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Richard Drury
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6 January 2026

RE: 83 Princess Street

Dear Mr. Drury,

I write to report to you my findings of wildlife reconnaissance surveys I completed at 83 Princess Street, Sausalito, California (APN 065-132-18), where I understand an 4-story, 57-foot-tall building is proposed to include 39 condominiums and 64,167 square feet of floor space with lots of glass on its façades, all on 0.44 acres. This project would be located immediately adjacent to another proposed project at APN 065-132-16, which would be an 8-story, 109.5-foot-tall building with 59 residential units and 119,647 square feet of floor space with lots of glass on its façades, all on 0.53 acres. I surveyed the sites of both these projects to determine whether they provide habitat for special-status species of wildlife.

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.

HABITAT

Critical to my determinations of whether the two project sites provide habitat to sensitive and special-status species is the habitat concept – a topic that has been a focus of much of my research career (Smallwood 1993, 2002, 2015). Habitat is defined as that part of the environment that is used by members of a species for survival and reproduction (Hall et al. 1997, Morrison et al. 1998). Habitat use is typically measured by ecologists to define habitat associations; that is, the level of association that a species has been observed to use a portion of the measurable environment (Smallwood 2002). Habitat associations are important because habitat at a given site is not always continuously occupied, as members of many species are seasonal or must travel widely to forage, evade predation, or to patrol home ranges or breeding territories. Therefore, whereas my detection of a species in a particular place verifies that that place serves as habitat, my failure to detect a species can be regarded as merely a failure to verify what otherwise I can determine as a high likelihood of occurrence based on a well-founded or strong habitat association. In other words, whereas I failed to detect a yellow warbler at the two project sites, I can still determine with reasonable confidence that the sites are yellow warbler habitat, because I have many times observed yellow warblers in environments that closely resemble the project sites. Observing members of a species on a site is optimal for determining whether the site provides habitat, but habitat associations can also support determinations of whether the site provides habitat.

The definition of habitat I cited above can include a wide range of physical features of the Earth, depending on the species. The habitat of an animal species can include soil, woody debris, particular species of shrubs or trees or vegetation associations, fresh water, salt water, or a portion of the gaseous atmosphere, among many other physical media within which the species must find shelter, forage, and opportunities for socialization, learning, and breeding. The gaseous atmosphere of a site in which volant animals live is referred to as the aerosphere (Davy et al. 2017, Diehl et al. 2017), and it is no less tangible as a physical feature of a volant animal's habitat, and no less essential, than is any other part of an animal's habitat. Without access to the aerosphere of a particular place, animals that are morphologically adapted to fly cannot reach breeding sites, cannot escape predators, and cannot appropriately socialize or successfully breed. For these reasons and more, an entire subdiscipline of ecology is aeroecology (Kunz et al. 2008). The aerosphere is particularly relevant to the proposed projects because the proposed buildings would eliminate access to this essential portion of habitat by volant species of wildlife that have long relied on it.

Habitats of 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 two site visits to detect as many of the species of vertebrate wildlife as possible within the short time available. The surveys were 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 VISITS

To characterize the wildlife community of an adjacent parcel – APN 065-132-16 – I visited the site of the proposed project for 3.92 hours from 15:39 to 19:34 hours on 2 April 2024, and for 3.75 hours from 06:33 to 10:18 hours on 3 April 2024. I surveyed from the driveway of what is now the current project site, scanning for wildlife with use of binoculars. I recorded all species of vertebrate wildlife I detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

Conditions of my first survey effort were clear with a slight north wind and 60° to 54° F on 2 April, and overcast with a slight north wind and 51° to 54° F on 3 April. The western portion of APN 065-132-16 was covered by six coast live oaks (*Quercus agrifolia*) and five California buckeyes (*Aesculus California*), all of which are protected by City of Sausalito, and California Bay (*Umbellularia californica*) (Urban Forestry Associates 2023). These trees and the overlying airspace of the project site support many species of vertebrate wildlife.

On 19-20 August 2025, I visited the project site on APN 065-132-18, the first survey lasting three hours starting at 17:20 hours. The second survey was for two hours and four minutes at night, starting at 20:1hours. The third survey lasted two hours and 12 minutes and started at 06:21 hours. Conditions were clear with no wind during all three surveys, and 69° F on the 19th and 57° F on the 20th. Tree cover on this site consisted of 11 California live oaks, eight California buckeyes, and three California Bays; most of these trees are in good health (Urban Forestry Associates 2025).

During my 2024 visit to the two sites, I saw Bewick's wrens (Photo 1), black phoebe (Photo 2), California scrub-jays and western gulls (Photos 3 and 4), American crows and oak titmouse (Photos 5 and 6), hermit thrush and western bluebird (Photos 7 and 8), California brown pelicans and eastern gray squirrels (Photos 9 and 10), and golden-crowned sparrows (Photo 11). During my most recent survey effort in 2025, I saw Monarch and lesser goldfinch (Photos 12 and 13), Cooper's hawk (Photos 14 and 15), California brown pelicans (Photo 16), western gray squirrel (Photo 17), band-tailed pigeon and California scrub-jay (Photos 18 and 19), and Anna's hummingbird and dark-eyed junco (Photos 20 and 21). During my 2-hour bat survey, I recorded 146 passes by five species of bats (Photos 22–26). Altogether during my surveys of 2024 and 2025, I detected 62 species of vertebrate wildlife, and including Monarch I detected 20 special-status species (Table 1).

Signs of breeding on and near the site abounded. Bewick's wrens defended a nest territory. California scrub-jays were building a nest in 2024, and I saw fledglings in 2025. Western gulls used the airspace of the site for social interactions leading to copulation on the buildings at 605-613 Bridgeway. Black phoebes defended a nest territory. Chestnut-backed chickadees defended a nest cavity. Birds were very busy on the site, but very difficult to photograph due to cryptic behaviors to hide nest sites.

Evidence of foraging was also abundant, as I observed birds with food, and at least one Cooper's hawk actively pursued the eastern gray squirrels on the site.

Photo 1. *Bewick's wren on the project site, 3 April 2024.*

Photo 2. *Black phoebe next to the project site, having just come off the site, 3 April 2024.*

Photos 3 and 4. *California scrub-jay with food from the project site (top) and a pair of western gulls on one of the buildings that would be covered by the project's building, 2 April 2024. Western gull is a special-status species.*

Photo 5. *American crow on the project site, 2 April 2024.*

Photo 6. *Oak titmouse on the project site, 2 April 2024. Oak titmouse is a special-status species.*

Photos 7 and 8. *Hermit thrush on the project site (top) and western bluebird next to the project site (Bottom), 2-3 April 2024.*

Photo 9. *California brown pelicans flew over the project site, 3 April 2024.*

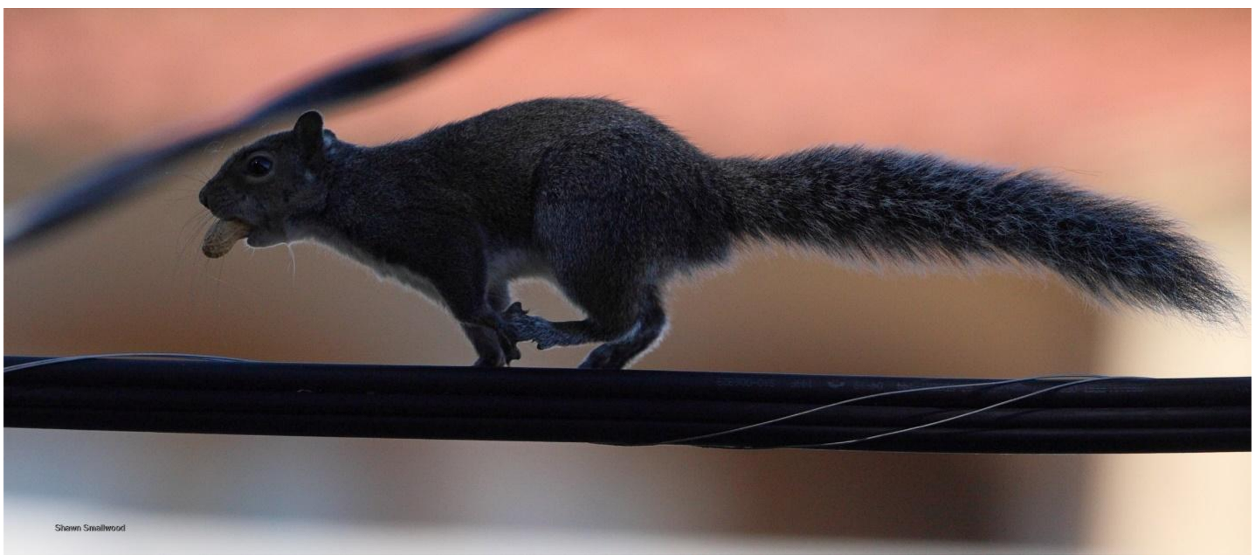


Photo 10. *Eastern gray squirrel on the project site, 3 April 2024.*

Photos 11–13. *Golden-crowned sparrow on a California buckeye (top), Monarch (lower left), and lesser goldfinch (lower right) on the project sites, 2 April 2024 and 19 August 2025.*

Photo 14. *Cooper's hawk on the hunt on the project site, 20 August 2025.*

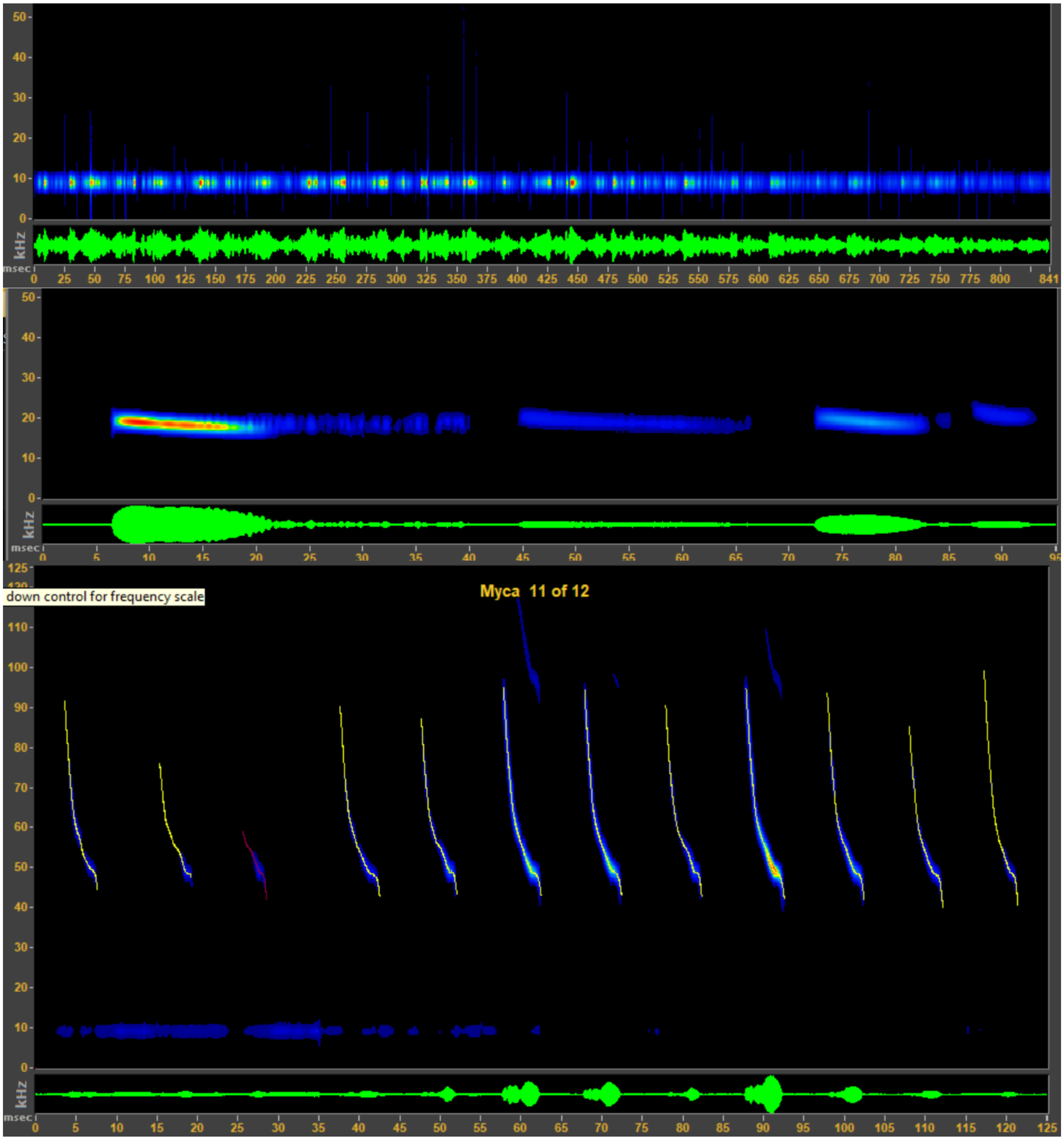
Photo 15. *Cooper's hawk (top right) attempting to capture an eastern gray squirrel on the project site, 20 August 2025. The squirrel escaped.*

Photo 16 . *California brown pelicans over the project site, 19 August 2025.*

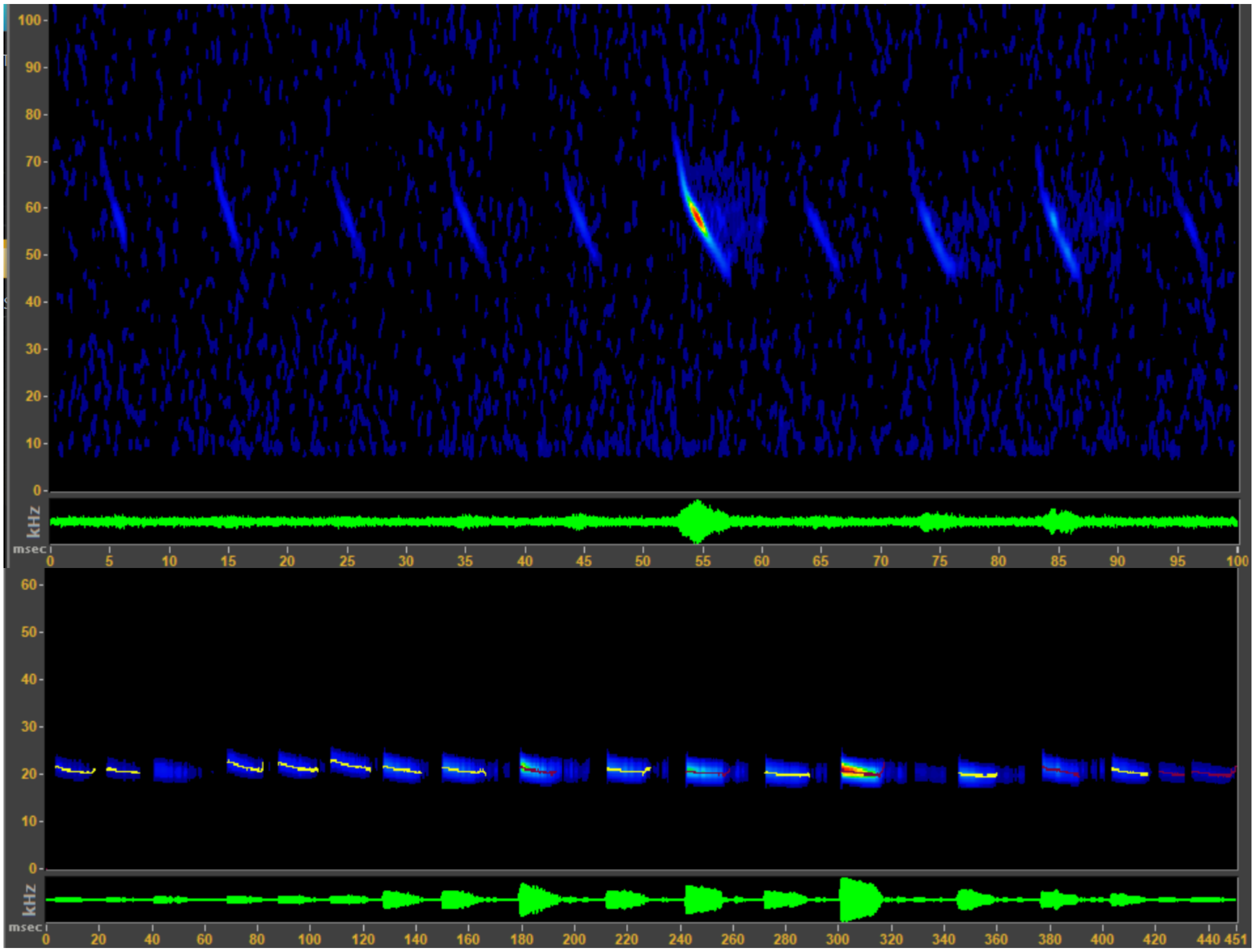
Photo 17. *Western gray squirrel on the project site, 20 August 2025*

Photos 18 and 19. *Band-tailed pigeon (left) and fledgling California scrub-jay (right) on the project site, 20 August 2025.*


Photos 20 and 21. *Anna's hummingbird (left) and dark-eyed junco (right) on the project site, 19 and 20 August 2025.*



Photos 22–24. *SonoBat sonograms from top to bottom: Pallid bat, hoary bat, and Yuma myotis on the project site, 19 August 2025.*



Photos 25 and 26. *SonoBat sonograms from top to bottom: California myotis and Mexican free-tailed bat on the project site, 19 August 2025.*

Table 1. *Species of wildlife I observed on the two project sites in 3.92 hours of daytime survey on 2 April 2024, 3.75 hours of daytime survey on 3 April 2024, 2.97 hours of daytime survey and 2.07 hours of evening survey on 19 August 2025, and 2.2 hours of daytime survey on 20 August 2025.*

Common name	***Species name***	**Status**[1]	**Notes**
Monarch	*Danaus plexippus*	FC	
Canada goose	*Branta canadensis*		Low overflight
Rock pigeon	*Columba livia*	Non-native	Just off site
Band-tailed pigeon	*Patagioenas fasciata*		Low overflight
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	Calling
Mourning dove	*Zenaida macroura*		Low overflight
Anna's hummingbird	*Calypte anna*		Territory defense
Allen's hummingbird	*Selasphorus sasin*	BCC	Territory defense
Ring-billed gull	*Larus delawarensis*		Low overflight
Western gull	*Larus occidentalis*	BCC	Low overflights
Glaucous-winged gull	*Larus glaucescens*		Low overflight
Caspian tern	*Hydroprogne caspia*		Low overflight

Common name	***Species name***	**Status[1]**	**Notes**
Elegant tern	*Thalasseus elegans*	BCC, WL	Just off site
Common loon	*Gavia immer*	SSC	On the Bay
Double-crested cormorant	*Nannopterum auritum*	WL	Low overflight
California brown pelican	*Pelecanus occidentalis californicus*		Low overflight
Great egret	*Ardea alba*		Flew nearby
Snowy egret	*Egretta thula*		Flew nearby
Turkey vulture	*Cathartes aura*	BOP	Overflights
Osprey	*Pandion haliaetus*	WL, BOP	Overflight
Cooper's hawk	*Accipiter cooperii*	WL, BOP	
Red-shouldered hawk	*Buteo lineatus*	BOP	Calling
Red-tailed hawk	*Buteo jamaicensis*	BOP	Overflight
American barn owl	*Tyto furcata*	BOP	
Great horned owl	*Bubo virginianus*	BOP	Flew onto site
Nuttall's woodpecker	*Picoides nuttallii*	BCC	
Peregrine falcon	*Falco peregrinus*	BOP	
Tropical kingbird	*Tyrannus melancholicus*		Calling from on site
Black phoebe	*Sayornis nigricans*		Territory defense
California scrub-jay	*Aphelocoma californica*		Nest-building
American crow	*Corvus brachyrhynchos*		Likely nesting
Common raven	*Corvus corax*		Likely nesting
Chestnut-backed chickadee	*Poecile rufescens*		Nesting
Oak titmouse	*Baeolophus inornatus*	BCC	Likely nesting
Bewick's wren	*Thryomanes bewickii*		Territory defense
House wren	*Troglodytes aedon*		Territory defense
Northern mockingbird	*Mimus polyglottos*		Just off site
European starling	*Sturnus vulgaris*	Non-native	Just off site
Western bluebird	*Sialia mexicana*		Just off site
Hermit thrush	*Catharus guttatus*		
American robin	*Turdus migratorius*		
House sparrow	*Passer domesticus*	Non-native	
House finch	*Haemorphous mexicanus*		
Lesser goldfinch	*Spinus psaltria*		
Chipping sparrow	*Spizella passerina*		
Dark-eyed junco	*Junco hyemalis*		
Golden-crowned sparrow	*Zonotrichia atricapilla*		Small flock
Song sparrow	*Melospiza melodia*		
California towhee	*Melozone crissalis*		
Spotted towhee	*Pipilo maculatus*		On buckeye
Hooded oriole	*Icterus cucullatus*		
Red-winged blackbird	*Agelaius phoeniceus*		Calling
Orange-crowned warbler	*Oreothlypis celata*		
Yellow-rumped warbler	*Setophaga coronata*		
Black-throated gray warbler	*Setophaga nigrescens*		Calling from on site

Common name	*Species name*	Status[1]	Notes
Townsend's warbler	*Setophaga townsendi*		
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	
Hoary bat	*Lasiurus cinereus*	WBWG:M	
California myotis	*Myotis californicus*	WBWG:L	
Yuma myotis	*Myotis yumanensis*	WBWG:LM	
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L	
Western gray squirrel	*Sciurus griseus*		
Eastern gray squirrel	*Sciurus carolinensis*	Non-native	

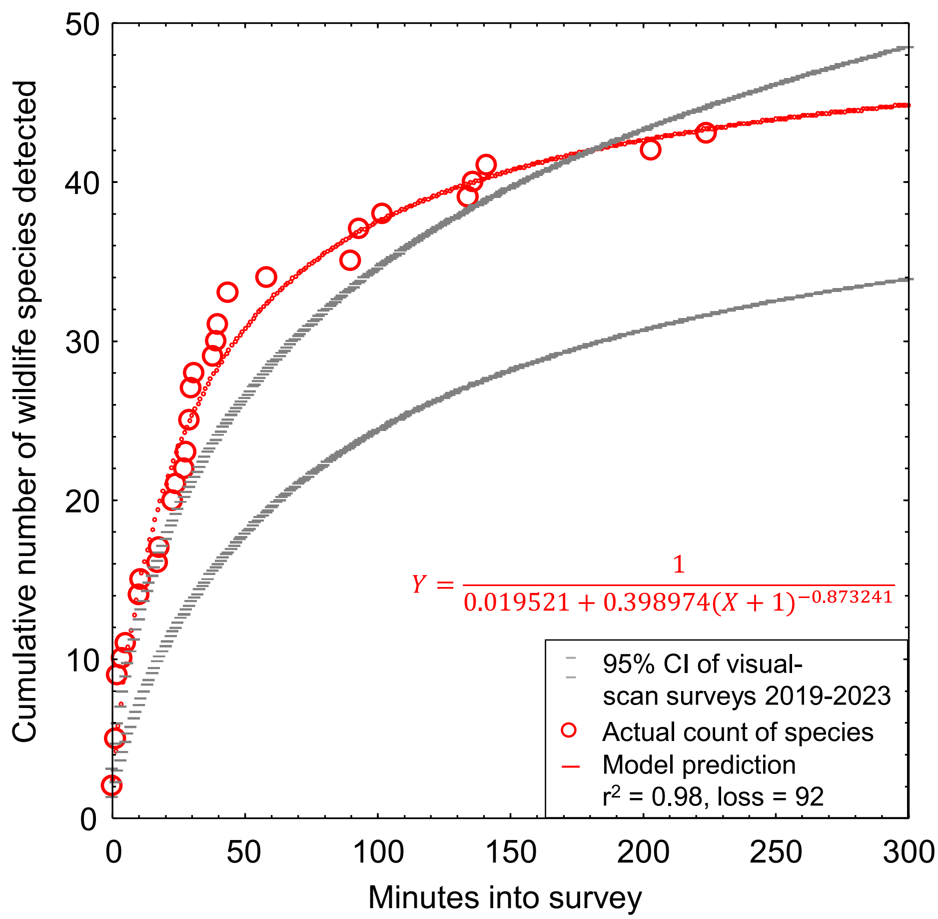
[1] Listed on CDFW's Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FC = federal candidate for listing; BCC = U.S. Fish and Wildlife Service's Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); SSC_i = California Species of Special Concern with *i* = priorities 1, 2 and 3; 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).

Considering my brief time at the project sites, I saw and heard many species of wildlife. The species I detected included 20 special-status species, all of which are sensitive species whose presence obligates my determination that sensitive species occur on the project sites. A Candidate for listing under the federal Endangered Species Act was there in the form of Monarch. Members of a California Fully Protected species flew through the very airspace that would be occupied by the projects' glass-covered buildings. Species listed by the US Fish and Wildlife Service as Birds of Conservation Concern, and species protected by California as Birds of Prey, are living and breeding on the project site. Most of the birds in Table 1 are protected by the Migratory Bird Treaty Act and by the California Bird Protection Act, largely because birds are sensitive to disturbances to their nest attempts. Furthermore, coast live oak, which dominates the tree canopy of the sites, is specifically protected under the City of Sausalito's Tree Ordinance, and the California buckeyes on the project sites are regarded as Heritage Trees, and they are therefore protected under the same Ordinance. Not only are most of the trees on the sites special as indicated by their protected status, but they support many of the nests of the bird species in Table 1, and they serve as roosts to the bats I saw on site. The evidence is overwhelming that the two project sites provide habitat for protected species identified as candidate, sensitive, or species of special status by state or federal agencies, and fully protected species.

However, I must point out that the species of wildlife I detected at the project sites comprised only a sampling of the species that were present during my surveys. I fit a nonlinear regression model to the cumulative number of vertebrate species detected with time into my 3 April 2024 survey to predict the number of species that I would have detected with a longer survey or perhaps with additional biologists available to assist. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. In this case, the model predicts 51 species of vertebrate wildlife were available to be detected after five hours of survey on the morning of 3 April

2024, which left eight species undetected that morning (Figure 1). I do not know the identities of the undetected species, but the pattern in my data indicates relatively high use of the project site compared to 10 surveys at other sites I have completed in Marin and Sonoma Counties. Compared to models fit to data I collected from other sites in the region between 2019 and 2023, the data from the project sites exceeded the upper bound of the 95% confidence interval of the rate of accumulated species detections with time into the survey (Figure 1). Importantly, however, the species that I did and did not detect on 2-3 April 2024 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. The proof of this prediction is in the additional 14 species of vertebrate wildlife I detected during my 2015 visit. More survey visits would result in even more species detections.

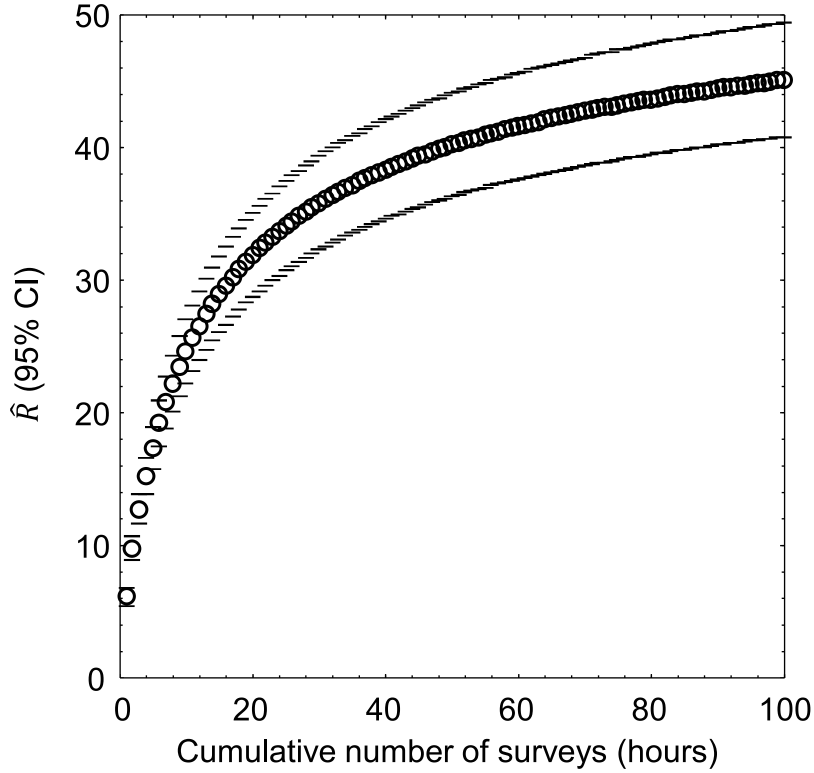
Figure 1*. Actual and predicted relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on my visual-scan survey on 3 April 2024. Note that the relationship would differ if the survey was based on another method or during another season.*



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 my two surveys one night apart. 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. 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 21.7 species over my first 7.67 hours of surveys at my research site in the Altamont Pass (7.67 hours to match the 7.67 hours I surveyed at the project site on 2-3 April 2024), which composed 38% 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 49 species I detected after 7.67 hours of survey at the project site on 2-3 April 2024 likely represented 38% 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, I would likely detect ${}^{49}/_{0.38} = 129$ species of vertebrate wildlife at the site. Assuming my ratio of special-status to non-special-status species was to hold through the detections of all 129 predicted species, then continued surveys would eventually detect 26 special-status species of vertebrate wildlife. And with nocturnal surveys and specialized surveys for small mammals and herpetofauna, even more species would be found to compose the wildlife community.

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.*



In my assessment based on database reviews and site visits, 117 special-status species of wildlife are known to occur near enough to the project sites to warrant analysis of occurrence potential (Table 2). Not all these species should be expected to occur at the project sites, but each of them should be given a closer look to determine occurrence likelihoods and whether additional surveys are needed, or implementation of detection surveys, or whether it would be reasonable to assume presence. Of these 117 species, 20 (17%) were recorded on the project sites, and another 39 (33%) species have been documented within 1.5 miles of the sites ('Very close'), another 37 (32%) within 1.5 and 4 miles ('Nearby'), and another 17 (15%) within 4 to 30 miles ('In region'). Nearly all (83%) the species in Table 2 have been reportedly seen within 4 miles of the project sites. The two project sites therefore support 20 special-status species of wildlife and carry the potential for supporting many more special-status species of wildlife based on proximity of recorded occurrences.

I am certain that at least 20 sensitive species of vertebrate wildlife occur at and near the project sites, and that the tree canopy of the two sites is dominated by species that are protected under the City of Sausalito's Tree Ordinance. According to Urban Forestry Associates (2023), "It is unclear how feasible replacement plantings will be based on the conceptual design," which in my opinion is a polite way of saying that replacement of these trees on site would be impossible. The proposed building would not leave sufficient room for replacements of the trees that would need to be removed. The same can be said of sensitive species of wildlife that find habitat on the project site; they would be permanently displaced, which means the productive capacities of these species would be diminished to the extent of habitat loss and to the degree of the further effects of habitat fragmentation (Smallwood 2015).

Making direct use of the trees on the two project sites were special-status species including Monarch, Allen's hummingbird, red-shouldered hawk, Cooper's hawk, Nuttall's woodpecker, American barn owl, great horned owl, oak titmouse, pallid bat, hoary bat, Yuma myotis, California myotis, and Mexican free-tailed bat. Making direct use of the existing buildings atop which one of the proposed buildings would cover were western gulls. The two project sites are habitat of these species.

True to its name, oak titmouse is a denizen of oak woodlands. Cornell University Lab of Ornithology's All About Birds website (https://www.allaboutbirds.org/guide/Oak_Titmouse/lifehistory) reports, "Oak Titmice live mostly in warm, open, dry oak or oak-pine woodlands." This is where I found multiple interactive members of oak titmouse on the project sites.

According to All About Birds, "Great Horned Owls usually gravitate toward secondary-growth woodlands, swamps, orchards, and agricultural areas, but they are found in a wide variety of deciduous, coniferous or mixed forests … [and are] fairly common in wooded parks, suburban area, and even cities. The great horned owl I encountered at the project site was initially calling from residential buildings north of the sites, but later I saw it fly from those buildings directly into the coast live oaks on one of the project sites.

According to All About Birds, "Allen's Hummingbirds breed in a narrow strip of coastal forest, scrub, and chaparral from sea level to around 1,000 feet elevation along the West Coast." It must just so happen that the project sites are located within this strip. It was among the coast live oaks and California buckeyes when it circled about me, issuing its "zeeeee" call. I was not surprised to find this species there.

According to All About Birds, "Red-shouldered Hawks [live] in some suburban areas where houses or other buildings are mixed into woodlands. In the West, they live in riparian and oak woodlands…" This habitat description is entirely consistent with the project sites, so I am not surprised to have detected a red-shouldered hawk there.

According to All About Birds, "Western Gulls nest only in places free from disturbance and isolated from predators such as foxes and coyotes: islands, headlands, and abandoned seaside structures such as piers or old buildings." On old buildings is exactly where I observed western gulls courting each other and attempting copulation. The old buildings the gulls used are the same the project proposes to overtop with its building.

Making use of that portion of the aerosphere which the proposed building would displace were the following special-status species: California brown pelican, double-crested cormorant, turkey vulture, red-tailed hawk, and again western gull. The aerosphere of the project site is habitat of these species.

Table 2. *Occurrence likelihoods of special-status species of wildlife at or near the two proposed project sites, 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 sites, "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 sites. Entries in bold font identify species I detected during my surveys.*

Common name	***Species name***	**Status[1]**	**Databases, Site visits**
San Bruno elfin butterfly	*Callophrys mossii bayensis*	FE	In region
Monarch	*Danaus plexippus*	FC	Very close/**On site**
Bay checkerspot butterfly	*Euphydryas editha bayensis*	FT	In region
Mission blue butterfly	*Icaricia icarioides missionensis*	FE	In region
Callippe silverspot butterfly	*Speyeria callippe callippe*	FE	In region
Myrtle's silverspot butterfly	*Speyeria zerene myrtleae*	FE	In range
Crotch's bumble bee	*Bombus crotchii*	CCE	Nearby
California tiger salamander	*Ambystoma californiense*	FT, CT, WL	In region
California giant salamander	*Dicamptodon ensatus*	SSC	Nearby
Red-bellied newt	*Taricha rivularis*	SSC	In region
Foothill yellow-legged frog	*Rana boylii*	CT, SSC	In region
California red-legged frog	*Rana draytonii*	FT, SSC	Nearby
Northwestern pond turtle	*Actinemys marmorata*	FC, SSC	Nearby
Brant	*Branta bernicla*	SSC2	Very close
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL	Nearby
Redhead	*Aythya americana*	SSC2	Nearby
Harlequin duck	*Histrionicus histrionicus*	SSC2	Very close
Barrow's goldeneye	*Bucephala islandica*	SSC	Very close
Fork-tailed storm-petrel	*Hydrobates furcatus*	SSC	Nearby
Ashy storm-petrel	*Hydrobates homochroa*	SSC	Nearby
Western grebe	*Aechmophorus occidentalis*	BCC	Very close
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Very close
Vaux's swift	*Chaetura vauxi*	SSC2, BCC	Very close
Costa's hummingbird	*Calypte costae*	BCC	Nearby
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close

Common name	***Species name***	**Status[1]**	**Databases, Site visits**
Allen's hummingbird	*Selasphorus sasin*	BCC	Very close/**On site**
Snowy plover	*Charadrius nivosus*	BCC	Nearby
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC, BCC	Nearby
Long-billed curlew	*Numenius americanus*	BCC, WL	Very close
Marbled godwit	*Limosa fedoa*	BCC	Very close
Red knot (Pacific)	*Calidris canutus*	BCC	Nearby
Short-billed dowitcher	*Limnodromus griseus*	BCC	Nearby
Willet	*Tringa semipalmata*	BCC	Very close
Marbled murrelet	*Brachyramphus marmoratus*	FT, CE	Very close
Rhinoceros auklet	*Cerorhinca monocerata*	WL	Very close
Tufted puffin	*Fratercula cirrhata*	SSC, BCC	Nearby
Cassin's auklet	*Ptychoramphus aleuticus*	SSC, BCC	Nearby
Laughing gull	*Leucophaeus atricilla*	WL	Very close
Heermann's gull	*Larus heermanni*	BCC	Very close
Western gull	*Larus occidentalis*	BCC	Very close/**On site**
California gull	*Larus californicus*	BCC, WL	Very close
California least tern	*Sternula antillarum browni*	FE, CE, CFP	Nearby
Black tern	*Chlidonias niger*	SSC2, BCC	Very close
Elegant tern	*Thalasseus elegans*	BCC, WL	Very close/**On site**
Black skimmer	*Rynchops niger*	BCC, SSC3	Very close
Common loon	*Gavia immer*	SSC	Very close/**On site**
Brandt's cormorant	*Urile penicillatus*	BCC	Very close
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close/**On site**
American white pelican	*Pelacanus erythrorhynchos*	SSC1, BCC	Very close
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Nearby
Turkey vulture	*Cathartes aura*	BOP	Very close/**On site**
Osprey	*Pandion haliaetus*	WL, BOP	Very close/**On site**
White-tailed kite	*Elanus luecurus*	CFP, BOP	Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP	Very close
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Very close

Common name	***Species name***	**Status[1]**	**Databases, Site visits**
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Very close/**On site**
American goshawk	*Accipiter atricapillus*	SSC2, BOP	Nearby
Bald eagle	*Haliaeetus leucocephalus*	BGEPA, CE, BOP	Very close
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close/**On site**
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	Very close/**On site**
Ferruginous hawk	*Buteo regalis*	WL, BOP	Very close
Rough-legged hawk	*Buteo lagopus*	BOP	Very close
American barn owl	*Tyto furcata*	BOP	Very close/**On site**
Northern spotted owl	*Strix occidentalis caurina*	FT, CT, BOP	In region
Western screech-owl	*Megascops kennicotti*	BOP	Nearby
Great horned owl	*Bubo virginianus*	BOP	Very close/**On site**
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP, CCE	Nearby
Long-eared owl	*Asio Otis*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	Nearby
Lewis's woodpecker	*Melanerpes lewis*	BCC	Very close
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Very close/**On site**
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	BOP	Very close/**On site**
Prairie falcon	*Falco mexicanus*	BCC, WL, BOP	Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Very close
Willow flycatcher	*Empidonax trailii*	CE, BCC	Nearby
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Nearby
Loggerhead shrike	*Lanius ludovicianus*	BCC, SSC2	Nearby
Oak titmouse	*Baeolophus inornatus*	BCC	Very close/**On site**
California horned lark	*Eremophila alpestris actia*	WL	Very close
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Very close
Wrentit	*Chamaea fasciata*	BCC	Very close

Common name	*Species name*	Status[1]	Databases, Site visits
California thrasher	*Toxostoma redivivum*	BCC	In region
Cassin's finch	*Haemorhous cassinii*	BCC	Nearby
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Nearby
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	Very close
Samuel's song sparrow	*Melospiza melodia samueli*	BCC, SSC3	Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC	In region
Yellow-breasted chat	*Icteria virens*	SSC3	Nearby
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Nearby
Bullock's oriole	*Icterus bullockii*	BCC	Nearby
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, BCC	In region
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Nearby
San Francisco common yellowthroat	*Geothlypis trichas sinuosa*	SSC3, BCC	In range
Northern yellow warbler	*Setophaga aestiva*	SSC2	Very close
Summer tanager	*Piranga rubra*	SSC1	Nearby
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In region/**On site**
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	Nearby
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	Nearby
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	Nearby
Hoary bat	*Lasiurus cinereus*	WBWG:M	In region/**On site**
Long-eared myotis	*Myotis evotis*	WBWG:M	In region
California myotis	*Myotis californicus*	WBWG:L	In region/**On site**
Little brown bat	*Myotis lucifugus*	WBWG:M	In region
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region/**On site**
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L	Nearby/**On site**
San Francisco dusky-footed woodrat	*Neotoma fuscipes annectens*	SSC	In region
American badger	*Taxidea taxus*	SSC	Very close

[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_i = California Species of Special Concern with *i* = priorities 1, 2 and 3; 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).

Based on habitat associations, special-status species I expect to use the project sites as habitat, but which have yet to be detected there, include rufous hummingbird, white-tailed kite, sharp-shinned hawk, western screech-owl, Lewis's woodpecker, olive-sited flycatcher, California thrasher, Bullock's oriole, yellow warbler, and at least several more of the bat species in Table 2. The project sites are most likely habitat of these species, and others in Table 2.

There is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the existing environmental setting and to appropriately analyze the projects' impacts to wildlife from habitat fragmentation and from bird-glass collision mortality.

LOSS OF AVIAN PRODUCTIVE CAPACITY FROM HABITAT DESTRUCTION

Altogether, the two proposed projects at APN 065-132-18 and APN 065-132-16 would take 0.97 acres of forested ground cover including nine mature trees consisting of California live oak, California Bay, and California buckeye. Habitat loss results in a reduced productive capacity of affected wildlife species including birds. My surveys were not suited for tallying bird nests, because surveys for this purpose would require repeat surveys throughout the breeding season. Therefore, the best means available for predicting the total number of bird nests on the sites of the two projects is to draw scientific inference of total nest density estimated in other similar environments.

The closest such environment to the project sites would be the 1.32-acre patch of riparian woodland I surveyed throughout the breeding season of 2023 in Rancho Cordova, California. In Rancho Cordova, I estimated 28.8 bird nests/acre. This density applied to the 0.97 acres of the two project sites I address herein would predict 28 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 39 nest attempts per year on the project sites. Assuming Young's (1948) study site typifies bird productivity of 2.9 fledged birds per nest attempt, then I predict 113 fledglings/year at the project sites.

The loss of 28 nest sites and 39 nest attempts per year would qualify as significant impacts that have not been analyzed in an environmental review. But the impacts would not end with the immediate loss of nest sites. The reproductive capacity of the sites would be lost. The two projects would prevent the production of 113 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) = 127 birds per year lost to California.

The loss of 127 birds per year would be a loss of significant habitat value that is currently provided by the project sites. 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 127 birds would easily qualify as an unmitigated significant impact.

LOSS OF BAT PRODUCTIVE CAPACITY FROM HABITAT LOSS

Many bats are tree-roosting bats, including hoary bat. Yuma myotis roost in hollows of trees. California myotis and pallid bat often roost under the exfoliating bark of trees. All four of these species flew within 30 feet of my acoustic detector on the night of 19 August 2025. In fact, I registered 146 passes of bats by my detector in only 2 hours, or more than 1 bat pass per minute. Bat activity was high during my survey, but what I do not know is how many bats actually reside on the two project sites. During the very early morning of 3 April 2024, I saw an estimated 10 bats flying into and out of one tree on the project site, but there are likely many more in other trees on site. However, there is no published estimate available of the total density of tree-roosting bats.

WILDLIFE DEPREDATION BY HOUSE CATS

Considering national trends, it is safe to assume that house cats would be introduced to the project area by residents of the proposed residential units. This is significant because house cats serve as one of the largest sources of avian mortality in North America (Dauphiné and Cooper 2009, Blancher 2013, Loss et al. 2013, Loyd et al. 2017). Loss et al. (2013) estimated 139 million cats in the USA in 2013 (range 114 to 164 million), which killed an estimated 16.95 billion vertebrate wildlife annually (range 7.6 to 26.3 billion). In 2012 there were 0.44 house cats per human in the USA, and 122 vertebrate animals were killed per cat, free-ranging members of which killed disproportionately larger numbers of vertebrate wildlife. As fond as we are of house cats, it is important to predict their numbers and their impacts on wildlife that would come with a project.

I have seen no prediction of the number of new residents that would come with the two projects, but assuming 2.5 residents per dwelling unit, one can predict the 98 dwelling units between the two projects would house 245 new residents. Ma and McLeod (2023) found that only 15% of apartment owners allow their cats to roam free. Assuming this same rate would apply to condominiums, then I predict 16 free-roaming cats, which based on the findings of Loss et al. (2013) would kill 1,952 vertebrate wildlife per year.

House cats also contribute to downstream loading of *Toxoplasma gondii*. According to a UC Davis wildlife health research program, "*Toxoplasma gondii is a parasite that can infect virtually all warm-blooded animals, but the only known definitive hosts are cats – domesticated and feral house cats included. Cats catch the parasite through hunting rodents and birds and they offload it into the environment through their feces… and …rain that falls on cement creates more runoff than rain that falls on natural earth, which contributes to increased runoff that can carry fecal pathogens to the sea*" (The original link is no longer active, but the quote came from the program described at: https://whc.vetmed.ucdavis.edu/programs-projects/ca-conservation/sea-otter).

Impacts on wildlife from the introduction of house cats into the environment would be highly significant, and they should be analyzed in an EIR. An obvious mitigation measure would be to constrain house cat ownership such as requiring cats to remain indoors.

BIRD-WINDOW COLLISIONS

Considering the locations of the two projects between existing oak woodland and the Bay, and considering the proposals to build so much glass onto the façades of the buildings, I must point out that the projects would pose a substantial bird-window collision risk. The project at APN 065-132-16 would add an 8-story, 109.5-foot-tall building with 119,647 sf of floor space. The project at APN 065-132-18 would add a 4-story, 57-foot-tall building with 64,167 sf of floor space. According to the renderings I have seen of both buildings, glass windows and glass railings compose major features of the buildings. The renderings depict the glass as both transparent and reflective – the two qualities of glass known to increase the risk of lethal bird-window collisions. The ratio of exterior glass to square feet of floor space on these two buildings combined would be nearly four times the average I have measured in other projects involving condominiums.

Many special-status species of birds have been recorded at or near the aerosphere of these two project sites. My database review and my site visits indicate there are 91 special-status species of birds with potential to use the site's aerosphere (Table 2). All the birds of species in Table 2 can quickly fly from wherever they have been documented to the two project sites, so they would all be within brief flights to the proposed projects' windows. At the nearby California Academy of Sciences, the glass facades facing adjacent gardens killed 0.077 and 0.086 birds per m^2 of glass per year (Kahle et al. 2016), which might not look like large numbers at first read, but which translate to large numbers of dead birds when projected to the extent of glass on the projects (see below). And that the California Academy of Sciences is nearby from the perspective of a bird, consider the tropical kingbird I detected on the project site. Tropical kingbird is a very rare species in this part of California, so I looked up eBird records and found a cluster of records in Golden Gate Park just prior to my detection of a tropical kingbird at 605 Bridgeway project site. The last record of this bird in Golden Gate Park was 26 March 2024, which is only a few days before I detected it on the project site; it was likely the same bird.

Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted for undetected fatalities). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m² of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m² of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

Based on the renderings of the proposed new building on APN 065-132-18, I measured window and glass rail extents to estimate the building would expose birds to 390 m² of exterior glass. Applying the mean fatality rate (above) to my estimate of 390 m^2 of window glass in the project, I predict annual bird deaths of 29 (95% CI: 17–40). Relying on the mean fatality rates from the closest building studied for bird-window collision mortality, the fatality rate at the California Academy of Sciences would predict a mean fatality rate of 32 birds per year.

Based on the renderings of the proposed building APN 065-132-16, I measured window and glass rail extents to estimate the building would expose birds to 2,013 m^2 of exterior glass. Applying the mean fatality rate (above) to my estimate of 2,013 m^2 of window glass in the project, I predict annual bird deaths of 147 (95% CI: 87–207). Relying on the mean fatality rates from the closest building studied for bird-window collision mortality, the fatality rate at the California Academy of Sciences would predict a mean fatality rate of 164 birds per year.

These two predictions added together between the two proposed projects would be 176 (95% CI: 104–247) bird collision fatalities/year. Giving more weight to the nearer mortality estimate at the California Academy of Sciences would predict 196 bird fatalities per year.

The vast majority of the predicted collision deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed projects would result in potentially significant adverse biological impacts, including the unmitigated take of both terrestrial and aerial habitat of birds and other sensitive species. There is at least a fair argument for the need to prepare an EIR to appropriately analyze the impact of bird-glass collisions that might be caused by the project. Additional potential impacts in need of analysis are the effects of habitat loss on avian productive capacity, and the effects of house cat depredation on wildlife.

Thank you for your consideration,

Shawn Smallwood, Ph.D.

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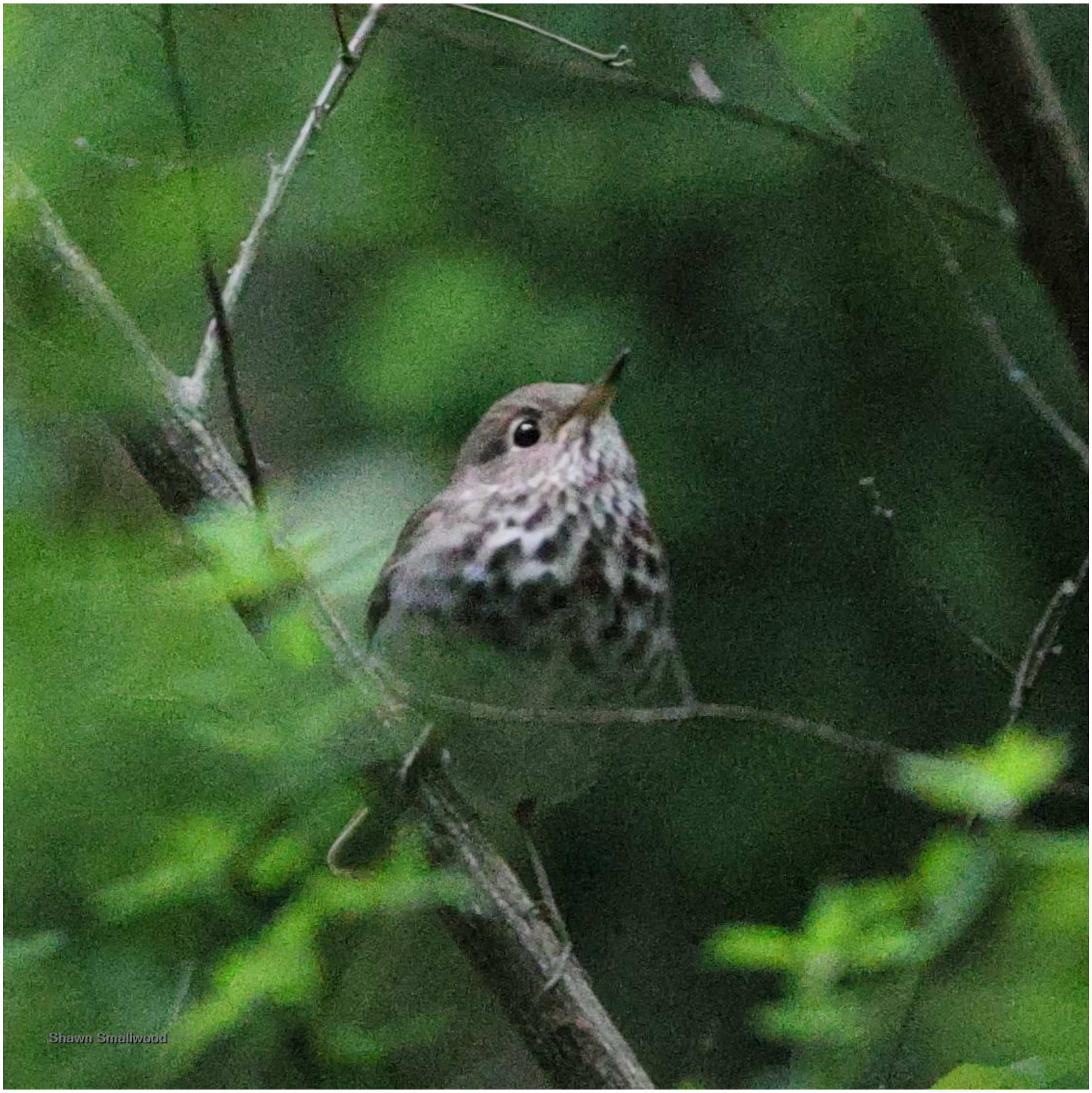

Hermit thrush on the project site, 3 April 2024.