

September 29, 2022

75 Horseshoe Hill Road, Bolinas
Preliminary Biological Land Study

Ms. Megan Mirsky & Mr. Scott Weiss
260 Horseshoe Hill Road
Bolinas, CA 94924

Re: Biological Site Reconnaissance

Dear Ms. Mirsky and Mr. Weiss:

This biological technical memorandum summarizes the results of the reconnaissance-level habitat suitability assessment for special-status wildlife species for the 6.56-acre parcel (APN 188-150-70) property located at 75 Horseshoe Hill Road, in Bolinas, Marin County, California (Figure 1). The project was evaluated to identify biological constraints associated with the development of equestrian facilities on the property consisting of a 6-stall horse barn, covered open-walled arena, and an 800-1,000 square-foot caretaker unit. An assessment of botanical resources and potential impacts was completed in concurrence with focused botanical surveys and are presented in a separate document (Wood Biological Consulting 2022).

Background Information and Site Reconnaissance

Prior to conducting the site reconnaissance, a review of recent literature, regulatory requirements, state and federal special-status species lists, and recorded occurrences was conducted to determine if the subject property contains or is within the range of sensitive resources such as state and/or federal listed threatened and/or endangered species. Information sources included the California Natural Diversity Database (CNDDDB) (2022), California Department of Fish and Wildlife (CDFW) State and Federally Listed Endangered and Threatened Animals of California (CDFW 2022c), CDFW Special Animal List (CDFW 2022d), and U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consulting (IPaC) (USFWS 2022b).

A site reconnaissance was conducted by wildlife biologist Jerry Roe (Sapere Environmental) and a botanist Chris Rogers (Wood Biological Consulting) on March 1, 2022. All proposed impact areas and vegetation communities within the subject property were visited and evaluated for their potential to support sensitive biological resources. Focused and protocol-level species surveys were not conducted for this assessment. Negative findings during site assessments or focused surveys may not indicate absence unless field surveys conform to agency-approved protocols.

Existing Conditions

The proposed project site comprises the approximately 6.56-acre vacant portion of a parcel of land currently used as a pasture for grazing horses. The pasture adjoins a residence, ceramic studio, and several small outbuildings. Vegetation within the subject parcel consists of non-native annual grassland

dominated by annual grass and herbaceous plant species (Figure 2). Non-native woodlands partially occupy the margins of the pasture. Ruderal and ornamental vegetation occurs on the margins of the developed residence and driveway. These vegetation and cover types are described in greater detail below.

Non-native Woodland

Stands of predominantly naturalized non-native tree species form small woodlands along the perimeter of the survey area. The trees include Monterey pine, bishop pine, silver dollar gum, Lombardy poplar, and Siberian elm. Few individuals of native trees, including coast live oak, California bay, arroyo willow, and planted redwood also are present. Understory shrubs also are mainly non-native species, including golden wattle, star acacia, short leaf box, and woolly cotoneaster. The understory herbaceous vegetation is generally sparse, consisting of shade tolerant species that also occur in non-native annual grassland. Non-native woodland is not classified by Sawyer, et al. (2009), and would be classified as an upland habitat according to Cowardin, et al. (1979).

Non-native Annual Grassland

Non-native annual grassland is dominated by non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, which have largely replaced native perennial grasslands and wildflower fields as a result of human disturbance. Within the survey area, many decades of use as a livestock pasture have replaced the native vegetation with introduced nonnative species. A few native wildflowers and grasses, representing remnants of the original vegetation, also are present, but are not typically dominant. Non-native annual grassland is the dominant vegetation type, covering approximately 4.3 acres of the 6.56 acre parcel. The dominant grasses are hare barley, Mediterranean barley, velvet grass slender oat, and little quaking grass, all of which are non-native species. Common non-native forbs include common dandelion, English plantain, creeping capeweed, narrow-leaved flax, and red stem filaree, also all non-native.

Within the survey area, non-native annual grassland conforms most closely to the natural community Annual Brome Grasslands (*Bromus [diandrus, hordeaceus]-Brachypodium distachyon*) Semi-Natural Herbaceous Stands, as described in Sawyer, et al. (2009). This is described as Nonnative Grassland by Holland (code 42200; Holland, 1986) and the CDFW (CA vegetation code 42.026.00; CDFW, 2022a).

Non-native annual grasslands as found on site would be classified as an upland (Cowardin, *et al*, 1979). As a common, widespread and non-natural plant association, non-native annual grassland has no global or State rarity ranking (CDFW, 2022b). Unless found to harbor special status species, impacts to non-native annual grassland would not typically meet the significance criteria pursuant to CEQA guidelines.

Ruderal

Ruderal vegetation occurs where native vegetation has been completely removed by grading, cultivation, continuous weed management, or other surface disturbances. Left undeveloped, such areas typically become recolonized by non-native and often invasive plant species. Ruderal sites are typically dominated by herbaceous species, although scattered woody shrubs and trees may also begin to appear if left undisturbed long enough. Ruderal sites are characteristic of road sides, fallow agricultural fields, vacant lots, and landslides.

Within the survey area, ruderal vegetation occurs in areas subject to repeated disturbance, such as the driveway and parking areas, corrals for livestock, and portions of the residential yard. These areas support a sparse cover of primarily non-native annual grasses and forbs, including slender oat, velvet grass, sheep sorrel, and common groundsel, among others.

Ornamental

Ornamental plant associations are those dominated by plant species introduced by humans and established or maintained by human disturbances or activities (Holland and Keil, 1990). Some are entirely artificial such as areas under active cultivation (e.g., rowcrops, orchards, vineyards, ornamental landscaping). Others include areas used as rangeland or pasture, and areas influenced by urban or suburban landscaping or plantings. On such sites, the native vegetation has typically been removed by clearing in preparation for cultivation, landscaping, or development. Cleared areas that are planted with or colonized by non-indigenous plant species can create distinct communities dominated by annual grasses and forbs, shrubs, or trees. Some of these communities are only perpetuated with direct human intervention such as irrigation or grazing, while others have naturalized and are able to persist without artificial means. In some situations, introduced non-indigenous species invade native habitats, altering the composition of the native understory or canopy, or both.

Within the survey area, anthropogenic habitats include areas of lawns and maintained gardens, as well as less formal landscaped areas along the access road to the summit of the hill. On the road-side and interspersed into the oaks are plantings of a variety of Cootamundra wattle, blackwood acacia, Aleppo pine, non-indigenous Monterey pine and coast redwood, Tasmanian blue gum, Australia tea tree, deodar cedar, French broom, and dense shrub cover of rock rose. Areas along the roadway and banks near the main house have been planted with periwinkle, which has spread into the understory of the oaks, in some cases forming an herbaceous monoculture to the exclusion of the native understory species.

This vegetation type is not classified by Sawyer et al. (2009); it would be classified as an upland following Cowardin et al. (1979). Unless found to support special-status plant or animal species, or as otherwise regulated under local tree or zoning ordinances, impacts to anthropogenic habitats typically would not be regarded as significant pursuant to CEQA guidelines (see discussion in Section 4.1).

Developed

Developed areas consist of areas where natural or non-natural plant assemblages have been removed and replaced by structures and hardscapes such as road paving, walkways, and patios. Unpaved areas regularly utilized for the storage of equipment, vehicles, construction materials and refuse are also characterized as developed. Developed portions of the survey area include the residence and yard, outbuildings, driveway, and parking areas.

Aquatic Features

No aquatic features are present within the subject parcel. However, the site is situated 1,500 feet west of the Bolinas Lagoon and 860 feet east of Pine Gulch Creek. Seven isolated ponds are present on neighboring properties ranging from 380 to 2,000 feet to the northwest and south/southeast (Figure 3).

Regulatory Implications of the Proposed Project

Federal Endangered Species Act

The FESA protects federally-listed threatened and endangered species. Section 9 of FESA prohibits actions which result in “take” of threatened or endangered species. “Take” is defined as any action to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.” “Harm” has been further defined to include killing or injuring due to significant obstruction of essential behavior patterns (i.e. breeding, feeding, or sheltering) through significant habitat modification or degradation.

Two sections of the FESA contain provisions for allowing “take” which is incidental to otherwise lawful activities. Under Section 7, a federal agency which proposes to conduct, fund or approve an action which may result in “take” of listed species is required to consult with the USFWS. The result of this formal consultation is a Biological Opinion, which includes either a jeopardy or non-jeopardy decision issued by the USFWS to the consulting federal agency. Included in the Biological Opinion is the possible issuance of authorization for “incidental take.” Section 10(a) of FESA provides a method for permitting a state or private action that may result in “incidental take.” Under Section 10(a), the project proponent must provide the USFWS with a Habitat Conservation Plan for the affected species, and publish notification of the application for a permit in the Federal Register.

Migratory Bird Treaty Act

Protection is afforded to these bird species by the Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA) administered by the USFWS (Division of Migratory Bird Management), which makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird.” This includes direct and indirect acts, with the exception of harassment and habitat modification, which are not included unless they result in direct loss of birds, nests or eggs. Most bird species occurring within California fall under the protection of the MBTA, except those species that belong to the families not listed in any of the four treaties, such as wren-tit (*Chamaea fasciata*), European starling (*Sturnus vulgaris*), California quail (*Callipepla californica*), ring-necked Pheasant (*Phasianus colchicus*) and chukar (*Alectoris chukar*), among others less common in California. In addition, the Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108-447; MBTA), excludes all migratory birds nonnative or that have been human-introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes. This list excluded two additional species commonly observed in the U.S., the rock pigeon (*Columba livia*) and domestic goose (*Anser anser domesticus*). The California Fish and Game Code (CFG) §3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird; §3503.5 prohibits the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls); §3511 prohibits the take or possession of fully protected birds; and §3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA.

Invasive Plant Species (Executive Order 13112)

Executive Order (EO) 13112, February 3, 1999, established the National Invasive Species Council tasked with acting as an interdepartmental organization to centralize efforts across agencies and political boundaries toward addressing the impacts and ongoing threats of invasive species. Implementation of this EO required, among other actions, limitation or exclusion of federal funding for projects which may result in promoting the introduction or spread of invasive species.

California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA, but unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called “candidates” by the state). Section 2080 of the California Department of Fish and Wildlife (CDFW) Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section

86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”. CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. CESA incorporates provisions that permit impacts to California-listed rare, threatened, or endangered species. Those provisions are similar to, but not identical to, provisions in the FESA in that there is a permitting process under Section 2081 of the CESA.

California Fish and Game Code

Several sections of the California Fish and Game Code are applicable to analysis of biological resource impacts that may be associated with the project. The following paragraphs summarize these sections.

Section 1580

This section declares that the policy of the state is to protect threatened or endangered native plants, wildlife, or aquatic organisms or specialized habitat types, both terrestrial and non-marine aquatic, or large heterogeneous natural gene pools for the future use of mankind through the establishment of ecological reserves.

Sections 1600-1616

An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake without providing notification to the CDFW. This notification may result in a Streambed Alteration Agreement between the project applicant and CDFW. Activities in intermittent streams and canals may require Streambed Alteration Agreements.

Section 1900, et seq.

This portion of the Fish and Game Code is known as the “Native Plant Protection Act.” The purpose of this chapter is to preserve, protect and enhance endangered or rare native plants of this state. Many species and subspecies of native plants are endangered because their habitats are threatened with destruction, drastic modification, or severe curtailment, or because of commercial exploitation or by other means, or because of disease or other factors. This portion of the code designates California rare, threatened, and endangered plant taxa.

Section 1930-1933

These sections find and declare that because areas containing diverse ecological and geological characteristics are vital to the continual health and well-being of the state's natural resources and of its citizens, the Significant Natural Areas Program was established to be administered by the CDFW. The CDFW, in administering this program, is charged with being responsible for obtaining access to the most recent information with respect to natural resources by maintaining, expanding, and keeping current a data management system, designated the CNDDDB, designed to document information on these resources. That data is required to be made available to interested parties on request. Costs are to be shared by all who use the data management system. The state's most significant natural areas are to be designated and, after consultation with federal, state, and local agencies, education institutions, civic and public interest organizations, private organizations, landowners, and other private individuals, periodic reports regarding the most significant natural areas are to be prepared. The CDFW is required to maintain and perpetuate these significant natural areas for present and future generations in the most feasible manner. The code also requires that CDFW coordinate services to federal, state, local, and private interests wishing to aid in the maintenance and perpetuation of significant natural areas.

Section 3503

This section prohibits taking, possessing, or needlessly destroying the nest or eggs or any bird. Birds of prey are included in Section 3503.5.

Section 3513

California's migratory birds are protected under this section by making it unlawful to take or possess any migratory non-game bird (or any part of such bird) as designated in the MBTA.

Section 3511, 4700, 5050, and 5515

These sections prohibit take of animals that are classified as "Fully Protected" in California. Take of Fully Protected species is specifically prohibited, even if other sections of the Fish and Game Code provide for "incidental take" of the species.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) of 1970 requires public agencies to evaluate the environmental implications of their actions, and to prevent environmental effects by avoiding or reducing significant impacts of their decisions, where feasible. CEQA was intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. In enacting CEQA, the Legislature expressed a policy that public agencies should not approve projects as proposed if there are such feasible alternatives or mitigation measures. Among its goals, CEQA was intended "to preserve for future generations representations of all plant and animal communities" (Cal. Pub. Res. Code §21001c). Through this process impacts and mitigation to state and federally listed plant species are discussed.

In addition, CEQA requires that impacts to "resources that are rare or unique to that region" be evaluated [CEQA Guidelines 15125(c)]. This includes botanical resources that are, but not limited to, peripheral populations and disjunct subpopulations. Lists of such species are maintained by the Sacramento office of the U.S. Fish and Wildlife Service and are termed Species of Concern and Species of Local Concern. These are informal terms that refer to those species that might be declining or be in need of concentrated conservation actions to prevent decline, but have no legal protection of their own. Also, CEQA Guidelines Section 15380 states "a species not included in any listing...shall nevertheless be considered to be rare or endangered if the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered threatened as that term is used in the ESA."

Senate Bill 1334 - The Oak Woodlands Conservation Act

Senate Bill 1334 (SB 1334) is an act to add §21083.4 to the Public Resources Code (PRC), relating to oak woodlands conservation which requires each county in California to implement an oak woodland protection policy to mitigate for the loss of oak woodlands resultant from approved projects within their jurisdiction. In this policy, oak trees are defined as all native species of oaks larger than five inches dbh (diameter at breast height, or 4.5 feet above grade). At least one of four mitigation alternatives for significant conversions of oak woodlands are required in this regulation: 1) conserve oak woodlands through the use of a conservation easement, 2) plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees (planting maintenance must last for seven years, and mitigation plantings shall not fulfill more than one-half the mitigation requirement for the project; this alternative may also be used to restore former oak woodlands), 3) contribute funds to the Oak Woodlands Conservation Fund, as established under §1363 (a) of the CFGC, and 4) other mitigation measures developed by each county.

Results

Special-Status Plants

Refer to the Rare Plant Survey Technical Memorandum prepared by Wood Biological Consulting (2022) for a summary of botanical resources habitat suitability and rare plant occurrence potential.

Special-Status Wildlife

Based on the site reconnaissance, a review of available databases and literature, and familiarity with local fauna, a total of 65 special-status fish and wildlife species were considered as part of this assessment (USFWS 2022a,b; CDFW 2022c,d; CNDDDB 2022) (Appendix D) (Figure 4). Of these, the presence of 55 species were ruled out based on the lack of suitable habitat, local range restrictions, regional extirpations, lack of connectivity between areas of suitable or occupied habitat, and/or incompatible land use and habitat degradation/alteration of on-site or adjacent lands. Those species with the potential to occur on site and could be directly or indirectly affected by the proposed activities, or are of significant local concern are discussed in more detail below (Table 1).

Table 1. Potentially Occurring and Occurring Special-Status Fish and Wildlife Species

COMMON NAME	STATUS ²	HABITAT	POTENTIAL
Federal/State Listed, Proposed, Candidate and/or Fully Protected Species			
California red-legged frog <i>Rana draytonii</i>	FED: FT,CH CA: ST, SSC	A medium-sized frog that inhabits lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation up to 4,921 feet (1,500 meters) in elevation.	Possible
Monarch Butterfly <i>Danaus plexippus pop 1</i> (overwintering population)	Fed: FC CA: None	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Host plant is the milkweed (<i>Asclepias</i> sp.). Fall migration occurs from August-October. Overwintering roosts in California commonly occur on Eucalyptus tree.	Possible
White-tailed kite <i>Elanus leucurus</i>	Fed: None CA: FP	Inhabits grasslands, agriculture fields, oak woodlands, savannah and riparian habitats in rural and urban areas. Feeds primarily on California voles. Year-round resident of Central and Coastal California. Breeding begins in February; sometimes double-brooded.	Possible
Sensitive and Locally Rare Species			
Cooper's hawk <i>Accipiter cooperii</i> (nesting)	Fed: None CA: WL	Inhabits dense stands of oak woodlands, riparian deciduous forests, or other forest habitats often near water & suburban areas. Hunts in broken woodlands & along forest edges. Breeding begins in April; single-brooded (Baicich & Harrison, 2005).	Possible
Hoary bat <i>Lasiurus cinereus</i>	Fed: None CA: SA WBWG-M	A solitary foliage rooster that prefers evergreens, but will use deciduous trees in forested habitats, particularly in edge habitat. May forage in small to large groups. Feeds primarily on moths, but will eat a variety of other insects.	Possible
Marin Hesperian <i>Vespericola marinensis</i>	Fed: None CA: SA	A land snail that inhabits riparian, mixed evergreen, and moist coastal scrub and chaparral communities in Marin County. Often found on the underside of leaves or within leaf litter.	Possible
Obscure bumble bee <i>Bombus caliginosus</i>	Fed: None CA: SA	Inhabits coastal areas with the following host plants: <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> and <i>Phacelia</i> species. Recorded from Alameda, Contra Costa, Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, San Mateo, Santa Barbara and Sonoma counties.	Possible

COMMON NAME	STATUS ²	HABITAT	POTENTIAL
Pallid bat <i>Antrozous pallidus</i>	Fed: None CA: SSC WBWG-H	Inhabits rocky terrain in open areas in lowlands, foothills and mountainous areas near water throughout California below 2,000 meters. Roost in caves, rock crevices, mines, hollow trees, buildings and bridges in arid regions in low numbers (<200). Active from March-November; migrates in some areas, but may hibernate locally.	Possible
Western bumble bee <i>Bombus occidentalis</i>	Fed: None CA: SA	Inhabits a variety of habitats with the following food plants: <i>Melilotus</i> , <i>Cirsium</i> , <i>Trifolium</i> , <i>Centaurea</i> , <i>Chrysothamnus</i> , and <i>Eriogonum</i> species.	Possible
Western red bat <i>Lasinus blossevillii</i>	Fed: None CA: SSC WBWG-H	Primarily associated with intact riparian habitat; species is ubiquitous throughout most of California except the northern Great Basin region. Roosts individually in foliage within trees along riparian areas, orchards and suburban areas. Favors cottonwoods, willows, sycamores, and walnut trees (Bolster, 2005b). Feeds primarily on moths, but will eat a variety of other insects.	Possible

² Explanation of State and Federal Listing Codes

Federal listings:

CH	Critical Habitat (Proposed or Final) is designated
FC	Federal candidate species (former Category 1 candidates)
FT	Federally listed as Threatened

California listings:

FP	Fully Protected
SSC	California Species of Special Concern
ST	California listed as Threatened
WL	Watch List

WBWG The Western Bat Working Group. H – High Priority indicates species that are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats; M – Medium Priority indicates a lack of information to assess the species' status; L – Low Priority indicates relatively stable populations based on available data. The WBWG also uses intermediary designations including MH – Medium-High and LM – Low-Medium priorities.

California Red-Legged Frog

The California red-legged frog is a medium-sized frog that predominantly inhabits permanent water sources such as streams, lakes, marshes, natural and man-made ponds, and ephemeral drainages in valley bottoms and foothills up to 1,500 meters (4,921 feet) in elevation (Jennings and Hayes 1994, Bulger et al. 2003, Stebbins 2003). Adults breed in a variety of aquatic habitats, while larvae and metamorphs use streams, deep pools, backwaters of streams and creeks, ponds, marshes, sag ponds, dune ponds, and lagoons. Stock ponds are frequently used for breeding when they provide suitable hydroperiod, pond structure, vegetative cover, and are managed to control nonnative predators such as bullfrogs and exotic fish. Breeding occurs between November and April within still or slow-moving water with light to dense, riparian or emergent vegetation, such as cattails (*Typha* spp.), tules (*Schoenoplectus* and *Bulboschoenus* spp.) and overhanging willows (*Salix* spp.) (Hayes and Jennings 1988). Egg masses are attached to vegetation below the surface and hatch after 6 to 14 days (Storer 1925, Jennings and Hayes 1994). Larvae undergo metamorphosis 3½ to 7 months following hatching and reach sexual maturity 2 to 3 years of age (Jennings and Hayes 1984, 1994).

Tatarian (2008) noted that a 57% majority of frogs fitted with radio transmitters in the Round Valley of eastern Contra Costa County stayed at their breeding pools, whereas 43% moved into adjacent upland habitat or to other aquatic sites. This study reported a peak of seasonal terrestrial movement in the fall months corresponding to 0.2-inches of precipitation that tapered off into spring. Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including ground squirrel burrows at the bases of trees or rocks, logs, grass thatch, crevices, cow hoof prints, and a downed barn door; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from 1 to 4 days; however, one female was reported to remain in upland habitat for 50 days (Tatarian 2008). Uplands closer to aquatic sites were more often used and were more commonly associated with areas exhibiting higher object cover, e.g. small woody

debris, rocks, and vegetative cover. The distance moved is site-dependent, though one recent study shows that only a few frogs move farther than the nearest suitable non-breeding habitat (Fellers and Kleeman 2007). In this Marin County study, the furthest distance traveled was 1.4 kilometers (0.9-mile) and most dispersing frogs moved through grazed pastures to reach the nearest riparian habitat (Fellers and Kleeman 2007). Bulger et al. (2003) did not observe habitat preferences among frogs moving between ponds. They did note that when breeding ponds dry, California red-legged frogs use moist microhabitats of dense shrubs and herbaceous vegetation within 100 meters (328 feet) of ponds.

Habitat Suitability and Occurrence Data

No suitable aquatic habitat occurs on site. However, the subject parcel does provide suitable upland foraging and dispersal habitat. Pine Gulch Creek parallels the property approximately 860 feet to the west generally running north to south. Several large ponds are present within one mile of the property including one 380 linear feet to the west, and two others located 1,100 and 1,200 linear feet to the south. These aquatic features may provide suitable breeding, dispersal and/or year-round habitat. The pond 380 feet to the west appeared to be dry at the time of the March 1, 2022, site visit suggesting that breeding may not be suitable at this or other nearby locations during drought years. Four CNDDDB (2022) occurrences have been reported within 1 mile of the project footprint.

- Occurrence #1051 is located 700 feet to the southwest in Middle Pine Gulch Creek, Weber Pond and the newly constructed Star Route Pond in 2017 (CNDDDB 2022). Adults of all life history stages have been documented at these locations between 2006 and 2017 including relocation of tadpoles during a watershed enhancement project in 2017.
- Occurrence #977 is located approximately 3,275 feet to the south-southeast at mile marker 1.56 on Olema-Bolinas Road. The habitat consists of a roadside drainage ditch with shallow ponding that supports freshwater vegetation. Two individuals were observed between March and April 2007.
- Occurrence #1050 is located 4,385 feet to the north-northwest in Paradise Valley near the confluence of McCormick and Pine Gulch Creeks. This occurrence also includes sightings at Green Pond. Six adults were observed between March and July 2005, two adults and seven juveniles in June 2015, and 349 larvae between May and June 2017.
- Occurrence #1127 is located 4,900 feet to the north in a pond on the north side of Highway 1 at the northern terminus of Bolinas Lagoon. All life history stages were reported between 1996 and 2008.

Habitat within the subject property largely comprises grazing pasture for horses and a smaller area supporting a residence, lawn, and outbuildings. The non-native annual grassland and the ungrazed annual grasses and herbaceous vegetation along the parcel perimeter provide suitable upland foraging and refugia habitat. California red-legged frogs can spend several days to weeks in upland habitat away from aquatic features during cool, damp periods and utilize dense vegetative ground cover. Based on the proximity of occurrences throughout the project vicinity and nearby aquatic features, California red-legged frogs may occasionally transit, forage, or seek refuge on the property. The subject property is not located within designated critical habitat.

Potential Project-Related Effects

Constructing additional equestrian facilities or increasing the number of horses on the property will not appreciably change the existing conditions and are not expected to adversely affect California red-legged frogs. However, direct impacts in the form of harassment, injury or mortality could occur during the construction of additional structures that can be avoided or minimized by employing appropriate mitigation measures.

Monarch Butterfly

The Monarch butterfly is a large butterfly that migrates annually from North America to Central America over the course of several generations. Monarchs are host specific, laying their eggs exclusively on the leaves of milkweed (*Asclepius* spp.) plants. The larvae feed on the milkweed after hatching and enter the pupa stage within two weeks of hatching and emerge as adults in 10-14 days thereafter. Reproductively active adults live for two-six weeks. The migratory adult form begins fall migration in August and may travel up to 2,500 miles to warmer climates in Central Mexico. Along the way, adults will roost in large colonies for several days to weeks at a time. Along the California Coast, overwintering roosts typically occur in stands of eucalyptus, pine and cypress trees in proximity to milkweed. The winter migratory lifespan lasts more than 9 months and adults return to northern habitats in spring.

Habitat Suitability and Occurrence Data

Suitable overwintering habitat is present among the silver dollar gum eucalyptus and Monterey pine trees on site. No milkweed (*Asclepius* spp.) host plants were observed during the March 1, 2022, site visit and none were identified in the Rare Plant Survey Technical Memorandum (Wood Biological Consulting 2022). Thirteen (13) occurrences have been reported within 5 miles of the subject property (CNDDB 2022). The nearest occurrences are located 0.6-mile to the west (Occ.# 233) and 1-mile to the south (Occ.# 235). Occurrence #233 comprises two neighboring sites along Mesa Road near the Rose Lane intersection consisting of mature pines, cypresses and firs that supported roosting monarchs annually between 1990 and 1999. They are presumed by CDFW to be extant at this location. Occurrence 235 was reported at the Bolinas sewage facility near the intersection of Olema-Bolinas Road and Mesa Road comprising roosting from 1994 to 2014 in a grove of eucalyptus trees bordering the roadway.

Potential Project-Related Effects

No change in land use and no tree removal are proposed for this project. The expansion of equestrian use including constructing additional outbuildings will not adversely affect this species as no monarch habitat features will be removed or modified.

White-Tailed Kite

The white-tailed kite is designated as a fully protected species by §3511 of the California Fish and Game Code. This species receives additional protection under the Migratory Bird Treaty Act and California Fish and Game Code §3503. White-tailed kites inhabit open grasslands and savannahs, and breed in a variety of habitats, including grasslands, cultivated fields, oak woodlands and suburban areas where prey is abundant. Nests are built in trees typically near a water source and may occur in suburban areas with adjacent open areas with abundant prey. Breeding occurs between February and July and the species can be double-brooded in some years (Baicich and Harrison, 2005). During the non-breeding season, white-tailed kites may roost communally (Dunk, 1995). White-tailed kites prey on small mammals, reptiles and occasionally, birds.

Habitat Suitability and Occurrence Data

Suitable nesting trees are present among the mature trees on site and suitable foraging habitat is present throughout the parcel. Evidence of small mammal activity, i.e. gophers and moles, was observed within the horse pasture during the March 1, 2022, site reconnaissance. No white-tailed kite nests have been reported in the CNDDB (2022) within five miles of the subject property, but the Marin County Breeding Bird Atlas (Marin Audubon Society 2022) indicates that white-tailed kites nest throughout the county. No old stick nests were observed in the mature trees on the property or on neighboring parcels during the reconnaissance survey conducted on March 1, 2022. However, white-tailed kites could nest or forage on the property at any time in the future.

Potential Project-Related Effects

The project would not result in the loss of known white-tailed kite nests or the loss of potential nesting trees as no tree removal is proposed as part of the on-site improvements. If white-tailed kites establish nests within 300 feet of the project footprint prior to the construction, the project may result in direct impacts (e.g., nest disturbance or abandonment during incubation, nestling or fledging stages) and/or indirect impacts (e.g., modified foraging patterns or territories, noise or light pollution, winter roost abandonment, etc.) to white-tailed kites. Potential impacts can be avoided or minimized by employing appropriate mitigation measures.

Cooper's Hawk

The Cooper's hawk is a medium-sized Accipiter that ranges from southern Canada to Mexico. It inhabits dense stands of oak woodlands, riparian deciduous forests, or other forest habitats often near water and suburban areas (Baicich & Harrison 2005). This woodland raptor hunts in broken woodlands, along forest edges and suburban areas for medium-sized birds and mammals (Curtis et al. 2006). Typical nest site selection is characterized by mature trees with significant canopy cover; although, species will nest in suburban areas in a variety of trees (Curtis et al. 2006). Breeding begins in April and are single-brooded (Baicich & Harrison 2005).

Habitat Suitability and Occurrence Data

Cooper's hawks utilize the same nesting habitat as white-tailed kites. The mature trees on the property provide suitable nesting habitat and suitable foraging habitat is also present throughout the entire property. No Cooper's hawk nests have been reported within five miles of the subject property, but the Marin County Breeding Bird Atlas (Marin Audubon Society 2022) indicates Cooper's hawks nest countywide. No old stick nests were observed in the mature trees on the property or on neighboring parcels. However, Cooper's hawks could nest or forage on the property at any time in the future.

Potential Project-Related Effects

The project would not result in the loss of known Cooper's hawk nests or the loss of potential nesting trees as no tree removal is proposed as part of the on-site improvements. If Cooper's hawks establish nests within 300 feet of the project footprint prior to the construction, the project may result in direct impacts (e.g., nest disturbance or abandonment during incubation, nestling or fledging stages) and/or indirect impacts (e.g., modified foraging patterns or territories, noise or light pollution, winter roost abandonment, etc.) to Cooper's hawks. No other impacts to this species are expected.

Nesting Migratory Birds

In addition to the two aforementioned raptor species, nesting migratory birds receive protections under the California Fish and Game Code and Migratory Bird Treaty Act. Migratory birds have been recorded breeding and/or wintering within Marin County Breeding Bird Atlas (Marin Audubon Society 2022) and can be expected to nest, forage, roost, and/or overwinter within or adjacent to the subject parcel corresponding to the time of year and each species' specific habitat needs. If any of these species establish nests within 50 feet of the project footprint for migratory birds or 300 feet for raptors (birds of prey), the project could cause temporary disturbance to active nests and breeding pairs resulting in nest abandonment or avoidance, and ultimately the loss of eggs or nestlings. Other impacts may include flushing from the nest(s), hesitation approaching the nest(s), behavioral shifts in nest tending, foraging, or mate/nestling feeding, or conspicuous atypical behavior that could lead to interspecies harassment or depredation. No nests or birds exhibiting breeding or courtship behavior were observed during the March 1, 2022, site visit; however, suitable habitat was present throughout the property and any of these

species could establish a nest any time during the breeding season which extends from February 1 to August 31.

Roosting Bats

Of the 25 known bat species in California, 12 are designated as California Species of Special Concern by CDFW. Bats are classified as non-game mammals by CDFW and are afforded protection under the CFGC¹. They also receive protection under the California Code of Regulations² and the California Public Resources Code³. In general, bats exhibit a wide range of habitat usage depending on the species, season, time of day, resource availability, and level of disturbance, among other factors, but often exhibit high site fidelity and roost selection specificity. Roost sites consist of maternity (nursery colonies), bachelor, day, night, and interfeeding sites within caves, mines, cliffs, rock crevices, tree hollows, stumps, foliage, exfoliating bark, and man-made structures such as buildings and bridges. Some species require a complex network of habitat characteristics that fulfill foraging, water intake, shelter, and thermoregulatory requirements that vary seasonally. Three bat species designated as rare, sensitive, declining, special concern, high priority, or having limited or restricted distribution are considered to have the potential to occur within the subject property. These species include hoary bat, pallid bat, and western red bat.

Suitable roosting habitat is present within the subject property among the exfoliating bark, tree cavities, and clumps of dense foliage in the mature trees and snags, and potentially within the existing structures on the property. The diversity of tree species on site provides a range of habitat niches for various bat species that have specific roost requirements related to vegetation type, density, temperature, sun exposure, and proximity to aquatic features including Bolinas Lagoon, Pine Gulch Creek, neighboring ponds.

Hoary Bat

The hoary bat is designated a Medium Priority species by the Western Bat Working Group (CDFW 2022d). Hoary bats are ubiquitous but uncommon throughout California and roost solitarily in the foliage in primarily evergreens (pine, redwood, hemlock and spruce) and secondarily in deciduous trees, particularly in edge habitat exhibiting a preference for oak, maple, elder, and ash trees (Jackson 1961, Bolster 2005). They forage in small to large groups on large prey such as moths, beetles, crickets, and dragonflies (Barclay 1985). They emerge up to 5 hours after sunset to forage and employ a long-range foraging strategy using fast straight-line paths (Barclay 1985). They may remain at summer habitats and hibernate overwinter in lower latitudes but typically migrate to warmer climates in the winter. Hoary bats have delayed implantation, mating from late summer to early fall, and give birth the following June (Barclay 1989).

Habitat Suitability and Occurrence Data

Suitable roosting habitat is present among the mature Monterey and bishop pines, coast redwoods, coast live oak, horse chestnut, Lombardy poplar, and Siberian elm trees on the property. They are less likely to forage on site based on their preference for riparian habitat, but they may forage and roost in the project vicinity. Two occurrences have been reported within 5 miles of the project footprint; the nearest (Occ.#221) is located in the immediate vicinity identified as Punta de los Reyes, Pablo Point, and Stewart Point dating from 2008 (CNDDB 2022). Habitat consisted of cherry tree orchards. Both males and females were observed at this location.

¹ e.g., CFGC §86, §2000, §2014, §3007, and §4150

² e.g., Title 14, §251.1, Article 20; §15380; and §15382

³ Division 13

Potential Project-Related Effects

The proposed improvements and equine land use are not likely to impact roosting bats as they will be located within open areas, will avoid tree removal, and are consistent with the existing conditions and longstanding usage of the site.

Pallid Bat

The pallid bat is designated as a California Species of Special Concern by the CDFW and a Medium Priority species by the Western Bat Working Group (CDFW 2022d). The pallid bat is a relatively large, light-colored bat ranging throughout the southwestern United States from interior British Columbia to Mexico (Hermanson and O'Shea 1983, Sherwin and Rambaldini 2005). They inhabit foothills and lowlands near water throughout California below 2,000 meters (6,560 feet) in elevation, but are most abundant in arid deserts and grasslands particularly in areas with rock outcrops near water (Hermanson and O'Shea 1983). Pallid bats typically roost in small groups in a variety of habitat features including bridges, buildings, tree hollows in coast redwoods, bole cavities in oaks, exfoliating bark, rock crevices in outcrops and cliffs, caves and mines as both day and night roosts (Sherwin and Rambaldini 2005). Roost sites may change seasonally and are typically reused for a few days to weeks. Pallid bats primarily feed on a variety of arthropods typically capturing prey on the ground or gleaning from surfaces near the ground, and forage over shrub-steppe grasslands, oak savannah grasslands, open Ponderosa pine forests, talus slopes, gravel roads, orchards and vineyards. Parturition varies with latitude, but generally occurs from late-April to August; maternal colonies disperse by October (Hermanson and O'Shea 1983). Overwintering is common along the California coast, but individuals may migrate short distances between winter and summer roosts (Sherwin and Rambaldini 2005).

Habitat Assessment and Occurrence in the Project Vicinity

Although the site lacks suitable roost habitat associated with rock crevices and outcrops, suitable tree roosting habitat is present among the coast redwood, pines, coast live oak and other mature tree species exhibiting exfoliating bark, tree hollows, and bole cavities. Pallid bats may also use the eaves on the residence and outbuildings during interfeeding bouts. The entire property provides suitable foraging habitat. No occurrences have been reported within 5 miles of the project footprint, but the species was documented from several locations in greater Bolinas area of the county during surveys conducted in 2006 (CNDDDB 2022).

Potential Project Related Effects

The proposed improvements and equine land use are not likely to impact roosting bats as they will be located within open areas, will avoid tree removal, and are consistent with the existing conditions and longstanding usage of the site.

Western Red Bat

The western red bat is designated as a California Species of Special Concern by the CDFW and a High Priority species by the Western Bat Working Group (CDFW 2022d). The western red bat is primarily a riparian obligate species with widespread distribution extending from British Columbia to Argentina (Bolster 2005). They are ubiquitous throughout most of California except the northern Great Basin region. The red bat is easily distinguished by its distinctive reddish coloration. Roosting typically occurs individually in dense clumps of tree foliage in riparian areas, especially willows, cottonwoods and sycamores, and within orchards and suburban areas in trees and shrubs. Roosts are often hidden from view and only access from below (Bolster 2005). Red bats are primarily moth specialists, but individuals will forage for a variety of other insects. Individuals have been observed foraging around street lamps and flood lights in suburban areas (Bolster 2005). The western red bat migrates long distances, but has

been reported to overwinter in the greater Bay Area with interspersed winter foraging bouts on warm days (Bolster 2005).

Habitat Assessment and Occurrence in the Project Vicinity

Suitable roost habitat is present among the foliage of coast live oak, horse chestnut, Lombardy poplar, Siberian elm, arroyo willows, and fruit trees (*Prunus* sp.) on the property. The entire property provides suitable foraging habitat. No occurrences have been reported within 5 miles of the project footprint, but the species was documented from Olema Creek in 2003 approximately 12 miles to the northwest (CNDDDB 2022). Information on bat species occurrence is frequently underrepresented and given the western red bat's habitat requirements are considered to be more widespread throughout the county.

Potential Project Related Effects

The proposed improvements and equine land use are not likely to impact roosting bats as they will be located within open areas, will avoid tree removal, and are consistent with the existing conditions and longstanding usage of the site.

Obscure Bumble Bee and Western Bumble Bee

The obscure bumble bee ranges along the Pacific Coast from British Columbia to Southern California. Some occurrences have been reported from the eastern side of the Central Valley. Food plants include *Baccharis*, *Cirsium*, *Lupinus*, *Lotus*, *Grindelia*, and *Phacelia* species. This species has been recorded from Alameda, Contra Costa, Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, San Mateo, Santa Barbara, and Sonoma counties.

The western bumble bee is historically a very common bee species in the western U.S. and western Canada, but populations from British Columbia to Central California have become extirpated or are severely declining. Food plants consist of *Melilotus*, *Cirsium*, *Trifolium*, *Centaurea*, *Chrysothamnus*, and *Eriogonum* species. It is also an important pollinator for various flowering plants and commercial food crops including avocados, peppers, tomatoes, cranberries, and various other berry crops.

Habitat Assessment and Occurrence in the Project Vicinity

Suitable food plants are present on site for both bumble bee species including coyote brush (*Baccharis pilularis* ssp. *consanguinea*), bull thistle (*Cirsium vulgare*) and three clover (*Trifolium* sp.) species. Five obscure bumble bee occurrences have been reported within five miles of the project footprint with the nearest occurrences (Occ. #105) located 1.6 miles south from a non-specific location dating from 1966 (CNDDDB 2022). Two western bumble bee occurrences have been reported with five miles of the project footprint with the nearest (Occ.#195) from a non-specific location identified only as Bolinas from 1953 (CNDDDB 2022). Bumble bee species are considered underrepresented by CDFW and absence of recorded occurrences may not accurately reflect their potential for occurrence within the project vicinity.

Potential Project Related Effects

The Project may result in indirect impacts through the temporary loss of food plants for bumble bee species. However, coyote brush, thistles and clovers easily repopulate areas and grazing or removal of these host plants combined with the abundance of similar host plants on neighboring parcels will not appreciably diminish the overall habitat value of the property. Therefore, direct impacts to obscure bumble bees (i.e., injury and mortality) are not anticipated.

Marin Hesperian Snail

Vespericola is a genus of land snail in the family Polygyridae and are largely herbivorous and fungivorous. They are found along the Pacific Coast of North America, from southern Alaska and British Columbia

to California. The shells of these small to medium, globose or depressed globose snails are variations of brown, sometimes without apertural teeth and sometimes with a single tooth on the parietal wall. Small periostracal hairs may be observed on the shell surface of many specimens, but the shells otherwise resemble those of "Praticolella" or "Mesodon". (Pilsbry 1940). The Marin Hesperian snail "differs from all other Polygyridae by the possession of a well-developed though rather short verge, and by the peculiar shape of the epiphallus" (Pilsbry 1940). Characteristics that differentiate *V. marinensis* from other *Vespericola* species include "the inner part of the basal lip is gently curved forward" and the base is "tumid and solid-looking" (Roth 2003).

Marin Hesperian snails are generally found in moist environments particularly around perennial water sources and along coastal areas with cool temperatures and high humidity. Species prefers areas with dense understory with moist vegetation, saturated soils, woody debris, moss, and rock talus. Hesperian snails have limited dispersal patterns that rarely exceed several hundred feet. Lifespan in similar species ranges from three to five years.

Habitat Assessment and Occurrence in the Project Vicinity

Suitable habitat is present along areas with dense understory vegetation lining the parcel perimeter. Four occurrences have been reported within 5 miles of the project footprint (CNDDDB 2022). The nearest occurrences (Occ.#14,15) are located within one mile of the project site situated 0.8 and 0.9-mile to the west and north, respectively (CNDDDB 2022). Occurrence #14 was reported to be collected from vegetative debris found above the high tide line in the vicinity of Audubon Canyon Ranch.

Potential Project Related Effects

The project may also result in the temporary loss of suitable dense ground cover habitat. However, the abundance of similar vegetative habitat features along the parcel perimeter and on neighboring parcels will not appreciably diminish the overall habitat value of the property. The project may result in direct impacts to Marin Hesperian snails by injury or mortality to individuals during the construction or demolition activities and ongoing use of the property for equine operations. Such impacts are not considered significant based on the aforementioned factors.

Recommendations

To avoid or minimize potential impacts to special-status wildlife species and their habitats, the following mitigation measures are recommended:

General Wildlife Avoidance and Minimization Measures

1. A Worker Environmental Awareness Training Program should be conducted for all construction crews and contractors prior to the construction of equestrian structures and outbuildings. The training program should be conducted prior to starting work on the project, upon the arrival of any new worker, and include a brief review of the identification, habitat and life history of the ten species with the potential to occur within the study area including nesting migratory birds and raptors, the sensitivity of the species to project activities, notification protocols, avoidance measures, and corrective actions should a special-status species or active migratory bird nest be encountered. A record of all personnel trained during the project should be maintained for compliance verification.
2. No plastic, synthetic monofilament, or tight-woven netting should be used for erosion control (ex. straw wattles, erosion control matting) to prevent wildlife from becoming entangled,

trapped, or injured. Only natural fibers such as jute, coconut, twine or other similar fibers should be used and wider mesh netting or fabrics are preferred.

California Red-Legged Frogs

The following mitigation measures should be implemented to avoid and minimize potential impacts to California red-legged frogs.

1. Construction of equestrian structures and outbuildings should occur during the dry season, e.g. May 1 and October 15, when California red-legged frogs are less likely to forage at greater distances from aquatic habitat.
2. Prior to the start of construction, a qualified biologist should conduct a preconstruction survey for California red-legged frogs within the construction footprint including staging areas. If no California red-legged frogs are found, no further mitigation is required.
3. If California red-legged frogs are encountered within the project footprint, all work within 50 feet of the individual should cease immediately and the biological monitor notified. The qualified biologist should monitor the individual until it has moved out of the project footprint on its own volition or should be captured and relocated to a safe area of suitable habitat. At no time should a California red-legged frog be handled or relocated unless a qualified biologist is in possession of a valid USFWS Section 10(a)(1)(A) recovery permit or is USFWS-approved under an active biological opinion and expressly approved by CDFW. Prior to handling and relocation, the biologist should take precautions to prevent introduction of amphibian diseases in accordance with the Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (USFWS 2005).

Nesting Raptors and Migratory Birds

If construction of outbuildings will occur during the migratory bird breeding season, i.e. February 1 to September 30, the following measures should be implemented to minimize potential impacts to the white-tailed kites, Cooper's hawks, and nesting migratory birds:

1. Preconstruction nesting bird surveys should be conducted within the project footprint and a 300-foot buffer, by a qualified biologist no more than two weeks prior to vegetation removal or ground disturbing activities in relation to the construction of equestrian structures and outbuildings. If no active nests are found, no further mitigation is necessary.
2. If active nests (i.e., nests with eggs or young birds present) are found, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. The non-disturbance zone may be further reduced if a biological monitor is present to educate workers about the sensitivity of working in proximity to active nests and be onsite to monitor the nest during work adjacent to the buffer to determine if project activities are causing nest disturbance. The monitor should conduct regular monitoring visits to document nest phenology and potential for disturbance during the different nest stages. If buffers are established and it is determined that project activities are resulting in nest disturbance, work should cease immediately and the CDFW and the USFWS Migratory Bird Regional Permit Office should be contacted for further guidance.

Breeding/Roosting Bats

1. If tree removal or trimming is determined to be necessary, a preconstruction bat survey should be conducted within the project footprint by a qualified biologist no more than two weeks prior to vegetation removal or ground disturbing activities to identify maternity sites or day roosts. All suitable roost habitat including man-made structures, snags, rotten stumps, decadent trees with broken limbs, exfoliating bark, bole cavities or hollows, dense foliage, etc. should be surveyed. Sensitive habitat areas and roost sites should be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary.
2. If potential tree roost sites (trees, snags, etc.) are to be removed or trimmed, limbs smaller than 3 inches in diameter should be cut and the tree left overnight to allow any bats that may be using the tree/snag time locate another roost. A qualified biological monitor should be present during the trimming or removal of trees, snags, or stumps to inspect the downed limbs and foliage for roosting bats.
3. If live bats are detected in the project impact area, work should cease and CDFW should be consulted on how to proceed. A non-disturbance buffer zone of 50 feet should be established until guidance from CDFW is obtained.

Obscure Bumble Bee, Western Bumble Bee, and Marin Hesperian Snail

1. Minimize habitat loss in areas known to support host/food plants for the obscure bumble bee, western bumble bee, and Marin Hesperian snail.

Please feel free to call me at (415) 365-0010 if you have any questions.

Sincerely,



Jerry D. Roe, CEO
Wildlife & Conservation Biologist
Sapere Environmental, LLC

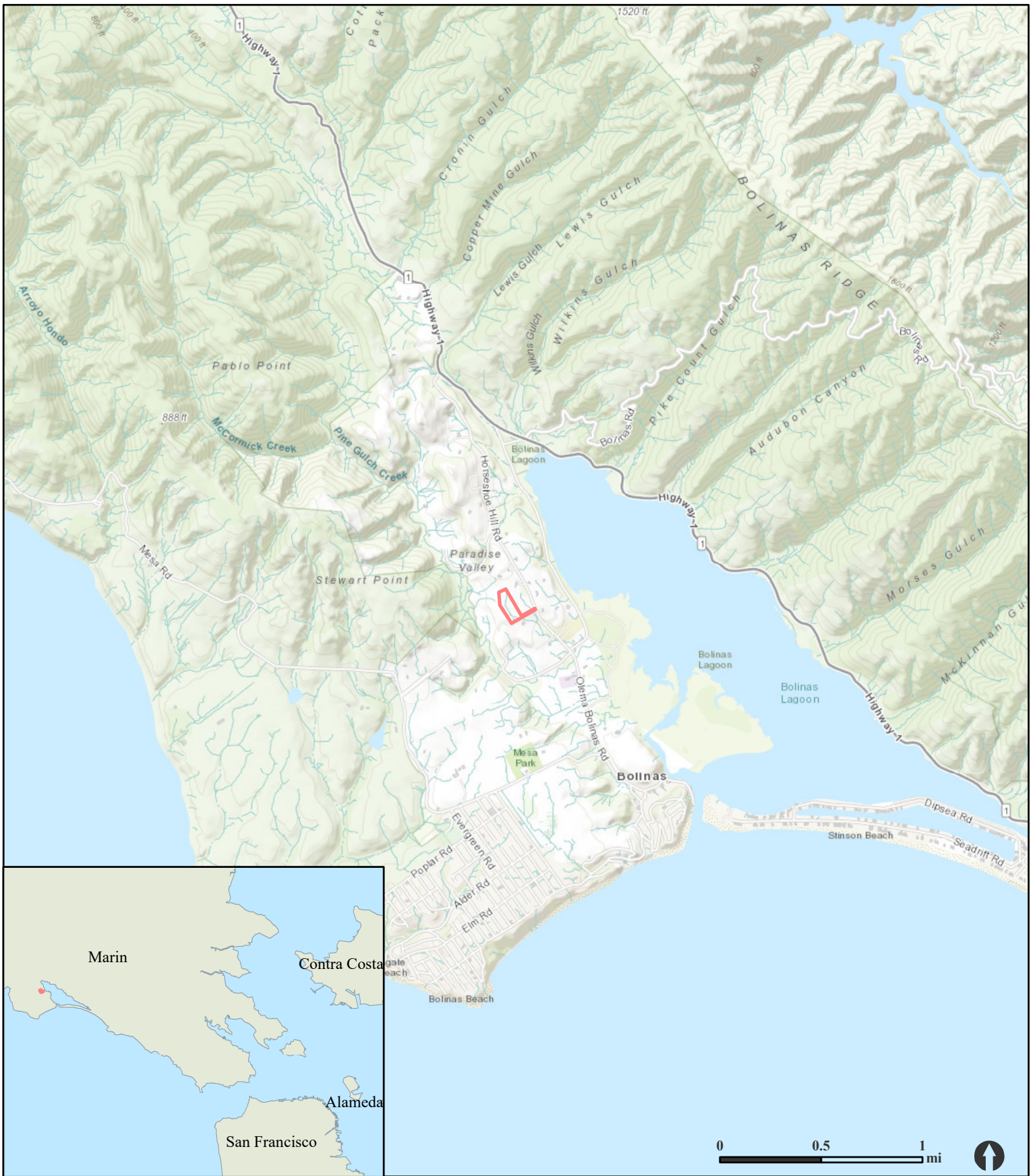
Enclosure(s): Appendix A - Literature Cited
Appendix B - Figures
Appendix C - Photographs
Appendix D - Special Status Fish and Wildlife Species Known to Occur or Potentially Occurring in the Project Vicinity
Appendix E - California Natural Diversity Database Wildlife Species List
Appendix F - U.S. Fish and Wildlife Service IPaC Species List

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APPENDIX B FIGURES



Legend
▭ Project Site



Figure 1.
Location of the Project Site
 75 Horseshoe Hill Road
 Version: September 26, 2022





- Legend**
- Parcel Boundary (6.56 acres)
 - Non-Native Annual Grassland (4.28 acres)
 - Non-Native Woodland (1.32 acres)
 - Developed/Ornamental/Ruderal (0.96 acres)



Figure 2. Vegetation Types in the Study Area
75 Horseshoe Hill Road
Version: September 26, 2022



Legend

- Study Area
- Aquatic Resource
- Creeks & Drainages



Figure 3. Aquatic Resources within the Project Vicinity
75 Horseshoe Hill Road
Version: September 26, 2022

APPENDIX C PHOTOGRAPHS



Photo 1. View of the driveway facing east.



Photo 2. View of the horse pasture facing north with an outbuilding on the left.



Photo 3. View of the grazed horse pasture.



Photo 4. View of the perimeter fence with herbaceous vegetation that is suitable upland foraging and refugia habitat for California red-legged frogs.



Photo 5. View of the horse pasture with mature trees in the background.



Photo 6. View of the mature Monterey pine tree providing suitable habitat for raptors and migratory birds.



Photo 7. View of the residence in the background facing southwest. Monterey pines and eucalyptus trees visible on the property.



Photo 8. View of the horse pasture facing northwest.

APPENDIX D SPECIAL STATUS FISH AND WILDLIFE SPECIES KNOWN TO OCCUR OR POTENTIALLY OCCURRING IN THE PROJECT VICINITY

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
FEDERAL / STATE LISTED, PROPOSED, CANDIDATE AND / OR FULLY PROTECTED SPECIES				
<u>INVERTEBRATES:</u>				
<i>Danaus plexippus</i> Monarch Butterfly	Fed: FC CA: None	The Monarch butterfly is a large orange and black butterfly that migrates annually from North America to Central America over the course of several generations. Monarchs are host specific, laying their eggs exclusively on the leaves of milkweed (<i>Asclepius</i> spp.) plants. The larvae feed on the milkweed after hatching and enter the pupa stage within about two weeks of hatching and emerge as adults in 10-14 days. Reproductively active adults live for two-six weeks. The migratory adult form begins fall migration in August and may travel up to 2,500 miles to warmer climates in Central Mexico. During migration, adults will roost in large colonies for several days to weeks at a time. Along the California Coast, overwintering roosts typically occur in stands of eucalyptus, pine and cypress trees in proximity to milkweed. The winter migratory lifespan reaches >9 months and adults return to their northern range in the spring.	Suitable habitat present among eucalyptus trees on site. No host plant (milkweed) present within the BSA. Thirteen reported occurrences within 5 miles; nearest occurrences located 0.6-mile to the west (Occ.# 233) and 1-mile to the south (Occ.# 235) (CNDDDB 2022).	Possible
<i>Icaricia icarioides missionensis</i> Mission blue butterfly	Fed: FE CA: None	A small butterfly measuring 1- 1/2 inches. The larval host plants include three species of lupine (<i>Lupinus albifrons</i> , <i>L. formosus</i> and <i>L. versicolor</i>). Secondary food plants include blue dicks (<i>Dichelostemma capitatum</i>), false goldenaster (<i>Heterotheca villosa</i>) and seaside buckwheat (<i>Eriogonum latifolium</i>). The flight season occur from March through July. Remaining populations are restricted to Twin Peaks in San Francisco, Fort Baker in Marin County, San Bruno Mountain and Crystal Springs Watershed in San Mateo County.	No suitable habitat present. No reported occurrences within 5 miles (CNDDDB 2022). Outside the range for this species.	None
<i>Syncaris pacifica</i> California freshwater shrimp	Fed: FE CA: SE	Inhabits low elevation, i.e. less than 380 feet (116 meters), perennial and intermittent freshwater streams with structurally diverse pools and streambanks in Marin, Napa and Sonoma Counties. Requires high water quality with minimal pollution and high oxygen content.	No aquatic habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
FISHES:				
<i>Acipenser medirostris</i> Green sturgeon (Southern DPS)	Fed: FT, CH CA: AFS-V	The green sturgeon, southern DPS, is an anadromous fish that is found in marine waters from the Bering Sea to Ensenada, Mexico. The southern DPS includes all spawning populations south of the Eel River (exclusive), principally including the Sacramento River population; NMFS "Special Concern" designation refers to the northern DPS which includes spawning populations north of the Eel River (inclusive) (71 FR 17757). Locally, green sturgeon inhabit Suisun, San Pablo, and San Francisco bays, and coastal bays and estuaries from Monterey Bay north to Puget Sound. Spawning occurs in the Sacramento River between March and June; it may extend slightly longer, into July, in the Klamath River. Critical habitat includes coastal California waters from Monterey Bay, California, North to Cape Flattery, Washington; San Francisco Bay; Sacramento River and lower Feather River; Eastern reaches of the Sacramento-San Joaquin Delta; specified bays and estuaries in California, Oregon and Washington (74 FR 52300). Critical habitat does not include any freshwater tributaries feeding into these water bodies (74 FR 52300).	No aquatic habitat present. No reported occurrences within 5 miles (CNDDB 2022).	None
<i>Encyclogobius newberryi</i> Tidewater goby	Fed: FE, CH CA: AFS-EN	A California endemic fish that inhabits brackish coastal lagoons, estuaries and marshes. Range extends from the Smith River in Del Norte County to Agua Hedionda Lagoon in San Diego County. Species is typically an annual species. The Greater Bay Area recovery unit extends from north of Bodega Head in Sonoma County to the Salinas River Valley in Monterey County (USFWS 2008). Critical habitat is limited to coastal habitat in Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura and Los Angeles Counties in California (73 FR 5920).	No aquatic habitat present. No reported occurrences within 5 miles (CNDDB 2022).	None
<i>Hypomesus transpacificus</i> Delta Smelt	Fed: FT, CH CA: SE AFS-T	Inhabits brackish water in the Sacramento-San Joaquin Delta. Sacramento River as high as the confluence with the Feather River, Mokelumne River, Cache Slough, Montezuma Slough, San Pablo Bay, Suisun Bay, Suisun Marsh, Carquinez Strait, and Napa River and Marsh. Spawns in freshwater habitat between February and August in shallow water areas with submersed aquatic plants, suitable substrates and refugia. Important spawning habitat include Barker, Lindsey, Cache, Prospect, Georgiana, Beaver, Hog, and Sycamore sloughs and the Sacramento River in the Delta, and tributaries of northern Suisun Bay. Critical habitat includes: areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained in Suisun Bay (including Grizzly and Honker Bays); Goodyear, Suisun, Cutoff, First Mallard and Montezuma sloughs; and the existing contiguous waters contained within the Delta (59 FR 62526).	No aquatic habitat present. No reported occurrences within 5 miles (CNDDB 2022).	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<p><i>Oncorhynchus kisutch</i> Coho salmon (Central California Coast ESU Pop 4)</p>	<p>Fed: FE, CH CA: SE AFS-E</p>	<p>An anadromous fish that spend several years in the ocean; returning to freshwater rivers and tributaries to spawn and rear. Listing includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers (70 FR 37160). Tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), excluding the Sacramento-San Joaquin River Basin, as well as two artificial propagation programs: the Don Clausen Fish Hatchery, and Kingfisher Flat Hatchery/ Scott Creek (Monterey Bay Salmon and Trout Project) steelhead hatchery programs (70 FR 37160). Designated critical habitat encompasses 1,465 miles streams, 386 square miles estuary habitat in Lake, Mendocino, Sonoma, Napa, Marin, San Francisco, San Mateo, Santa Clara, Santa Cruz, Alameda, Contra Costa, and San Joaquin counties (70 FR 52488).</p>	<p>No aquatic habitat present. One occurrence reported within 5 miles; Occ.#9 is located ~4 miles to the northwest from Olema Creek (CNDDB 2022).</p>	<p>None</p>
<p><i>Oncorhynchus mykiss irideus</i> Steelhead (Central California Coast DPS Pop 8)</p>	<p>Fed: FT, CH CA: AFS-TH</p>	<p>An anadromous fish that spend several years in the ocean; returning to freshwater rivers and tributaries to spawn and rear. Listing includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers (70 FR 37160). Tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), excluding the Sacramento-San Joaquin River Basin, as well as two artificial propagation programs: the Don Clausen Fish Hatchery, and Kingfisher Flat Hatchery/ Scott Creek (Monterey Bay Salmon and Trout Project) steelhead hatchery programs (70 FR 37160). Designated critical habitat encompasses 1,465 miles streams, 386 square miles estuary habitat in Lake, Mendocino, Sonoma, Napa, Marin, San Francisco, San Mateo, Santa Clara, Santa Cruz, Alameda, Contra Costa, and San Joaquin counties (70 FR 52488).</p>	<p>No aquatic habitat present. No reported occurrences within 5 miles (CNDDB 2022).</p>	<p>None</p>
<p><i>Spirinchus thaleichthys</i> Longfin smelt</p>	<p>Fed: FC CA: ST</p>	<p>An anadromous fish that inhabits coastal bays, estuaries and waters near the coastline from Prince William Sound in Alaska to the Sacramento-San Joaquin Delta. Spawning occurs in freshwater streams from December – February.</p>	<p>No aquatic habitat present. No reported occurrences within 5 miles (CNDDB 2022).</p>	<p>None</p>

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<u>AMPHIBIANS:</u>				
<i>Rana boylei</i> Foothill yellow-legged frog	Fed: None CA: SE, SSC	The foothill yellow-legged frog ranges from the Cascade Mountains in Oregon south to the Transverse Ranges in Los Angeles County, and from the coast to western Sierra Nevada foothills (Stebbins and McGinnis 2012, CDFG 2010). It inhabits small to moderately-sized, perennial streams with characterized by cobble-rocky substrate and shallow, flowing water in valley-foothill riparian, hardwood-conifer, mixed conifer, coastal scrub, mixed chaparral and wet meadow communities (Hayes and Jennings 1988, Jennings 1988). Larvae feed on algae, while adults feed primarily on terrestrial and aquatic insects (Fitch 1938). Reproduction occurs between March and June, and requires 15 weeks to reach metamorphosis typically between July and September (Storer 1925, Jennings 1988).	No suitable aquatic or upland habitat on site. Species not expected to transit or disperse through the subject property. Eight occurrences reported within 5 miles; nearest occurrence (Occ.#2363) is located ~1,100 feet to the west in Pine Gulch Creek dating back to 1922 but is presumed extant (CNDDDB 2022).	Not expected
<i>Rana draytonii</i> California red-legged frog	Fed: FT, CH CA: ST, SSC	A medium-sized frog that inhabits lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation up to 4,921 feet (1,500 meters) in elevation (Jennings and Hayes 1994, Bulger et al. 2003, Stebbins and McGinnis 2012). Range extends from Redding to Baja California, Mexico with hybridization occurring with the California red-legged frog from the Oregon border to Marin County. Breeding occurs between November and April in standing or slow moving water with emergent vegetation, such as cattails (<i>Typha</i> spp.), tules (<i>Scirpus</i> spp.) or overhanging willows (<i>Salix</i> spp.) (Hayes and Jennings 1988). Larvae undergo metamorphosis 3 ½ to 7 months following hatching (Jennings and Hayes 1984, 1994). Designated critical habitat encompasses 1,636,609 acres in 20 counties and is grouped into 4 regions: Central Valley, Southern San Joaquin, East Bay and Central Coast (75 FR 12816).	No suitable aquatic breeding habitat on site. The subject parcel does provide suitable upland foraging habitat during rainy season or cooler periods. Sixteen occurrences reported within 5 miles; nearest occurrence (Occ.#1051) is located 700 feet to the southwest in Pine Gulch Creek (CNDDDB 2022). The study area is not located within designated critical habitat.	Possible
<u>REPTILES:</u>				
<i>Chelonia mydas</i> Green turtle	Fed: FT CA: None	A large, herbivorous sea turtle that are distributed worldwide. Species is typically found along coastal shelves and oceanic convergent zones, and may migrate thousands of miles.	No marine habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<u>BIRDS:</u>				
<i>Brachyramphus marmoratus</i> Marbled murrelet (nesting)	Fed: FT, CH CA: SE NABCI:RWL	A small coastal seabird that nests in coastal trees in mature/old-growth coniferous forests. Also nests on coastal cliffs or on the ground under vegetation. Breeding begins in April (Baicich & Harrison 2005).	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022). The study area is not located within designated critical habitat.	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Charadrius alexandrinus nivosus</i> Western snowy plover (nesting)	Fed: FT, CH CA: SSC NABCI:RWL	Inhabits beaches, mud flats, estuaries, salt evaporation ponds and inland river channels with banks for foraging. Breeds on sandy beaches, dunes, levees, river banks and dry salt evaporation beds along the California coastline typically in areas with minimal human disturbance. San Francisco Bay is within USFWS Recovery Unit 3 (USFWS, 2007). Breeding begins in March; double-brooded (Baicich & Harrison, 2005). Federal listing applies only to the Pacific coastal population that nests within 50 miles of the Pacific Ocean on the mainland coast, peninsulas, offshore islands, bays, estuaries, or rivers of the U.S. and Baja, CA; "Species of Special Concern" designation refers to both the coastal & interior populations (USFWS, 2007). Critical habitat was revised on June 19, 2012 and encompasses 4 units and 6,077 acres in Washington, 9 units and 2,112 acres in Oregon, and 47 units and 16,337 acres in California. Counties in California with designated critical habitat include: Del Norte, Humboldt, Mendocino, Marin, Napa, Alameda, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange and San Diego Counties (77 FR 36728).	No suitable habitat present. Only one occurrence reported within 5 miles; nearest occurrence (Occ. #70) located ~1.6 miles to the southeast along the Bolinas Lagoon Spit (CNDDDB 2022). The study area is not located within designated critical habitat.	None
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo (Nesting)	Fed: FT CA: SE NABCI:RWL	Cottonwood, willow riparian forests, & walnut & almond orchards. Riparian zones often with blackberry, nettle, or wild grape understory.	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Elanus leucurus</i> White-tailed kite (nesting)	Fed: None CA: FP	Inhabits grasslands, agriculture fields, oak woodlands, savannah and riparian habitats in rural and urban areas. Feeds primarily on California voles. Year-round resident of Central and Coastal California. Breeding begins in February; sometimes double-brooded (Baicich & Harrison, 2005).	Suitable nesting habitat present among the mature trees on the subject parcel. No reported occurrences within 5 miles (CNDDDB 2022).	Possible
<i>Laterallus jamaicensis coturniculus</i> California black rail	Fed: None CA: ST, FP NABCI:RWL	Smallest of the rails; inhabits tidal marshes, freshwater wetlands and marshes. Wintering habitat similar to breeding habitat. A year-round resident of the San Francisco Bay Area. Breeding begins in March; sometimes double-brooded (Baicich & Harrison, 2005).	No suitable habitat present. The study area is located ~1400 feet west of reported habitat along the marshes of Bolinas Lagoon (Occ.#272) (CNDDDB 2022).	None
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail (=California clapper rail)	Fed: FE CA: SE, FP NABCI:RWL	One of four subspecies from the obsoletus group, restricted to the San Francisco Bay Area. Inhabits coastal wetlands dominated by pickleweed (<i>Salicornia</i> spp.) and cordgrass (<i>Spartina</i> spp.). Wintering habitat similar to breeding habitat. Breeding begins in March; single-brooded (Baicich & Harrison, 2005).	No suitable habitat present. The study area is located ~1400 feet west of reported habitat along the marshes of Bolinas Lagoon (Occ.#2) (CNDDDB 2022).	None
<i>Riparia riparia</i> Bank swallow (nesting)	Fed: None CA: ST	Nests in colonies in vertical banks with friable soils. Breeds from April to August. Most of California's nesting colonies occur along the upper Sacramento River. Breeding begins in April; double-brooded (Baicich & Harrison, 2005).	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Sternula antillarum browni</i> California least tern (nesting colony)	Fed: FE CA: SE, FP NABCI:RWL	Breeds in colonies on bare soil, sand and mudflats along the California coast and the San Francisco Bay Area. Winters south to Mexico. Breeding begins in May; single-brooded (Baicich & Harrison, 2005).	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Strix occidentalis caurina</i> Northern spotted owl	Fed: FT CA: ST NABCI:YWL	Inhabits coniferous forests from western British Columbia to the San Francisco Bay. In California owls inhabit Douglas fir mixed conifer and coastal redwood forests. Requires moderate to high canopy cover with sufficient large dead or dying trees/snags and abundant arboreal or semiarboreal prey base. Breeding begins in April; single-brooded.	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
MAMMALS:				
<i>Pekania pennanti</i> Fisher (Southern Sierra Nevada ESU Pop. 2)	Fed: FE, CH CA: ST, SSC	Fishers are small carnivorous mammals of the mustelid (weasel) family that primarily inhabit coniferous and mixed-hardwood forests, exhibiting preference for the continuous canopy cover afforded by old-growth forests. As generalist predators, fishers primarily consume birds and smaller mammals and supplement their diet with insects, berries, nuts and mushrooms. Fishers were threatened to near extinction in portions of their range in the early-to-mid-1900s due to the fur trade. Critical habitat for the Southern Sierra Nevada DPS encompasses 554,454 acres in six units in California (86 CFR 57773)	No suitable habitat present. No reported occurrences within 5 miles (CNDDDB 2022). The study area is not located within designated critical habitat.	None
<i>Reithrodontomys raviventris</i> Salt-marsh harvest mouse	Fed: FE CA: SE, FP	A small endemic, pickleweed (<i>Salicornia</i> spp.) obligate species of tidal marshes of the San Francisco Bay Area. Requires adjacent upland tidal zones for escape cover during floods. Two recognized subspecies, <i>R. r. halicoetes</i> that inhabits San Pablo and Suisun bays and <i>R. r. raviventris</i> that inhabits the South San Francisco Bay including Corte Madera and Richmond marshes.	No suitable marsh habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
SENSITIVE AND LOCALLY RARE SPECIES				
INVERTEBRATES:				
<i>Adela oplerella</i> Opler's longhorn moth	Fed: None CA: SA	A small day-flying moth (~0.5 inch) that feeds primarily on its host plant, California cream cups (<i>Platystemon californicum</i>) within serpentine habitats with one exception near Scott's Valley. Species occurs in the Bay Area from Marin to Santa Cruz counties. Their active period occurs from mid-March to late April.	No suitable habitat present. No host plants observed in the study area. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Bombus caliginosus</i> Obscure bumble bee	Fed: None CA: SA	The obscure bumble bee is known to occur in coastal areas, utilizing <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> and <i>Pbacelia</i> spp. Recorded from Alameda, Contra Costa, Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, San Mateo, Santa Barbara and Sonoma counties.	One species of host plant, <i>Baccharis pilularis</i> ssp. <i>consanguinea</i> was observed in the study area. Six occurrences reported within 5 miles; nearest occurrence (Occ.#105) located 1.6 miles to the south from Duxbury Bay (CNDDDB 2022).	Possible

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Bombus occidentalis</i> Western bumble bee	Fed: None CA: SA	Historically a very common bee species in the western United States and western Canada, but populations from British Columbia to Central California have become extirpated or are severely declining. Food plants consist of <i>Melilotus</i> , <i>Cirsium</i> , <i>Trifolium</i> , <i>Centaurea</i> , <i>Chrysothamnus</i> , and <i>Eriogonum</i> .	Suitable habitat present on site. Four food plants, <i>Cirsium vulgare</i> and 3 <i>Trifolium</i> spp. were observed in the study area. Two reported occurrences within 5 miles; nearest occurrence (Occ.#195) located from the general project location identified only as Bolinas from 1953 (CNDDDB 2022).	Possible
<i>Caecidotea tomalensis</i> Tomales isopod	Fed: None CA: SA	A freshwater crustacean inhabiting freshwater ponds, marshes and slow moving streams in Marin, Sonoma, San Francisco and San Mateo counties.	No suitable freshwater habitat on site. Only one reported occurrence within 5 miles; nearest occurrence (Occ.#1) located ~1-mile to the northeast on the east side of Bolinas Lagoon (CNDDDB 2022).	None
<i>Calicina diminua</i> Marin blind harvestman	Fed: None CA: SA	Endemic to serpentine habitats. Known only from the type locality at Mount Burdell, Novato, Marin County.	No serpentine habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Callophrys mossii marinensis</i> Marin elfin butterfly	Fed: None CA: SA	Inhabits redwood forests. Only known from Marin County.	No suitable habitat present. Only one reported occurrence within 5 miles; nearest occurrence (Occ.#3) located ~3.8-mile to the east above Lagunitas Creek (CNDDDB 2022).	None
<i>Cicindela hirticollis gravida</i> Sandy beach tiger beetle	Fed: None CA: SA	A burrowing beetle that inhabits sandy moist areas near the shoreline. Known from Marin County south to San Diego County (NatureServe 2006).	No suitable habitat present. Only one reported occurrence within 5 miles; nearest occurrence (Occ.#40) located ~1.7-mile to the southeast at Stinson Beach (CNDDDB 2022).	None
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	Fed: None CA: SA	Inhabits slow moving freshwater ponds, streams, marshes and lakes in Sonoma, Marin, Alameda, Contra Costa and San Mateo counties. Little data is available regarding this species' natural history.	No aquatic habitat present. Only one reported occurrence within 5 miles; nearest occurrence (Occ.#2) located from the general project vicinity from a 1940 museum specimen (CNDDDB 2022).	None
<i>Icaricia icarioides pheres</i> Pheres blue butterfly	Fed: None CA: SA	Inhabits dunes, mountains, meadows, streams, and sage-dominated habitats near <i>Lupinus</i> sp. and <i>Eriogonum</i> sp. host plant. Collections reported from San Francisco, Point Reyes, and North Beach in Marin County.	No suitable habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Ischnura gemina</i> San Francisco forktail damselfly	Fed: None CA: SA	A damselfly endemic to Marin, San Francisco and San Mateo counties. Inhabits marshes, ponds and ditches with emergent and/or floating vegetation.	No suitable habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Lichnanthe ursina</i> Bumblebee scarab beetle	Fed: None CA: SA	A bumble bee scarab beetle in the family Glaphyridae. Identified by their distinct antennae with their three flattened plates at the termini. Genus known to feed on manure and decomposing plant material. Active from May to June.	Suitable habitat present throughout horse pasture. No reported occurrences within 5 miles (CNDDDB 2022).	Not expected
<i>Linderiella occidentalis</i> California linderiella	Fed: None CA: SA	An aquatic crustacean in the Anostroca family, smaller than the vernal pool fairy shrimp with distinctive red eyes. Inhabits small, clear-water vernal pools and lakes, earth slumps, grassed swales and basal-flow depression pools. Fairly tolerant of high water temperatures and turbidity. Most common fairy shrimp in the Central Valley.	No aquatic habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Pomatiopsis binneyi</i> Robust walker	Fed: None CA: SA	A small snail species in the family Pomatiopsidae that inhabits muddy stream sediments and trickling water.	No aquatic habitat on site. Nearest reported occurrence (Occ.#2) is located ~0.8 mile to the south identified as Bolinas (CNDDDB 2022).	None
<i>Pomatiopsis californica</i> Pacific walker	Fed: None CA: SA	A small (4mm), semi-aquatic freshwater snail in the family Pomatiopsidae. Shell is elongate and conical with 6-7 evenly convex whorls.	No aquatic habitat on site. Two reported occurrences within 5 miles; nearest occurrence (Occ.#4) is located ~3.2 mile to the southeast from Stinson Gulch dating from 1962 & 1965 (CNDDDB 2022).	None
<i>Stygobromus hyporheicus</i> Hypoheic amphipod	Fed: None CA: SA	A subterranean amphipod crustacean inhabiting freshwater groundwater. Known only from Novato, Marin County.	No suitable habitat on site. Only one reported occurrence within 5 miles; nearest occurrence (Occ.#1) located 2 miles to the north from Cronin Gulch (CNDDDB 2022).	None
<i>Talanites ubicki</i> Ubick's gnaphosid spider	Fed: None CA: SA	An arachnid from the family Gnaphosidae endemic to serpentine habitats. Known only from the type locality at Mount Burdell, Novato, Marin County.	No suitable habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Trachusa gummifera</i> San Francisco Bay Area leaf-cutting bee	Fed: None CA: SA	Little information is available about the species' life history, habitat requirements and distribution. Known from the Twin Peaks in San Francisco and Carson Ridge in Marin County.	Habitat preference unknown. Outside species documented range. Only one reported occurrence within 5 miles; nearest occurrence (Occ.#1) located ~4.8 miles to the northeast from Carson Ridge (CNDDDB 2022).	None
<i>Tryonia imitator</i> Mimic tryonia (=California brackishwater snail)	Fed: None CA: SA	Inhabits perennial brackish water sources including coastal lagoons, estuaries and salt marshes. Ranges from Sonoma County south to San Diego County. Exhibits high salinity tolerance.	No aquatic habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Vespericola marinensis</i> Marin Hesperian	Fed: None CA: SA	A land snail that inhabits riparian, mixed evergreen, and moist coastal scrub and chaparral communities in Marin County. Often found on the underside of leaves or within leaf litter.	Suitable habitat present along the vegetation lining the parcel perimeter. Four reported occurrences within 5 miles; nearest occurrences (Occ.#14,15) within 1 mile of the project site located 0.8 & 0.9-mile to the west and north, respectively (CNDDDB 2022).	Possible
<u>FISHES:</u>				
<i>Hesperoleucus venustus subditus</i> Southern coastal roach	Fed: None CA: SSC	A small, native freshwater minnow endemic to the drainages of Tomales Bay and the northern San Francisco Bay in the north and Monterey Bay in the south with no reported occurrences in between. Known from Lagunitas Creek, Walker Creek, Pin Gulch Creek and Salmon Creek in Marin County.	No aquatic habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None
<u>AMPHIBIANS:</u>				
<i>Dicamptodon ensatus</i> California giant salamander	Fed: None CA: SSC	A large native salamander endemic to California. Inhabits lakes, ponds, rivers, and streams with a preference to fast-moving water. Breeding occurs every other year for females in the spring/fall within streams and springs. Range extends from Mendocino along the California coast to Salinas.	No suitable habitat on site. Six reported occurrences within 5 miles; nearest occurrences (Occ.#227) located 1 mile to the northeast in Pike County Gulch (CNDDDB 2022).	None
<u>REPTILES:</u>				
<i>Emys marmorata</i> Western pond turtle	Fed: None CA: SSC	A moderate sized freshwater turtle that inhabits permanent or nearly permanent bodies of water and low gradient slow moving streams below 6,000 feet elevation. Needs basking sites and sandy banks or grassy open fields in upland areas for egg-laying. Range extends from Washington to the northern Bay Area counties along the Pacific slope drainages.	No suitable habitat on site. Two reported occurrences within 5 miles; nearest occurrences (Occ.#1267) located 700 feet to the west from the Star Route Farm Ponds and Middle Pine Gulch Creek (CNDDDB 2022).	None
<u>BIRDS</u>				
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	Fed: None CA: WL	Inhabits dense stands of oak woodlands, riparian deciduous forests, or other forest habitats often near water & suburban areas. Hunts in broken woodlands & along forest edges. Breeding begins in April; single-brooded (Baicich & Harrison, 2005).	Suitable nesting habitat present among mature trees on site. No reported occurrences within 5 miles (CNDDDB 2022).	Possible
<i>Ardea alba</i> Great egret (nesting colony)	Fed: none CA: SA	A large wading bird that inhabits a variety of aquatic habitats including shores, tideflats, marshes, swamps, ponds, lakes, rivers and streams. Nests colonially in large trees near water bodies. Breeding begins in March; single-brooded (Baicich & Harrison 2005).	No suitable colony nesting habitat on site. One reported occurrences within 5 miles; nearest occurrences (Occ.#14) located 1.1 miles to the east from Audubon Canyon Ranch (CNDDDB 2022).	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Ardea herodias</i> Great blue heron (nesting colony)	Fed: None CA: SA	A large wading bird that inhabits a variety of aquatic habitats including shores, tideflats, marshes, swamps, ponds, lakes, rivers and streams. Nests colonially in large trees near water bodies. Breeding begins in March; single-brooded (Baicich & Harrison, 2005).	No suitable colony nesting habitat on site. One reported occurrences within 5 miles; nearest occurrences (Occ.#25) located 1.1 miles to the east from Audubon Canyon Ranch (CNDDDB 2022).	None
<i>Athene cunicularia</i> Burrowing owl (burrow sites & some wintering sites)	Fed: None CA: SSC,BCC	Valley bottoms and foothills with low vegetation and fossorial mammal activity. Listing includes wintering observations with/without a burrow in San Francisco, Ventura, Sonoma, Marin, Napa and Santa Cruz counties. Breeding begins in March; single-brooded (Baicich & Harrison, 2005).	No suitable burrow habitat on site. One reported occurrences within 5 miles; nearest occurrences (Occ.#1880) located 3.8 miles to the east from McKennan Gulch Trail parking lot (CNDDDB 2022).	None
<i>Coturnicops noveboracensis</i> Yellow rail	Fed: None CA: SSC,BCC NABCI:RWL	The smallest rail in North America. Primarily distributed across central/eastern Canada and the central states, wintering along the southern and southeastern coastlines from Texas to North Carolina. A disjunct population overwinters along the California coast from Humboldt County to Riverside County and eastward to Mono County (Leston and Bookhout, 2015). In the San Francisco Bay it inhabits primarily tidal and freshwater marshes. Prefers drier vegetation such as cordgrass <i>Spartina</i> spp. and <i>Distichlis</i> spp. in coastal marshes.	No suitable habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Cypseloides niger</i> Black swift (nesting)	Fed: None CA: SSC,BCC NABCI:YWL	Inhabits mountainous country and coastal areas with vertical cliffs or wet rocky waterfalls for nesting. In California primarily ranges throughout the Sierras, the Monterey Coast and Transverse Mountains. Breeding begins in May; single-brooded (Baicich & Harrison 2005).	No suitable nesting habitat present. One reported occurrences within 5 miles; nearest occurrences (Occ.#15) located immediately to the west from a general location among cliffs near a waterfall identified as Palomarin (CNDDDB 2022).	None
<i>Egretta thula</i> Snowy egret (nesting colony)	Fed: None CA: SA	Inhabits shallow estuaries, marshes, ponds, rivers and wetlands. Breeds in rookeries near water in trees often in dense thickets or protected areas. Breeding season varies, typically begins in mid-April in California; single-brooded (Baicich & Harrison 2005)	No suitable colony nesting habitat on site. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Geothlypis trichas sinuosa</i> Saltmarsh common yellowthroat	Fed: None CA: SSC,BCC	Year-round resident of the San Francisco Bay Area. Inhabits dense vegetation in wetlands, marshes, estuaries, prairies and riparian areas of San Francisco and San Pablo bays, and along the coastal areas of Marin, San Francisco, and San Mateo counties (Shuford and Gardali, 2008). Breeds from mid-March to late July; double-brooded (Baicich & Harrison, 2005; Shuford and Gardali, 2008).	No suitable nesting habitat present. Two reported occurrences within 5 miles; nearest occurrences (Occ.#50) located 0.6-mile to the north at the head of Bolinas Lagoon (CNDDDB 2022).	None
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	Fed: none CA: SSC,BCC	A medium-sized sparrow that inhabits marshes containing cattails, tules, and other sedges, and <i>Salicornia</i> ; also known to frequent tangles bordering sloughs. One of four subspecies in the San Francisco Bay Area. Endemic to the north San Francisco Bay and San Pablo Bay. Breeding begins in April; often triple-brooded. Breeding begins in April; often treble-brooded (Baicich & Harrison 2005).	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Pandion haliaetus</i> Osprey (nesting)	Fed: None CA: WL	Inhabits rivers, lakes and coastal habitats. Nest in tall trees near water bodies with sufficient prey. Range is almost cosmopolitan throughout California. Breeding begins in March; single-brooded (Baicich & Harrison, 2005).	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Setophaga petechia</i> Yellow warbler	Fed: None CA: SSC	Species protection includes the subspecies <i>S. p. morcormi</i> & <i>S. p. brewsteri</i> , which are tracked under the full species, <i>S. petechia</i> due to difficulty distinguishing them. <i>S. p. sonorama</i> , which nests in California only along the Colorado River is tracked separately. Nests in dense, shrubby thickets dominated by willows along water courses and wet meadows. Builds nests in a variety of riparian trees, most commonly willows (<i>Salix</i> spp.) and cottonwoods (<i>Populus</i> spp.). Occasionally breeds in mixed-conifer forests with shrubby understories (Shuford and Gardali, 2008). Breeds from April to late July; sometimes double-brooded (Baicich and Harrison, 2005; Shuford and Gardali, 2008).	No suitable nesting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
MAMMALS:				
<i>Antrozous pallidus</i> Pallid bat	Fed: None CA: SSC WBWG-H	Inhabits rocky terrain in open areas in lowlands, foothills and mountainous areas near water throughout California below 2,000 meters. Roost alone or in small numbers (<200) in caves, rock crevices, mines, hollow trees (e.g. coast redwoods, giant sequoias, oaks, exfoliating ponderosa pine and valley oak bark, and fruit trees), buildings and bridges in arid regions. Pallid bats are opportunistic generalists that eat a variety of insects, small lizards and rodents. Mating occurs from October to February, parturition from April to July, and weaning in August.	Suitable roosting habitat present in coast redwood, pines, coast live oak and other mature tree species exhibiting exfoliating bark, tree hollows, and bole cavities on site. Suitable foraging habitat throughout entire site. No reported occurrences within 5 miles (CNDDDB 2022).	Possible
<i>Aplodontia rufa phaea</i> Point Reyes mountain beaver	Fed: None CA: SSC	Inhabits coniferous forests and coastal scrub with dense understories of blackberry, poison oak & coyote brush. Species drinks ~1/3 of their body weight in water daily. Primarily found in burrows and nocturnal, Point Reyes mountain beaver is one of seven subspecies. Known primarily from the Point Reyes National Seashore (Bolster 1998).	No suitable habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Corynorhinus townsendi</i> Townsend's western big-eared bat	Fed: None CA: SSC WBWG-H	Inhabits caves and mines, but may also infrequently use bridges, buildings, rock crevices and hollows of large trees in coniferous forests, mixed mesophytic forests, deserts, native prairies, riparian communities, coastal lowlands, cultivated valleys and nearby hills characterized by mixed vegetation throughout California below 3,300 meters (10,825 feet). Exhibits high site fidelity and is highly sensitive to disturbance. As a moth specialist, this species forages along edge habitats near water; may travel long distances during foraging bouts.	Marginal roosting habitat present in mature conifers on site. Suitable foraging habitat throughout entire site. One reported occurrences within 5 miles; nearest occurrence (Occ.#435) located 0.6-mile to the north from Copper Mine Gulch (CNDDDB 2022).	Not expected

SPECIES NAME COMMON NAME	LISTING STATUS*	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Erethizon dorsatum</i> North American porcupine	Fed: None CA: SA	A large arboreal rodent native to North America and widely distributed from Alaska and Canada south to northern Mexico. They inhabit coniferous forests, woodlands, chaparral, and sagebrush vegetation communities. Spending the majority of their time in the trees, porcupines also use dens (typically rock crevices) as refugia. A generalist herbivore, it forages on forbs, grasses, berries, stems, bark, leaves, and needles, but seasonally (fall and winter) requires cambium and conifer needles (Cara et al., 2017). Mating occurs in the fall/early winter and gives birth to a single young after 210 days gestation.	No suitable habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Lasionycteris noctivagans</i> Silver-haired bat	Fed: None CA: SA WBWG-M	Inhabits conifer and mixed conifer forests, especially old growth throughout the mountainous coastal and Sierra Nevada regions of northern California. Roosts in cavities and hollows in near the tops of trees and in caves. Forages in open areas such as meadows, above the canopy and within riparian zones for a variety of ground and airborne insects and arthropods.	No suitable roosting habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None
<i>Lasiurus blossevillii</i> Western red bat	Fed: None CA: SSC WBWG-H	Primarily associated with intact riparian habitat; species is ubiquitous throughout most of California except the northern Great Basin region. Roosts individually in foliage within trees along riparian areas, orchards and suburban areas. Favors cottonwoods, willows, sycamores, and walnut trees (Bolster, 2005b). Feeds primarily on moths, but will eat a variety of other insects.	Suitable roosting habitat present among the variety of evergreen and deciduous trees on site. Suitable foraging habitat on adjacent properties with ponds along Pine Gulch Creek. No reported occurrences within 5 miles (CNDDDB 2022).	Possible
<i>Lasiurus cinereus</i> Hoary bat	Fed: None CA: SA WBWG-M	Ubiquitous throughout California. A solitary foliage rooster that prefers evergreens, but will use deciduous trees in forested habitats, particularly in edge habitat (Bolster, 2005a). May forage in small to large groups. Feeds primarily on moths, but will eat a variety of other insects. Migrates great distances.	Suitable roosting habitat is present among the pines, redwoods, coast live oak, chestnut, poplar, and elm trees on the property. Suitable foraging habitat throughout entire site. Two reported occurrences within 5 miles; nearest occurrences (Occ.#221) located in the immediate vicinity identified as Punta de los Reyes (CNDDDB 2022).	Possible
<i>Taxidea taxus</i> American badger	Fed: None CA: SSC	A large mustelid that inhabits open areas with friable soils within woodland, grassland, savannah and desert habitats. A fossorial mammal that preys predominately on ground squirrels (<i>Ammospermophilus</i> and <i>Spermophilus</i> spp.) and pocket gophers (<i>Thomomys</i> spp.). Mating occurs in late summer; young are born in March and April (Jameson and Peeters, 2004).	Marginal habitat present on site among horse paddock. Lack of prey species and frequent human activity likely discourages occupancy by species. One reported occurrences within 5 miles; nearest occurrences (Occ.#154) located in the immediate vicinity identified from a 1930 museum specimen (CNDDDB 2022).	Not expected
<i>Zapus trinotatus orarius</i> Point Reyes jumping mouse	Fed: None CA: SSC	Endemic to the Point Reyes National Seashore in Marin County. Inhabits upland bunch grass marshes within the park. A subspecies of the Pacific jumping mouse.	No suitable habitat present. No reported occurrences within 5 miles (CNDDDB 2022).	None

* **Explanation of State and Federal Listing Codes**

Federal listing codes:

FE	Federally listed as Endangered
FT	Federally listed as Threatened
FPE	Federally proposed for listing as Endangered
FPT	Federally proposed for listing as Threatened
FPD	Federally proposed for delisting
FC	Federal candidate species (former Category 1 candidates)
SC	Species of Concern (NMFS regulated species only)
CH	Critical Habitat (Proposed or Final) is designated
SSC	Species of Special Concern designated by the Marine Mammal Commission

California listing codes:

SE	State listed as Endangered
ST	State listed as Threatened
SCE	State candidate for listing as Endangered
SCT	State candidate for listing as Threatened
SCD	State candidate for delisting
SSC	California Species of Special Concern
FP	Fully Protected
WL	Watch List

AFS	American Fisheries Society identifies marine, estuarine and diadromous fish species that are at risk of extinction in North America. The AFS has designated the following four classifications in order of conservation importance EN – Endangered, TH – Threatened, VU – Vulnerable, and CD – Conservation Dependent.
BCC	U.S. Fish and Wildlife Service Birds of Conservation Concern. List of migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the Service’s highest conservation priorities.
NABCI	North American Bird Conservation Initiative: The North American Bird Conservation Initiative is a coalition of government agencies and private organizations that works to ensure the long-term health North America’s native bird populations. They publish an annual State of the Birds report which includes a watch list of bird species in need of conservation help. Species on the list are assigned to either the RWL - Red Watch List for species with extremely high vulnerability, or YWL - Yellow Watch List for species that may be range restricted or may be more widespread but with declines and high threats. More information is available at: http://stateofthebirds.org .
SA	“Special Animals” is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of “species at risk” or “special status species”. The Department of Fish and Game considers the taxa on this list to be those of greatest conservation need.
WBWG	The Western Bat Working Group. H – High Priority indicates species that are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats; M – Medium Priority indicates a lack of information to assess the species’ status; L – Low Priority indicates relatively stable populations based on available data. The WBWG also uses intermediary designations including MH – Medium-High and LM – Low-Medium priorities.

APPENDIX E CALIFORNIA NATURAL DIVERSITY DATABASE SPECIES LIST



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad (Bolinas (3712286) OR Double Point (3712287) OR Inverness (3812217) OR San Geronimo (3812216) OR Novato (3812215) OR San Rafael (3712285) OR Point Bonita (3712275)) AND Taxonomic Group (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Arachnids OR Crustaceans OR Insects)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	
<i>Adela oplerella</i> Opler's longhorn moth	IILEE0G040	None	None	G2	S2	
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Aplodontia rufa phaea</i> Point Reyes mountain beaver	AMAF01012	None	None	G5T2	S2	SSC
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Bombus caliginosus</i> obscure bumble bee	IHYM24380	None	None	G2G3	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IHYM24250	None	None	G2G3	S1	
<i>Caecidotea tomalensis</i> Tomales isopod	ICMAL01220	None	None	G2	S2S3	
<i>Calicina diminua</i> Marin blind harvestman	ILARAU8040	None	None	G1	S1	
<i>Callophrys mossii marinensis</i> Marin elfin butterfly	IILEPE2207	None	None	G4T1	S1	
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2	SSC
<i>Cicindela hirticollis grvida</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Cypseloides niger</i> black swift	ABNUA01010	None	None	G4	S2	SSC
<i>Danaus plexippus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	Candidate	None	G4T2T3	S2S3	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC
<i>Egretta thula</i> snowy egret	ABNGA06030	None	None	G5	S4	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	
<i>Eumetopias jubatus</i> Steller sea lion	AMAJC03010	Delisted	None	G3	S2	
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Hesperoleucus venustus subditus</i> southern coastal roach	AFCJB19032	None	None	GNRT2	S2	SSC
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Icaricia icarioides missionensis</i> Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	
<i>Icaricia icarioides pheres</i> Pheres blue butterfly	IILEPG8019	None	None	G5TX	SX	
<i>Ischnura gemina</i> San Francisco forktail damselfly	IIDOD72010	None	None	G2	S2	
<i>Lasiorycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
<i>Lasiurus blossevillii</i> western red bat	AMACC05060	None	None	G4	S3	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G3G4	S4	
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3T1	S1	FP
<i>Lichnanthe ursina</i> bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2Q	S2	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Oncorhynchus mykiss irideus</i> pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Pomatiopsis binneyi</i> robust walker	IMGASJ9010	None	None	G1	S1	
<i>Pomatiopsis californica</i> Pacific walker	IMGASJ9020	None	None	G1	S1	
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S1	FP
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Stygobromus hyporheicus</i> Hypoheic amphipod	ICMAL05D80	None	None	G1	S1	
<i>Syncaris pacifica</i> California freshwater shrimp	ICMAL27010	Endangered	Endangered	G2	S2	
<i>Talanites ubicki</i> Ubick's gnaphosid spider	ILARA98030	None	None	G1	S1	
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Trachusa gummifera</i> San Francisco Bay Area leaf-cutter bee	IHYM80010	None	None	G1	S1	
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Vespericola marinensis</i> Marin hesperian	IMGASA4140	None	None	G2	S2	
<i>Zapus trinotatus orarius</i> Point Reyes jumping mouse	AMAFH01031	None	None	G5T1T3Q	S1S3	SSC

Record Count: 58

APPENDIX F U.S. FISH AND WILDLIFE SERVICE SPECIES LIST



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2022-0077201
Project Name: 75 Horseshoe Hill Road

August 22, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

08/22/2022

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(c). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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Attachment(s):

- Official Species List

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Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

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Project Summary

Project Code: 2022-0077201

Project Name: 75 Horseshoe Hill Road

Project Type: New Constr - Above Ground

Project Description: Construction new equestrian facilities.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.922689500000004,-122.69891669524611,14z>



Counties: Marin County, California

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Endangered Species Act Species

There is a total of 16 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

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Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered

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Flowering Plants

NAME	STATUS
Marin Dwarf-flax <i>Hesperolinon congestum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5363	Threatened
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Sonoma Alopecurus <i>Alopecurus aequalis var. sonomensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/557	Endangered
Tiburon Paintbrush <i>Castilleja affinis ssp. neglecta</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2687	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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IPaC User Contact Information

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