neighboring habitats, and we found significant decreases in species richness and overall abundance in those areas as well. The proposed project would cause the same declines in wildlife abundance and species richness, and based on what I see in the IS/MND, these would qualify as significant unmitigated cumulative impacts.

MITIGATION

The IS/MND requires four mitigation measures, but these measures are either inappropriate or inadequate.

MM BIO-1: §2081 FGC Incidental Take Permit *Western Joshua trees … will require a§ 2081 FGC Incidental Take Permit (ITP) with compensatory mitigation for impacts, in addition to the surveys that are recommended in the discussion of* ***MM BIO-6****. The exceptions and permitting process under the California Desert Native Plants Act and the separate exceptions under the Native Plant Protection Act will not* *apply to western Joshua tree in any manner. For projects where take is incidental to carrying out an otherwise lawful activity, an ITP may be obtained from CDFW.*

Obtaining an ITP is not a mitigation measure unless the issuance of the ITP requires mitigation. The IS/MND discusses the ITP as if it is certain to be issued, but the IS/MND provides no evidence in support of its certainty.

MM BIO-2: Focused Burrowing Owl Survey *Although BUOW was not observed on site during the general wildlife survey, the BSA contains suitable habitat to potentially support BUOW in the future.*

Here the IS/MND is misleading, because it implies burrowing owls were absent from the project site during UltraSystems' reconnaissance survey. The reconnaissance survey could not have provided sufficient evidence of absence, because it was not a protocol-level detection survey as recommended by CDFW (2012). Moreover the single survey was conducted in late August in hot temperatures and in simultaneous pursuit of 11 objectives over a mere 1.25 hours; in other words, it was in no way consistent with the recommendations of CDFW (2012). While it might be true that the biologist who surveyed the site did not observe burrowing owls, it is not true that burrowing owls were necessarily absent from the project site.

MM BIO-2: Focused Burrowing Owl Survey *A qualified biologist would conduct a focused BUOW survey in accordance with the Staff Report on Burrowing Owl Mitigation (CDFW, 2012).*

This part of the mitigation measure is also misleading because it would be impossible to conduct a focused survey consistent with CDFW (2012) after certification of the IS/MND. As I commented earlier, there are three types of survey that are intended by CDFW (2012) to be implemented in sequence, the first two types of survey to precede the public circulation of the environmental review document. The focused survey, otherwise known as a detection survey, needed to have been completed already. A preconstruction take-avoidance survey, which is the type of survey the IS/MND seems to require here, is not a detection survey, and requiring this type of survey as a substitute to a detection survey would be inconsistent with CDFW (2012) and inappropriate.

MM BIO-2: Focused Burrowing Owl Survey *If no BUOWs or signs of BUOW are observed during the survey and concurrence is received from Environmental Management Division of the San Bernardino County Department of Public Works (County EMD) and CDFW, project activities may begin and no further mitigation would be required.*

Because the burrowing owl is a candidate for listing under CESA, consultation with the CDFW needs to begin before any surveys are conducted. Considering the City's lack of understanding of CDFW (2012), this timely consultation is all the more important.

MM BIO-2: Focused Burrowing Owl Survey *If BUOW or signs of BUOW are observed during the survey, the site would be considered occupied. The biologist would implement mitigation measure **BIO-2** and contact the City of Hesperia, EMD, and CDFW to assist in the development of avoidance, minimization, and mitigation measures, prior to commencing project activities. The list of potential measures to avoid and minimize impacts to BUOWs described below would be implemented.*

Again, because the burrowing owl is a candidate for listing under CESA, consultation with the CDFW needs to begin before any surveys are conducted. Even if no burrowing owls are detected, the loss of foraging habitat would need to be mitigated. Also, CDFW (2012) warns that passive or active translocation of burrowing owls can be interpreted as take. Take of a candidate species is not allowed.

MM BIO-3: Pre-Construction General Wildlife Survey *The following measures will be implemented to minimize impacts to these species which include but are not limited to: Blainville's horned lizard and desert kit fox. The measures below will help to reduce direct and indirect impacts caused by construction on various sensitive species to less than significant levels. • A qualified biologist will conduct a pre-construction general wildlife survey for sensitive wildlife and potential nesting sites such as open ground, shrubs, and burrows within the limits of project disturbance. The survey will be conducted at least seven days prior to the onset of scheduled activities, … • If any sensitive wildlife species are observed within the project site during the preconstruction survey, the biologist will immediately map the area and notify the appropriate resource agency to determine suitable protection measures and/or mitigation measures and to determine if additional surveys or focused protocol surveys are necessary. …*

I concur with MM BIO-3 should the project go forward, but it needs to be understood that the conservation benefits of salvaging a few animals would be trivial relative to the project impacts to all wildlife that occur on the project site. The benefits would be realized only at the time of implementation of the measure, whereas the loss of productive capacity of the site would be permanent.

MM BIO-4: Loggerhead Shrike Survey and Protection Measures *If activities occur during the breeding/nesting period, a wildlife survey will be completed by a qualified biologist to identify potential loggerhead shrike activity in the area of the project activities. Additional species surveys to determine presence/absence of birds prior to disturbances, from May 1 until the work start date, if the work start date is prior to August 31. Surveys are to occur weekly in May, every other week in June, and once per month in July and August (assuming no loggerhead shrike are observed). Incidental occurrences of other sensitive avian species such as Swainson's hawk, prairie falcon, and Cooper's hawk should also be recorded during the survey.*

The measure would avoid multiple deficiencies by requiring that project construction takes place outside the avian breeding season. With a restriction against construction during the breeding season, the uncertainties could be eliminated over (1) the biologists' ability to identify and salvage active nests, and (2) the sufficiency of no-disturbance buffers that a biologist would establish to avoid disturbance to the nest, and any adjustments that would be warranted in response to the biologist's determination over whether construction activities are disturbing the nest.

Whereas the preconstruction survey might result in the salvage one or a few nests, the nests that are salvaged would be only those detected during the preconstruction survey of the year when the survey occurs. Birds would never again be capable of nesting on the project site.

MM BIO-5: Pre-Construction Breeding Bird Survey *…Project activities that will remove or disturb potential nest sites will be scheduled outside the breeding bird season to avoid potential direct impacts to migratory non-game breeding birds protected by the MBTA and Fish and Game Code. The breeding bird nesting season is typically from February 15 through September 15, … • If project activities cannot be avoided during February 15 through September 15, a qualified biologist will conduct a pre-construction breeding bird survey for breeding birds and active nests or potential nesting sites within the limits of project disturbance. … If a breeding bird territory or an active bird nest is located during the pre-construction survey and will potentially be impacted, the site will be mapped on engineering drawings and a no activity buffer zone will be marked (fencing, stakes, flagging, orange snow fencing, etc.) a minimum of 100 feet in all directions or 500 feet in all directions for listed bird species and all raptors. The biologist will determine the appropriate buffer size based on the type of activities planned near the nest and the type of bird that created the nest. Some bird species are more tolerant than others of noise and activities…*

Regarding the start of construction outside the breeding season, unless doing so "cannot be avoided," this avoidance measure is not a requirement, but rather a condition for implementing a preconstruction survey. Moreover, its implementation would not prevent the permanent loss of the avian productive capacity that I predict in my letter herein.

Preconstruction, take-avoidance surveys consist of two steps, both of which are very difficult. First, the biologist(s) performing the survey must identify birds that are breeding. Second, the biologist(s) must locate the breeding birds' nests. The first step is typically completed by observing bird behaviors such as food deliveries and nest territory defense. To be successful these types of observations typically require many surveys on many dates spread throughout the breeding season even for a single species. To identify and locate the birds of all species nesting on a site requires a much greater survey effort. Even assuming all the predicted 75 nest sites could be found (not likely), the mitigation measure would apply only to the breeding season of the survey. After the breeding season of the preconstruction survey, California would be denied the production of birds from the project site during every subsequent year. The impacts of the project on birds would be permanent and of large magnitude (see my prediction, above, of the lost productive capacity of breeding birds).

Finally, the mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine the buffer area for any given species. This measure lacks objective criteria, and it is therefore unenforceable.

MM BIO-6: Native Desert Vegetation Survey and Protected Plant Preservation Plan *A Preservation Plan will be prepared and submitted to the City, which is required by City Municipal Code. A native desert vegetation survey must be conducted to produce findings that will guide the formation of this plan. …*

While I concur that the findings of a native desert vegetation survey are needed to guide the formulation of the Preservation Plan (including for Joshua trees), these findings were needed for inclusion in the environmental review document. They survey should have been completed already. Without the survey, there is insufficient disclosure of which sensitive plants occur on the site, where they occur, their condition, and whether there are options to mitigate project impacts to them. The measure defers the survey needed to formulate appropriate mitigation.

The IS/MND needs to be removed from public circulation, and a rare plant survey completed to the standards recommended in CDFW (2018).

NEEDED MITIGATION MEASURES

Habitat loss: Should the project go forward, compensatory mitigation is needed for the loss of habitat. Habitat of equal or greater area should be protected as close to the project site as feasible.

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with automobiles traveling to and from the project site.

Landscaping: If the project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as important sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threatened insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and it is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

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Shawn Smallwood, Ph.D.

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