Biological Resource Reconnaissance Survey
23-Acre Foot Water Storage Reservoir
4720 Hardin Road
Pope Valley
APN: 018-160-022-000

PROJECT ENGINEER:

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PERIOD OF STUDY: February 2022

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Executive Summary

This study was conducted at the request of PPI Engineering, Inc as background information for project permits from the Napa County Planning, Building and Environmental Services Department.

The project proposes to construct a 23-acre foot water storage reservoir on the property. The property consists of ruderal disturbed grasslands and scattered Valley Oaks. The property is located in Pope Valley within the USGS Chiles Valley Quadrangle.

The purpose of this report is to identify biological resources that may be affected by the proposed project. The fieldwork studied the proposed project envelope and surrounding environment. The proposed project will remove a small amount of ruderal grassland habitat.

The findings presented below are the results of fieldwork conducted on February 8, 2022 by Kjeldsen Biological Consulting:

- The project site consists of ruderal grasslands and scattered Valley Oaks and the area has been uses as a horse pasture with. The project proposed to remove five Valley Oaks;
- Field surveys did not identify the presence or potential for special-status plant and animal species that would be impacted by the proposed project;
- The project as proposed will not directly impact any Federal or State protected wetlands or "Waters of the U.S." as defined by Section 404 of the Clean Water Act;
- The proposed project site does not contain any California Department of Fish and Wildlife (CDFW) Sensitive Communities, Biotic Communities of Limited Distribution listed by Napa County, or US Fish and Wildlife (USFWS) Critical Habitat;
- The project will not substantially interfere with native wildlife species, wildlife corridors, and or native wildlife nursery sites;
- The proposed project will not significantly contribute to habitat loss or habitat fragmentation; and
- No additional State or Federal biological permits are required by the proposed project;
- A complete list of all plants and animals encountered on and near the proposed project site is included in Appendix A.

Recommendations

The following measures are recommended to reduce potential biological impacts by the proposed project to a less than significant level pursuant to the California Environmental Quality Act (CEQA).

All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. Best Management Practices must be implemented throughout the construction period such as retaining ground cover litter, monitoring for invasive species, providing mulch for bare ground and standard erosion and dust control.

The project must comply with Napa County General Plan Policy CON-24 Paragraph (c) stating that a project should "provide replacement of lost oak woodlands or preservation of like habitat at a 3:1 ratio." Replanting of 5-Valley Oaks at a 3:1 ratio = 15-Trees.

If tree removal is to occur between February 1 and August 31, (bird breeding and nesting seasons), a qualified biologist (defined as knowledgeable and experienced in the biology and natural history of local avian resources with potential to occur on or near the project) shall conduct preconstruction surveys for nesting birds within all suitable habitat on the project site, and where there is potential for impacts.

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A. PROJECT DESCRIPTION

The project proposes to develop a 23-acre foot water storage reservoir. The property consists of a residence with infrastructure, landscape plantings, horse barn and pasture lands. The property is located in Pope Valley, within the USGS Chiles Valley Quadrangle. Vegetation on the proposed project site consists of ruderal grassland dominated by non-native introduced species.

A.1 Introduction

This study was conducted at the request of PPI Engineering, Inc, as background information for securing project permits from the Napa County Planning, Building and Environmental Services Department. The surrounding area consists of open grassland, rural residential, and vineyards. Plate I provides a site and location map of the property. Plate III provides an aerial photograph of the survey area.

This report is based on information available at the time of the study and site conditions that were observed on the date of the site visit.

A.2 Purpose

The purpose of this report is to identify biological resources that may be affected by the proposed project as listed below:

- To determine the presence or potential for special-status plant and animal species that would be impacted by the proposed project, including habitat types that may have the potential for supporting special-status species (target species that are known for the region, habitat, the Quadrangle and surrounding Quadrangles);
- To identify if the project will have a substantial adverse effect on Sensitive Habitats or Communities regulated by the California Department of Fish and Wildlife;
- To identify and assess potential impacts to Federal or State protected Wetlands and Waters of the U.S. as defined by Section 404 of the Clean Water Act;
- To determine if the project will substantially interfere with native wildlife species, wildlife corridors, and or native wildlife nursery sites;
- Identify any State or Federal biological permits required by the proposed project; and
- Recommend measures to reduce biological impacts to a less than significant level pursuant to the California Environmental Quality Act (CEQA).

B. SURVEY METHODOLOGY

Our survey of the proposed project follows general protocol for a reconnaissance survey to provide biological information for securing permits for the proposed project. The background for our work includes a site introduction and site plans provided by PPI Engineering, Inc. The proposed project area is shown on Plate III and in the photographs included below.

B.1 Project Scoping

The scoping for the project considered location and type of habitat and or vegetation types present on the property or associated with potential special-status species known for the Quadrangle, surrounding Quadrangles, the County or the region. Our scoping also considered records in the most recent version of the Department of Fish and Wildlife California Natural Diversity Data Base (CDFW CNDDB Rare Find) and the California Native Plant Society (CNPS) Electronic Inventory of Rare or Endangered Plants. "Target" special-status species are those listed by the State, the Federal Government or the California Native Plant Society or considered threatened in the region. Our scoping is also a function of our familiarity with the local flora and fauna as well as previous projects on other properties in the area.

Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such.

Tables I and II present target species from CDFW CNDDB Rare Find species and U.S. Fish and Wildlife Service listed species known for the Quadrangle and surrounding Quadrangles.

B.2 Field Survey Methodology

Our studies were made by walking transects through and around the proposed project site. Our fieldwork focused on locating suitable habitat for organisms or indications that such habitat exists on the proposed project site. Digital photographs were taken during our studies to document conditions and selected photographs are included within this report. Fieldwork was conducted on February 8th 2022.

Plant Communities The classification of plant communities is based on (A Manual of California Vegetation Sawyer 2009). Plant Communities are vegetation types that are recognizable by the dominant species present with identifiable boundaries. They are a result of site specific edaphic conditions, hydrology, topography, aspect, natural disturbance and elevation. Plant assemblages provide food, cover and habitat for wildlife often with specific species present.

Plants Field surveys were conducted identifying and recording all species on the site and in the near proximity. Transects through the proposed project site were made methodically by foot.

Plants were identified in the field or reference material was collected when necessary for verification using laboratory examination with a binocular microscope and reference materials. All plants observed (living and/or remains from last season's growth) were recorded in field notes.

Typically, blooming examples are required for identification however it is not the only method for identifying the presence of or excluding the possibility of rare plants. Vegetative morphology and dried flower or fruit morphology, which may persist long after the blooming period, may also be used. Skeletal remains from previous season's growth can also be used for identification. Some species do not flower each year or only flower at maturity and therefore must be identified from vegetative characteristics. Algae, fungi, mosses, lichens, ferns, Lycophyta and Sphenophyta have no flowers and there are representatives from these groups that are now considered to be special-status species that require non-blooming identification. For some plants unique features such as the aromatic oils present are key indicator. For some trees and shrubs with unique vegetative characteristics flowering is not needed for proper identification. The vegetative evaluation as a function of field experience can be used to identify species outside of the blooming period to verify or exclude the possibility of special-status plants in a study area.

Habitat is also a key characteristic for consideration of special-status species in a study area. Many special-status species are rare in nature because of their specific and often very narrow habitat or environmental requirements. Their presence is limited by specific environmental conditions such as: hydrology, microclimate, soils, nutrients, interspecific and intraspecific competition, and aspect or exposure. In some situations special-status species particularly annuals may not be present each year and in this case one has to rely on skeletal material from previous years. A site evaluation based on habitat or environmental conditions is therefore a reliable method for including or excluding the possibility of special-status species in an area.

Animals were identified in the field by their sight, sign, or call. Our field techniques consisted of surveying the area with binoculars and walking the perimeter of the proposed project site. Existing site conditions were used to identify habitat, which could potentially support special-status animal species. All animal life was recorded in field notes and is presented in Appendix A.

Trees were surveyed to determine whether occupied raptor nests were present within the proximity of the proposed project (i.e., within a minimum 500 feet of the areas to be disturbed). Surveys consisted of scanning the trees on the property (500 ft +) with binoculars searching for nests or bird activity. Our search was conducted from the property and by walking under existing trees looking for droppings or nest scatter that may be present that were not observable by binoculars.

Corridors Aerial photos were reviewed to evaluate the habitat surrounding the site and the potential for wildlife movement, or wildlife corridors from adjoining properties onto or through the property. Our field methodology for identifying corridors for movement searched for game trails or habitat that would favor movement of wildlife or potential gene flow. We also looked for barriers that would prevent movement or direct movement to particular areas. No game cameras, track plates, or other field equipment were used.

These five functions were used to evaluate potential wildlife corridors on the property. Corridors are considered suitable for wildlife movements if they provide avenues along which:

1. Wide-ranging animals can travel, migrate and meet mates.

2. Plants can propagate.
3. Genetic interchange can occur.
4. Populations can move in response to environmental changes and natural disasters.
5. Individuals can re-colonize habitats from which populations have been locally extirpated.

Wetlands The proposed project site was reviewed to determine from existing environmental conditions with a combination of vegetation, soils, and hydrologic information if seasonal wetlands were present. Wetlands were evaluated using the ACOE's three-parameter approach: Vegetation, Hydrology, and Soils.

Waters of the United States The United States Army Corps of Engineers (ACOE) regulates "Waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the ACOE Wetlands Delineation Manual, are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the ACOE under Section 404 of the CWA.

Waters of the State The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a ACOE permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

The Migratory Bird Treaty Act of 1918 makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The MBTA also prohibits disturbance or harassment of nesting migratory birds at any time during their breeding season.

Special-status Species or Listed Species Special-status organisms are plants or animals that have been designated by Federal or State agencies as rare, threatened, or endangered. Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered

even if it is not officially listed as such. If a person (or organization) provides information showing that taxa meets the State's definitions and criteria, then the taxa should be treated as such.

"Take" is defined in the Endangered Species Act (ESA) as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Federal regulation 50 CFR 17.3 further defines the term "harm" in the "take" definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. Activities otherwise prohibited under ESA Section 9 and subject to the civil and criminal enforcement provisions under ESA Section 11 may be authorized under ESA Section 7 for actions by federal agencies and under ESA Section 10 for non-federal entities.

Sensitive Communities CDFW CNDDB identifies environmentally sensitive plant communities that are rare or threatened in nature. Sensitive habitat is defined as any area that meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Wildlife Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.

Critical Habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

C. RESULTS / FINDINGS

C.1 Site Description and Biological Resources Evaluation Area

The property is within the inner North Coast Range Mountains, a geographic subdivision of the larger California Floristic Province that is strongly influenced by the Pacific Ocean. The region is in climate Zone 14 "Ocean influenced Northern and Central California" characterized as an inland area with ocean or cold air influence. The climate of the region is characterized by hot, dry summers and cool, wet winters, with precipitation that varies regionally from less than 30 to more than 60 inches per year. This climate regime is referred to as a "Mediterranean Climate." The average annual temperature ranges from 45 to 90 degrees Fahrenheit. The variations of abiotic conditions including geology results in a high level of biological diversity per unit area.

Our survey focused on the proposed project footprint and immediate surrounding habitat. The aerial photo illustrates the survey area (Plate III) and the photographs that follow further document existing conditions of the site for the proposed reservoir.

C.2 Habitat Types / Plant Community Present

The Napa County Baseline Data Report defines Biotic communities as the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region. The following Napa County vegetation types are found on the project site: Ruderal Grassland (Annual Grasslands).

Grassland Semi-Natural Herbaceous Stands with Herbaceous Layer (Annual Grasslands)
Semi-Natural Herbaceous Grasslands are a result of decades of agriculture and the introduction of non-native grasses and herbs. Sawyer uses the term "Semi-natural Stands" refer to non-native introduced plants that have become established and coexist with native species. This includes what can be termed weeds, aliens, exotics or invasive plants in agricultural and nonagricultural settings. Semi-Natural Herbaceous Grasslands are a result of decades of grazing and the introduction of non-native grasses and herbs.

This community is typically found on fine-textured soils, which may range from moist, possibly even waterlogged during the rainy season, to very dry during the dry season. It is primarily composed of non-native annual grasses although native annual forbs ("wildflowers") may also be present during years of favorable precipitation. Non-native grassland communities are found in the valleys and foothills throughout much of California. Characteristic species include wild oats (*Avena* spp.), bromes (*Bromus* spp.), Ryegrass (*Festuca perennis*), California poppy (*Eschscholzia californica*), lupine (*Lupinus* spp.), and baby blue-eyes (*Nemophila menziesii*).

The ruderal grasslands have been termed California Annual Grassland Alliance. This extensive series is composed of many introduced non-native species with relict native annual species within the stands. The common taxa include non-native: wild oat (*Aven*a ssp.), ripgut brome (*Bromus didandrus*), soft chess (*Bromus hordordaceus*), wild barley (*Hordium murinum*), Mediterranean barley (*Hordium murinum* ssp. *gusoneanum*), rattlesnake grass (*Briza maxima*), little quaking grass (*Briza minor*), dogtail grass (*Cynosurus echinatus*), cultivated timothy (*Phleum pretense*), annual hairgrass (*Deschampsia*

danthoioides), hood canarygrsss (*Phalaris paradoxa*), fescue (*Festuca arundinacea*), Medusa head-grass (*Elymus caput-medusae*) and rattail fescue (*Festuca myuros*). Often this alliance is invaded by star thistle (*Centaurea solstitialis*). Common forbs include filaree (*Erodium cicutarium*), smooth cat's ear (*Hypocheris glabra*), rough cat's ear (*Hypocheris radicata*), bur clover (*Medicago polymorpha*), California poppy (*Eschoscholzia californica*), clover (*Trifolium* ssp.), vetch (*Viccia* ssp.) and plantain (*Plantago lanceolata*).

Grasslands provide foraging and nesting habitat for a wide variety of wildlife species including raptors, seed eating birds, small mammals, amphibians, and reptiles. Wildlife species typically associated with grasslands include western skink (*Eumeces skiltonianus*), Pacific gopher snake (*Pituophis melanoleucus catenifer*), common garter snake (*Thamnophis sirtalis*), deer mouse (*Peromyscus maniculatus*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), mule deer (*Odocoileus hemionus*), western meadowlark (*Sturnella neglecta*), and savannah sparrow *(Passerculus sandwichensis*). Grasslands also provide important foraging habitat for raptors such as the American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and red-tailed hawk (*Buteo jamaicensis*). A complete list of all plants encountered on the study area and immediate vicinity is included in Appendix A.

Figure 1. View of typical habitat on project site. The project will remove 5 Valley Oaks.

Figure 2. View of project site and vegetation present.

Figure 3. View to the south of the project site.

There are scattered valley oaks on the project site. In order to be considered Valley Oak Woodland the area has to be dominant or co-dominant in the tree canopy where the canopy is open or continuous. (Membership Rules *Quercus lobata >50%* relative cover in the tree canopy or >30% relative cover when other tree species.

The aerial photograph Plate III illustrates the site and the surrounding environment. The environmental setting of the proposed project consists of:

- North side of the project – Open grasslands;
- East side of the project – Vineyards;
- South side of the project – Rural residences, open grasslands; and
- West side of the project – Open grasslands.

The proposed project site drains by sheet flow.

Napa County Definition for a Defined Drainage is a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey maps most recently published, or any replacement to that symbol, and or any watercourse that has a well-defined channel with a depth greater that four feet and banks steeper than 3:1 and contains hydrophilic vegetation, riparian vegetation or woody-vegetation including tree species greater that ten feet in height. There are no Napa County Defined Drainages associated with the proposed project.

C.3 Special-Status Species

A map from the CDFW CNDDB Rare Find shows known special-status species in the proximity of the project as shown on Plate II. These taxa as well as those listed in Appendix B Special-status Species known for the Quadrangle and Surrounding Quadrangles were considered and reviewed as part of our scoping for the proposed project site and property. Reference sites were reviewed as part of our scoping for some of the species.

Tables I and II below provides a list of species that are known to occur (CDFW CNDDB Rare Find search within 5-miles of the project site, the quadrangle and surrounding quadrangles, and U.S Fish and Wildlife Service). The table includes an analysis of habitat on proposed project site for presence or absence.

Table I. Analysis of CDFW CNDDB and USFWS target special-status plant species. Columns are arranged alphabetically by scientific name.

Scientific Name Common Name	**Species Habitat Association or Plant Community**	**Habitat present**	**Bloom Time**	**Obs. on or Near Site**	**Analysis of habitat on study area for presence or absence**
Amsinkia lunularis Bent-flowered Fiddleneck	Cismontane Woodland, Valley & Foothill Grassland, 3 to 500 M	No	March-June	No	Lack of habitat historic use of site. No indications for presence during our fieldwork.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present	Bloom Time	Obs. on or Near Site	Analysis of habitat on study area for presence or absence
Astragalus breweri Brewer's milk-vetch	Cismontane Woodland, Valley and Foothill Grassland, Serpentinite	No	April-June	No	Absence of requisite edaphic habitat on the site.
Astragalus claranus Clara Hunt's Milk-vetch	Chaparral, Cismontane Woodland, Valley and Foothill Grassland	No	March-May	No	Lack of habitat due to historic use of site. No indications for presence during our fieldwork.
Astragalus rattanii var. *jepsonianus* Jepson's Milk-vetch	Cismontane Woodland, Valley and Foothill Grassland	No	April-June	No	Lack of habitat historic use of site. No indications for presence during our fieldwork.
Brodiaea leptandra Narrow-anthered California Brodiaea	Cismontane Woodland	No	May-June	No	Absence of typical habitat and historic agricultural use of study area.
Calamagrostis ophitidis Serpentine Reed Grass	Serpentinite Outcrops	No	May-June	No	Lack of habitat required for presence.
Calystegia collina ssp. *oxyphylla* Mt. Saint Helena Morning-glory	Chaparral Serpentinite	No	April-June	No	Requisite habitat and edaphic conditions absent.
Castilleja ambigua var. *meadii* Mead's Owls-clover	Vernally wet meadows with volcanic substrate	No	April-June	No	Lack of habitat due to historic use of site. No indications for presence during our fieldwork.
Centromadia parryi ssp. *parryi* Pappose Tarplant	Grassland salt or alkaline Marshes	No	March-June	No	Requisite mesic conditions absent.
Delphinium uliginosum Swamp Larkspur	Valley and Foothill Grassland, Serpentinite	No	May-June	No	Absence of requisite edaphic habitat precludes presence.
Downingia pusilla Dwarf Downingia	Wetlands	No	March-May	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Eryngium jepsonii Jepson's Coyote Thistle	Moist Clay Soils	No	April-Aug.	No	Absence of mesic conditions required for presence.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present	Bloom Time	Obs. on or Near Site	Analysis of habitat on study area for presence or absence
Fritillaria pluriflora Adobe-lily	Chaparral, Cismontane Woodland, Valley and Foothill Grassland	No	Feb.-April	No	Lack of habitat historic use of site. No indications for presence during our fieldwork.
Hesperolinon breweri Brewer's Western Flax	Cismontane Woodland, Valley and Foothill Grassland, Serpentinite	No	May-July	No	Absence of requisite edaphic habitat on the site or in the immediate vicinity precludes presence.
Hesperolinon sharsmithiae Sharsmith's Western Flax	Serpentine endemic	No	May-July	No	Requisite edaphic habitat absent on the site or in the immediate vicinity.
Lasthenia conjugens Contra Costa Goldfields	Wet Meadows, Vernal Pools	No	May-June	No	Lack of suitable mesic habitat.
Layia septentrionalis Colusa Layia	Cismontane Woodland, Valley & Foothill Grassland, Chaparral Serpentinite, or sandy soils	No	April-May	No	Requisite edaphic habitat absent on the site or in the immediate vicinity.
Leptosiphon jepsonii Jepson's Leptosiphon	Open or partially shaded grassy slopes	No	April-May	No	Historic use of land for grazing. Lack of habitat.
Limnanthes vinculans Sebastopol Meadowfoam	Meadows Seeps, Valley and Foothill Grassland, Vernal Pools	No	April-May	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
Navarretia leucocephala ssp. *bakeri* Baker's Navarretia	Meadows and Seeps Cismontane Woodland, Valley and Foothill Grassland, Vernal Pools	No	May-July	No	Absence of typical habitat and vegetation associates.
Navarretia leucocephala ssp. *pauciflora* Few-flowered Navarretia	Vernal Pools	No	May-June	No	Absence of typical habitat and vegetation associates.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present	Bloom Time	Obs. on or Near Site	Analysis of habitat on study area for presence or absence
Ranunculus lobbii Lobb's Aquatic Buttercup	Valley and Foothill Grassland, Vernal Pools	No	Feb-May	No	Lack of habitat, historic use of site. No indications for presence during our fieldwork.
Sidalcea keckii Keck's Checkerbloom	Grassy Slopes	No	April May	**No**	Lack of habitat due to historic use of site. No indications for presence during our fieldwork.
Trichostema ruygtii Napa Bluecurls, Vinegar Weed	Open areas with thin clay soils seasonally saturated	No	June-Oct.	No	Lack of habitat due to historic use of site. No indications for presence during our fieldwork.

Plate II illustrates the project site and the location of known special-status species. There are no records of special-status plants for the project site. Plants in the near vicinity include the following: Sonoma ceanothus, Jepson's coyote-thistle, and Sharsmith's western flax. We found no evidence for the presence or potential habitat of these taxa or those listed in the table above.

The special-status plant species known for the region are reasonably precluded from presence based on the absence of findings during our survey, the history of the property use, the absence of any records for the site, the absence of hydrologic conditions, lack of serpentinite, and the vegetation associates.

Table II. Analysis of special-status target animals for the area. The taxa included in the table are selected based on the habitat present, USFWS list and the CDFW CNDDB records for the area of the project (see also Appendix B and Plate II).

Scientific Name Common Name	Habitat	Potential for Study area	Obs. on or Near Study area	Analysis of Habitat on study area for presence or absence
Antrozous pallidus Pallid Bat	Roosts in Buildings & Overhangs	May fly over	No	Lack of suitable roosting habitat.
Aquila chrysaetos Golden Eagle	Nests near water	No	No	Lack of roosting habitat.
Athene cunicularia Burrowing Owl	Low lying grasslands	No	No	Lack of habitat.

Scientific Name Common Name	**Habitat**	**Potential for Study area**	**Obs. on or Near Study area**	**Analysis of Habitat on study area for presence or absence**
Buteo swainsoni Swainson's Hawk	Open areas with riparian influence	No	No	Lack of nesting habitat.
Corynorhinus townsendii Townsend's Big-eared Bat	Caves, also in Buildings	No	No	No roosting habitat on project site.
Danaus plexippus Monarch Butterfly	Milkweed, Migrates along Coast	No	No	Habitat on project site precludes presence. Lack of food sources and migration habitat.
Desmocerus californicus var. *dimorphus* Valley Elderberry Longhorn Beetle	Elderberry Plants within Riparian zones.	No	No	Lack of host elderberry plants precludes presence.
Agelaius tricolor Tricolored Blackbird	Tule Marshes	No	No	Lack of habitat.
Emys marmorata Western Pond Turtle	Slow moving water or ponds	No	No	Lack of aquatic habitat on project site.
Falco mexicanus Prairie Falcon	Nests on cliffs	No	No	May fly over. Lack of habitat for nesting and feeding.
Rana draytonii California Red-legged Frog	Creeks, Rivers, permanent flowing water	No	No	Lack of aquatic habitat. No potential breeding habitat on site.
Strix occidentalis caurina Northern Spotted Owl	Old Growth Forests	No	No	Lack of roosting and foraging habitat.
Syncaris pacifica California Freshwater Shrimp	Creeks and Estuaries below 300 ft.	No	No	Requisite habitat required for presence lacking.

Our fieldwork did not find any special-status animal species known for the Quadrangle, surrounding Quadrangles or for the region. The present conditions of the study area and historic land use is such that there is little reason to expect the occurrence of any special-status animal species within the study area. The property is located within a confidence interval for the tricolored blackbird. This species nests in tules within wetlands and reservoirs. Habitat for this species is not present on the project site.

The study area conditions are such that there is no reason to expect any impacts to special-status species on-site or off-site provided standard best management practices are utilized and erosion control is implemented. Habitat on the study area is such that it will not substantially reduce or restrict the range of listed animals.

C.4 Discussion of Sensitive Habitat Types

The Napa County Baseline Data Report defines Biotic communities as the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region. The Napa County Baseline Data Report as well as the California Department of Fish and Wildlife Natural Diversity Data Base (CDFW CNDDB) lists recognized Sensitive Biotic Communities. The Napa County Baseline Data Report lists twenty-three communities that are considered sensitive by CDFW due to their rarity, high biological diversity, and/or susceptibility to disturbance or destruction.

Napa County biotic communities of limited distribution that are sensitive include: Native grassland; Tanbark oak alliance; Brewer willow alliance; Ponderosa pine alliance; Riverine, lacustrine, and tidal mudflats; and Wet meadow grasses super alliance. These biotic communities of limited distribution are not present within the project footprint.

The California Department of Fish and Wildlife Natural Diversity Data Base lists the following sensitive habitat types for the region of the project site: Northern Vernal Pool, Serpentine Bunchgrass and Wildflower Field. These sensitive habitat types are not present on or near the project footprint.

There are no vernal pools, marshes or wetlands associated with the project footprint. US Fish and Wildlife Service does not show any Critical Habitats for the property.

Stream Analysis

Drainage from the project sites is by direct infiltration or by sheet flow into Maxwell Creek, thence Pope Creek , thence Lake Berryessa.

There are two types of streams or drainages; 1) perennial flowing waters and 2) seasonal ephemeral drainages that convey water during and shortly after rainfall. The USGS 7.5 Minute Quadrangle maps for the site was analyzed for the presence of "blue line" creeks. On site topography and evidence of bed and bank was used for evaluating ephemeral drainages. There are no drainages associated with the project site.

D. POTENTIAL BIOLOGICAL IMPACTS

In the sections below a discussion of potential impacts of the project on the biological resources. The project's effect to on-site or regional biological resources is considered to be significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. serpentine habitat, wetlands, riparian habitat);
- Adverse impacts to special-status plant and animal species;
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. sensitive biotic communities, special-status habitats and wetlands);
- Loss of critical breeding, feeding or roosting habitat; and
- Interference with migratory routes or habitat connectivity.

D.1 Analysis of Potential Impacts to Special-status Species

Our fieldwork did not find any special-status plant or animal species known for the Quadrangle, surrounding Quadrangles or for the region that would be impacted by the proposed project.

A map from the CDFW CNDDB Rare Find shows known special-status species in the proximity of the study area as shown on Plate II. The CDFW CNDDB does not record any special-status plants for the property.

The habitat within the proposed project site and historic land use are such that there is little reason to expect the occurrence of any special-status plant or animal species within the footprint of the project. The special-status plant species known for the region are reasonably precluded from presence based on lack of requisite habitat, findings during our surveys, the history of the property use, the absence of any records for the site, the absence of hydrologic conditions, lack of serpentinite, and the vegetation associates.

The proposed project site conditions are such that there is no reason to expect any impacts to special-status species on-site or off-site provided standard best management practices are utilized and the erosion control plan is implemented. Habitat impacted by the proposed project is such that it will not substantially reduce or restrict the range of listed animals.

D.2 Analysis of Potential Impacts on Sensitive Habitat

Our field work did not identify any Sensitive Biotic Communities and or Biotic Communities of Limited Distribution as defined in the County Baseline Data Report or listed by CDFW on the property.

Sensitive Communities
The CDFW CNDDB lists Serpentine Bunchgrass, Valley Needlegrass Grassland and Wildflower Field as Sensitive Communities in the region. <u>There are no CDFW Sensitive Communities or Napa County Sensitive Biotic Communities present on the proposed project site</u>.

Native Grassland
The grassland within the footprint of the project does not consist of any of the sensitive grassland communities listed by the County Baseline Data Report or CDFW. Grasslands on the project site do not meet the definition of Native Grass Grassland and would not be considered a species with limited distribution or a sensitive natural plant community. The project will not impact any populations of native grasslands.

Seasonal Wetland
Seasonal wetland generally denotes areas where the soil is seasonally saturated and/or inundated by fresh water for a significant portion of the wet season, and then seasonally dry during the dry season. To be classified as "Wetland," the duration of saturation and/or inundation must be long enough to cause the soils and vegetation to become altered and adapted to the wetland conditions. Varying degrees of pooling or ponding, and saturation will produce different edaphic and vegetative responses. These soil and vegetative clues, as well as hydrological features, are used to define the wetland type. Seasonal wetlands typically take the form of shallow depressions and swales that may be intermixed with a variety of upland habitat types. Seasonal wetlands fall under the jurisdiction of the U.S. Army Corps of Engineers. There are no seasonal wetlands or vernal pools associated with the project footprint.

Waters of the U.S. and "Waters of the State" include drainages which are characterized by the presence of definable bed and bank that meet CDFW, ACOE, and RWQCB definitions and or jurisdiction. Any direct discharge of storm water into "Waters of the State" will require ACOE, CDFW, and RWQCB permits. Drainages on the property have been mapped and are outside of the proposed development footprint. There are no drainages or creeks within the project footprint.

Riparian Vegetation
Riparian vegetation is by all standards considered sensitive. Riparian Vegetation functions to control water temperature, regulate nutrient supply (biofilters), bank stabilization, rate of runoff, wildlife habitat (shelter and food), release of allochthonous material, release of woody debris which function as habitat and provide slow nutrient release as well as protection for aquatic organisms. Riparian vegetation is also a moderator of water temperature has a cascade effect in that it relates to oxygen availability. The project will not impact any riparian vegetation.

Trees
Napa County requires the replacement of lost oak woodlands or preservation of like habitat on site. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible. Within the Agricultural Watershed zoning district, require replacement of lost oak woodlands or permanent preservation of like habitat at a minimum 3:1 ratio when retention of existing vegetation is found to be infeasible. Tree count is based on existing conditions at the time of our survey. The project will remove 5 Valley Oaks.

Valley Oaks proposed to be removed measured 8, 10, 12, 12, and 40" Diameter at Brest Height (DBH).

Wildlife Habitat and Wildlife Corridors
Wildlife corridors are natural areas interspersed with developed areas that are important for animal movement, increasing genetic variation in plant and animal populations, reduction of population fluctuations, and retention of predators of agricultural pests and for movement of wildlife and plant

populations. Wildlife corridors have been demonstrated to not only increase the range of vertebrates including avifauna between patches of habitat but also facilitate two key plant-animal interactions: pollination and seed dispersal. Corridors also preserve watershed connectivity. Corridor users can be grouped into two types: passage species and corridor dwellers. The data from various studies indicate that corridors should be at least 100 feet wide to provide adequate movement for passage species and corridor dwellers in the landscape. Game trails are present but there was no evidence for distinct corridors passing through the property. There are no identifiable wildlife corridors or unique wildlife habitat that will be impacted by the project.

Raptor Nests, Bird Rookeries, Bat Roosts, Wildlife Dens or Burrows

No raptor nests were identified during our survey. We found no indications of nesting raptors on the property or in the near vicinity of the project sites. We did not observe any nests, whitewash or nest droppings, or perching associated with the proposed project. No bird rookeries were present on the property or within the project footprint. No raptor nests, whitewash from nests was observed associated with the proposed project site.

Bat Seasonal Roosts and Maternal Roosts

Trees near the proposed project are unlikely to be potential roosting habitat for bats. Foliage and bark with small cavities in any tree could provide suitable temporary habitat for solitary tree-roosting bat species. There is no potential roosting habitat for bats on the proposed project site.

Very few burrows were observed, but small mammals and songbirds likely utilize habitats on the proposed site for foraging. No significant wildlife dens or burrows were observed.

Unique Species that are Endemic, Rare or Atypical for the Area

The flora and fauna present are typical for the vegetation and habitat of the region. There were no unique species, endemic populations of plants or animals or species that are rare or atypical for the area present on the proposed project site. No unique or unusual populations of plants or animals were present within the proposed project area.

Habitat Fragmentation

Habitat fragmentation can result in a net-loss in overall habitat, an increase in edge habitat, and isolation effects, including genetic isolation. Due to these and other factors, small and isolated patches of habitat generally support lower species diversity than do large undeveloped areas. As a consequence of habitat fragmentation, abundance and diversity of species originally present often decline, and losses are most noticeable in small fragments. Loss of habitat, including habitat fragmentation, is the single most important factor affecting the long-term survival of rare, threatened and endangered species.

Habitat fragmentation is a local and global concern. The project will incrementally reduce a small amount of grassland habitat in the area. The proposed change in land use will result in less than significant changes in avifauna and rodent utilization in the area. The proposed project will not lead to significant impacts to habitat fragmentation in the region, significant species exclusion, or significant change in species composition in the region.

D.3 Potential Off-site Impacts of the Project

There are no expected significant impacts to off-site or local biological resources by the proposed project. Standard Erosion Control and Best Management Practices must be used during development of the site that will prevent any significant off-site impacts.

D.4 Potential Cumulative Impacts

Cumulative biological effects are the result of incremental losses of biological resources within a region. Removal of vegetation can reduce the abundance and diversity of species in an area. Reservoirs provide limited foraging, cover, and breeding habitat for native wildlife species. Reservoirs can be used by wildlife but the diversity is dependent on the management and fencing of the site. Loss of habitat can also be an important factor affecting the long-term survival of rare, threatened and endangered species.

Factors that were considered in the evaluation of cumulative biological impacts include:

1. Any known rare, threatened, or endangered species or sensitive species that may be directly or indirectly affected by project activities.

Significant cumulative effects on listed species may be expected from the results of activities over time that combine to have a substantial effect on the species or on the habitat of the species.

2. Any significant, known wildlife or fisheries resource concerns within the immediate project area and the biological assessment area (e.g. loss of oaks creating forage problems for a local deer herd, species requiring special elements, sensitive species, and significant natural areas).

Significant cumulative effects may be expected where there is a substantial reduction in required habitat or the project will result in substantial interference with the movement of resident or migratory species. The significance of cumulative impacts on non-listed species viability was determined relative to the benefits to other non-listed species.

3. The aquatic and near-water habitat conditions on the site and immediate surrounding area. Habitat conditions of major concern are: Pools and riffles, large woody material in the stream, and near-water vegetation.

No cumulative impacts to wildlife populations are expected by the proposed project.

There are no potential impacts to migratory corridors or wildlife nursery site associated with the proposed project. The potential biological impacts of the project include the incremental loss of semi-natural grasslands. The impact to local wildlife will be undetectable on a regional scale.

Water extraction linked to agricultural development (direct stream diversions) may have a negative impact on listed local fisheries. Adequate analysis of the water demands and potential stream flow impacts should be analyzed if direct water diversions are used to maintain water levels in the reservoir.

A potential impact is the movement of silt, dust and the creation of noise during site construction. This can be mitigated for by implementation of the erosion control plan and best management construction practices.

Groundwater Dependent Ecosystems (GDE's).

Many of California's diverse ecosystems include plant and animal species that rely on groundwater to survive. Groundwater is vital to people and nature, providing an important source of drinking and irrigation water, and meeting some or all the water requirements for plants and animals to survive. In some cases, groundwater serves as the primary source of water for certain plant species year-round.

The California Department of Water Resources (CDWR) developed regulations to implement and officially recognized groundwater dependent ecosystems (GDEs) in the Act. CDWR provided the following definitions:

> Groundwater dependent ecosystem' refers to ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.
>
> Interconnected surface water' refers to surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted.

Following construction of the reservoir, water will be collected from the existing subdrain infrastructure within the adjacent vineyard. Review of aerial photos does not indicate that the vineyard was installed within a ground water dependent ecosystem. Napa County Vegetation maps the area as grassland. The National Wetland Inventory does not map any wetlands with the proposed project site or existing vineyard with subdrain system.

D.5 State and Federal Permits

No State or Federal permits are required and that the proposed project will be in compliance with the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA).

Water extraction linked to agricultural development must comply with State and Federal laws and permits.

E. RECOMMENDATIONS TO AVOID IMPACTS

E.1 Significance

The significance of potential impacts is a function of the scope and scale of the proposed project within the existing Federal, State and Local regulations and management practices. The determination of significance of impacts to biological resources consists of an understanding of the project as proposed and an evaluation of the context in which the impact may occur. The extent and degree of any impact on-site or offsite must be evaluated consistent with known or expected site conditions. Therefore, the significance of potential impacts is assessed relevant to a site-specific scale and the larger regional context.

E.2 Recommendations

The project must comply with Napa County SWPPP requirements to ensure that best management practices are adopted in order to minimize the amount of sediment and other pollutants leaving the site during construction activities.

Site development has the potential to impact biological resources without appropriate avoidance and protection measures.

Recommendation – All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. Best Management Practices must be implemented throughout the construction period such as retaining ground cover litter, monitoring for invasive species, providing mulch for bare ground and standard erosion and dust control.

Recommendation – The project must comply with Napa County General Plan Policy CON-24 Paragraph (c) stating that a project should "provide replacement of lost oak woodlands or preservation of like habitat at a 3:1 ratio." Replanting of 5-Valley Oaks at a 3:1 ratio = 15-Trees.

Recommendation –If tree removal is to occur between February 1 and August 31, (bird breeding and nesting seasons), a qualified biologist (defined as knowledgeable and experienced in the biology and natural history of local avian resources with potential to occur on or near the project) shall conduct preconstruction surveys for nesting birds within all suitable habitat on the project site, and where there is potential for impacts.

F. SUMMARY

This study is provided as background information necessary for evaluating potential impacts of the project on local biological resources.

The proposed project site is on gentle slopes above the Pope Valley floor. The proposed project site is within ruderal grassland scattered Valley Oaks. The current and historic use, absence of serpentinite, and seasonal wetlands reasonably preclude presence of any special-status plant or animal species on the project site.

We find that the proposed project following recommendations included in this report will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

We find that the project as proposed will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

We find that the project as proposed will not have a substantial adverse effect on federally protected wetlands and "Waters of the State" as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No wetlands or vernal pools are within the proposed project footprint.

We find that the proposed project will not interfere substantially with the movement of any native resident wildlife species or migratory fish. The project as proposed will not impart any migratory wildlife corridors, or impede the use of native wildlife nursery sites.

We conclude that the proposed project with the implementation of Best Management practices, recommendations included in this report, and compliance with the Erosion Control Plan the project will not result in any significant adverse biological impacts to the environment.

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G.2 Qualifications of Field Investigators

Chris K. Kjeldsen, Ph.D., Botany, Oregon State University, Corvallis, Oregon. He has over forty years of professional experience in the study of California flora. He was a member of the Sonoma County Planning Commission and Board of Zoning (1972 to 1976). He has over thirty years of experience in managing and conducting environmental projects involving impact assessment and preparation of compliance documents, Biological Assessments, CDFW Habitat Assessments, CDFW Mitigation projects, ACOE Mitigation projects and State Parks and Recreation Biological Resource Studies. Experience includes conducting special-status species surveys, jurisdictional wetland delineations, general biological surveys, 404 and 1600 permitting, and consulting on various projects. He taught Plant Taxonomy at Oregon State University and numerous botanical science and aquatic botany courses at Sonoma State University including sections on wetlands and wetland delineation techniques. He has supervised numerous graduate theses, NSF, DOE and local agency grants and served as a university administrator. He has a valid DFW collecting permit.

Daniel T. Kjeldsen, B. S., Natural Resource Management, California Polytechnic State University, San Luis Obispo, California. He spent l994 to l996 in the Peace Corps managing natural resources in Honduras, Central America. His work for the Peace Corps in Central America focused on watershed inventory, mapping and the development and implementation of a protection plan. He has over twenty years of experience in conducting Biological Assessments, CDFW Habitat Assessments, ACOE wetland delineations, wetland rehabilitation, and development of and implementation of mitigation projects and mitigation monitoring. He has received 3.2 continuing education units MCLE 27 hours in Determining Federal Wetlands Jurisdiction from the University of California Berkeley Extension. Attended Wildlife Society Workshop Falconiformes of Northern California; Natural History and Management California Tiger Salamander 2003, Natural History and Management of Bats Symposium 2005, Western Pond Turtle Workshop 2007, and Western Section Bat Workshop 2011. Laguna Foundation & The Wildlife Project Rare Pond Species Survey Techniques 2009. A full resume is available upon request.

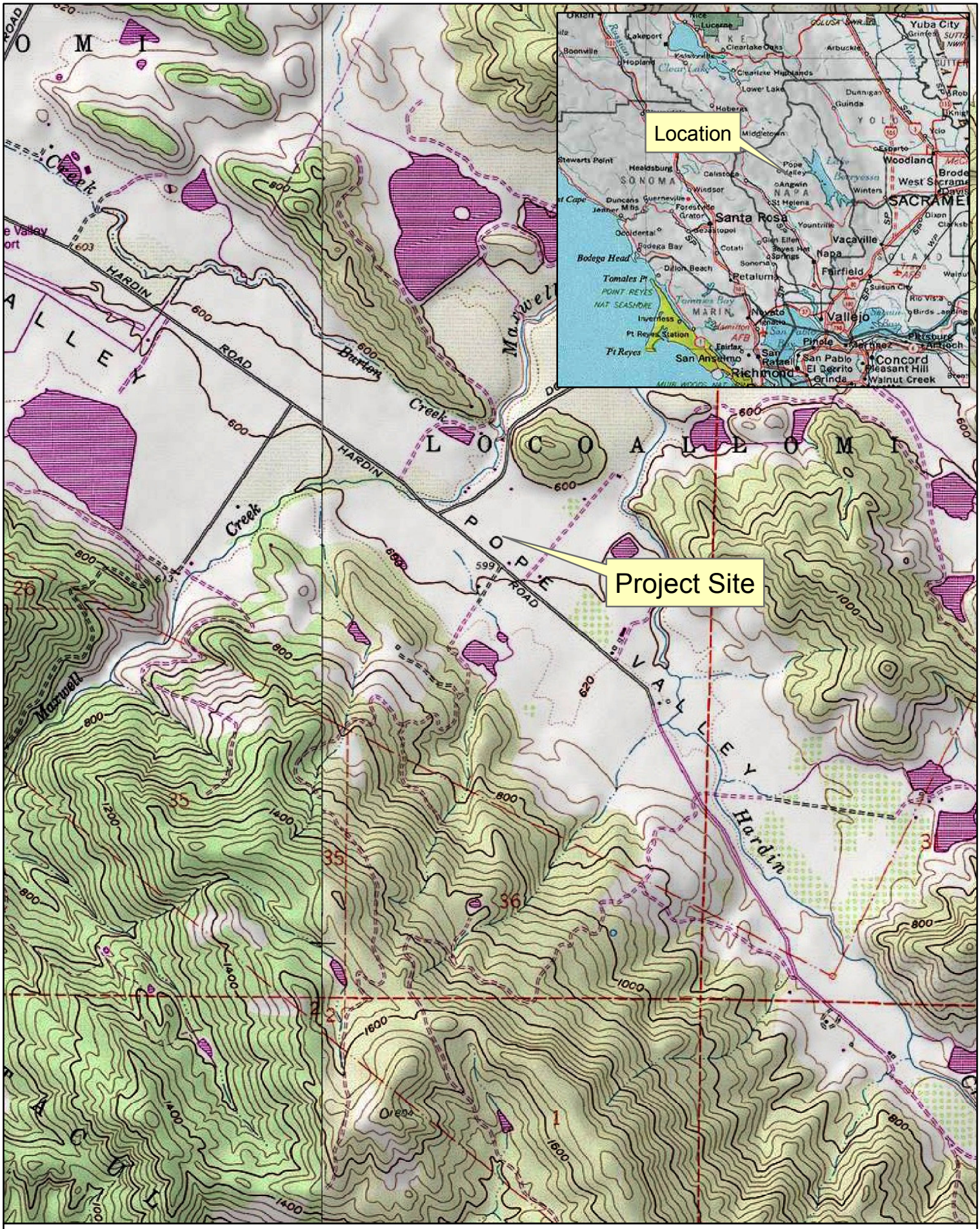

Plate I. Location and Site Map

(Chiles Valley Quadrangle)

N

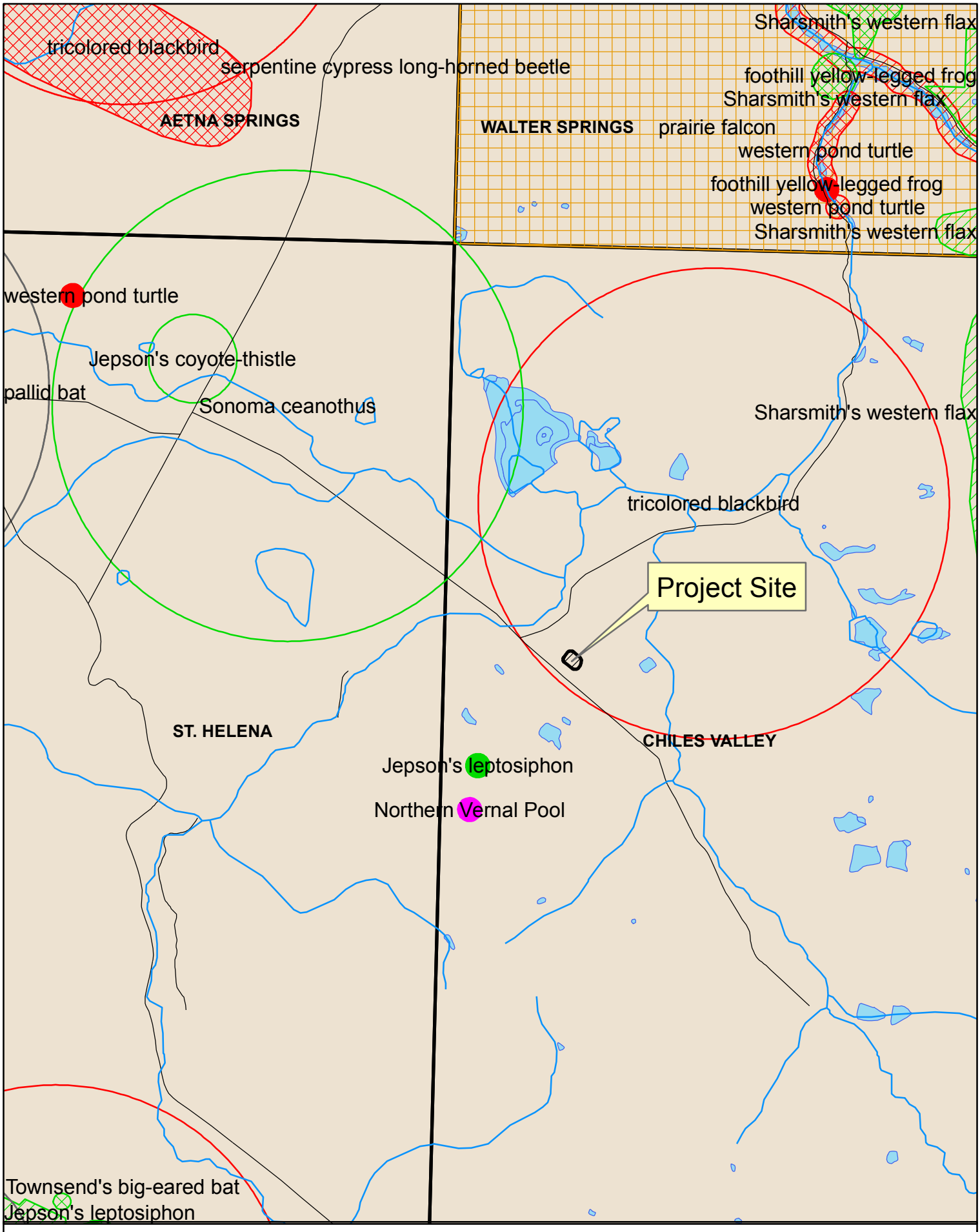

Plate II. CDFW CNDDB Rare Find Data

(Data Date March 2022)

N

Plate III. Aerial Photo

N

APPENDIX A
Plants and Animals Observed Associated With The Project Site

nomenclature for the list of plants found on the project study areas and the immediate vicinity follows: Norris and Shevrock - 2004, for the mosses; Baldwin, Goldman, Keil, Patterson, Rosati, and Wilkens, editors, 2012 - for the vascular plants.

Habitat type indicates the general associated occurrence of the taxon on the project site or in nature. **Abundance** refers to the relative number of individuals on the project site or in the region.

MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

MOSSES

FUNARIACEAE

Funaria hygrometrica Hedw. NCN	Ruderal, Burned Areas	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--DICOTYLEDONAE- TREES

EUDICOTS

FAGACEAE Oak Family

Quercus lobata Nee. Valley Oak	Valley Grasslands	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--DICOTYLEDONAE-HERBS

EUDICOTS

ASTERACEAE (Compositae) Sunflower Family

**Circium vulgare* (Savi) Ten. Bull Thistle	Grasslands, Ruderal	Common
**Helminthotheca echioides* (L.) Holub Ox-tongue (=*Picris echioides)*	Ruderal	Common
**Hypochaeris glabra* L. Cat's Ear	Ruderal	Common
**Lactuca serriola* L. Prickly Lettuce	Ruderal	Common

MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

Madia elegans D.Don Common Madia	Ruderal, Grasslands	Common
**Senecio vulgaris* L. NCN	Ruderal	Common
**Silybum marianum* (L.) Gaertn. Milk Thistle	Ruderal	Common
**Taraxacum officinale* F.H.Wigg Dandelion	Ruderal	Common
BRASSICACEAE Mustard Family		
**Brassica nigra* (L.) Koch Black Mustard	Ruderal	Common
**Capsella bursa-pastoris* L. Shepherd's Purse	Ruderal	Common
**Raphanus sativus* L. Wild Radish	Ruderal	Common
FABACEAE (Leguminosae) Legume Family		
Lupinus nanus Benth. Sky Lupine	Grasslands	Common
**Medicago polymorpha* L. Bur Clover	Ruderal, Grasslands	Common
**Vicia sativa* L. subsp. *nigra* Narrow Leaved-vetch	Grasslands, Ruderal	Common
GERANIACEAE Geranium Family		
**Erodium botrys* (Cav.) Bertol. Broadleaf Filaree, Long-beaked Filaree NCN	Grasslands	Common
PLANTAGINACEAE Plantain Family		
**Plantago lanceolata* L. English Plantain	Ruderal	Common
POLYGONACEAE Buckwheat Family		
**Rumex acetosella* L. Sheep Sorrel	Ruderal	Common
**Rumex crispus* L. Curly Dock	Ruderal	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--MONOCOTYLEDONAE-GRASSES

POACEAE Grass Family		
**Avena* ssp. Oat	Grasslands	Common

MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

**Bromus* ssp Brome	Ruderal	Common
**Festuca arundinacea* Schreb. Tall Fescue	Grasslands	Common
**Festuca myuros* L. Rattail Fescue,Zorro Annual Fescue (=*Vulpia myuros)*	Grasslands	Common
**Festuca perennis* (L.) Columubus & Sm.Grasslands Perennial Rye Grass (=*Lolium multiflorum, L. perenne)*		Common

Fauna Species Observed in the Vicinity of the Project Site

The nomenclature for the animals found on the project site and in the immediate vicinity follows: Mc Ginnis–1984, for the fresh water fishes; Stebbins-l985, for the reptiles and amphibians; Udvardy and Farrand–1998, for the birds; and Jameson and Peeters -l988 for the mammals.

AVES **ORDER** **Common Name**	**Genus**	**Observed**
Mourning Dove	*Zenaida macroura*	Calling

MAMMALS **ORDER** **Common Name**	**Genus**	**Observed**
RODENTIA		
Pocket Gopher	*Thomomys bottae*	Sight

APPENDIX C

California Native Plant Society Electronic Inventory

California Department of Fish and Wildlife Rare Find Five Special-status species for the Quadrangle and Surrounding Quadrangles

Sacramento Fish & Wildlife Office Federal Endangered And Threatened Species That Occur In Or May Be Affected By Projects In The U.S.G.S. 7 1/2 Minute Quadrangle

California Native Plant Society

Search Results

8 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3812253**], Habitat is one of [**VFGrs**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	None	None	G3	S3	4.2	No Photo Available
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	None	None	G3?	S3?	1B.2	 © 2018 Zoya Akulova
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	Apr-Jul	None	None	G3	S3	4.3	No Photo Available
Calystegia collina ssp. *oxyphylla*	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	G4T3	S3	4.2	No Photo Available
Delphinium uliginosum	swamp larkspur	Ranunculaceae	perennial herb	May-Jun	None	None	G3	S3	4.2	No Photo Available
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	None	None	G2	S2	1B.2	 © 2013 Jake Ruygt
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	None	None	G2G3	S2S3	1B.2	 © 2012 Aaron Arthur
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	G4	S3	4.2	No Photo Available

Showing 1 to 8 of 8 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 9 February 2022].

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
Quad IS (Aetna Springs (3812264) OR Walter Springs (3812263) OR Brooks (3812262) OR St. Helena (3812254) OR Chiles Valley (3812253) OR Lake Berryessa (3812252) OR Rutherford (3812244) OR Yountville (3812243) OR Capell Valley (3812242))
AND Habitat IS (Valley & foothill grassland OR Vernal pool)

CNDDB Element Query Results

Scientific Name	Common Name	Federal Status	State Status	State Rank	CA Rare Plant Rank	Habitats
Amsinckia lunaris	bent-flowered fiddleneck	None	None	S3	1B.2	Cismontane woodland, Coastal bluff scrub, Valley & foothill grassland
Antrozous pallidus	pallid bat	None	None	S3	null	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Aquila chrysaetos	golden eagle	None	None	S3	null	Broadleaved upland forest, Cismontane woodland, Coastal prairie, , Valley & foothill grassland
Astragalus claranus	Clara Hunt's milk-vetch	Endangered	Threatened	S1	1B.1	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	None	None	S3	1B.2	Cismontane woodland, Ultramafic, Valley & foothill grassland
Athene cunicularia	burrowing owl	None	None	S3	null	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Valley & foothill grassland
Brodiaea leptandra	narrow-anthered brodiaea	None	None	S3?	1B.2	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley & foothill grassland

Buteo swainsoni	Swainson's hawk	None	Threatened	S3	null	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	None	None	S3	4.2	Chaparral, Lower montane coniferous forest, Ultramafic, Valley & foothill grassland
Castilleja ambigua var. meadii	Mead's owls-clover	None	None	S1	1B.1	Meadow & seep, Vernal pool, Wetland
Centromadia parryi ssp. parryi	pappose tarplant	None	None	S2	1B.2	Chaparral, Coastal prairie, Marsh & swamp, Meadow & seep, Valley & foothill grassland
Corynorhinus townsendii	Townsend's big-eared bat	None	None	S2	null	Broadleaved upland forest, Chaparral, , Valley & foothill grassland
Downingia pusilla	dwarf downingia	None	None	S2	2B.2	Valley & foothill grassland, Vernal pool, Wetland
Elanus leucurus	white-tailed kite	None	None	S3S4	null	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Eryngium jepsonii	Jepson's coyote-thistle	None	None	S2	1B.2	Valley & foothill grassland, Vernal pool
Falco mexicanus	prairie falcon	None	None	S4	null	Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Fritillaria pluriflora	adobe-lily	None	None	S2S3	1B.2	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Hesperolinon breweri	Brewer's western flax	None	None	S2	1B.2	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Lasthenia conjugens	Contra Costa goldfields	Endangered	None	S1	1B.1	Alkali playa, Cismontane woodland, Valley & foothill grassland, Vernal pool, Wetland
Layia septentrionalis	Colusa layia	None	None	S2	1B.2	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Leptosiphon jepsonii	Jepson's leptosiphon	None	None	S2S3	1B.2	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland

Limnanthes vinculans	Sebastopol meadowfoam	Endangered	Endangered	S1	1B.1	Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	S2	1B.1	Cismontane woodland, Lower montane coniferous forest, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	Endangered	Threatened	S1	1B.1	Vernal pool, Wetland
Northern Vernal Pool	Northern Vernal Pool	None	None	S2.1	null	Vernal pool, Wetland
Serpentine Bunchgrass	Serpentine Bunchgrass	None	None	S2.2	null	Valley & foothill grassland
Sidalcea keckii	Keck's checkerbloom	Endangered	None	S2	1B.1	Cismontane woodland, Ultramafic, Valley & foothill grassland
Trichostema ruygtii	Napa bluecurls	None	None	S1S2	1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley & foothill grassland, Vernal pool, Wetland
Wildflower Field	Wildflower Field	None	None	S2.2	null	Valley & foothill grassland

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Napa County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Northern Spotted Owl Strix occidentalis caurina Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1123	Threatened

Amphibians

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

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS

California Freshwater Shrimp Syncaris pacifica	Endangered

Wherever found

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/7903

Flowering Plants

NAME	STATUS
Clara Hunt's Milk-vetch Astragalus clarianus	Endangered

Wherever found

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3300

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

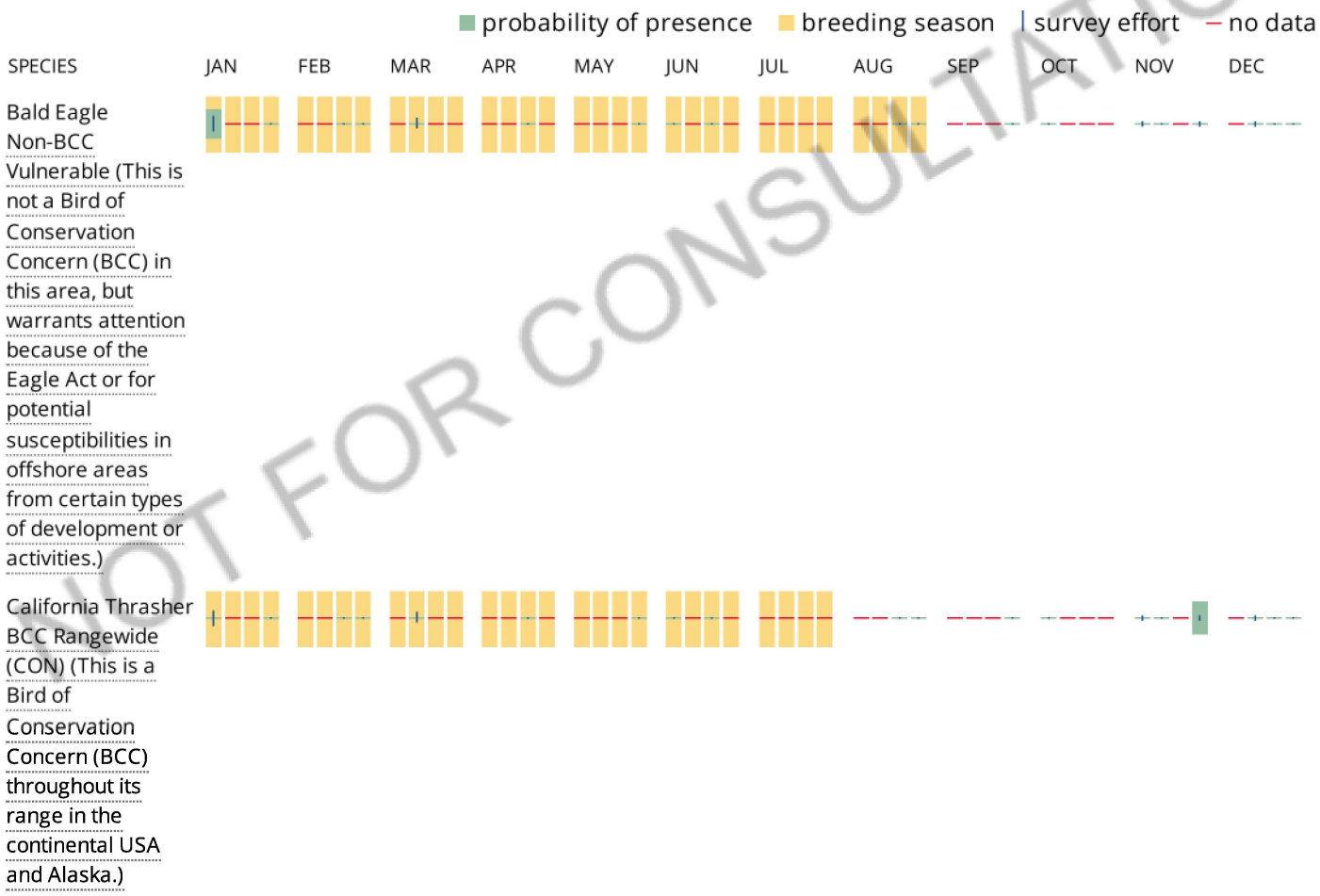
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.