

**Appendix A:
Biological Supporting Information**

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A.1 - CNPS Plant Inventory

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Lasthenia burkei

Common Name: Burke's goldfields

Family: Asteraceae

Synonyms:

Element Code: PDAST5L010

Full Name: *Lasthenia burkei* (Greene) Greene

USDA PLANTS Symbol: LABU



2002 John Game

Biology

Lifeform: annual herb

Blooming Period: Apr-Jun

Habitat:

- Meadows and seeps (mesic)
- Vernal pools

Rarity Status

California Rare Plant Rank: 1B.1
Rare or endangered in California and elsewhere
.1: Seriously endangered in California

Federal Listing Status: FE
Endangered (12/02/91)

State Listing Status: CE
Endangered (09/79)

State Rank: S1
S1: Critically Imperiled.

Global Rank: G1
G1: Critically Imperiled.

**Occurrence Data from CDFW
California Natural Diversity Database**

Total # of Known Element Occurrences: 34

Element Occurrence Ranks:

A	B	C	D	X	U
3	11	7	4	4	5

Population Status:

Historic >20 yrs	Recent <=20 yrs
12	22

Presence:

Present Extant	Possibly Extirpated	Presumed Extirpated
30	1	3

Notes

Threatened by agriculture, urbanization, development, grazing, road widening, road maintenance, and non-native plants. See *Bulletin of the California Academy of Sciences* 2(6):151 (1887) for original description, and *American Journal of Botany* 56(9):1042-1047 (1969) for information on origin and relationships.

To submit rare plant observation data, use the [CNDDDB field survey form](#). Please see also the CNPS [Rare Plant Data](#) page.

Date Added: 1974-01-01

Last Update: 2012-06-15

Location**Elevation:** 15 - 600 meters**California Endemic:** yes**Other States:****California Counties and Islands:** *name (code)*

Lake (LAK), Mendocino (MEN), Napa (NAP), Sonoma (SON)

Quads: *name (DWR code) USGS code*

Santa Rosa (501B) 3812246, Cotati (501C) 3812236, Sebastopol (502A) 3812247, Calistoga (517D) 3812255, Jimtown (518A) 3812267, Healdsburg (518D) 3812257, Lower Lake (533A) 3812285, Clearlake Highlands (533B) 3812286, Middletown (533D) 3812275, Kelseyville (534A) 3812287, The Geysers (534D) 3812277, Ukiah (550B) 3912322

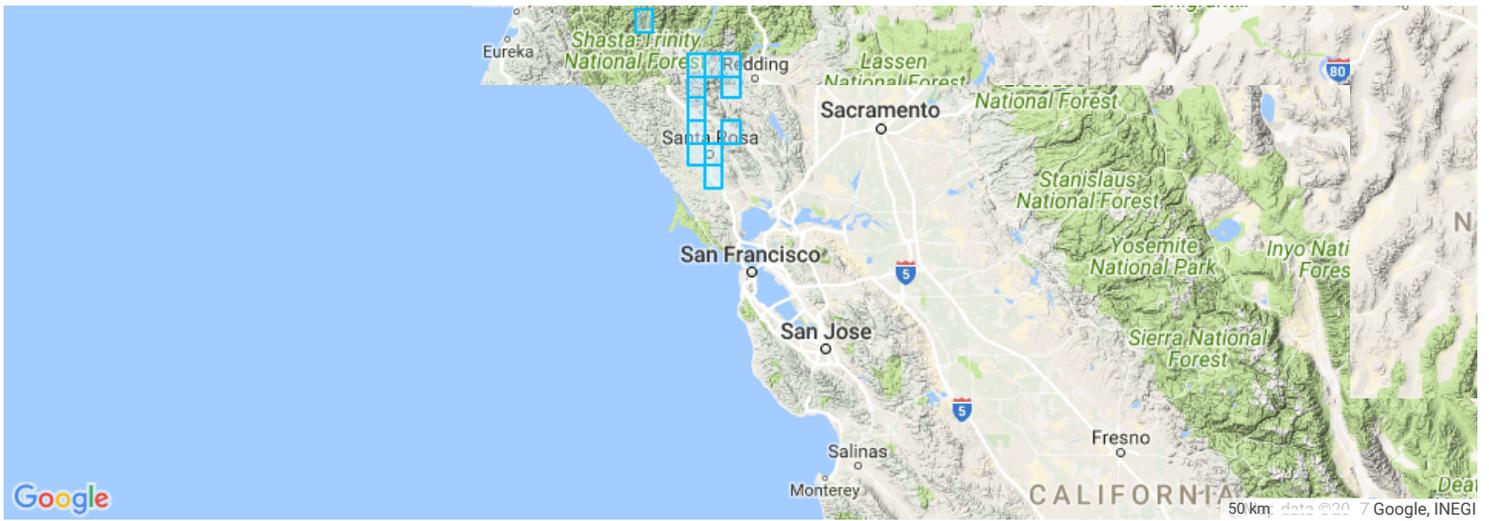
Notes:

Species may be present in other areas where conditions are favorable. This data should NOT be substituted for pre-project review or for on-site surveys.

 Presumed
 Extant

950

[Printable version of this map](#) Counties Quads

Links to Leading Resources of Taxon Information

- [USDA PLANTS](#)
- [Calflora](#)
- [Consortium of California Herbaria](#)
- [CalPhotos](#)
- [California Department of Fish and Wildlife: CNDDDB Quick Viewer](#)

Suggested Citation

California Native Plant Society, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 08 November 2017].

-122.5,38.75

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Contributors

- [The Calflora Database](#)
- [The California Lichen Society](#)

A.2 - CNDDB Occurrence Report

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Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 08077	EO Index: 13087
Key Quad: Healdsburg (3812257)	Element Code: ABNKC01010
Occurrence Number: 49	Occurrence Last Updated: 1999-01-19

Scientific Name: <i>Pandion haliaetus</i>	Common Name: osprey
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDF_S-Sensitive
CNDDB Element Ranks:	CDFW_WL-Watch List
Global: G5	IUCN_LC-Least Concern
State: S4	

General Habitat: OCEAN SHORE, BAYS, FRESHWATER LAKES, AND LARGER STREAMS.	Micro Habitat: LARGE NESTS BUILT IN TREE-TOPS WITHIN 15 MILES OF A GOOD FISH-PRODUCING BODY OF WATER.
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Last Date Observed: 1985-06-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1985-06-XX	Occurrence Rank: Unknown
Owner/Manager: PVT	Trend: Unknown
Presence: Presumed Extant	

Location:
VICINITY OF FITCH MOUNTAIN, EAST OF HEALDSBURG.

Detailed Location:

Ecological:

Threats:
POTENTIAL RESIDENTIAL DEVELOPMENT IS A THREAT.

General:
OBSERVED FORAGING IN 1985 BY WOOD; OBSERVED 1978-79 ALONG RUSSIAN RIVER & PRESUMED TO BE NESTING IN A WOODLAND THERE. AT LEAST 1 YOUNG OBSERVED IN 1972. 1972 NORTH AMERICAN NEST RECORD CARD PROGRAM OBSERVATION FOUND NEST IN DEAD REDWOOD.

PLSS: T09N, R09W, Sec. 22 (M)	Accuracy: 3/5 mile	Area (acres): 0
UTM: Zone-10 N4274378 E514278	Latitude/Longitude: 38.61780 / -122.83598	Elevation (feet): 200

County Summary: Sonoma	Quad Summary: Healdsburg (3812257), Jimtown (3812267)
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Sources:

HAE72F0001	HAERING, L.H. - FIELD SURVEY FORM FOR NORTH AMERICAN NEST RECORD CARD PROGRAM; CORNELL LAB. ORNITHOLOGY 1972-XX-XX
WOO85F0002	WOOD, R. - FIELD SURVEY FORM FOR PANDION HALIAETUS 1985-06-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 24855	EO Index: 6468	
Key Quad: Healdsburg (3812257)	Element Code: ABNKC06010	
Occurrence Number: 33	Occurrence Last Updated: 1993-12-07	

Scientific Name: <i>Elanus leucurus</i>	Common Name: white-tailed kite
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: BLM_S-Sensitive
CNDDB Element Ranks:	CDFW_FP-Fully Protected
Global: G5	IUCN_LC-Least Concern
State: S3S4	

General Habitat: ROLLING FOOTHILLS AND VALLEY MARGINS WITH SCATTERED OAKS & RIVER BOTTOMLANDS OR MARSHES NEXT TO DECIDUOUS WOODLAND.	Micro Habitat: OPEN GRASSLANDS, MEADOWS, OR MARSHES FOR FORAGING CLOSE TO ISOLATED, DENSE-TOPPED TREES FOR NESTING AND PERCHING.
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Last Date Observed: 1985-07-06	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1985-07-06	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
0.4 MILE SW OF THE RUSSIAN RIVER, NE OF HEALDSBURG.

Detailed Location:
NEST SITE LOCATED ALONG A RIDGE ADJACENT TO THE RUSSIAN RIVER.

Ecological:
NEST TREE IS A BLUE GUM EUCALYPTUS WITHIN A LINE OF OLD-GROWTH EUCALYPTUS TREES ALONG A COUNTRY LANE; SURROUNDING FORAGING HABITAT CONSISTS OF OAK SAVANNA.

Threats:
THREATENED BY DEVELOPMENT ALONG THE RIDGE WHERE THE NEST SITE IS LOCATED.

General:
2 ADULTS OBSERVED NESTING AND FORAGING.

PLSS: T09N, R09W, Sec. 16 (M)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-10 N4274954 E512609	Latitude/Longitude: 38.62302 / -122.85515	Elevation (feet): 300

County Summary: Sonoma	Quad Summary: Healdsburg (3812257), Jimtown (3812267)
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Sources:
W0085F0001 WOOD, R. - FIELD SURVEY FORM FOR ELANUS LEUCURUS (=CAERULEUS) 1985-07-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: A0294	EO Index: 101860	
Key Quad: Geyserville (3812268)	Element Code: AFCHA02034	
Occurrence Number: 15	Occurrence Last Updated: 2016-06-08	

Scientific Name: <i>Oncorhynchus kisutch pop. 4</i>	Common Name: coho salmon - central California coast ESU
Listing Status:	Rare Plant Rank:
Federal: Endangered	
State: Endangered	Other Lists: AFS_EN-Endangered
CNDDB Element Ranks:	
Global: G4	
State: S2?	

General Habitat:	Micro Habitat:
FEDERAL LISTING = POPS BETWEEN PUNTA GORDA & SAN LORENZO RIVER. STATE LISTING = POPS SOUTH OF PUNTA GORDA.	REQUIRE BEDS OF LOOSE, SILT-FREE, COARSE GRAVEL FOR SPAWNING. ALSO NEED COVER, COOL WATER & SUFFICIENT DISSOLVED OXYGEN.

Last Date Observed: 2015-09-23	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2015-09-23	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
 DRY CREEK & ITS TRIBUTARIES WINE CREEK, GRAPE CREEK, PENA CREEK & WOODS CREEK, RUSSIAN RIVER WATERSHED NW OF HEALDSBURG.

Detailed Location:
 MAPPED TO INCLUDE DETECTION LOCATIONS. DOWNSTREAM TRAPPING STATION WAS NEAR THE CONFLUENCE WITH MILL CREEK.

Ecological:
 BROOD YEAR 1980-84, 1986-1999, & 2003 FISH RECORDED IN PAST SURVEYS OF DRY CREEK; BY1997 FISH DETECTED IN WINE CREEK.

Threats:
General:
 317 SMOLT AND YOUNG OF YEAR COUNTED DURING DAILY DOWNSTREAM MIGRANT TRAP CHECKS 18 MAR - 28 JUL 2015. 286 COUNTED DURING SNORKEL SURVEYS IN JUL 2015. 43 OBSERVED DURING E-FISHING SURVEYS 21 & 23 SEP 2015.

PLSS: T09N, R10W, Sec. 2 (M)	Accuracy: nonspecific area	Area (acres): 3,039
UTM: Zone-10 N4278981 E505964	Latitude/Longitude: 38.65938 / -122.93145	Elevation (feet): 143

County Summary:	Quad Summary:
Sonoma	Healdsburg (3812257), Guerneville (3812258), Geyserville (3812268), Warm Springs Dam (3812361)

- Sources:**
- HOR15F0002 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-28
 - HOR15F0005 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-09-23
 - HOR15F0006 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-09-23
 - HOR15F0022 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-21
 - HOR15F0026 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-22
 - HOR15F0028 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-20
 - HOR15F0030 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-13
 - HOR15F0032 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-16
 - HOR15F0039 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-09
 - HOR15F0040 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-09
 - HOR15F0042 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-07-09
 - HOR15F0043 HORTON, G. - FIELD SURVEY FORM FOR ONCORHYNCHUS KISUTCH 2015-06-29



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 32693	EO Index: 631
Key Quad: Healdsburg (3812257)	Element Code: ARAAD02030
Occurrence Number: 431	Occurrence Last Updated: 2008-01-17

Scientific Name: <i>Emys marmorata</i>	Common Name: western pond turtle
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G3G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_VU-Vulnerable
	USFS_S-Sensitive

General Habitat: A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS AND IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BELOW 6000 FT ELEVATION.	Micro Habitat: NEEDS BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYING.
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Last Date Observed: 2004-08-03	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2004-08-03	Occurrence Rank: Good
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
RUSSIAN RIVER, BETWEEN ALEXANDER VALLEY ROAD TO APPROX 1.0 MILE DOWNSTREAM OF WOHLER BRIDGE CROSSING.

Detailed Location:

Ecological:

HABITAT CONSISTS OF RIVERINE IN A WELL-DEVELOPED RIPARIAN ZONE; PREVIOUS BANKSIDE EROSION CONTROL HAS LIMITED RIPARIAN VEGETATION GROWTH IN SOME AREAS. SURROUNDED BY AGGREGATE MINING, OPEN SPACE, AND VINEYARDS. BALD EAGLE ALSO OBS AT SITE.

Threats:
THREATENED BY RIPRAP USED FOR BANK STABILIZATION, LOSS OF RIPARIAN HABITAT, & DISTURBANCE BY RECREATIONAL BOATERS.

General:
5/18 AND 6/2/95: 20 INDIVIDUALS OBS BASKING ON LOGS. 05/17 2001: 32 IND OBS BASKING ON LARGE WOODY DEBRIS. 09/16 2002: 25 TURTLES OBS, 1 MALE (CL 180 MM). 06-09 2003: 52 TURTLES OBS & 108 BASKING SITES OBS. 4 AUG 2004: 1 ADULT OBS BASKING.

PLSS: T09N, R09W, Sec. 21 (M)	Accuracy: nonspecific area	Area (acres): 1,530
UTM: Zone-10 N4273247 E512183	Latitude/Longitude: 38.60764 / -122.86007	Elevation (feet): 40

County Summary: Sonoma	Quad Summary: Camp Meeker (3812248), Healdsburg (3812257), Guerneville (3812258), Jintown (3812267)
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- Sources:**
- COO01F0010 COOK, D. - FIELD SURVEY FORM FOR CLEMMYS MARMORATA MARMORATA 2001-05-17
 - COO02F0015 COOK, D. (SONOMA COUNTY WATER AGENCY) - FIELD SURVEY FORM FOR CLEMMYS MARMORATA (MARMORATA) 2002-09-16
 - COO04A0001 COOK, D. & J. MARTINI-LAMB (SONOMA COUNTY WATER AGENCY) - DISTRIBUTION AND HABITAT USE OF PACIFIC POND TURTLES IN A SUMMER IMPOUNDED RIVER 2004-XX-XX
 - COO04F0013 COOK, D. (SONOMA COUNTY WATER AGENCY) - FIELD SURVEY FORM FOR CLEMMYS (=EMYS) MARMORATA (MARMORATA) 2004-08-XX
 - COO04R0001 COOK, D. & J. MARTINI-LAMB (SONOMA COUNTY WATER AGENCY) - DISTRIBUTION AND HABITAT USE OF WESTERN POND TURTLES IN A SEASONAL IMPOUNDED RIVER 2004-07-XX
 - VOU93F0005 VOUCHILAS, C. - FIELD SURVEY FORM FOR CLEMMYS MARMORATA MARMORATA 1993-05-18



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 69882	EO Index: 70706
Key Quad: Guerneville (3812258)	Element Code: ARAAD02030
Occurrence Number: 684	Occurrence Last Updated: 2007-09-10

Scientific Name: <i>Emys marmorata</i>	Common Name: western pond turtle
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G3G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_VU-Vulnerable
	USFS_S-Sensitive

General Habitat: A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS AND IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BELOW 6000 FT ELEVATION.	Micro Habitat: NEEDS BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYING.
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Last Date Observed: 2006-07-13	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-07-13	Occurrence Rank: Good
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
NORTON "WEST" SLOUGH, JUST WEST OF HIGHWAY 101, WEST OF HEALDSBURG.

Detailed Location:

Ecological:
HABITAT CONSISTS OF A PERENNIAL CREEK.

Threats:

General:
1 ADULT OBSERVED BASKING ON A LOG ON 13 JUL 2006.

PLSS: T09N, R09W, Sec. 20, NE (M)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-10 N4274460 E510508	Latitude/Longitude: 38.61859 / -122.87928	Elevation (feet): 120

County Summary: Sonoma	Quad Summary: Guerneville (3812258)
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Sources:
COO06F0012 COOK, D. (SONOMA COUNTY WATER AGENCY) - FIELD SURVEY FORM FOR ACTINEMYS MARMORATA MARMORATA 2006-07-13



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 70719

EO Index: 71629

Key Quad: Healdsburg (3812257)

Element Code: ARAAD02030

Occurrence Number: 765

Occurrence Last Updated: 2008-02-25

Scientific Name: *Emys marmorata*

Common Name: western pond turtle

Listing Status: **Federal:** None

Rare Plant Rank:

State: None

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_VU-Vulnerable
USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G3G4

State: S3

General Habitat:

A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS AND IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BELOW 6000 FT ELEVATION.

Micro Habitat:

NEEDS BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYING.

Last Date Observed: 2003-03-12

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2003-03-12

Occurrence Rank: Fair

Owner/Manager: CITY OF HEALDSBURG

Trend: Unknown

Presence: Presumed Extant

Location:

FOSS CREEK, AT THE GRANT STREET BRIDGE, HEALDSBURG.

Detailed Location:

Ecological:

HABITAT CONSISTS OF A LOW-GRADIENT URBAN STREAM, WITH VERTICAL BANKS, 5-8' HIGH, COVERED WITH BLACKBERRIES, POISON OAK, WILLOWS, AND EXOTICS. CHANNEL BOTTOM IS TRAPEZOIDAL/FLAT, WITH FEW SHORT RIFFLES; BOTTOM OF SANDS/SILT AND GRAVEL.

Threats:

THREATENED BY DUMPING OF TRASH AND CONTAMINATION (HUMAN FECES ALONG BANKS).

General:

1 ADULT MALE (CL ~6") OBSERVED FORAGING ON 12 MAR 2003.

PLSS: T09N, R09W, Sec. 20 (M)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-10 N4274154 E511083

Latitude/Longitude: 38.61583 / -122.87269

Elevation (feet): 110

County Summary:

Sonoma

Quad Summary:

Healdsburg (3812257)

Sources:

FAW03F0001 FAWCETT, M.H. - FIELD SURVEY FORM FOR ACTINEMYS (=EMYS) MARMORATA 2003-03-12



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 71004

EO Index: 71922

Key Quad: Geyserville (3812268)

Element Code: ARAAD02030

Occurrence Number: 769

Occurrence Last Updated: 2016-04-26

Scientific Name: *Emys marmorata*

Common Name: western pond turtle

Listing Status: **Federal:** None

Rare Plant Rank:

State: None

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_VU-Vulnerable
USFS_S-Sensitive

CNDDDB Element Ranks: **Global:** G3G4

State: S3

General Habitat:

A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS AND IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BELOW 6000 FT ELEVATION.

Micro Habitat:

NEEDS BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYING.

Last Date Observed: 2016-02-25

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2016-02-25

Occurrence Rank: Good

Owner/Manager: UNKNOWN

Trend: Unknown

Presence: Presumed Extant

Location:

DRY CREEK, 1.8 MILES UPSTREAM FROM THE WESTSIDE ROAD CROSSING, WEST OF HEALDSBURG.

Detailed Location:

NW POLYGON MAPPED TO COORDINATES GIVEN FOR 2007 DETECTION. SE POLYGON MAPPED TO COORDINATES GIVEN FOR 2016 DETECTION.

Ecological:

2007: CREEK WITH MATURE WILLOW/ALDER RIPARIAN. 2016: BASKING SITE ON LOGS IN SLACK WATER WITHIN RIVERINE, FAST FLOWING COLD WATER IN ALDER RIPARIAN.

Threats:

General:

2 POND TURTLES OBSERVED BASKING ON A LOG ON 22 NOV 2007, DURING A CHINOOK SALMON KAYAK SURVEY. 3 ADULTS OBSERVED BASKING ON 25 FEB 2016.

PLSS: T09N, R09W, Sec. 18, E (M)

Accuracy: specific area

Area (acres): 10

UTM: Zone-10 N4275397 E508932

Latitude/Longitude: 38.62705 / -122.89739

Elevation (feet): 100

County Summary:

Sonoma

Quad Summary:

Geyserville (3812268)

Sources:

COO07F0010 COOK, D. (SONOMA COUNTY WATER AGENCY) - FIELD SURVEY FORM FOR ACTINEMYS MARMORATA MARMORATA 2007-11-22

COO16F0001 COOK, D. - FIELD SURVEY FORM FOR EMYS MARMORATA 2016-02-25



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 30302	EO Index: 3633
Key Quad: Jimtown (3812267)	Element Code: PDAST5L010
Occurrence Number: 30	Occurrence Last Updated: 1995-04-07

Scientific Name: <i>Lasthenia burkei</i>	Common Name: Burke's goldfields
Listing Status:	Rare Plant Rank: 1B.1
Federal: Endangered	Other Lists: SB_RSABG-Rancho Santa Ana Botanic Garden
State: Endangered	
CNDDB Element Ranks:	
Global: G1	
State: S1	

General Habitat: VERNAL POOLS, MEADOWS AND SEEPS.	Micro Habitat: MOST OFTEN IN VERNAL POOLS AND SWALES. 15-600 M.
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Last Date Observed: 1990-04-25	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1990-04-25	Occurrence Rank: Good
Owner/Manager: PVT	Trend: Unknown
Presence: Presumed Extant	

Location:
SOUTH SIDE OF LYTTON ROAD JUST WEST OF LYTTON CREEK, ALEXANDER VALLEY.

Detailed Location:
ALONG FENCE WITHIN ROAD RIGHT-OF-WAY OF SOUTH SIDE OF LYTTON STATION ROAD, 50' WEST OF NE CORNER OF PARCEL #091-090-46. LARGE VERNAL POOL THAT EXTENDS SOUTH OF FENCE.

Ecological:
ANNUAL GRASSLAND DOMINATED BY LOLIUM MULTIFLORUM. ASSOCIATED WITH ACHYRACHAENA, ALOCARYA UNDULATA, ANTHEMIS FUSCATA, ELEOCHARIS, ERYNGIUM, LIMNANTHES DOUGLASII VAR. NIVEA, LASTHENIA CALIFORNICA, PHALARIS, PLEUROPOGON, AND RANUNCULUS.

Threats:
PORTION OF POOL NEAR FENCE DISKED IN SPRING. AGRICULTURAL AND URBAN DEVELOPMENT ARE POSSIBLE THREATS.

General:
300 PLANTS OBSERVED IN 1990.

PLSS: T09N, R09W, Sec. 04 (M)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-10 N4279352 E511452	Latitude/Longitude: 38.66267 / -122.86837	Elevation (feet): 170

County Summary: Sonoma	Quad Summary: Jimtown (3812267)
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Sources:

GUG90S0003	GUGGOLZ, J. & B. GUGGOLZ - GUGGOLZ #1035 JEPS #86736 1990-04-25
GUG90S0004	GUGGOLZ, J. & B. GUGGOLZ - GUGGOLZ #1036 JEPS #86735 1990-04-25
HUN90F0013	HUNTINGTON, L. - FIELD SURVEY FORM FOR LASTHENIA BURKEI 1990-04-25
HUN90S0005	HUNTINGTON, L. - HUNTINGTON #252 UC #1594209 1990-04-04

A.3 - IPaC Resource List

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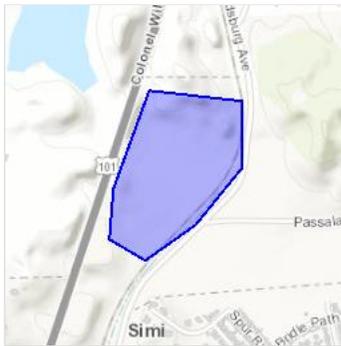
IPaC resource list

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

Sonoma 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 species¹ are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service.

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.

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

Birds

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

Crustaceans

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

Flowering Plants

NAME	STATUS
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Burke's Goldfields *Lasthenia burkei*
No critical habitat has been designated for this species.

Endangered

<https://ecos.fws.gov/ecp/species/4338>

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 Act¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and 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.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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 [USFWS Birds of Conservation Concern](#) that might be affected by activities in this location. The list does not contain every bird you may find in this location, nor is it guaranteed that all of the birds on the list will be found on or near this location. To get a better idea of the specific locations where certain species have been reported and their level of occurrence, please refer to resources such as the [E-bird data mapping tool](#) (year-round bird sightings by birders and the general public) and [Breeding Bird Survey](#) (relative abundance maps for breeding birds). Although it is important to try to avoid and minimize impacts to all birds, special attention should be given to the birds on the list below. To get a list of all birds potentially present in your project area, visit the [E-bird Explore Data Tool](#).

NAME	BREEDING SEASON
Allen's Hummingbird <i>Selasphorus sasin</i> https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Ashy Storm-petrel <i>Oceanodroma homochroa</i> https://ecos.fws.gov/ecp/species/7237	Breeds May 1 to Jan 15
Black Oystercatcher <i>Haematopus bachmani</i> https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Rail <i>Laterallus jamaicensis</i> https://ecos.fws.gov/ecp/species/7717	Breeds Mar 1 to Sep 15
Black Swift <i>Cypseloides niger</i> https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Turnstone <i>Arenaria melanocephala</i>	Breeds elsewhere
Burrowing Owl <i>Athene cunicularia</i> https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31

California Spotted Owl <i>Strix occidentalis occidentalis</i> https://ecos.fws.gov/ecp/species/7266	Breeds Mar 10 to Jun 15
California Thrasher <i>Toxostoma redivivum</i>	Breeds Jan 1 to Jul 31
Clark's Grebe <i>Aechmophorus clarkii</i>	Breeds Jan 1 to Dec 31
Common Yellowthroat <i>Geothlypis trichas sinuosa</i> https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Lawrence's Goldfinch <i>Carduelis lawrencei</i> https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Lewis's Woodpecker <i>Melanerpes lewis</i> https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew <i>Numenius americanus</i> https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Marbled Godwit <i>Limosa fedoa</i> https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker <i>Picoides nuttallii</i> https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Red Knot <i>Calidris canutus ssp. roselaari</i> https://ecos.fws.gov/ecp/species/8880	Breeds elsewhere
Rufous Hummingbird <i>selasphorus rufus</i> https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Snowy Plover <i>Charadrius alexandrinus</i>	Breeds Mar 5 to Sep 15
Song Sparrow <i>Melospiza melodia maxillaris</i> https://ecos.fws.gov/ecp/species/7716	Breeds Feb 20 to Sep 5
Spotted Towhee <i>Pipilo maculatus clementae</i> https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird <i>Agelaius tricolor</i> https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Whimbrel <i>Numenius phaeopus</i> https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet <i>Tringa semipalmata</i>	Breeds elsewhere
Wrentit <i>Chamaea fasciata</i>	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.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties 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 when the bird breeds in the Bird Conservation Region(s) in which your project lies. 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 counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

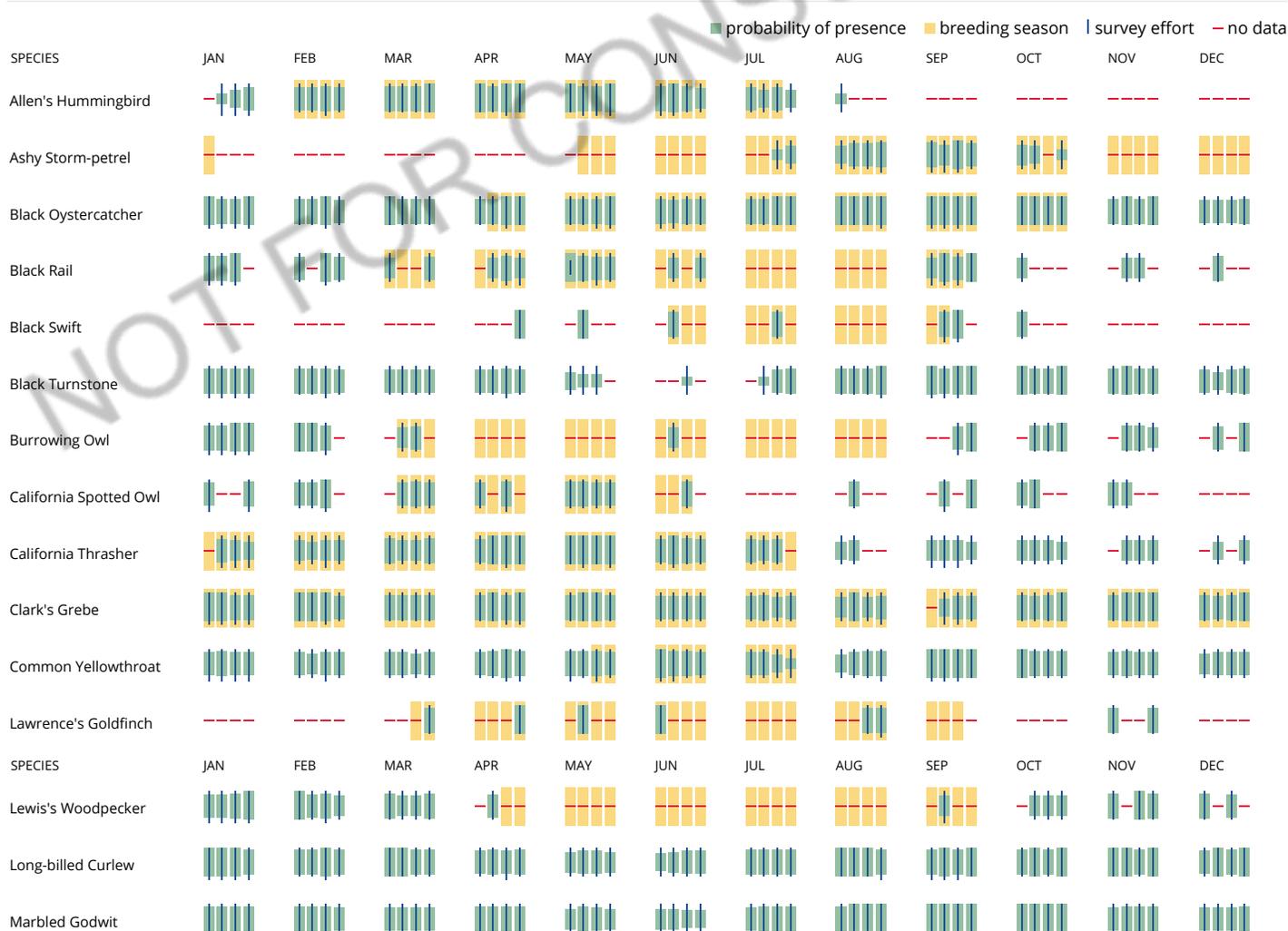
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

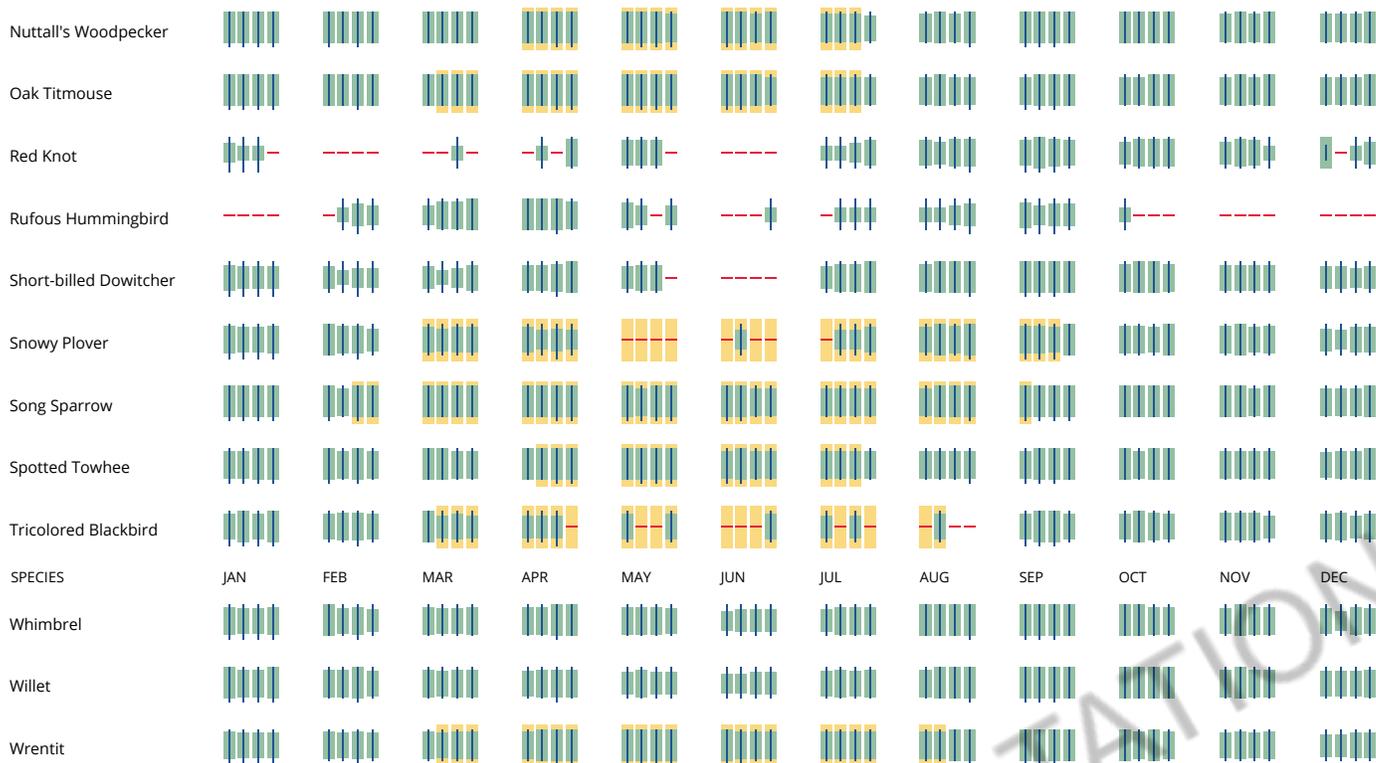
No Data (—)

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.





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. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in [Birds of North America \(BNA\) Online](#) under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a [subscription](#). [Additional measures](#) and/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 \(BCC\)](#) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the [Endangered Species Act \(ESA\)](#).

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](#). The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data 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.

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 [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 entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

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 tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

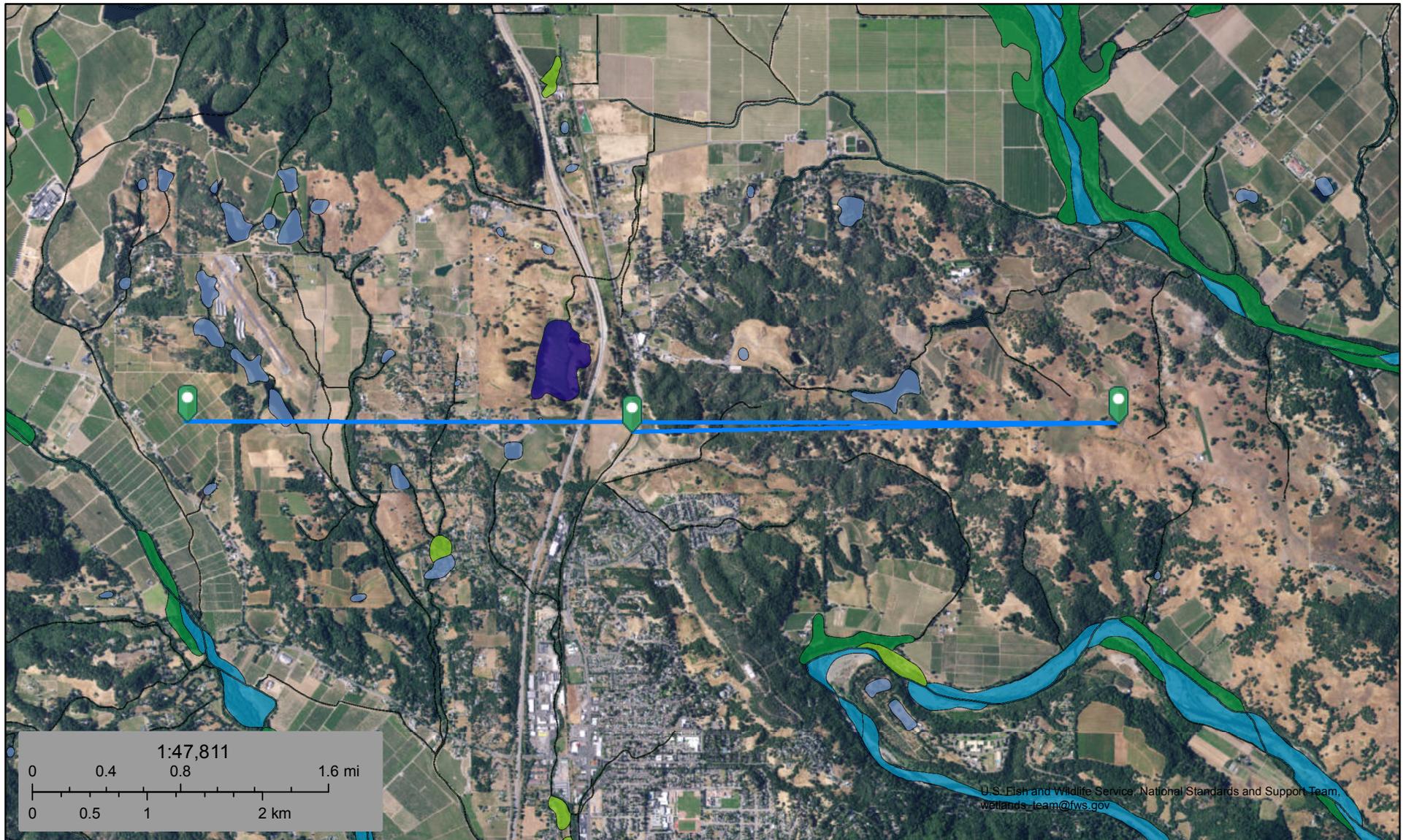
Data precautions

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.

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A.4 - Quaker Hills National Wetlands Inventory

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November 8, 2017

Wetlands

- | | | |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Emergent Wetland | Lake |
| Estuarine and Marine Wetland | Freshwater Forested/Shrub Wetland | Other |
| | Freshwater Pond | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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A.5 - 2018 Biological Resources Technical Memorandum

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Memo

Date: June 19, 2018

To: Maya DeRosa, Planning and Building Director

From: Robert Carroll, Biologist

Subject: Biological Memorandum

Introduction

FirstCarbon Solutions (FCS) has completed a biological memorandum/peer review of the Initial Study Mitigated Negative Declaration (ISMND), dated January 6, 2004 prepared by Earthcraft Planning Services for the proposed North Entry Area Plan (NEAP) in Healdsburg, CA. The 2004 IS also included the following appendices: a letter from U.S. Army Corps of Engineers (USACE), dated September 11, 2003; an Arborist Report, dated November 5, 2002; and letter from California Department of Fish and Game, dated September 19, 2003.

The purpose of the peer review was to determine if potential onsite biological resources were appropriately identified and if proposed mitigation measures appropriately reduce potentially significant impacts for California Environmental Quality Act (CEQA) purposes and incorporation into the IS.

Methods

Prior to conducting a site visit FCS biologists reviewed the information provided in the report listed above. In addition to the technical studies FCS biologists also reviewed aerial photos and topographic maps; a U.S. Fish and Wildlife Service (USFWS) species list for the Healdsburg, California 7.5-minute USGS quadrangle (USFWS 2018a); the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDDB) (CDFW 2018); California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants (CNPS 2018); the USFWS's Critical Habitat Data Portal (USFWS 2018); and other technical databases and resource agency reports in order to assess the current distribution of special-status species and habitats in the vicinity of the proposed plan area (e.g., streams, riparian habitat, ponds).

On June 15, 2018 FCS biologists visited the plan area to verify whether the 2004 ISMND was thorough in approach, accuracy, and completeness (see FCS site photos provided herein). Additionally, the purpose of the field survey was to obtain an overview of the existing habitat conditions within the plan area and the it's potential to support special-status wildlife and plant species, wetlands, any critical habitat, wildlife movement corridors, and other potentially jurisdictional features. The survey area for this review included the proposed plan area comprised of assessor's parcel numbers 091-060-022, 091-060-019, 091-060-009.

Results

Biological Communities

FCS biologist Robert Carroll reviewed the general habitat descriptions provided in the 2004 ISMND and compared them with habitat conditions and species observed in the field on June 15, 2018. FCS has determined that the biological community descriptions provided in the 2004 ISMND are adequate to describe the habitats that occur in the proposed plan area.

The majority of the plan area was graded in 2004 for the preparation of new development based on the findings and associated mitigation measures mandated by the January 2004 ISMND. The development included wetland mitigation measures, removed substandard soils, the instillation of a drainage detention area, and a regrading of approximately 20 acres of the plan area to provide drainage to Healdsburg Avenue. As a result of the previous disturbance events outlined above the current habitat types found in the plan area consist of ruderal/developed including non-native (weedy) grasses and forbs, drainage features and associated seasonal wetland, a detention basin, and riparian habitat.

The drainage features and riparian habitat over-story is dominated by coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), willow (*Salix spp.*), and western cottonwood (*Populus fremontii*). The riparian understory consisted of blackberry (*Rubus spp.*), poison oak (*Toxicodendron diversilobum*), interspersed cattail (*Typha spp.*), and fennel (*Foeniculum vulgare*). FCS agrees with the classification and general descriptions of the habitat types found onsite.

Because of the drainage features, riparian habitat, and seasonal wetlands found within the plan area; mitigation measure (MM) #4 from the 2004 ISMND requires the implementation of the USACE Nationwide Permit 39 to ensure impacts to waters of the United States/seasonal wetlands would be less than significant.

As noted above, numerous trees occur within the plan area. Future proposed projects would be required to adhere to the City's tree ordinance, which protects heritage trees and requires replacement trees to be planted. Heritage trees are defined as any tree with a diameter of 30" measured two feet above ground level. Furthermore, the removal of trees located along existing drainage features would be mitigated through the USACE approved mitigation plan (MM#4). Adherence to the City's tree protection ordinance and MM #5, which implements tree protection measures for all trees to be preserved would reduce impacts to a less than significant level.

Special Status Species

The 2004 ISMND cites two botanical surveys conducted by Laurence Stromberg in 2002 and 2003 (prior to grading) which resulted in negative findings for special-status plant species due to the marginal habitat present. The negative findings of Stromberg's botanical surveys, the previous grading of the majority of the plan area in 2004, and the lack of preferred habitat such as vernal pool or hardpan clay soils precludes the potential occurrence of special-status plants within the plan area.

Similar to special-status plant species, it is not expected that special-status wildlife species occur within the plan area due to previous disturbance events. However, there is habitat within the plan area that has the

potential to support migratory birds and raptors protected by the Migratory Bird Treaty Act (MBTA). MM #3 from the 2004 ISMND calls for a pre-construction survey of the plan area prior to construction to ensure that nesting birds and raptors or other special-status bird species are not nesting during construction activities associated with future development projects. With the implementation of MM #3 as stated in the 2004 ISMND, FCS agrees that this will reduce potential impacts to special-status wildlife species to a less than significant level.

Recommendations

Based on the results presented above, FCS agrees with the findings of the 2004 ISMND and supporting reports. Based on the field survey, biological conditions of the plan area have not significantly changed since the IS was authored. However, since the plan area and its associated biological communities and resources are dynamic in nature, FCS recommends the following MM's, as referenced in the FCS authored 2018 Initial Study prepared for the proposed plan:

1. Implementation of MM BIO-1 for migratory birds and nesting raptors
2. Implementation of MM BIO-2 for federally protected waters of the U.S./wetland

Site Photos: FCS biologists plan area site visit. June 15, 2018.



Photograph 1: View Looking Southwest across Plan Area



Photograph 2: View Looking West across Plan Area



Photograph 3: View Looking Northwest from within Plan Area



Photograph 4: View Looking North from within Plan Area



Photograph 5: View Looking Southeast from within Plan Area



Photograph 6: View Looking Southwest from within Plan Area



Photograph 7: View Looking West from within Plan Area



Photograph 8: View Looking Southwest across Plan Area

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