PACIFIC WATERSHED ASSOCIATES

BIOLOGICAL RECONNAISSANCE, PROTOCOL LEVEL SURVEY, WETLAND DELINEATION, AND INVASIVE SPECIES MANAGEMENT PLAN

for

APN 209-331-002, Holmes, Humboldt County, California

PWA Report No. 19549701
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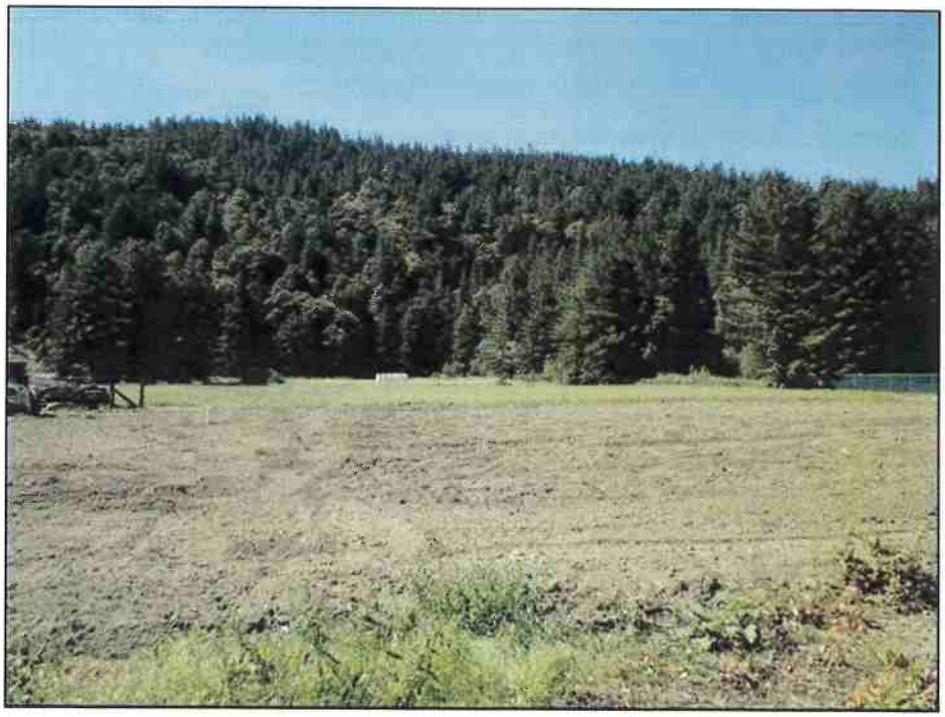

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1.0 INTRODUCTION

On May 15, 2019 and June 18, 2019 Georgia Hamer, Gregory Davis and Margo Moorhouse of Pacific Watershed Associates (PWA) conducted a biological assessment and wetland delineation on Humboldt County APN: 209-331-002 for Wyatt Williamson (hereafter referred to as "landowner") (Figure 1). The assessment included a site inspection to identify impacts on any sensitive and special status species/habitats that have the potential to occur within or near the proposed cannabis cultivation project area. This biological assessment summarizes the observations and recommendations made by PWA from the site inspections and serves to meet Humboldt County Cannabis Planning Department's Commercial Cannabis Land Use Ordinance (CCLUO) 2.0 for areas outside of the Coastal Zone's biological reconnaissance survey requirement. A protocol level rare plant survey was then conducted for the areas of proposed ground disturbance, followed by a property wide wetland delineation. The property is located within the main stem Eel River drainage basin at 1048 Holmes Flat Road, Redcrest, Humboldt County, California (USGS Redcrest Quadrangle, Township 1S, Range 2E, in the northwest portion of Section 3). This report serves to satisfy Humboldt County's CCLUO biological reconnaissance survey requirement, invasive species management plan, and can additionally be utilized as an interagency biologic report.

1.2 Project Site Location and Description

The Project Site is located on Humboldt County APN 209-331-002 and can be accessed from Eureka by taking Highway 101 south towards Garberville. Travel on US 101S for approximately 34 miles, then take exit 671 towards Holmes/Redcrest onto Barkdull Rd. Turn right onto CA-54 S, also known as Avenue of the Giants, and follow the road for 2.2 miles, then turn left onto Holmes Flat Road. 1048 Holmes Flat Road will be exactly 1.0 mile farther. Contact the landowner for access to the gated property. See Figure 1 and 2 for the mapped location of the property and the proposed project areas.

The APN is located within the floodplain of the Eel River, on lands that have been utilized for agricultural and homesteading purposes for well over 100 years (Figure 1). The stand of forest on the southern portion of the parcel has been logged in the past is currently undergoing a timber harvesting plan (THP) permitting process. There are two main historic agricultural areas to the north of the forested area that are separated by a linear drainage ditch, hereby classified as a Class IV (man-made) watercourse. New cannabis cultivation activities are proposed in the northern field and the southern field will continue historic agricultural operations for alfalfa production (Figure 2).

1.3 Project Site Ecology

The property sits at approximately 200ft in elevation, is 30 acres in area, and is characterized predominantly by past agricultural activities. Weott series soils are dominant in the agricultural fields and are characterized as being very deep and very poorly drained. The fields have been

plowed for alfalfa farming and livestock grazing for the last century, which is evident by the plethora of agricultural grasses persisting across the property. These non-native grasses and forbs are dominant on the northern half of the parcel and eventually get shaded out as you progress south towards the forest edge. The forest buffer zone is dotted with three perennial wetlands that are further discussed in Section 3.4. The dominant forest canopy cover is *Pseudotsuga menziesii* (Douglas-fir) and *Sequoia simpervirens* (Coast Redwood) with *Acer* sp. scattered throughout. The forest appears as mature second growth, many trees have a large (up to 5 feet) diameter at breast height (DBH) and little to no low hanging horizontal branches. The understory is open and easy to traverse, with little disturbance and no non-native species. The dominant soils here are Scoutcamp-Rootcreek which are classified as a fine-silty, mixed, superactive, isomesic, typic palehumults that are well drained. Though the northern portion of the property has had a long history of agricultural disturbance, the forest has been able to withstand the encroachment of many invasive species as well as maintaining a productive ecosystem. See Appendix E for photos of the property's community ecology.

2.0 METHODS

2.1 Background Data

Rare species are defined here to include: (1) all species that are federal or state listed as rare, threatened or endangered, (2) all federal and state candidates for listing, (3) all plants included in Ranks 1-4 of the CNPS Inventory of Rare, Threatened, and Endangered Plants of California, and (4) species that qualify under the definition of "rare" in the California Environmental Quality Act (CEQA), Section 15380. All species descriptions in Sections 3.2.1 through 3.2.4 were derived from CNDDB habitat descriptions as well as the USFWS, Audubon Society and eBird. For a complete list of species status definitions, see Appendix F.

Preliminary biological reviews are conducted by utilizing subscription databases along with literature reviews and professional consultations. The databases consulted for this review include the U.S. Department of Agriculture's Ecoregion Classification system, California Natural Diversity Database (CNDDB – Appendix B), National Wetlands Inventory, Calflora, and the Pacific Northwest Consortium.

When utilizing these databases, a nine quadrant search in CNDDB was conducted to determine proximity of species presence. The nine quadrants are defined by the Public Land Survey System (PLSS), consisting of township, range, and section. Species accounts are recorded as Elemental Occurrences (EO) which are defined as an area of land and/or water in which a species or natural community is, or was, present. All rare species documented within the vicinity of the Project Area were then assessed based on associated vegetation communities, soil affinity, associated species, topographic position, shade tolerance, disturbance tolerance, elevation, and population distribution to determine the potential for these species to occur in the Project Area.

Site visits were conducted to generally identify habitat types and significant sensitive wildlife areas within the project sites. The reconnaissance field work was conducted on May 15, 2019 by Georgia Hamer and Margo Moorhouse. Additionally, a protocol level survey was conducted on one special status species that has high potential to exist at the project site based on presence of habitat. Once saturated soils and hydrophytic vegetation were identified, Greg Davis conducted a wetland delineation on June 15, 2019.

2.2 Botanical and Biological Field Survey

On May 15, 2019 PWA botanist Georgia Hamer and fisheries biologist Margo Moorhouse conducted an on foot survey of all proposed project areas. A 200 foot buffer was established from proposed areas of ground disturbance, as to identify any potential habitat for rare species. The project areas and buffer zones were surveyed for plants following the protocol described in recommended resource agency guidelines (CNPS 2001, CDFW 2018). All plants were identified using the Jepson Manual, to the taxonomic level necessary to determine species status. Names given follow the Integrated Taxonomic Information System (ITIS 2019) database of accepted taxonomy. Plant surveys were floristic in nature with all observed species recorded and included on a species list provided in Appendix A. The potential for biological presence (avian and mammals) was evaluated by habitat presence or absence, sign (tracks and scat) and sightings or vocalizations. The ability of the project area to support aquatic life was evaluated through water presence and water temperatures, and the presence of key habitat components. All field mapping was done digitally with AVENZA, to identify potential habitats for the rare species.

2.4 Wetland Delineation Field Survey

A wetland delineation was conducted on the property for jurisdictional waters and wetlands of the United States pursuant to the *Corps of Engineers Wetlands Delineation Manual* (ACOE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (WMVC Supplement, ACOE 2010). Sampling locations were chosen based on representative plant communities and topography within the project site and were evaluated for the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland determination forms are provided in Appendix C of this document.

Federal regulations define wetlands as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil" [33CFR328.3(b)].

This definition expresses that, under normal conditions, three parameters must be met to classify a site as a jurisdictional wetland, which includes hydrophytic vegetation, hydric soils, and wetland hydrology.

The U.S. Fish and Wildlife Service National Wetland Inventory (NWI) was referenced prior to the site inspection to assist with choosing sampling locations, however no wetlands were indicated within the project site from their agency (Appendix C).

2.4.1 Vegetation

The presence of hydrophytic vegetation for each site was determined by applying the wetland indicator status (see Table 1, below) for each plant species present in multiple strata using the *WMVC 2016 Wetland Plant List* (ACOE 2016).

The methodology used for determining the presence of hydrophytic vegetation is dependent on the dominant plant species observed at a sampling location using the 50/20 rule. The WMVC

Regional Supplement (ACOE 2010) describes the 50/20 rule as:

"...a repeatable and objective procedure for selecting dominant plant species and is recommended when data are available for all species in the community."

Table 1. Wetland Indicator Status Ratings for Determining Presence of Hydrophytic Vegetation

Indicator Status	Indicator Code	Description	% Occurrence in Wetlands
Obligate	OBL	Occur almost always under natural conditions in wetlands.	99%
Facultative Wetland	FACW	Usually occur in wetlands but occasionally found in non-wetlands.	67-99%
Facultative	FAC	Equally likely to occur in wetlands and non-wetlands.	33-67%
Facultative Upland	FACU	Usually occur in non-wetlands but occasionally found in wetlands.	1-33%
Upland	UPL	Occur in wetlands in another region, but occur almost always under natural conditions in non-wetlands in the region specified.	1%

Dominant species are chosen independently from each stratum of the community. In general, dominants are the most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total."

Hydrophytic vegetation was determined at the sampled locations by using the Dominance Test, which is met when more than 50 percent of the dominant plant species across all strata are rated OBL, FACW, or FAC.

2.4.2 Soils

Prior to the site inspection, existing soil data was accessed from the USDA Web Soil Survey to identify potential hydric soils located within the project site (Appendix C).

Four soil pits were dug during the site inspection, with a minimum depth of 12 inches below ground surface. Soil profiles were examined for hydric soil indicators listed in the WMVC Regional Supplement. The soil profiles for each test pit within the project site was documented on the associated wetland determination data forms (Appendix C). The Munsell color chart (Macbeth, 2000) was used to determine the hue, value, and chroma of soil matrices and redoximorphic features. Soil textures were determined using the texture by feel technique. When characterizing soil profiles, each sampling location was also inspected for wetland hydrology indicators.

2.4.3 Hydrology

At each test pit, primary and secondary wetland hydrology indicators were documented on the

associated wetland determination data forms, if present (Attachment C). Indicators for wetland hydrology are derived from four groups, (A) observation of surface water or saturated soils; (B) evidence of recent inundation; (C) evidence of current or recent soil saturation; and (D) evidence from other site conditions or data. Additional remarks regarding hydrology at each site are included in the data forms

3.0 RESULTS

3.1 Biological Background Data Search Results

Inquiry results showed that there are 14 rare species occurrences that may be present in the project area (Table 2). Species information was obtained from the databases listed in Section 2.1 of this report. The species list is composed of two (2) plants, two (2) mammals, six (6) avian species, one (1) insect, and three (3) herpetofauna.

3.2 Species Information and Occurrence Potential

See Table 2 for a summary of the information following in sections 3.2.1 through 3.2.5
See Appendix F for a definition of all the Listing Status definitions.

Table 2. Occurrence Potential Data for Biological Reconnaissance Survey

Scientific Name	Common Name	Species Type	Occurrence Potential
Montia howellii	Howell's montia	plant	Potentially – outside of project area
Sidalcea malachroides	maple-leaved checkerbloom	plant	High potential – surveyed for but no species found
Erethizon dorsatum	North American porcupine	mammal	Potentially – outside of project area
Pekania pennanti	fisher	mammal	No potential
Brachyramphus marmoratus	marbled murrelet	avian	Low potential
Charadrius nivosus nivosus	Western Snowy Plover	avian	No potential
Coccyzus americanus	Yellow-billed cuckoo	avian	Low potential
Falco peregrinus anatum	American peregrine falcon	avian	No potential
Pandion haliaetus	osprey	avian	No potential
Strix occidentalis caurina	Northern Spotted Owl	avian	High potential – outside of project area
Bombus caliginosus	obscure bumble-bee	insect	Potentially
Ascaphus truei	Pacific tailed frog	herpetofauna	No potential
Emys marmorata	western pond turtle	herpetofauna	Low potential – outside of project area
Rana boylii	foothill yellow-legged frog	herpetofauna	No potential

3.2.1 Plants

Montia howelii (Howell's montia)
Listing Status: CNDDB Element Ranks – Global G3G4, State S2

An annual, matted, smaller forb (1-9 cm) with alternate leaves and inconspicuous flowers. Commonly found within vernally wet sites and compacted soils under 1,300 ft in elevation. The habitat usually consists of coniferous forests, vernal pools, seeps, and meadows, sometimes clinging to the side of a rock outcrop.

Occurrence Data
There is low potential to occur within the southern forested portion of the property, not close to any planned project areas. See Figure 2 for critical habitat

Sidalcea malachroides (maple-leaved checkerbloom)
Listing Status: CNDDB Element Ranks – Global G3, State S3

Commonly found in broad-leafed upland forest, coastal prairie, coastal scrub, north coast coniferous forest, and riparian forest. The plant favors woodlands and clearings near the coast, often in disturbed areas utilized for farming, logging, or general development. *S. malachroides* is a perennial herb that can be classified as a sub-shrub, is very bristly, and blooms from April to August. The leaves are reminiscent of a maple, but is covered in stiff white hair. The flowers are small (7-15 mm) and range from white to pale purple-white in color. Plants are not found higher in elevation than 3,000 ft.

Occurrence Data
On May 15, 2019 PWA biologist identified multiple areas of high occurrence potential. These areas include the field designated for cannabis development, the buffer zone where forest meets disturbed agricultural fields, and within a stand of willows on the north side of the property. A protocol level survey was conducted throughout the planned cannabis development area, in which no plants were found. Upon the second field visit on June 18, 2019 the landowner cleared the willow stand for fire suppression measures as permitted by CAL FIRE, and well as tilled and removed blackberry from the fringe of the forest. As of June 18, there is one area of high occurrence potential. This area is located along the southern forest buffer zone, and is included within the critical habitat area mapped in Figure 2.

3.2.2 Mammals

Erethizon dorsatum (North American porcupine)
Listing Status: CNDDB Element Ranks – Global G5, State S3

The North American porcupine is a black to browning-yellow rodent with a short round body. It is covered in quills that are solid at the base and hollow at the shaft with barbed tips. The porcupine lives in coniferous, deciduous and mixed forest types and is a generalist without many specific habitat needs.

Occurrence Data
There is potential to occur within the southern forested portion of the property, not close to any planned project areas. See Figure 2 for critical habitat.

Pekania pennanti (fisher)
Listing Status: Global Rank G5T2T3Q, State Rank S2S3, State Status Threatened
BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive

Medium-sized light brown to dark blackish-brown mammal, with the face, neck, and shoulder being slightly gray, and a white underbelly. The fisher has a long body, bushy tail, short legs, and weights anywhere from 3-12 lbs. Males range in length from 35-47 in and females range from 29 to 37 in. They normally occur within low- to mid-elevation environments of coniferous and mixed conifer and hardwood forests. They prefer un-fragmented blocks of mature forest with closed canopies and structural complexity near the forest floor. Riparian habitats are also important and may be used as a travel corridor between suitable habitat patches. They avoid open habitats such as grasslands and oak woodlands.

Occurrence Data
There is no potential to occur on this property. There is abundant open grassland habitat and a forest that has been and currently is proposed for timber harvesting. This fragmented forest also lacks the riparian migratory corridor.

3.2.3 Avian Species

Brachyramphus marmoratus (Marbled murrelet)
Listing Status: Threatened

A small redwood dwelling seabird that nests anywhere from 2-30 miles from the surf line. They generally prefer old-growth forests, characterized by large trees, multiple canopy layers, and moderate to high canopy closure. Murrelets nest from late March until mid-September, with the highest activity occurring from mid-May through the end of July. They spend most of their life in the marine environment courting, foraging, loafing, molting, and preening nearshore.

Occurrence Data
There is low potential to occur within the southern forested section of the property. See Figure 2 for critical habitat.

Charadrius nivosus nivosus (Western Snowy Plover)
Listing StatusCNDDB Elemental Ranks - Global G3T3, State S2S3
Federal Status - Threatened
CDFW_SSC-Species of Special Concern
NABCI_RWL-Red Watch List
USFWS_BCC-Birds of Conservation Concern

The snowy plover is a small, inconspicuous shorebird with a pale tan back and white underparts. They have a narrow dark stripe on the forehead and a dark stripe behind the eyes. Snowy plovers are found in areas that match the pale color on their dorsal side including sandy beaches, salt pond levees and shores of large alkali lakes. Nesting seasons range from early March through September, with peak nesting occurring from mid-April through mid-August. Snowy plover nests primarily are shallow scraps or depressions on the ground, typically in sparsely vegetated areas consisting of sandy, gravelly, or other saline substrates. These nests are very well

camouflaged and difficult to identify even to a well-trained eye.

Occurrence Data
No potential to occur, there is no suitable nesting habit on the property.

Coccyzus americanus (Yellow-billed cuckoo)
Listing Status: IUNC Red List of Threatened Species 2016- Least Concern (LC)
CNDDB Elemental Ranks – Global G5T2T3, State S1
Federal Status – Threatened
State Status – Endangered

Yellow-billed cuckoos occur in a variety of riparian habitats with cottonwood and willow stands providing most of their forage grounds in California. They are a medium-sized bird (approximately 12 inches) with grayish-brown plumage above white and red primary flight feathers. Yellow-billed cuckoos inhabit broad home ranges (25-100 acres) and are primarily found in streamside trees in the west, but can also be found in marshes and deciduous woodlands. Nests occur usually 4-10 feet above the ground and consist of twigs, stems and a thin lining of grass, pine needles, leaves, and other materials.

Occurrence Data
Low potential to occur, there are some willows but they are scattered. All wetland areas are bordered by conifers as opposed to hardwoods. See Figure 2 for critical habitat.

Falco peregrinus anatum (American peregrine falcon)
Listing Status: CNDDB Element Ranks – Global G4T4, S3S4
CDF_S-Sensitive
CDFW_FP-Fully Protected
USFWS_BCC-Birds of Conservation Concern

The American peregrine falcon is the largest falcon residing over most of the North American continent. It has long pointed wings, a long tail, and distinct yellow markings around the eyesand its beak. They are usually found near wetlands, lakes, rivers, or other water courses specifically on cliffs, banks, dunes, mounds, or human made structures. Their nests consist of a scrap or a depression or ledge in an open site that is protected from the elements on a rocky outcrop or cliff.

Occurrence Data
No Potential to occur on this property. There are no excessively tall trees, power lines or cliff faces in open areas on the property.

Pandion haliaetus (osprey)
Listing Status: CNDDB Element Ranks – Global G5, State S4

Ospreys are a large, slender hawk with long narrow wings and long legs. They have a marked kink in their wings, making an M-shape when seen from below. The birds are brown above and white below, with a broad brown stripe through their eye. They usually are found around any form of body of water eating almost exclusively fish, and nest on top of poles and dead trees.

Occurrence Data
There is no potential to occur within and around the project sites, no suitable dead trees for nesting were observed.

Strix occidentalis caurina (Northern Spotted Owl, NSO)
Listing Status: IUNC Red List of Threatened Species 2017

A medium-sized (16-19 inches long) dark brown owl that primarily inhabits old growth forests. A spotted owl survey specific for a proposed THP, was conducted for this property on June 6, 2019 by Holmgren Forestry. This NSO compliance review is valid until February 1 2020 and is located in Appendix D with additional information about nearby occurrences in Appendix B.

Occurrence Data

High potential to occur within the southern forested portion of the property, see Figure 2 for critical habitat.

3.2.4 Insects

Bombus caliginosus (obscure bumble-bee)
Listing Status: Global Rank G4, State Rank S1S2, IUCN_VU-Vulnerable
The obscure bumblebee is almost identical to *Bombus vosnesenskii* apart from females having a pale fringe on their abdomen and males having slightly longer antennae. *B. caliginosus* has a yellow face and one yellow stripe across their abdomen. They are found predominantly on specific plant species including *Baccharis, Cirsium, Lupinus, Lotus, Grindelia,* and *Phacelia.*

Occurrence Data
There is potential to occur on this property, but no host plants were identified within the project area.

3.2.5 Herpetofauna

Ascaphus truei (Pacific tailed frog)
Listing Status: CNDDB Element Rank – Global: G4, State: S3S4

Pacific tailed frogs inhabit cold (below 15 degrees C), clear, well-shaded, and fast moving streams with a rocky channel bottom in wet forests. They do not inhabit ponds or lakes. Tadpoles have wide, flat, and downward facing mouths that help with suction onto rocks. Most tailed frogs are darkly colored with grainy skin to help them blend in. Tadpoles often have a white spot on the tip of their tails. Although they spend most of their time in the water, adult tailed-frogs can sometimes be found along stream banks at night or on rainy days.

Occurrence Data
No potential to occur on this property; no streams contain a rocky substrate and are mostly ephemeral.

Emys marmorata (western pond turtle)
Listing status: CNDDB Element Ranks – Global G3G4, State S3
BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_VU-Vulnerable
USFS_S-Sensitive

A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually

with aquatic vegetation, and found below 6000 ft in elevation. The turtle needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5km from water for egg-laying.

Occurrence Data
There is a very low potential for the western pond turtle to occur here, the ponds do not have structures for the animal to climb out nor any foraging opportunity. There is an irrigation ditch that runs into a neighboring pond, but once again there are no foraging opportunities. See Figure 2 for wetland areas.

Rana boylii (foothill yellow-legged frog)
Listing Status: CNDDB Element Ranks – Global G3, State S3
BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_NT-Near Threatened
USFS_S-Sensitive

Yellow legged frogs occur in streams and rivers with rocky substrates, cool water temperatures and within a variety of lotic habitats. They need at least some cobble-sized substrate to lay their egg masses on, and at least 15 weeks to attain metamorphosis. They can be identified by their smaller bodies (~3.5 inches) and their defensive mechanism. Yellow legged frogs will often jump into water and sit on the bottom, using their cryptic bodies to hide them while other species of frogs either hop away or dive into deep water and swim away quickly.

Occurrence Data
There is no potential to occur on this property as there is no suitable cobble to lay the egg masses.

3.3 Botanical Protocol Level Survey
A protocol level survey was conducted in all potential habitat and planned areas of development that were identified for *Sidalcea malachroides*. No occurrences of *Sidalcea malachroides* were identified. See Appendix A for the complete taxa list and Figure 2 for the area surveyed in yellow.

3.4 Wetland Delineation
Wetlands identified on the project site exist to the south of the alfalfa field, along the toe of a north facing hillslope and along the southwestern property line. The sampling locations are described in the attached wetland determination forms and the test pits (TP) are represented on Figure 2.

3.4.1 Wetland #1
PWA identified Wetland #1 (TP-1) along the southern edge of the alfalfa field at the break-in-slope, below a forested hillside (Figure 2). This feature was characterized as an approximately 0.11 acre freshwater emergent wetland. This area was cleared of shrub and tree cover between May 2014 and May 2016 with slash stockpiled onsite, which made wetland boundaries somewhat difficult to discern. This site passed the Dominance Test for hydrophytic vegetation with a plant community composed primarily of *Alisma lanceolatum* (lance-leaf water plantain).

The hydric soil indicators present at this site are Loamy Gleyed Matrix (F2) and Depleted Matrix (F3). Primary wetland hydrology indicators present include Surface Water (A1), High Water Table (A2), and Saturation (A3) with the secondary indicators of Geomorphic Position (D2) and the FAC-Neutral Test (D5).

3.4.2 Wetland #2

At this location an emergent spring was developed into a pond, where a lateral overflow ditch leads west along the tree line and is confined to the break-in-slope by a constructed berm at the edge of the alfalfa field (Figure 2). The pond is approximately 725 square feet and, when paired with the overflow path, is a 0.03 acre freshwater emergent wetland. This site (TP-2) passed the Dominance Test for hydrophytic vegetation with a plant community dominated by *Sequoia sempervirens* (coastal redwood), *Notholithocarpus densiflorus* (tanoak), *Equisetum arvense* (field horsetail), *Oenanthe sarmentosa* (Pacific Water-Dropwort), *Veronica americana* (American-Brooklime), *Lemna minor* (common duckweed), and *Rubus armeniacus* (Himalayan blackberry). The hydric soil indicators present at this site are Hydrogen Sulfide (A4) and Loamy Gleyed Matrix (F2). Primary wetland hydrology indicators present include Surface Water (A1), High Water Table (A2), Saturation (A3), and Hydrogen Sulfide Odor (C1) with the secondary indicators of Geomorphic Position (D2) and the FAC-Neutral Test (D5).

3.4.3 Wetland #3

Adjacent to the western property boundary and at the outlet of the pond overflow of Wetland #2, PWA identified Wetland #3 (TP-3), which continues off the property to the west and parallels the fence line on the neighboring parcel for approximately 150 feet (Figure 2). This site passed the Dominance Test for hydrophytic vegetation with an overstory dominated by *Sequoia sempervirens* and *Salix lasiolepis* (Arroyo willow) and an herb stratum composed primarily of *Scirpus microcarpus* (Red-tinge bulrush) and *Equisetum arvense*. The hydric soil indicator present at this site was Depleted Matrix (F3). Primary wetland hydrology indicators present include Surface Water (A1), High Water Table (A2), and Saturation (A3) with the secondary indicators of Drainage Patterns (B10), Geomorphic Position (D2) and the FAC-Neutral Test (D5).

3.4.4 Drainage Ditch

A test pit was sampled next to the central drainage ditch at the western property line (TP-4, Figure 2). Sampling point TP-4 exhibits wetland characteristics due to historic backwatering of the man-made ditch beyond the western property line, where the ditch is flat to somewhat of a reverse grade for a short distance. The fence line was recently cleared of vegetation, but based on the existing herbaceous and woody cover, the Dominance test for hydrophytic vegetation was met. Hydric soils were also present here with the Depleted Matrix (F3) indicator. Wetland hydrology was not met here, but there was some surface water in the drainage ditch. Based on existing conditions this site was not identified to be a wetland, as the frequency and duration of inundation comes from an ephemeral, manmade conveyance that primarily backwaters in response to storm events.

3.5 Invasive Species Management Plan

Throughout the property, there are many non-native species and specifically three invasive species to focus efforts on eradicating. This non-native assemblage is due to the historic

agricultural land use associated with farming and grazing as explained in section 1.3. The three invasive species to focus efforts on include *Cicrium vulgare* (bullthistle), *Holcus lanatus* (velvet grass), and *Rubus armeniacus* (Himalayan blackberry). For each species their location on the property will be specified, their identification will be explained, followed by species specific eradication methods.

- *Cicrium vulgare* (Bull thistle) – When visited in May and June, small thistles were identified throughout the agricultural fields. It is not palatable to livestock, reduces the forage potential of infested pasture, and out competes native plants. *C. vulgare* is listed as Moderate Invasiveness on California Invasive Plant Council (Cal-IPC). Identification is based upon the following characteristics: Grows up to 7ft in height, Leaves are up to 12 inches long and deeply lobed with coarse prickly hairs on top and woolly hairs underneath, stem has spiny wings that run down the length of the stem, and finally a purple inflorescence. Tilling, hand pulling, and other means of mechanical removal are effective and should be done before flowering to prevent seed production. A single mowing in one season of the thistle is generally insufficient because of erratic phenology. Landowner should mow his agricultural fields twice a year for 5 years or as needed, while reseeding with native grass in between intervals. See table 3 for a list of native grasses that are suitable to be seeded in the Holmes Flat area.
- *Holcus lanatus* (velvet grass) – When visited in May and June, mature velvet grass was identified within all agricultural fields on the property, as well as encroaching upon the identified wetlands. *H. lanatus* rapidly colonizes disturbed areas, where it out competes natives species for soil moisture and nutrients. The grass is listed as moderate invasiveness on Cal-IPC. Identification is based upon the following characteristics: a tufted perennial typically 2-3 feet tall with a soft pubescent green-gray foliage. This foliage can look like gray hairs, giving the species the common name velvet grass. Because *H. lanatus* is within the same field as *C. vulgare*, the management practice will be the same. Landowner should mow his agricultural fields twice a year for 5 years or as needed, while reseeding with native grass in between intervals. See table 3 for a list of native grasses that are suitable to be seeded in the Holmes Flat area.
- *Rubus armeniacus* (Himalayan blackberry) – When visited in May and June, mature *R. armeniacus* was identified along the forest buffer zone (Figure 2), sprouting within the agricultural fields, with especially high densities on the west side of the property parallel to the neighboring parcel's fence. Himalayan blackberry is a perennial evergreen bramble, with leaves that come in sets of three or five and is listed as high invasiveness on Cal-IPC. The stem is what differentiates it from native species, being robust with large stiff prickles. The most effective way to eradicate this plant is by removing the root crowns and other major root systems but can be labor intensive. To reduce physical strain, the landowner will remove above ground canes every year for up to five years if needed. This will exhaust the plant of nutrients, eventually causing its demise.

At the end of the five year eradication plan, the landowner should have a qualified professional survey and determine the extent of invasive removal, and develop a subsequent

plan if needed. See Table 3 below to recommended grass species to be planted, though any native grass seed that can survive within this area is suitable.

Table 3. Native Grass Species to Seed in the Holmes Flat Area*		
Scientific Name	Common Name	Growth Cycle
Bromus carinatus	California brome	Easy
Elymus glaucus	Blue wildrye	Easy
Festuca idahoensis	Idaho fescue	Easy
Leymus triticodides	Creeping wildrye	Easy
Poa secunda	sandberg bluegrass	Moderatly Easy
Hordeum brachyantherum	Meadow barley	Slightly Difficult
Koeleria macrantha	Junegrass	Easy
Melica californica	California melic grass	Easy
*All information in this table is from the NRCS California E-Veg Guide at https://www.calflora.org/nrcs/index.html		

4.0 DISCUSSION

Because this property has been managed as an agricultural homestead and farm for over a century, there are already large amounts of areas that have been subject to repeated disturbance. Most of the species found in the fields are agricultural weeds, specifically noxious grasses, making it difficult for native species to gain a foothold. The forest on the southern portion of the property appears to be healthy, with a complex understory and minimal weed encroachment. This stark difference in ecosystem health between the forest and the agricultural fields can be attributed to the wetland border at the forest buffer zone. The wetland needs to be protected and maintained to continue to act as a barrier preserving forest health; this will help to promote the species-specific potential habitat identified in the area. No work shall be conducted within the wetlands or associated buffer zone for enhancement or development without the appropriate permits. Additionally, though no plants were identified during the protocol level searches, *S.malachroides* has the potential to occur within the forest buffer zones. We recommend the landowner not develop, till, or remove any vegetation within these buffer zones so to not impact a special status species. Overall, this property is well suited for cannabis cultivation given its agricultural history but care should be taken to avoid the wetlands, forest buffer zone, and closed canopy forest itself. See Figure 2 for the critical habitat identified.

5.0 CONCLUSIONS AND RECCOMENDATIONS

Recommended mitigation measures for specific species habitat identified in the Project Area are identified below, though avoidance is always the most effective and preferred method.

- Northern Spotted Owl – If generators are used on the property, they shall be enclosed to reduce sound escapement to no greater than 50db. The landowner will minimize or avoid work with heavy machinery associated with the cultivation of cannabis within the nesting period, starting in February through July if the sound escapement db standard cannot be met. All recommendations are pursuant with county Ordinance 2559.
- *Sidalcea malachroides* – The landowner will not commence new development outside of the survey areas and not remove vegetation from forest buffer zone (Figure 2) unless surveyed beforehand.

- The landowner will follow the plan and timeline laid out in section 3.5 Invasive Species Management, and contact a qualified professional after five years if an additional eradication plan is needed.

5.1 Wetland Delineation

As per Humboldt County Code, wetlands shall be provided with a 50 foot buffer to avoid impacts and discharge to surface waters. It is also recommended that a 50 foot buffer be maintained from the central drainage ditch, as defined in the CCLUO Site Plan.

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CERTIFICATION AND LIMITATIONS

This report, entitled *Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation for APN: 209-331-002, Holmes, Humboldt County,* reflects PWA's professional opinions derived in accordance with current standards of professional practice, and are valid as of the submittal date. No other warranty, expressed or implied, is made. PWA is not responsible for changes in the conditions of the property with the passage of time, whether due to natural processes or to the works of man, or changing conditions on adjacent areas. Finally, PWA is not responsible for changes in applicable or appropriate standards beyond our control, such as those arising from changes in legislation or the broadening of knowledge, which may invalidate any of our findings.

In my professional opinion, the sites (TP-1, TP-2, TP-3) satisfy the criteria to be wetlands, waters of the state, or waters of the United States pursuant to the Army Corps of Engineers' Regional Supplement and appropriate guidance and pursuant to confirmation by appropriate regulatory staff including but not limited to the Army Corps of Engineers.

Greg Davis, Staff Wetland Scientist
Pacific Watershed Associates Inc.
P.O. Box 4433 • Arcata, CA 95518-4433

In my professional opinion, the forested southern portion of the property contains potential critical habitat for multiple species and should not be developed. The surveyed agricultural fields contain no rare species and can be developed, and the forest border should be maintained as is with no new vegetation removal without a protocol level survey.

Georgia Hamer, Staff Ecologist / Rare Plant Specialist
Pacific Watershed Associates Inc.
P.O. Box 4433 • Arcata, CA 95518-4433

In my professional opinion and despite no rare aquatic organisms, mammals or avian species were evident, the wetland portions of the property and the spring fed pond provide valuable habitats for aquatic vertebrates and invertebrates endemic to these environments. These areas also serve as a transitional buffer between the agriculturally maintained fields and the upslope forested areas for multiple species and are to remain intact with the appropriate protective buffers excluding anthropogenic activities.

Margo Moorhouse, Fisheries Biologist/Aquatic Ecologist
Pacific Watershed Associates Inc.
P.O. Box 4433 • Arcata, CA 95518-4433

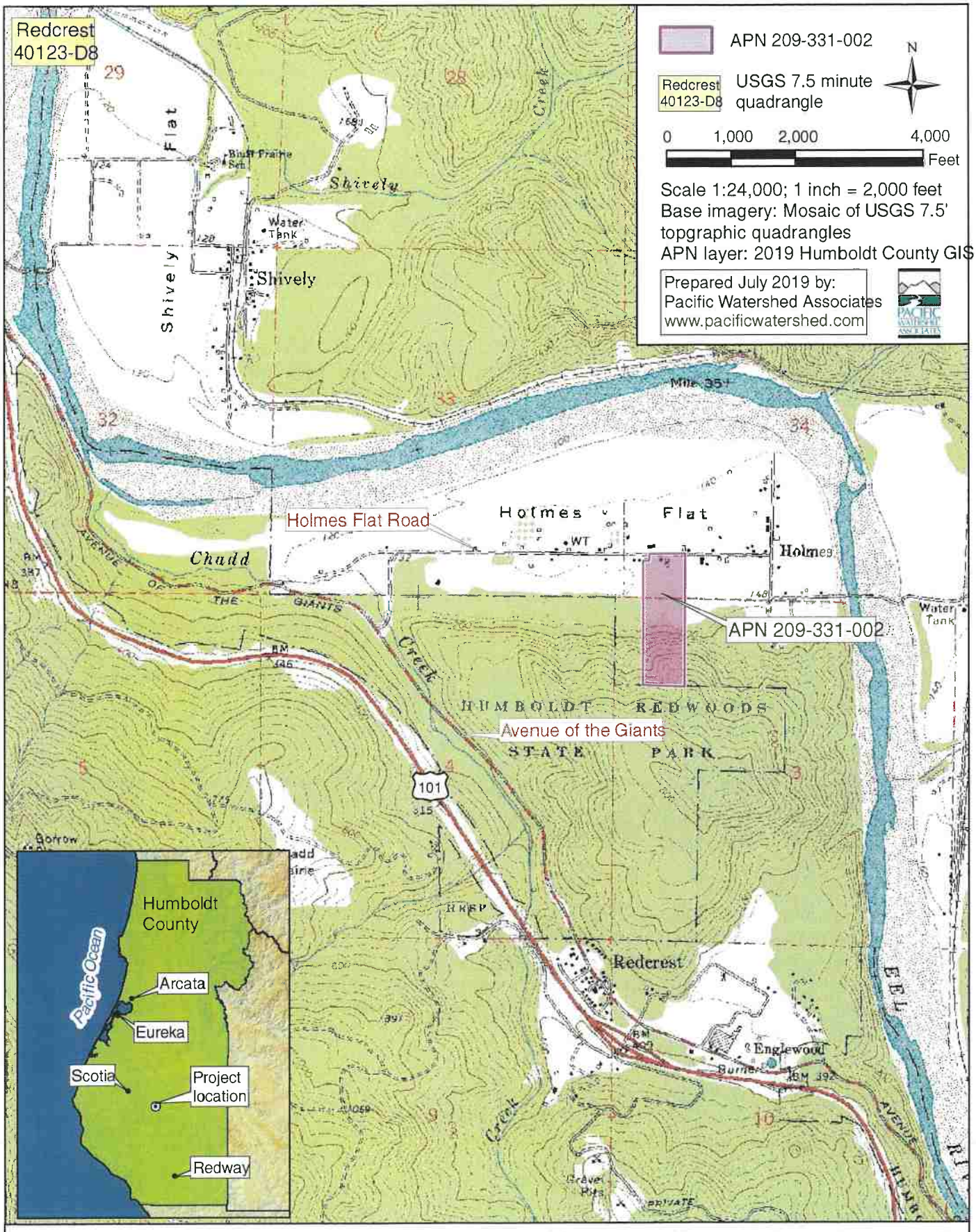


Figure 1. Location map for APN 209-331-002, located at 1048 Holmes Flat Road, Redcrest, Humboldt County, California.

P:\GIS\5497

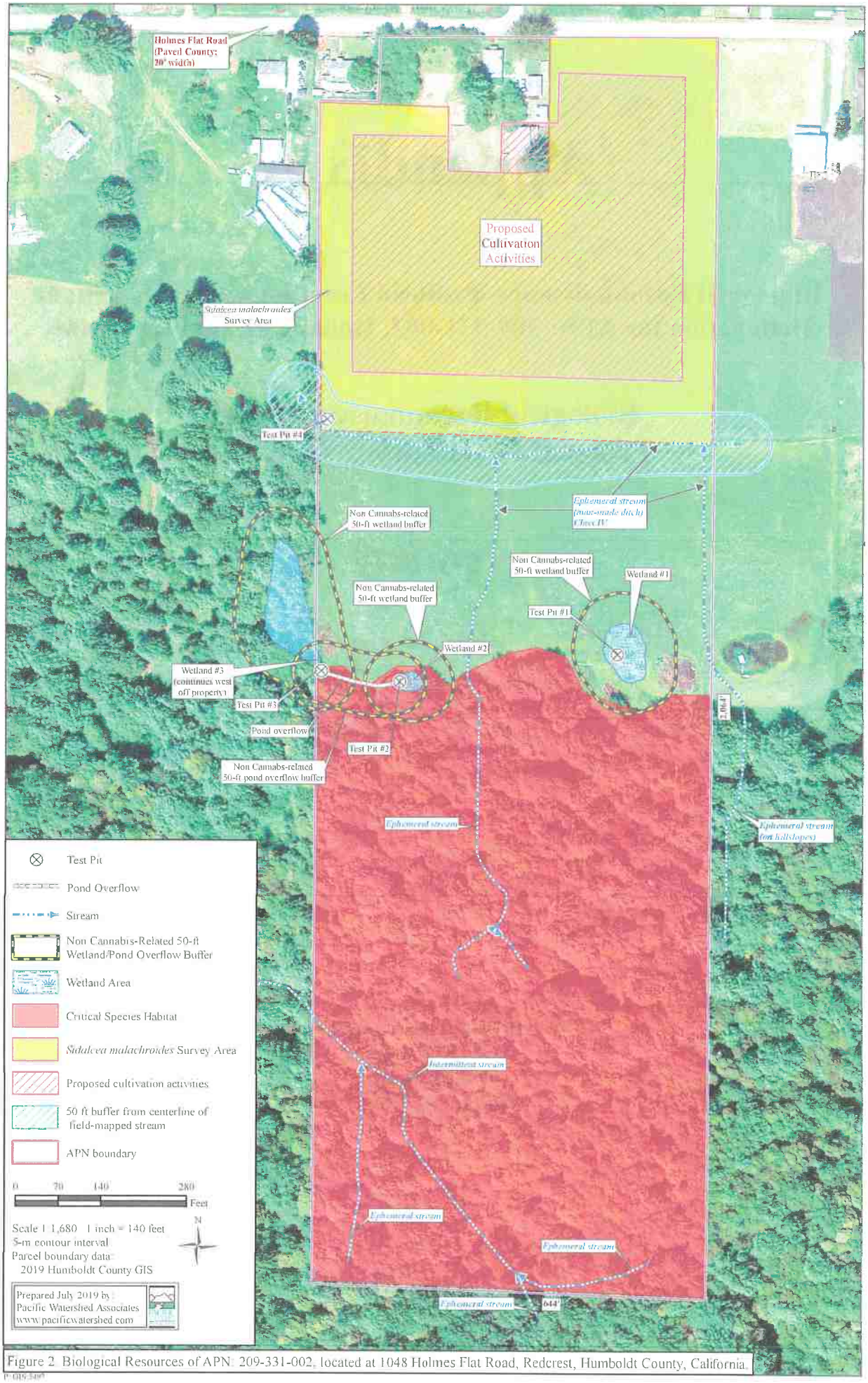


Figure 2. Biological Resources of APN: 209-331-002, located at 1048 Holmes Flat Road, Redcrest, Humboldt County, California.

P-009.500

Appendix A

Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation for APN: 209-331-002, Holmes, Humboldt County

Biological Reconnaissance and Protocol Level Survey Taxa List

July 2019

Table 1. Taxa List

Pacific Watershed Associates
Georgia Hamer
Greg Davis
Margo Moorhouse

Biological Reconnaissance and Protocol Level Survey Taxa List

Plant surveys were conducted by Georgia Hamer on May 15 2019 and June 18 2019

Nomenclature and taxonomy follows the Integrated Taxonomic Information System, 2019.

Rare plant Rank 1B = Plants rare, threatened, or endangered in California and elsewhere.

Origin: N- Native, NN- Non-Native

Total Taxa: 35 Families: 21

Genus	species	Common Name	Family	Origin
Alisma	lanceolatum	Water plantain	Alismataceae	NN
Toxicodendron	diversilobum	poison oak	Anacardiaceae	N
Oenanthe	samentosa	Water parsley	Apiaceae	N
Hedera	helix	English ivy	Araliaceae	NN
Achillea	millefolium	Yarrow	Asteraceae	N
Circium	vulgare	Bull thistle	Asteraceae	NN
Crataegus	monogyna	Hawthorn	Asteraceae	NN
Helminthotheca	echioides	bristly ox tongue	Asteraceae	NN
Lactuca	serriola	prickly lettuce	Asteraceae	NN
Athyrium	filix-femina	lady fern	Athyriaceae	N
Brassica	rappa	Black mustard	Brassicaceae	NN
Hirschfeldia	incana	mustard	Brassicaceae	NN
Dysphania	pumilio	Tasmanian goosefoot	Chenopodiaceae	NN
Sequoia	sempervirens	Redwood	Cupressaceae	N
Carex	leptopoda	slender-footed sedge	Cyperaceae	N
Polystichum	munitum	sword fern	Dryopteridaceae	N
Equisetum	arvense	horsetail	Equisetaceae	N
Trifolium	repens	White clover	Fabaceae	NN
Vicia	villosa	hairy vetch	Fabaceae	NN
Notholithocarpus	densiflorus	tanoak	Fagaceae	N
Juncus	effusus	soft rush	Juncaceae	N
Mentha	pulegium	penny royal	Lamiaceae	NN
Lysimachia	arvensis	scarley pimpernel	Myrsinaceae	NN
Pseudotsuga	menziesii	Douglas-fir	Pinaceae	N
Plantago	lanceolata	English Plantain	Plantaginaceae	NN
Veronica	americana	speedwell	Plantaginaceae	N
Briza	minor	Little quacking grass	Poaceae	NN
Bromus	commutatus	hairy chess	Poaceae	NN
Elymus	repens	Quack grass	Poaceae	NN
Holcus	lanatus	Velvet grass	Poaceae	NN
Hordeum	brachyantherum	Meadow barley	Poaceae	N
Rumex	acetocella	sheep sorrel	Polygonaceae	NN
Ranunculus	repens	Creeping buttercup	Ranunculaceae	NN
Rubus	armeniacus	Himalayan blackberry	Rosaceae	NN
Salix	sp.	Willow	Salicaceae	N
Urtica	dioica	stinging nettle	Urticaceae	N

Appendix B

Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation for APN: 209-331-002, Holmes, Humboldt County

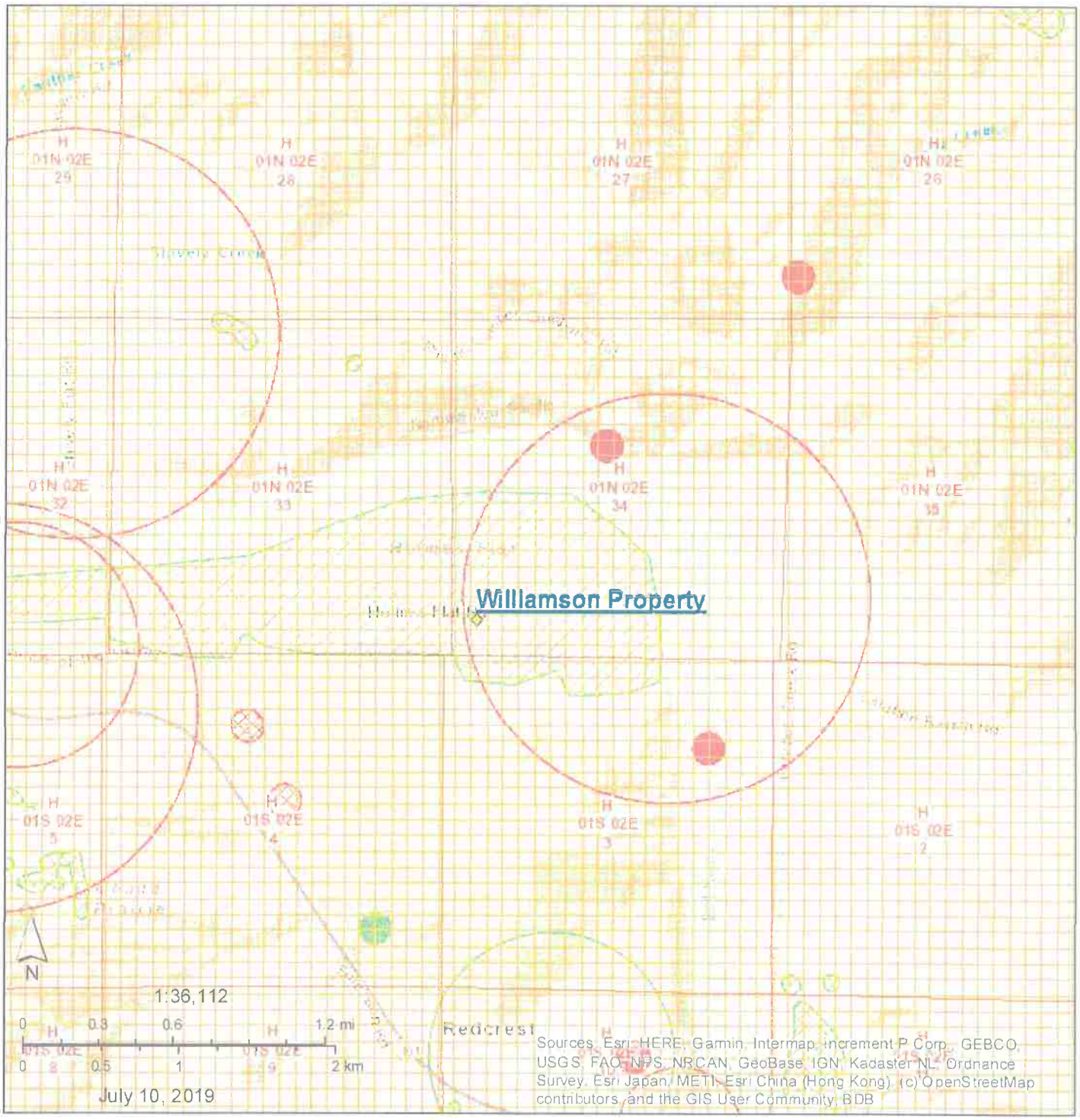
California Natural Diversity Database
Northern Spotted Owl Database
National Wetlands Inventory

July 2019

Figure 1. CNDDB Elemental Occurrences
Figure 2. Northern Spotted Owl Observations
CNDDB Occurrence Report
Report #1 – Spotted Owl Sites Found
Report #2 – Observations Reported

Pacific Watershed Associates
Georgia Hamer
Greg Davis
Margo Moorhouse

Figure 1. CNDDB Elemental Occurrences

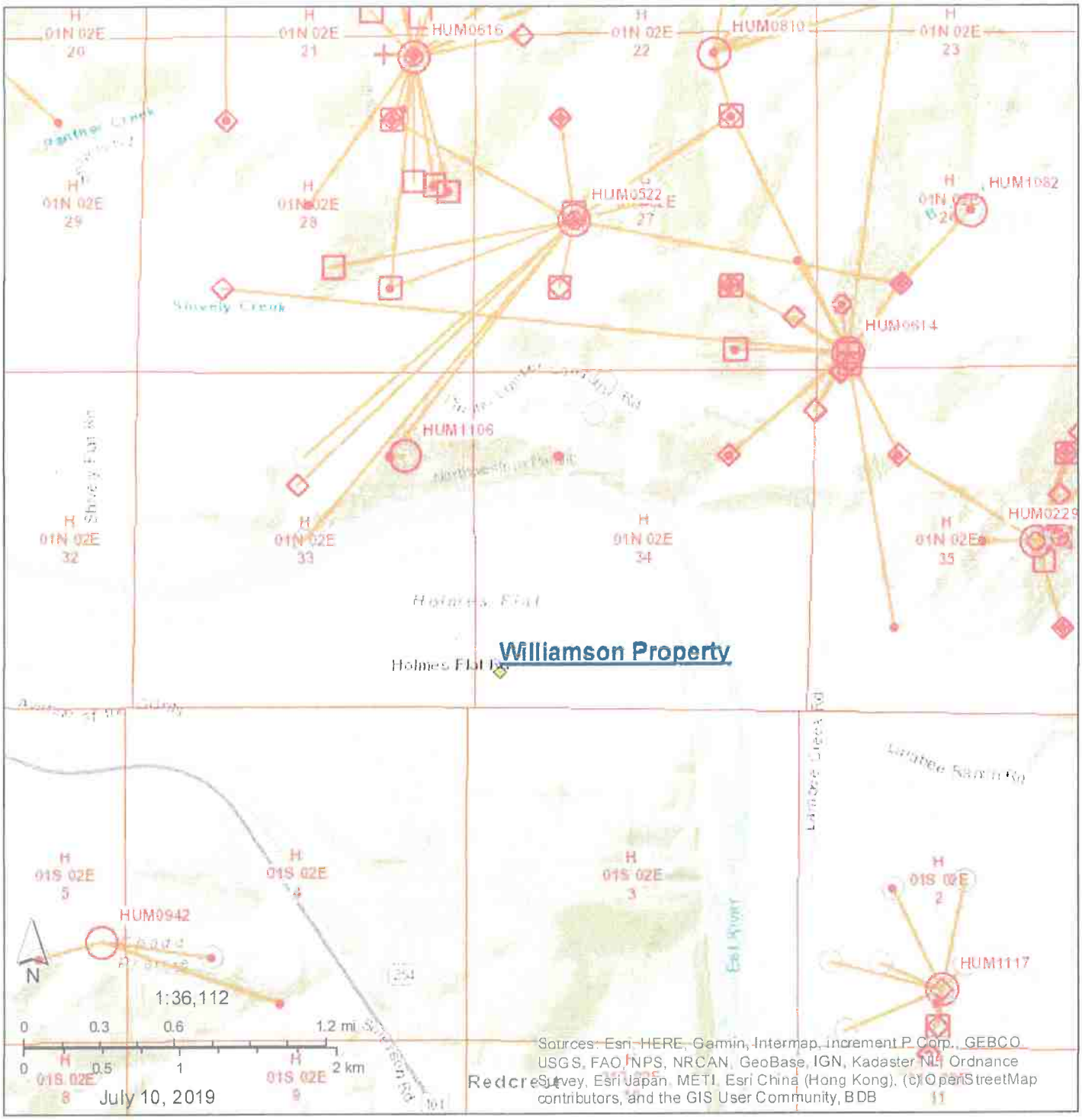


California Natural Diversity Database (CNDDB) Commercial [ds85]

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive EO's (Commercial only)

Author: Georgia Hamer - Pacific Watershed Associates
Printed from http://bios.dfg.ca.gov

Figure 2. Northern Spotted Owl Observations



Spotted Owl Observations [ds704]

- Nest
- Young
- Pair
- Other Positive Observation
- Negative Observation
- Activity Center
- Abandoned Activity Center
- Not Valid Activity Center
- Spotted Owl Observations Spider Diagram [ds705]

Author: Georgia Hamer - Pacific Watershed Associates

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	79803	**EO Index:**	80791
Key Quad:	Redcrest (4012348)	**Element Code:**	AAABA01010
Occurrence Number:	211	**Occurrence Last Updated:**	2018-03-15

Scientific Name: *Ascaphus truei* **Common Name:** Pacific tailed frog

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G4
State: S3S4

Rare Plant Rank:

Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

General Habitat:

OCCURS IN MONTANE HARDWOOD-CONIFER, REDWOOD, DOUGLAS-FIR & PONDEROSA PINE HABITATS.

Micro Habitat:

RESTRICTED TO PERENNIAL MONTANE STREAMS. TADPOLES REQUIRE WATER BELOW 15 DEGREES C.

Last Date Observed:	1964-12-06	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1964-12-06	**Occurrence Rank:**	Unknown
Owner/Manager:	DPR-HUMBOLDT REDWOODS SP, PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

CHADD CREEK AND TRIBUTARIES, SOUTH OF BEAR CREEK BRIDGE, ABOUT 2 MILES NORTH OF REDCREST ALONG AVENUE OF THE GIANTS.

Detailed Location:

Ecological:

Threats:

General:

COLLECTED ON 22 JUN 1930, 27 MAR 1939, 14 JUL 1941, 9 NOV 1941, 23 JULY 1952, 28 DEC 1962, 15 MAR 1963, 11 SEP 1963, AND 6 DEC 1964.

PLSS:	T01S, R02E, Sec. 05 (H)	**Accuracy:**	3/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4474193 E417333	**Latitude/Longitude:**	40.41426 / -123.97435	**Elevation (feet):**	340

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

BRO80U0001	BRODE, J. (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE) - GEOGRAPHIC REFERENCE CARD CATALOG OF SPECIMENS AND FIELD NOTE RECORDS COMPILED BY JOHN BRODE (DFG) 1980-XX-XX
BUR62S0001	BURY, R. - HSU #189 COLLECTED 1.3 MI S OF PEPPERWOOD 1962-12-28
BUR62S0002	BURY, R. - HSU #170 COLLECTED 1.5 MI S OF PEPPERWOOD, SMALL STREAM UNDER US 101 1962-12-28
BUR63S0014	BURY, R. - HSU #236 COLLECTED 1.5 MI S OF PEPPERWOOD 1963-09-11
BUR63S0015	BURY, R. - HSU #207 COLLECTED 2.5 MI S OF PEPPERWOOD, DUGOUT OF ROCK BANK NEAR CREEK 1963-03-15
BUR64S0014	BURY, R. - HSU #331 COLLECTED 2 MI S OF PEPPERWOOD 1964-12-06
MAS41S0015	MASLIN, T. & G. MYERS - CAS-SU #7371 & 7372 COLLECTED FROM ASCAPHUS CREEK, 0.5 MI N OF HOLMES 1941-11-09
MAS41S0016	MYERS, R. & G. MYERS - CAS-SU #7390-7399 COLLECTED FROM REDWOOD HWY, 0.5 MI N OF ROAD TO HOLMES, 1.4 MI S OF BEAR CREEK BRIDGE, ASCAPHUS CREEK 1941-07-14
MIT49A0001	MITTLEMAN, M. & G. MYERS - GEOGRAPHIC VARIATION IN THE RIBBED FROG, ASCAPHUS TRUEI. PROCEEDINGS OF THE BIOLOGICAL SOCIETY OF WASHINGTON 62:57-68 1949-04-27
MYE30S0001	MYERS, G. - USNM #93779 COLLECTED NEAR SCOTIA (4 SPECIMENS) 1930-06-22
MYE31A0001	MYERS, G. - ASCAPHUS TRUEI IN HUMBOLDT COUNTY, CALIFORNIA, WITH A NOTE ON THE HABITS OF THE TADPOLE. COPEIA 1931 (2): 56-57. 1931-06-20
MYE39S0004	MYERS, G. & W. GOSLINE - CAS-SU #4636-4642 COLLECTED FROM REDWOOD HWY, SMALL STREAM 8.6 MI N OF WEOTT 1939-03-27
MYE43A0001	MYERS, G. - NOTES ON RHYACOTRITON OLYMPICUS AND ASCAPHUS TRUEI IN HUMBOLDT COUNTY, CALIFORNIA. COPEIA 1943 (2): 125-126. 1943-06-30

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	69681	**EO Index:**	70466
Key Quad:	Redcrest (4012348)	**Element Code:**	AAABH01050
Occurrence Number:	466	**Occurrence Last Updated:**	2017-11-16

Scientific Name: *Rana boylii* **Common Name:** foothill yellow-legged frog

Listing Status: **Federal:** None
State: Candidate Threatened
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G3
State: S3

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_NT-Near Threatened
USFS_S-Sensitive

General Habitat:

PARTLY-SHADED, SHALLOW STREAMS AND RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.

Micro Habitat:

NEEDS AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEEDS AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Last Date Observed:	2011-07-19	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2011-07-19	**Occurrence Rank:**	Fair
Owner/Manager:	CALTRANS, DPR	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

CHADD CREEK AND INTERMITTENT TRIBUTARY, JUST EAST OF HIGHWAY 101, 0.8 MILE NW OF REDCREST.

Detailed Location:

MAPPED AS A 2-PART POLYGON ON EITHER SIDE OF AVE OFTHE GIANTS. INTERMITTENT TRIBUTARY TO CHADD CREEK CROSSES HIGHWAY 101 AT MILEPOST 40.67; FROG OBSERVED IN A POOL IN THE OUTFALL OF A LONG CULVERT THAT PASSES UNDER AND EAST OF HIGHWAY 101.

Ecological:

HABITAT CONSISTS OF AN INTERMITTENT TRIBUTARY FLOWING THROUGH A DISTURBED OPENING IN REDWOOD FOREST.

Threats:

THREATENED BY CULVERT MAINTENANCE ACTIVITIES.

General:

1 ADULT OBSERVED ON 16 MAY 2002. 2 OBSERVED ON 19 JUL 2011.

PLSS:	T01S, R02E, Sec. 4, N (H)	**Accuracy:**	specific area	**Area (acres):**	10
UTM:	Zone-10 N4473906 E418663	**Latitude/Longitude:**	40.41181 / -123.95865	**Elevation (feet):**	160

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

HER16D0001	HERP, INC. - HERPETOLOGICAL EDUCATION AND RESEARCH PROJECT (HERP) DATABASE. FORMERLY A PROJECT OF THE NORTH AMERICAN FIELD HERPING ASSOCIATION 2016-10-11
MEI02F0001	MEIGS, J. (CALIFORNIA DEPARTMENT OF TRANSPORTATION) - FIELD SURVEY FORM FOR RANA BOYLII 2002-05-16

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	B0028	**EO Index:**	111884
Key Quad:	Redcrest (4012348)	**Element Code:**	AAABH01050
Occurrence Number:	2117	**Occurrence Last Updated:**	2018-08-13

Scientific Name: *Rana boylii* **Common Name:** foothill yellow-legged frog

Listing Status: **Federal:** None
State: Candidate Threatened
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G3
State: S3
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_NT-Near Threatened
USFS_S-Sensitive

General Habitat:

PARTLY-SHADED, SHALLOW STREAMS AND RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.

Micro Habitat:

NEEDS AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEEDS AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Last Date Observed:	1996-05-10	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1996-05-10	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EEL RIVER, IN VICINITY OF HOLMES.

Detailed Location:

COLLECTED FROM "MARGIN OF EEL RIVER NEAR HOLMES."

Ecological:

FOUND IN STOMACH OF A SACRAMENTO PIKE MINNOW. SACRAMENTO PIKE MINNOW INTRODUCED INTO THE EEL RIVER DRAINAGE IN 1979.

Threats:

NON-NATIVE PIKE MINNOW.

General:

1 ADULT FEMALE AND 1 EGGMASS COLLECTED FROM STOMACH OF PIKE MINNOW ON 10 MAY 1996.

PLSS:	T01N, R02E, Sec. 34, SE (H)	**Accuracy:**	3/5 mile	**Area (acres):**	776
UTM:	Zone-10 N4474692 E420634	**Latitude/Longitude:**	40.41908 / -123.93552	**Elevation (feet):**	99

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

ASH07A0001 ASHTON, D. & R. NAKAMOTO - NATURAL HISTORY NOTES: RANA BOYLII (FOOTHILL YELLOW-LEGGED FROG) PREDATION. HERPETOLOGICAL REVIEW 38(4):442. 2007-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	A8761	**EO Index:**	110554
Key Quad:	Redcrest (4012348)	**Element Code:**	ABNKD06071
Occurrence Number:	59	**Occurrence Last Updated:**	2018-03-22

Scientific Name: *Falco peregrinus anatum*

Common Name: American peregrine falcon

Listing Status: **Federal:** Delisted
*** SENSITIVE *** **State:** Delisted
CNDDB Element Ranks: **Global:** G4T4
State: S3S4

Rare Plant Rank:

Other Lists: CDF_S-Sensitive
CDFW_FP-Fully Protected
USFWS_BCC-Birds of Conservation Concern

General Habitat:

NEAR WETLANDS, LAKES, RIVERS, OR OTHER WATER; ON CLIFFS, BANKS, DUNES, MOUNDS; ALSO, HUMAN-MADE STRUCTURES.

Micro Habitat:

NEST CONSISTS OF A SCRAPE OR A DEPRESSION OR LEDGE IN AN OPEN SITE.

Last Date Observed:	2017-05-16	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2017-05-16	**Occurrence Rank:**	Excellent
Owner/Manager:		**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SENSITIVE LOCATION INFORMATION SUPPRESSED.

Detailed Location:

PLEASE CONTACT THE CALIFORNIA NATURAL DIVERSITY DATABASE, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, FOR MORE INFORMATION: (916) 322-2493

Ecological:

NEST WAS RELATIVELY LOW ON A CLIFF AND OBSCURED BY VEGETATIVE COVER.

Threats:

VICINITY OF STRONG ARMED 12-126 TIMBER HARVEST PLAN.

General:

PLSS:		**Accuracy:**	80 meters	**Area (acres):**	5
UTM:		**Latitude/Longitude:**		**Elevation (feet):**	528

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

CHI16F0002	CHINNICI, S. (HUMBOLDT REDWOOD COMPANY, LLC) - FIELD SURVEY FORM FOR FALCO PEREGRINUS ANATUM 2016-03-31
CHI16F0003	CHINNICI, S. (HUMBOLDT REDWOOD COMPANY, LLC) - FIELD SURVEY FORM FOR FALCO PEREGRINUS ANATUM 2016-05-24
CHI16F0004	CHINNICI, S. (HUMBOLDT REDWOOD COMPANY, LLC) - FIELD SURVEY FORM FOR FALCO PEREGRINUS ANATUM 2016-06-28
CHI17F0002	CHINNICI, S. (HUMBOLDT REDWOOD COMPANY, LLC) - FIELD SURVEY FORM FOR FALCO PEREGRINUS ANATUM 2017-04-20
CHI17F0003	CHINNICI, S. (HUMBOLDT REDWOOD COMPANY, LLC) - FIELD SURVEY FORM FOR FALCO PEREGRINUS ANATUM 2017-05-16
HRC14R0002	HUMBOLDT REDWOOD COMPANY - PEREGRINE FALCON ANNUAL REPORT, 2013 2014-02-01
HRC15R0005	HUMBOLDT REDWOOD COMPANY - PEREGRINE FALCON ANNUAL REPORT, 2014 2015-02-01

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45185	**EO Index:**	45185
Key Quad:	Redcrest (4012348)	**Element Code:**	ARAAD02030
Occurrence Number:	522	**Occurrence Last Updated:**	2001-04-12

Scientific Name: *Emys marmorata* **Common Name:** western pond turtle

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G3G4
State: S3

Rare Plant Rank:

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
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.

Last Date Observed:	2001-03-27	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2001-03-27	**Occurrence Rank:**	Good
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EEL RIVER, JUST WEST OF THE BRIDGE CREEK CONFLUENCE, EAST OF SHIVELY.

Detailed Location:

TURTLE OBSERVED RESTING ON A LOG WITHIN THE EEL RIVER.

Ecological:

HABITAT CONSISTS OF RIPARIAN; SURROUNDED BY PRIVATELY-LOGGED FOREST, RAILROAD, AND PASTURELAND.

Threats:

POSSIBLE THREAT FROM EROSION (EEL RIVER WATER HIGHLY TURBID).

General:

1 ADULT (SHELL SIZE 7.5-8.5" IN LENGTH) OBSERVED ON 27 MAR 2001.

PLSS:	T01N, R02E, Sec. 34, NW (H)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-10 N4475438 E420343	**Latitude/Longitude:**	40.42577 / -123.93903	**Elevation (feet):**	100

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

WAL01F0002	WALKER, D. (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE-EUREKA) - FIELD SURVEY FORM FOR CLEMMYS MARMORATA (MARMORATA) 2001-03-27

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 70674
Key Quad: Redcrest (4012348)
Occurrence Number: 734

EO Index: 71583
Element Code: ARAAD02030
Occurrence Last Updated: 2008-01-08

Scientific Name: *Emys marmorata*
Common Name: western pond turtle

Listing Status: Federal: None
State: None

CNDDB Element Ranks: Global: G3G4
State: S3

Rare Plant Rank:

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
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.

Last Date Observed: 2006-06-01
Last Survey Date: 2006-06-01
Owner/Manager: PVT-PACIFIC LUMBER CO
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:

EEL RIVER, 0.50 MILES SSE OF HOLMES.

Detailed Location:

Ecological:

Threats:

General:

1 TURTLE OBSERVED. OBSERVATION COMPILED BY C. BONDI, DFG FROM THE PACIFIC LUMBER COMPANY, JUNE 2006 COVERED SPECIES LOCATIONS: AMPHIBIANS AND REPTILES. NO DATA ON ABUNDANCE, AGE, SEX OR HABITAT AVAILABLE.

PLSS: T01S, R02E, Sec. 03 (H)
UTM: Zone-10 N4473957 E420825

Accuracy: 80 meters
Latitude/Longitude: 40.41247 / -123.93317

Area (acres): 0
Elevation (feet): 100

County Summary:	Quad Summary:
Humboldt	Redcrest (4012348)

Sources:

DFG07D0001 CALIFORNIA DEPARTMENT OF FISH & GAME - REGION 1 - WESTERN POND TURTLE OBSERVATIONS IN REGION 1. BIOS DATASET 313. 2007-04-13

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	96174	**EO Index:**	97332
Key Quad:	Redcrest (4012348)	**Element Code:**	IIHYM24380
Occurrence Number:	34	**Occurrence Last Updated:**	2015-06-08

Scientific Name: *Bombus caliginosus*

Common Name: obscure bumble bee

Listing Status: **Federal:** None

State: None

Rare Plant Rank:

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G4?

State: S1S2

General Habitat:

COASTAL AREAS FROM SANTA BARABARA COUNTY TO NORTH TO WASHINGTON STATE.

Micro Habitat:

FOOD PLANT GENERA INCLUDE BACCHARIS, CIRSIUM, LUPINUS, LOTUS, GRINDELIA AND PHACELIA.

Last Date Observed:	1956-08-21	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1956-08-21	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SHIVELY, EAST SIDE OF THE EEL RIVER.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED BY CNDDB CENTERED ON SHIVELY.

Ecological:

Threats:

General:

COLLECTED BY HURD 21 AUG 1956.

PLSS:	T01N, R02E, Sec. 32 (H)	**Accuracy:**	3/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4476013 E417743	**Latitude/Longitude:**	40.43069 / -123.96975	**Elevation (feet):**	150

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

HUR56S0002 HURD, P. - EMEC #552861 COLLECTED FROM SHIVELY 1956-08-21

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	35015	**EO Index:**	146
Key Quad:	Redcrest (4012348)	**Element Code:**	PDMAL110E0
Occurrence Number:	19	**Occurrence Last Updated:**	2001-05-01

Scientific Name: *Sidalcea malachroides* **Common Name:** maple-leaved checkerbloom

Listing Status: **Federal:** None **Rare Plant Rank:** 4.2

State: None **Other Lists:**

CNDDB Element Ranks: **Global:** G3

State: S3

General Habitat:

BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST, RIPARIAN FOREST.

Micro Habitat:

WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 4-765 M.

Last Date Observed:	1918-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1918-XX-XX	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

HOLMES FLAT, ALONG EEL RIVER FROM SOUTH FORK TO SCOTIA.

Detailed Location:

DIRECTIONS ON COLLECTION LABEL ARE NOT CLEAR IF PLANT IS FOUND ALL ALONG THE RIVER BETWEEN THE SOUTH FORK EEL RIVER AND SCOTIA OR ONLY AT HOLMES FLAT BETWEEN THE SOUTH FORK AND SCOTIA. SITE MAPPED AT HOLMES FLAT.

Ecological:

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS COLLECTION BY TRACY CIRCA 1918.

PLSS:	T01N, R02E, Sec. 33 (H)	**Accuracy:**	nonspecific area	**Area (acres):**	493
UTM:	Zone-10 N4474776 E419574	**Latitude/Longitude:**	40.41973 / -123.94802	**Elevation (feet):**	150

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

TRA18S0002 TRACY, J. - TRACY #4964 UC, JEPS 1918-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45240	**EO Index:**	45240
Key Quad:	Redcrest (4012348)	**Element Code:**	PDMAL110E0
Occurrence Number:	55	**Occurrence Last Updated:**	2001-10-29

Scientific Name: *Sidalcea malachroides* **Common Name:** maple-leaved checkerbloom

Listing Status: **Federal:** None **Rare Plant Rank:** 4.2

State: None **Other Lists:**

CNDDB Element Ranks: **Global:** G3

State: S3

General Habitat:

BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST, RIPARIAN FOREST.

Micro Habitat:

WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 4-765 M.

Last Date Observed:	2001-05-24	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2001-05-24	**Occurrence Rank:**	Fair
Owner/Manager:	PVT-PACIFIC LUMBER CO	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

UNNAMED RIDGE APPROXIMATELY 2.3 AIR MILES NNE OF HOLMES, SOUTHWEST OF THE CHALK MOUNTAINS.

Detailed Location:

LOCATED ALONG RIDGELINE ROAD BETWEEN ROOT CREEK DRAINAGE AT THE HEADWATERS OF BRIDGE CREEK. MAPPED PRIMARILY NW 1/4 OF THE NE 1/4 OF SECTION 26 AND THE SW 1/4 OF THE SE 1/4 OF SECTION 23.

Ecological:

DRY OPENING CLEAR CUT OF REDWOOD FOREST, CLAY LOAM SOILS. ASSOCIATES: CEANOTHUS THYRSIFLORUS, RUBUS LEUCODERMIS, GAULTHERIA, LITHOCARPUS DENSIFLORUS, ANAPHALIS MARGARITACEA, WHIPPLEA MODESTA, PTERIDIUM AQUILINUM, ET AL.

Threats:

TIMBER HARVESTING ACTIVITIES, BRUSHING ROADSIDES, ROAD MAINTENANCE; ROADSIDE OCCURRENCE.

General:

77 INDIVIDUALS OBSERVED IN 2000, 26 INDIVIDUALS OBSERVED IN 2001.

PLSS:	T01N, R02E, Sec. 26, NE (H)	**Accuracy:**	specific area	**Area (acres):**	22
UTM:	Zone-10 N4477607 E422361	**Latitude/Longitude:**	40.44549 / -123.91551	**Elevation (feet):**	1,640

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

GED01F0002	GEDIK, T. & L. LARSEN - FIELD SURVEY FORM FOR SIDALCEA MALACHROIDES 2001-05-24
LOY00F0007	LOYA, D. - FIELD SURVEY FORM FOR SIDALCEA MALACHROIDES 2000-05-31

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45242	**EO Index:**	45242
Key Quad:	Redcrest (4012348)	**Element Code:**	PDMAL110E0
Occurrence Number:	57	**Occurrence Last Updated:**	2001-04-25

Scientific Name: *Sidalcea malachroides* **Common Name:** maple-leaved checkerbloom

Listing Status: **Federal:** None **Rare Plant Rank:** 4.2

State: None **Other Lists:**

CNDDB Element Ranks: **Global:** G3

State: S3

General Habitat:

BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST, RIPARIAN FOREST.

Micro Habitat:

WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 4-765 M.

Last Date Observed:	1999-05-27	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1999-05-27	**Occurrence Rank:**	Poor
Owner/Manager:	PVT-SCOTIA PACIFIC CO	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SOUTHERN TOESLOPE OF SHIVELY CREEK, APPROXIMATELY 0.5 AIR MILE EAST OF SHIVELY.

Detailed Location:

LOCATED ALONG OLD SKID ROADS AND ADJACENT CUT BANK. THREE COLONIES MAPPED AS ONE POLYGON BY CNDDB IN THE NE 1/4 OF THE NW 1/4 OF SECTION 33.

Ecological:

2ND GROWTH REDWOOD FOREST. SPECIES INCLUDE: SEQUOIA SEMPERVIRENS, LITHOCARPUS DENSIFLORUS, ARBUTUS MENZIESII, CORTADERIA, RUBUS URSINUS, VACCINIUM OVATUM, CEANOTHUS THYRSIFLORUS, WHIPPLEA MODESTA, RIBES SANGUINEUM, JUNCUS EFFUSUS, ET AL.

Threats:

LOGGING ACTIVITIES.

General:

5 INDIVIDUALS OBSERVED IN 1999. MITIGATION IN LOGGING AREA TO INCLUDE 25 FOOT SETBACK WHERE POSSIBLE.

PLSS:	T01N, R02E, Sec. 33, NW (H)	**Accuracy:**	specific area	**Area (acres):**	5
UTM:	Zone-10 N4476019 E418520	**Latitude/Longitude:**	40.43082 / -123.96060	**Elevation (feet):**	400

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

IMP99F0002 IMPER, D. - FIELD SURVEY FORM FOR SIDALCEA MALACHROIDES 1999-05-27

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45246	**EO Index:**	45246
Key Quad:	Redcrest (4012348)	**Element Code:**	PDMAL110E0
Occurrence Number:	61	**Occurrence Last Updated:**	2007-10-15

Scientific Name: *Sidalcea malachroides* **Common Name:** maple-leaved checkerbloom

Listing Status: **Federal:** None **Rare Plant Rank:** 4.2

State: None **Other Lists:**

CNDDB Element Ranks: **Global:** G3

State: S3

General Habitat:

BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST, RIPARIAN FOREST.

Micro Habitat:

WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 4-765 M.

Last Date Observed:	2000-06-20	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2000-06-20	**Occurrence Rank:**	Good
Owner/Manager:	PVT-PACIFIC LUMBER CO, SCOPAC	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EAST OF EEL RIVER, FROM ABOUT 0.16 TO 1.2 AIR MI S OF LARABEE.

Detailed Location:

ACCESSIBLE VIA HWY 101, EXIT SHIVELY RD, EAST TO "H" ROAD", SOUTH ON E03 TO RAILROAD TRACKS. ALSO ACCESSIBLE VIA SEASONAL BRIDGE AT HOLMES FLAT EXIT IN SUMMER. 26 COLONIES MAPPED AS 8 POLYGONS BY CNDDB PRIMARILY IN W1/2 SEC 11.

Ecological:

GRASSY OPENING IN REDWOOD FOREST. DOMINANTS INCLUDE SEQUOIA SEMPERVIRENS, LITHOCARPUS DENSIFLORUS, CEANOTHUS THYRSIFLORUS, HOLCUS LANATUS, JUNCUS, RUBUS URSINUS, TOXICODENDRON DIVERSILOBUM, ET AL. SILTY CLAY SOIL.

Threats:

ROAD WIDENING, LOGGING ACTIVITIES.

General:

1729 INDIVIDUALS OBSERVED IN 2000. INCLUDES FORMER OCCURRENCE #62.

PLSS:	T01S, R02E, Sec. 11, W (H)	**Accuracy:**	specific area	**Area (acres):**	55
UTM:	Zone-10 N4472461 E421333	**Latitude/Longitude:**	40.39904 / -123.92700	**Elevation (feet):**	350

County Summary: Humboldt

Quad Summary: Redcrest (4012348)

Sources:

GED00F0002 GEDIK, T. ET AL. - FIELD SURVEY FORM FOR SIDALCEA MALACHROIDES 2000-06-20

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 45297
Key Quad: Redcrest (4012348)
Occurrence Number: 92

EO Index: 45297
Element Code: PDMAL110E0
Occurrence Last Updated: 2007-09-19

Scientific Name: *Sidalcea malachroides*
Common Name: maple-leaved checkerbloom

Listing Status: **Federal:** None
State: None

Rare Plant Rank: 4.2
Other Lists:

CNDDB Element Ranks: **Global:** G3
State: S3

General Habitat:
BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST, RIPARIAN FOREST.

Micro Habitat:
WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 4-765 M.

Last Date Observed: 1899-06-13
Last Survey Date: 1899-06-13
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
ENGLEWOOD PRAIRIE.

Detailed Location:
MAPPED AROUND OPEN AREAS NEAR ENGLEWOOD; VAGUE LOCATION DATA; NEEDS FIELDWORK.

Ecological:

Threats:

General:
ONLY INFORMATION FOR THIS SITE IS 1899 COLLECTION BY DAVY. INCLUDES FORMER OCCURRENCE #33.

PLSS: T01S, R02E, Sec. 10, NW (H)
UTM: Zone-10 N4472466 E420048

Accuracy: 2/5 mile
Latitude/Longitude: 40.39897 / -123.94214

Area (acres): 0
Elevation (feet):

County Summary:
Humboldt

Quad Summary:
Redcrest (4012348)

Sources:
DAV99S0007 DAVY - DAVY #5482 W, UC, JEPS (NOTE: COLLECTION # SAME AS DAV99S0006, BUT LOCATION IS DIFFERENT) 1899-06-13

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	46313	**EO Index:**	46313
Key Quad:	Redcrest (4012348)	**Element Code:**	PDMAL110E0
Occurrence Number:	99	**Occurrence Last Updated:**	2001-10-29

Scientific Name: *Sidalcea malachroides* **Common Name:** maple-leaved checkerbloom

Listing Status: **Federal:** None **Rare Plant Rank:** 4.2

State: None **Other Lists:**

CNDDB Element Ranks: **Global:** G3

State: S3

General Habitat:

BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST, RIPARIAN FOREST.

Micro Habitat:

WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 4-765 M.

Last Date Observed:	2001-05-31	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2001-05-31	**Occurrence Rank:**	Poor
Owner/Manager:	PVT-SCOTIA PACIFIC CO	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

0.8 AIR MILE EAST OF SHIVELY, SLOPE BELOW 700' RIDGE LINE.

Detailed Location:

MAPPED IN THE NW 1/4 OF THE NE 1/4 OF SECTION 33.

Ecological:

LOCATED IN FOREST OPENING. SEQUOIA SEMPERVIRENS, PSEUDOTSUGA MENZIESII, ARBUTUS MENZIESII DOMINATE W/ TOXICODENDRON DIVERSILOBUM, JUNCUS PATENS, POLYSTICHUM MUNITUM & VACCINIUM OVATUM. ASSOCIATES: FRAGARIA VESCA, SATUREJA DOUGLASII, ET AL.

Threats:

TIMBER HARVEST ACTIVITIES, EQUIPMENT TRAFFIC.

General:

2 INDIVIDUALS OBSERVED IN 2001.

PLSS:	T01N, R02E, Sec. 33, NE (H)	**Accuracy:**	specific area	**Area (acres):**	1
UTM:	Zone-10 N4475851 E419108	**Latitude/Longitude:**	40.42937 / -123.95364	**Elevation (feet):**	590

County Summary: **Quad Summary:**

Humboldt Redcrest (4012348)

Sources:

GED01F0001 GEDIK, T. - FIELD SURVEY FORM FOR SIDALCEA MALACHROIDES 2001-05-31

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	75862	**EO Index:**	76884
Key Quad:	Redcrest (4012348)	**Element Code:**	PDPOR05070
Occurrence Number:	82	**Occurrence Last Updated:**	2017-07-25

Scientific Name: *Montia howellii*

Common Name: Howell's montia

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G3G4

State: S2

General Habitat:

MEADOWS AND SEEPS, NORTH COAST CONIFEROUS FOREST, VERNAL POOLS.

Micro Habitat:

VERNALLY WET SITES; OFTEN ON COMPACTED SOIL. 10-1215 M.

Last Date Observed:	2013-03-14	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2013-03-14	**Occurrence Rank:**	Fair
Owner/Manager:	CALTRANS	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ON HIGHWAY 254 (AVENUE OF THE GIANTS) AT POST MILE 40.13, JUST NORTH OF REDCREST.

Detailed Location:

MAPPED BY CNDDB IN THE SE 1/4 OF THE SE 1/4 OF SECTION 4. LOCATED IN A GRAVEL PULLOUT ON THE WEST SIDE OF THE HWY. POPULATION IS BETWEEN THE ROAD AND A SIGN READING "CHARLES AND ELOISE SHIELDS FAMILY GROVE". POPULATION SIZE IS 15X6 FEET.

Ecological:

REDWOOD FOREST WITH DOUGLAS-FIR AND CALIFORNIA BAY PRESENT. ASSOCIATED WITH MONTIA FONTANA, HYPOCHAERIS RADICATA, AND TRIFOLIUM SP. CANOPY IS OPEN OVER THE PULLOUT BUT SURROUNDING COVER IS 70%. SLOPE 0% AND SW ASPECT.

Threats:

CLOSURE OR DISCONTINUED USE OF THE PULLOUT WOULD NO LONGER DISTURB THE HABITAT WHICH COULD BE DETRIMENTAL.

General:

67 PLANTS OBSERVED IN 2008. 45 PLANTS IN 2013. HABITAT IS CREATED BY OCCASIONAL USE OF PULLOUT BY VEHICLES CREATING DISTURBED AREA WITH SEASONAL PONDING OF WATER. POPULATION EXTENT LIMITED BY LITTER FALL FROM SURROUNDING CANOPY.

PLSS:	T01S, R02E, Sec. 04, SE (H)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-10 N4473093 E419190	**Latitude/Longitude:**	40.40453 / -123.95232	**Elevation (feet):**	280

County Summary:	**Quad Summary:**
Humboldt	Redcrest (4012348)

Sources:

BAR17D0001	BARRETT, J. (CALIFORNIA DEPARTMENT OF PARKS AND RECREATION) - NORTH COAST REDWOODS DISTRICT OF CALIFORNIA STATE PARKS RARE PLANT DATA 2017-02-02
MCI08F0001	MCINTOSH, J. - FIELD SURVEY FORM FOR MONTIA HOWELLII 2008-02-25

Data Version Date:
06/26/2019

Report Generation Date:
7/10/2019

Report #1 - Spotted Owl Sites Found

Known Spotted Owl sites having observations within the search area.

Meridian, Township, Range, Section (MTRS) searched:

H_01N_02E Sections(26,27,28,33,34,35);

H_01S_02E Sections(02,03,04);

Masterowl	Subspecies	LatDD NAD83	LonDD NAD83	MTRS	AC Coordinate Source
HUM0229	NORTHERN	40.423807	-123.915766	H 01N 02E 35	Contributor
HUM0521	NORTHERN	40.448802	-123.962347	H 01N 02E 21	Contributor
HUM0522	NORTHERN	40.437977	-123.942266	H 01N 02E 27	Contributor
HUM0614	NORTHERN	40.432121	-123.926588	H 01N 02E 26	Contributor
HUM0616	NORTHERN	40.445176	-123.951506	H 01N 02E 28	Contributor
HUM0810	NORTHERN	40.445313	-123.934197	H 01N 02E 27	Contributor
HUM0942	NORTHERN	40.406310	-123.969519	H 01S 02E 05	Contributor
HUM1082	NORTHERN	40.438385	-123.919572	H 01N 02E 26	Contributor
HUM1106	NORTHERN	40.427656	-123.951987	H 01N 02E 33	Contributor
HUM1117	NORTHERN	40.404110	-123.921208	H 01S 02E 02	Contributor

Data Version Date:
06/26/2019

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7/10/2019

Report #2 - Observations Reported

List of observations reported by site.

Meridian, Township, Range, Section (MTRS) searched:

H_01N_02E Sections(26,27,28,33,34,35);

H_01S_02E Sections(02,03,04);

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
Masterowl: HUM0229 Subspecies: NORTHERN											
POS	1990-07-11		2	UMUF	Y		2	40.426774	-123.912520	H 01N 02E 35	Contributor
POS	1992		2	UMUF	Y			40.428579	-123.913205	H 01N 02E 35	Contributor
POS	1994-05-26		2	AMAF	Y			40.427682	-123.913947	H 01N 02E 35	Quarter-section centroid
POS	1994-09-02		1	SM				40.424487	-123.914647	H 01N 02E 35	Activity center
POS	1995-07-05		2	UMUF	Y		1	40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
POS	1996-03-26		2	UMUF	Y			40.427682	-123.913947	H 01N 02E 35	Quarter-section centroid
POS	1997-05-06		2	UMUF	Y	Y		40.422968	-123.915298	H 01N 02E 35	Contributor
POS	1998-05-12		2	UMUF	Y	N		40.427682	-123.913947	H 01N 02E 35	Quarter-section centroid
POS	1999		2	UMUF	Y		2	40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
POS	2000		2	UMUF	Y		2	40.427682	-123.913947	H 01N 02E 35	Quarter-section centroid
POS	2000-08-07		1	AF				40.424487	-123.914647	H 01N 02E 35	Activity center
POS	2001		2	UMUF	Y		1	40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
POS	2001-08-27		0				1	40.424487	-123.914647	H 01N 02E 35	Activity center
POS	2002		2	UMUF	Y	Y	2	40.424487	-123.914647	H 01N 02E 35	Contributor
POS	2003-03-06	1906	1	UU				40.423850	-123.918905	H 01N 02E 35	Section centroid
POS	2003-03-07	0750	1	UM				40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2003-03-17	2232	1	UM				40.423850	-123.918905	H 01N 02E 35	Section centroid
POS	2003-03-18	1035	2	UMUF	Y			40.425858	-123.914394	H 01N 02E 35	Contributor
POS	2003-03-24	2259	1	UU				40.423850	-123.918905	H 01N 02E 35	Section centroid
POS	2003-03-25	1116	2	UMUF	Y			40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
POS	2003-05-30	0800	1	UF	Y	N	0	40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
NEG	2003-07-01	0934	0					40.424487	-123.914647	H 01N 02E 35	Activity center
POS	2003-08-14	0957	1	UF	Y	N	0	40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
POS	2005		2	UMUF	Y			40.423966	-123.914392	H 01N 02E 35	Contributor
NEG	2005-04-18	0935	0					40.424487	-123.914647	H 01N 02E 35	Activity center
POS	2005-04-27	0720	2	UMUF	Y			40.427682	-123.913947	H 01N 02E 35	Quarter-section centroid
POS	2005-06-19	1736	2	UMUF	Y			40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
NEG	2006		0					40.423957	-123.914404	H 01N 02E 35	Contributor
NEG	2006-03-30	1630	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2006-05-11	1645	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2006-05-19	1015	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2006-06-07	1615	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2006-06-20	1750	0					40.424487	-123.914647	H 01N 02E 35	Activity center

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2006-06-22	0800	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2006-07-05	1715	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2006-07-10	0845	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2006-08-29	0745	0					40.424487	-123.914647	H 01N 02E 35	Activity center
NEG	2008		0					40.423993	-123.914416	H 01N 02E 35	Contributor
POS	2009		2	UMUF	Y			40.423964	-123.914389	H 01N 02E 35	Contributor
POS	2010		2	UMUF	Y		1	40.423965	-123.914389	H 01N 02E 35	Contributor
POS	2011		2	UMUF	Y	N		40.423962	-123.914393	H 01N 02E 35	Contributor
AC	2012		2	UMUF	Y	Y	2	40.423807	-123.915766	H 01N 02E 35	Contributor
POS	2013-03-29	0950-1110	2	UMUF	Y			40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
POS	2013-05-01	1530-1643	2	UMUF	Y			40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
NEG	2014-03-26	1630-1730	0					40.423807	-123.915766	H 01N 02E 35	Activity center
POS	2014-04-09	1735-1840	1	UF				40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
POS	2014-04-22	1526-1608	1	UF				40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
POS	2014-07-01	1200-1300	1	UF				40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
NEG	2014-07-21	0855-1207	0					40.423807	-123.915766	H 01N 02E 35	Activity center
POS	2014-08-07	2100-2130	1	UF				40.427682	-123.913950	H 01N 02E 35	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2014-08-25	2038-2120	1	UF				40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
POS	2015-04-16	1730-1845	1	UF				40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
POS	2015-05-06	1605-1715	2	UMUF	Y			40.423807	-123.915766	H 01N 02E 35	Activity center
NEG	2016-03-01	0822-1050	0					40.423807	-123.915766	H 01N 02E 35	Activity center
POS	2016-03-28	1220-1258	1	UF				40.420004	-123.914221	H 01N 02E 35	Quarter-section centroid
POS	2016-04-28	1240-1430	2	UMUF	Y			40.427654	-123.923638	H 01N 02E 35	Quarter-section centroid
POS	2016-05-11	1135-1240	2	UMUF	Y	Y		40.423966	-123.914382	H 01N 02E 35	Contributor
POS	2016-06-12	1700-1836	2	UMUF	Y			40.427682	-123.913947	H 01N 02E 35	Quarter-section centroid
POS	2016-06-22	1744-1817	2	UMUF	Y	Y		40.427682	-123.913947	H 01N 02E 35	Quarter-section centroid
POS	2017-03-23	1020-1050	1	UM				40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
POS	2017-04-04	1351-1408	2	UMUF	Y			40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
POS	2017-04-28	1413-1439	2	UMUF	Y	N		40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
POS	2017-05-24	1655-1740	2	UMUF	Y			40.420005	-123.914223	H 01N 02E 35	Quarter-section centroid
Masterowl: HUM0521 Subspecies: NORTHERN											
POS	1991-04-28	2010	1	UU				40.453499	-123.961977	H 01N 02E 21	Half-section centroid
POS	1991-05-07	0825	2	UMUF	Y	Y	1	40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	1991-05-23		2	UMUF	Y	Y	1	40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	1992		2	UMUF	Y	Y		40.450155	-123.962130	H 01N 02E 21	Contributor
POS	1992		2	UMUF	Y	Y		40.450100	-123.961186	H 01N 02E 21	Contributor
POS	1992-03-24	1919	1	UU				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	1992-04-15		2	UMUF	Y	Y		40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	1992-05-07		1	UU				40.453499	-123.961977	H 01N 02E 21	Half-section centroid
POS	1994-03-30		1	AF				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	1994-04-19		1	AM				40.442370	-123.962290	H 01N 02E 28	Quarter-section centroid
POS	1994-09-03		1	SF				40.442370	-123.962290	H 01N 02E 28	Quarter-section centroid
POS	1994-09-05		1	SM				40.457212	-123.961865	H 01N 02E 21	Quarter-section centroid
POS	1995-05-12		2	UMUF	Y			40.442370	-123.962290	H 01N 02E 28	Quarter-section centroid
POS	1995-06-02		2	UMUF	Y		0	40.457212	-123.961865	H 01N 02E 21	Quarter-section centroid
POS	1995-08-11		1	AF				40.448802	-123.962347	H 01N 02E 21	Activity center
POS	1996-04-24		2	UMUF	Y			40.442370	-123.962290	H 01N 02E 28	Quarter-section centroid
POS	1997-05-01		2	UMUF	Y	N		40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	1998-05-01		2	UMUF	Y			40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	1999		2	UMUF	Y			40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	2000		2	UMUF	Y			40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-03-03	0700	0					40.453539	-123.957213	H 01N 02E 21	Section centroid
POS	2000-03-04	0909	1	UU				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	2000-03-07	0841	1	UM				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
NEG	2000-03-13	1215	0					40.453539	-123.957213	H 01N 02E 21	Section centroid
POS	2000-04-18	1000	2	UMUF	Y			40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	2000-04-26	0920	1	UU				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
NEG	2000-06-01	1114	0					40.453539	-123.957213	H 01N 02E 21	Section centroid
AC	2001		2	UMUF	Y	Y	2	40.448802	-123.962347	H 01N 02E 21	Contributor
POS	2001		2	UMUF	Y			40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2001-03-30		2	AMAF	Y			40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2002		2	UMUF	Y			40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
NEG	2003-03-06	0959	0					40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2003-03-26	2229	1	UF				40.453539	-123.957213	H 01N 02E 21	Section centroid
POS	2003-03-26	0830	1	UF				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
NEG	2003-03-27	0815	0					40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2003-06-10	0610	2	UMUF	Y			40.450701	-123.963647	H 01N 02E 21	Contributor
POS	2003-06-19	1005	2	UMUF	Y			40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2003-07-22	2057	1	UU				40.453539	-123.957213	H 01N 02E 21	Section centroid
NEG	2003-07-24	0100	0					40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2003-07-28	2159	1	UM				40.453539	-123.957213	H 01N 02E 21	Section centroid
POS	2003-08-10	2023	1	UF				40.453539	-123.957213	H 01N 02E 21	Section centroid
POS	2005		2	UMUF	Y			40.448789	-123.963950	H 01N 02E 21	Contributor
POS	2005-03-08	0911	2	UMUF	Y			40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	2005-04-20	1130	1	UF				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
NEG	2005-07-07	0945	0					40.448802	-123.962347	H 01N 02E 21	Activity center
NEG	2005-08-07	1745	0					40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2006		1	UM				40.448780	-123.963962	H 01N 02E 21	Contributor
NEG	2006-03-21	1615	0					40.448802	-123.962347	H 01N 02E 21	Activity center
NEG	2006-05-02	1650	0					40.448802	-123.962347	H 01N 02E 21	Activity center
NEG	2006-05-25	1730	0					40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2006-06-29	1210	1	UM				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
POS	2006-06-29	1930	1	UM				40.449777	-123.962089	H 01N 02E 21	Quarter-section centroid
NEG	2006-08-10	0920	0					40.448802	-123.962347	H 01N 02E 21	Activity center
POS	2008		1	UF				40.448816	-123.963986	H 01N 02E 21	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2009		2	UMUF	Y			40.448788	-123.963946	H 01N 02E 21	Contributor
NEG	2010		0					40.448788	-123.963946	H 01N 02E 21	Contributor
NEG	2011		0					40.448784	-123.963951	H 01N 02E 21	Contributor
POS	2012		1	UF				40.448788	-123.963946	H 01N 02E 21	Contributor
NEG	2013		0					40.448788	-123.963946	H 01N 02E 21	Activity center
NEG	2014-07-10	1515-1700	0					40.448788	-123.963947	H 01N 02E 21	Activity center
NEG	2015-05-20	1714-1918	0					40.448802	-123.962347	H 01N 02E 21	Activity center
NEG	2015-06-16	1833-2030	0					40.448802	-123.962347	H 01N 02E 21	Activity center
NEG	2015-07-20	1720-1837	0					40.448802	-123.962347	H 01N 02E 21	Activity center
NEG	2016-07-27	1615-1730	0					40.448802	-123.962347	H 01N 02E 21	Activity center
NEG	2017-07-07	1000-1116	0					40.448788	-123.963947	H 01N 02E 21	Activity center
Masterowl: HUM0522 Subspecies: NORTHERN											
POS	1991-05-07		2	UMUF	Y			40.426369	-123.958184	H 01N 02E 33	Contributor
NEG	1992		0					40.427642	-123.957766	H 01N 02E 33	Half-section centroid
POS	1992		2	UMUF	Y	Y		40.435971	-123.956151	H 01N 02E 28	Contributor
POS	1992-05-20		2	UMUF	Y	Y	1	40.435016	-123.952848	H 01N 02E 28	Quarter-section centroid
POS	1994-05-17		2	AMAF	Y			40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	1995-05-02		2	UMUF	Y		0	40.435042	-123.943109	H 01N 02E 27	Quarter-section centroid
POS	1995-07-05		1	AM				40.437977	-123.942266	H 01N 02E 27	Activity center
POS	1995-07-10		2	UMUF	Y			40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	1996-06-10		1	UF				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	1997-04-13		2	UMUF	Y		2	40.442466	-123.943072	H 01N 02E 27	Quarter-section centroid
POS	1998-04-14		1	UF				40.442466	-123.943072	H 01N 02E 27	Quarter-section centroid
POS	1999		2	UMUF	Y			40.442466	-123.943072	H 01N 02E 27	Quarter-section centroid
NEG	1999-04-12	2000	0					40.423939	-123.957784	H 01N 02E 33	Section centroid
NEG	1999-06-15	2234	0					40.423939	-123.957784	H 01N 02E 33	Section centroid
NEG	1999-06-25	0252	0					40.423939	-123.957784	H 01N 02E 33	Section centroid
NEG	1999-07-15	2050	0					40.423939	-123.957784	H 01N 02E 33	Section centroid
POS	2000		2	UMUF	Y	Y	2	40.435042	-123.943109	H 01N 02E 27	Quarter-section centroid
POS	2000-03-19	2229	1	UM				40.427628	-123.952897	H 01N 02E 33	Quarter-section centroid
POS	2000-03-20	1059	1	UU				40.442536	-123.933274	H 01N 02E 27	Quarter-section centroid
POS	2000-03-21	0955	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
NEG	2000-03-28	0830	0					40.438776	-123.938174	H 01N 02E 27	Section centroid
POS	2000-04-06	0839	1	UU				40.442466	-123.943072	H 01N 02E 27	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-04-10	2136	0					40.423939	-123.957784	H 01N 02E 33	Section centroid
POS	2000-04-19	1320	2	UMUF	Y			40.442536	-123.933274	H 01N 02E 27	Quarter-section centroid
POS	2000-04-21	1230	1	UM				40.442466	-123.943072	H 01N 02E 27	Quarter-section centroid
POS	2000-05-01	0842	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2000-05-12	0900	2	UMUF	Y	Y		40.435042	-123.943109	H 01N 02E 27	Quarter-section centroid
POS	2000-06-14	0955	2	UMUF	Y	Y	2	40.438283	-123.942306	H 01N 02E 27	Contributor
NEG	2000-06-23	2136	0					40.423939	-123.957784	H 01N 02E 33	Section centroid
AC	2001		2	UMUF	Y	Y	2	40.437977	-123.942266	H 01N 02E 27	Contributor
POS	2001		2	UMUF	Y			40.437977	-123.942266	H 01N 02E 27	Activity center
POS	2001-03-23		2	AMAF	Y			40.437977	-123.942266	H 01N 02E 27	Activity center
POS	2001-08-27		0				2	40.437977	-123.942266	H 01N 02E 27	Activity center
POS	2002		2	UMUF	Y			40.435042	-123.943109	H 01N 02E 27	Quarter-section centroid
NEG	2003		0					40.439580	-123.941239	H 01N 02E 27	Contributor
POS	2003-07-22	2206	1	UF				40.438776	-123.938174	H 01N 02E 27	Section centroid
NEG	2005		0					40.437697	-123.941237	H 01N 02E 27	Contributor
NEG	2005-05-13	1045	0					40.437977	-123.942266	H 01N 02E 27	Activity center
NEG	2005-08-25	0640	0					40.437977	-123.942266	H 01N 02E 27	Activity center

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2005-08-26	0715	0					40.437977	-123.942266	H 01N 02E 27	Activity center
Masterowl: HUM0614 Subspecies: NORTHERN											
POS	1992		2	UMUF	Y			40.433709	-123.929686	H 01N 02E 27	Contributor
POS	1994-05-12		2	AMAF	Y			40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	1994-07-27		2	SMSF				40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	1994-08-30		0				1	40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	1995-08-22		1	UM				40.434236	-123.926958	H 01N 02E 26	Activity center
POS	1995-08-23		2	UMUF	Y			40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	1996-05-27		1	UF				40.449885	-123.923529	H 01N 02E 23	Quarter-section centroid
POS	1996-06-28		2	UMUF	Y	Y	2	40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
NEG	1997		0					40.449885	-123.923529	H 01N 02E 23	Quarter-section centroid
POS	1997-05-01		2	UMUF	Y	N		40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	1998-05-04		2	UMUF	Y	Y	1	40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	1999		2	UMUF	Y		2	40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2000		2	UMUF	Y			40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2000-03-21	0955	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
NEG	2000-03-28	1131	0					40.435095	-123.933266	H 01N 02E 27	Activity center

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-04-10	0815	0					40.435095	-123.933266	H 01N 02E 27	Activity center
POS	2000-04-19	1320	2	UMUF	Y			40.442536	-123.933274	H 01N 02E 27	Quarter-section centroid
POS	2000-05-01	0842	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2000-06-03	1609	2	UMUF	Y			40.435095	-123.933266	H 01N 02E 27	Activity center
NEG	2000-07-07	0800	0					40.435095	-123.933266	H 01N 02E 27	Activity center
NEG	2000-07-31	0645	0					40.435095	-123.933266	H 01N 02E 27	Activity center
POS	2001		2	UMUF	Y	Y	2	40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2001-03-13	1711	2	UMUF	Y			40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2001-04-12	1245	2	UMUF	Y			40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2001-04-26	1202	2	UMUF	Y	Y		40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2001-06-07	1600	2	UMUF	Y	Y	2	40.432277	-123.933026	H 01N 02E 27	Contributor
POS	2002		2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
NEG	2003-03-12	0835	0					40.434236	-123.926958	H 01N 02E 26	Activity center
POS	2003-04-18	0800	1	UM				40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2003-05-19	0730	1	UF				40.436188	-123.929520	H 01N 02E 27	Contributor
NEG	2003-06-02	0735	0					40.434236	-123.926958	H 01N 02E 26	Activity center
POS	2003-07-02	2242	1	UM				40.432277	-123.933026	H 01N 02E 27	Activity center

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2003-07-03	0753	1	UM				40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2003-07-28	2149	1	UM				40.432277	-123.933026	H 01N 02E 27	Activity center
NEG	2003-07-29	0550	0					40.434236	-123.926958	H 01N 02E 26	Activity center
POS	2005		2	UMUF	Y			40.431299	-123.926988	H 01N 02E 35	Contributor
POS	2005-03-09	0715	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2005-04-15	0720	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2005-05-03	0700	2	UMUF	Y			40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
NEG	2005-07-07	0618	0					40.434236	-123.926958	H 01N 02E 26	Activity center
POS	2005-07-20	0925	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2006		2	UMUF	Y			40.431289	-123.927000	H 01N 02E 35	Contributor
POS	2006-03-09	0745	2	UMUF	Y			40.434236	-123.926958	H 01N 02E 26	Contributor
POS	2006-04-25	1630	1	UM	Y			40.435017	-123.962492	H 01N 02E 28	Quarter-section centroid
POS	2006-05-04	1633	1	UM	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2006-05-09	1700	1	UM	Y			40.435017	-123.962492	H 01N 02E 28	Quarter-section centroid
NEG	2006-05-24	1545	0					40.434236	-123.926958	H 01N 02E 26	Activity center
POS	2006-07-07	0921	1	UM	Y			40.435017	-123.962492	H 01N 02E 28	Quarter-section centroid
POS	2008		2	UMUF	Y			40.429611	-123.928486	H 01N 02E 34	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2009		2	UMUF	Y			40.429582	-123.928449	H 01N 02E 34	Contributor
POS	2010		2	UMUF	Y		2	40.432119	-123.926591	H 01N 02E 26	Contributor
POS	2011		2	UMUF	Y	Y	0	40.431640	-123.926487	H 01N 02E 26	Contributor
POS	2012		2	UMUF	Y			40.431642	-123.926489	H 01N 02E 26	Contributor
POS	2013		2	UMUF	Y	Y	1	40.432121	-123.926588	H 01N 02E 26	Contributor
POS	2013-03-26	1106-1230	2	UMUF	Y			40.427652	-123.933368	H 01N 02E 34	Quarter-section centroid
POS	2013-04-25	1648-1900	2	UMUF	Y			40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2013-05-03	1045-1230	2	UMUF	Y			40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2013-06-11	1915-2000	2	UMUF	Y			40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2013-06-25	1735-1840	2	UMUF	Y		1	40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2013-07-08	1830-1950	2	UMUF	Y		1	40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2014-03-21	0945-1045	1	UM				40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2014-04-10	1607-1700	1	UF				40.427654	-123.923638	H 01N 02E 35	Quarter-section centroid
POS	2014-04-22	1520-1700	1	UF				40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2014-07-02	1820-1920	1	UF				40.427654	-123.923638	H 01N 02E 35	Quarter-section centroid
POS	2014-08-05	1930-2130	2	UMUF	Y			40.427652	-123.933368	H 01N 02E 34	Quarter-section centroid
POS	2014-08-27	1444-1530	2	UMUF	Y			40.427654	-123.923638	H 01N 02E 35	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2015-03-09	1540-1720	0					40.432121	-123.926588	H 01N 02E 26	Activity center
POS	2015-03-18	1500-1630	1	UF				40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2015-04-15	2102-2137	1	UF				40.420079	-123.923940	H 01N 02E 35	Quarter-section centroid
POS	2015-04-16	1330-1710	1	UF				40.427652	-123.933368	H 01N 02E 34	Quarter-section centroid
POS	2015-05-11	1745-1910	1	UF				40.427654	-123.923638	H 01N 02E 35	Quarter-section centroid
NEG	2015-06-17	1944-2013	0					40.432121	-123.926588	H 01N 02E 26	Activity center
POS	2015-06-18	1550-1805	2	UMUF	Y			40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2015-07-15	1733-1812	1	UF				40.427652	-123.933368	H 01N 02E 34	Quarter-section centroid
NEG	2015-08-07	1147-1316	0					40.432121	-123.926588	H 01N 02E 26	Activity center
NEG	2015-08-14	1110-1217	0					40.432121	-123.926588	H 01N 02E 26	Activity center
POS	2015-08-18	1800-1910	1	UF				40.435146	-123.923516	H 01N 02E 26	Quarter-section centroid
POS	2016-03-04	1120-1248	1	UF				40.427654	-123.923638	H 01N 02E 35	Quarter-section centroid
NEG	2016-04-19	1718-1824	0					40.432121	-123.926588	H 01N 02E 26	Activity center
POS	2016-04-28	1030-1209	1	UF				40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2016-04-28	1422-1735	1	UF				40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2016-06-02	1725-1835	2	UMUF	Y			40.435095	-123.933266	H 01N 02E 27	Quarter-section centroid
POS	2017-03-09	0930-1330	1	UM				40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2017-04-03	1715-1855	1	UM				40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
NEG	2017-04-18	1225-1420	0					40.432121	-123.926588	H 01N 02E 26	Activity center
NEG	2017-05-09	1632-1929	0					40.432121	-123.926588	H 01N 02E 26	Activity center
AC	2017-05-18	1645-1930	2	UMUF	Y	Y		40.432121	-123.926588	H 01N 02E 26	Contributor
POS	2017-06-13	1805-1900	2	UMUF	Y	Y	1	40.432121	-123.926588	H 01N 02E 26	Contributor
POS	2017-06-13	1110-1426	2	UMUF	Y	Y		40.432121	-123.926588	H 01N 02E 26	Contributor
POS	2017-06-21	1648-1759	2	UMUF	Y		1	40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
POS	2017-06-27	1610-1717	2	UMUF	Y	Y	1	40.432121	-123.926588	H 01N 02E 26	Contributor
POS	2017-08-30	1835-1940	2	UMUF	Y	Y	1	40.432121	-123.926588	H 01N 02E 26	Contributor
Masterowl: HUM0616 Subspecies: NORTHERN											
POS	1992		1	UF				40.451570	-123.931312	H 01N 02E 22	Contributor
POS	1992		2	UMUF	Y			40.446097	-123.945222	H 01N 02E 27	Contributor
POS	1994-06-21		2	AMAF	Y		2	40.449890	-123.942987	H 01N 02E 22	Quarter-section centroid
POS	1994-06-29		1	SF				40.439251	-123.949488	H 01N 02E 28	Activity center
POS	1994-07-27		1	SM				40.435016	-123.952848	H 01N 02E 28	Quarter-section centroid
POS	1995-05-10		2	UMUF	Y		0	40.449890	-123.942987	H 01N 02E 22	Quarter-section centroid
POS	1996-04-05		2	UMUF	Y	Y		40.450985	-123.948934	H 01N 02E 21	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	1997-05-09		2	UMUF	Y	N		40.449847	-123.952586	H 01N 02E 21	Quarter-section centroid
POS	1998-05-12		2	UMUF	Y	Y		40.447160	-123.953951	H 01N 02E 21	Contributor
POS	1999		2	UMUF	Y			40.449847	-123.952586	H 01N 02E 21	Quarter-section centroid
POS	2000		2	UMUF	Y	Y	2	40.446913	-123.951117	H 01N 02E 21	Contributor
POS	2000-03-14	1124	2	UMUF	Y			40.449847	-123.952586	H 01N 02E 21	Quarter-section centroid
POS	2000-04-26	1215	1	UM				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2001		2	UMUF	Y			40.449847	-123.952586	H 01N 02E 21	Quarter-section centroid
POS	2002		2	UMUF	Y			40.449847	-123.952586	H 01N 02E 21	Quarter-section centroid
POS	2003		1	UM				40.448442	-123.952507	H 01N 02E 21	Contributor
POS	2003-03-03	2038	2	UMUF				40.438689	-123.957580	H 01N 02E 28	Section centroid
NEG	2003-03-04	0811	0					40.439251	-123.949488	H 01N 02E 28	Activity center
POS	2003-03-26	2147	1	UM				40.438689	-123.957580	H 01N 02E 28	Section centroid
POS	2003-04-06	1953	1	UM				40.438689	-123.957580	H 01N 02E 28	Section centroid
POS	2003-04-07	1615	1	AM				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2003-04-15	0840	1	UU				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2003-05-01	2311	1	UU				40.438689	-123.957580	H 01N 02E 28	Section centroid
POS	2003-05-02	0730	1	UM				40.442843	-123.952050	H 01N 02E 28	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2003-05-19	1030	0					40.439251	-123.949488	H 01N 02E 28	Activity center
POS	2003-06-24	1100	1	UM				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2003-07-02	2330	1	UF				40.438689	-123.957580	H 01N 02E 28	Section centroid
POS	2003-07-03	0609	1	UM				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2003-07-22	2215	1	UU				40.438689	-123.957580	H 01N 02E 28	Section centroid
NEG	2003-07-23	0800	0					40.439251	-123.949488	H 01N 02E 28	Activity center
POS	2003-07-28	2100	1	UU				40.438689	-123.957580	H 01N 02E 28	Section centroid
NEG	2003-07-29	0915	0					40.439251	-123.949488	H 01N 02E 28	Activity center
POS	2005		2	UMUF	Y	Y	2	40.439559	-123.950318	H 01N 02E 28	Contributor
POS	2005-03-11	0850	1	UF				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2005-04-15	0810	2	UMUF	Y			40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2005-05-03	1145	2	UMUF	Y	Y		40.439703	-123.951487	H 01N 02E 28	Contributor
POS	2005-06-09	1033	2	UMUF	Y	Y		40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2005-06-23	1000	2	UMUF	Y		2	40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid
POS	2006		1	UF				40.439550	-123.950330	H 01N 02E 28	Contributor
NEG	2006-03-21	1630	0					40.439251	-123.949488	H 01N 02E 28	Activity center
POS	2006-04-10	1702	1	UF				40.442404	-123.952752	H 01N 02E 28	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2006-06-02	0812	0					40.439251	-123.949488	H 01N 02E 28	Activity center
NEG	2006-07-11	1700	0					40.439251	-123.949488	H 01N 02E 28	Activity center
POS	2008		2	UMUF	Y	Y		40.439251	-123.949488	H 01N 02E 28	Contributor
POS	2009		2	UMUF	Y		2	40.445190	-123.951502	H 01N 02E 28	Contributor
POS	2010		2	UMUF	Y		1	40.445282	-123.953203	H 01N 02E 28	Contributor
AC	2011		2	UMUF	Y	Y	1	40.445176	-123.951506	H 01N 02E 28	Contributor
POS	2012		1	UF				40.445179	-123.951502	H 01N 02E 28	Contributor
POS	2013-03-06	1640-1730	1	UM				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2013-04-01	1705-1810	1	UM				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2013-04-09	1720-1840	1	UM				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2013-04-10	0930-1200	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2013-04-25	1630-1910	2	UMUF	Y			40.445179	-123.951502	H 01N 02E 28	Contributor
POS	2013-05-20	1800-1930	2	UMUF	Y			40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2013-05-22	1700-1835	2	UMUF	Y			40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2013-05-22	1700-1825	1	UM				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2013-07-30	0945-1328	2	UMUF	Y			40.449845	-123.952591	H 01N 02E 21	Quarter-section centroid
POS	2014-03-20	1745-1915	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2014-04-09	1630-1800	0					40.445179	-123.951502	H 01N 02E 28	Activity center
POS	2014-04-10	1733-1900	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2014-04-21	1722-1845	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2014-04-22	1845-2020	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2014-06-16	1610-1745	2	UMUF	Y			40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2014-07-25	1000-1118	2	UMUF	Y			40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2015		1	UF				40.445179	-123.951503	H 01N 02E 28	Activity center
POS	2015-03-18	1700-1800	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
POS	2015-04-16	1416-1922	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
NEG	2015-05-05	1605-1700	0					40.445179	-123.951502	H 01N 02E 28	Activity center
NEG	2015-05-18	1630-1754	0					40.445179	-123.951502	H 01N 02E 28	Activity center
POS	2015-05-28	1539-1625	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
NEG	2015-06-18	1900-2010	0					40.445179	-123.951502	H 01N 02E 28	Activity center
POS	2015-07-14	1619-1704	1	UF				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
NEG	2015-08-07	0930-1108	0					40.445179	-123.951502	H 01N 02E 28	Activity center
NEG	2015-08-18	0955-1234	0					40.445179	-123.951502	H 01N 02E 28	Activity center
NEG	2016-03-04	0828-1052	0					40.445179	-123.951502	H 01N 02E 28	Activity center

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2016-04-28	1900-1945	0					40.445179	-123.951502	H 01N 02E 28	Activity center
NEG	2016-07-06	1550-1725	0					40.445179	-123.951502	H 01N 02E 28	Activity center
POS	2016-08-18	1540-1925	1	UM				40.442407	-123.952747	H 01N 02E 28	Quarter-section centroid
NEG	2016-08-31	0915-1150	0					40.445179	-123.951502	H 01N 02E 28	Activity center
NEG	2017-03-17	0915-1140	0					40.445179	-123.951502	H 01N 02E 28	Activity center
NEG	2017-07-05	1045-1357	0					40.445179	-123.951502	H 01N 02E 28	Activity center
NEG	2017-07-24	1045-1330	0					40.445179	-123.951502	H 01N 02E 28	Activity center
Masterowl: HUM0810 Subspecies: NORTHERN											
POS	1995-06-12		2	UMUF	Y		0	40.449799	-123.913858	H 01N 02E 23	Quarter-section centroid
POS	1995-06-20		1	AM				40.445313	-123.934197	H 01N 02E 27	Activity center
POS	1995-08-23		1	AF				40.445313	-123.934197	H 01N 02E 27	Activity center
POS	1996-07-29		2	UMUF	Y			40.449799	-123.913858	H 01N 02E 23	Quarter-section centroid
POS	1997-04-16		1	UM				40.449799	-123.913858	H 01N 02E 23	Quarter-section centroid
POS	1998		1	UU				40.449799	-123.913858	H 01N 02E 23	Quarter-section centroid
NEG	1999		0					40.449799	-123.913858	H 01N 02E 23	Quarter-section centroid
POS	2000		1	UM				40.457147	-123.923440	H 01N 02E 23	Quarter-section centroid
POS	2001		2	UMUF	Y	Y	2	40.449906	-123.933246	H 01N 02E 22	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2001-03-07	0820	0					40.453482	-123.918649	H 01N 02E 23	Section centroid
POS	2001-03-21	0745	2	UMUF	Y			40.449885	-123.923529	H 01N 02E 23	Quarter-section centroid
POS	2001-03-23	0824	2	UMUF	Y			40.449885	-123.923529	H 01N 02E 23	Quarter-section centroid
POS	2001-04-03	1033	2	UMUF	Y			40.449885	-123.923529	H 01N 02E 23	Quarter-section centroid
POS	2001-04-23	0933	2	UMUF	Y	Y		40.453482	-123.918649	H 01N 02E 23	Section centroid
POS	2001-06-13	0916	2	UMUF	Y	Y	1	40.449885	-123.923529	H 01N 02E 23	Quarter-section centroid
POS	2001-07-23	1022	2	UMUF	Y	Y	2	40.453482	-123.918649	H 01N 02E 23	Section centroid
POS	2001-08-06	0730	2	UMUF	Y	Y	2	40.442536	-123.933274	H 01N 02E 27	Quarter-section centroid
AC	2001-08-16	0750	2	UMUF	Y	Y	2	40.445313	-123.934197	H 01N 02E 27	Contributor
POS	2001-08-17		0				1	40.453482	-123.918649	H 01N 02E 23	Section centroid
NEG	2002		0					40.449906	-123.933246	H 01N 02E 22	Quarter-section centroid
Masterowl: HUM0942 Subspecies: NORTHERN											
POS	1999		1	UU				40.405606	-123.963169	H 01S 02E 04	Quarter-section centroid
NEG	2000		0					40.405606	-123.963169	H 01S 02E 04	Quarter-section centroid
POS	2000		1	UU				40.405541	-123.973102	H 01S 02E 05	Quarter-section centroid
AC	2001		1	UU				40.406310	-123.969519	H 01S 02E 05	Contributor
NEG	2002		0					40.405541	-123.973102	H 01S 02E 05	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2008		1	UU				40.403604	-123.959180	H 01S 02E 04	Contributor
Masterowl: HUM1082 Subspecies: NORTHERN											
AC	2010		2	UMUF	Y		1	40.438385	-123.919572	H 01N 02E 26	Contributor
NEG	2011		0					40.438385	-123.919572	H 01N 02E 26	Activity center
POS	2012		1	UF				40.438385	-123.919572	H 01N 02E 26	Activity center
NEG	2013		0					40.438385	-123.919572	H 01N 02E 26	Activity center
POS	2014-07-21	1742-1845	1	UF				40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
NEG	2014-08-05	2004-2040	0					40.438385	-123.919572	H 01N 02E 26	Activity center
NEG	2015-04-02	1100-1255	0					40.438385	-123.919572	H 01N 02E 26	Activity center
NEG	2015-05-11	1728-1935	0					40.438385	-123.919572	H 01N 02E 26	Activity center
POS	2015-07-15	1946-2056	1	UU				40.438385	-123.919572	H 01N 02E 26	Activity center
NEG	2017-05-17	1703-1916	0					40.438385	-123.919572	H 01N 02E 26	Activity center
POS	2017-08-25	0845-1100	1	UF				40.435146	-123.923522	H 01N 02E 26	Quarter-section centroid
Masterowl: HUM1106 Subspecies: NORTHERN											
AC	2015-06-19	1106-1330	1	UM				40.427656	-123.951987	H 01N 02E 33	Contributor
POS	2015-07-07	1658-1742	1	UM				40.427633	-123.952892	H 01N 02E 33	Quarter-section centroid
POS	2016-07-18	1645-1735	1	UU				40.427633	-123.952892	H 01N 02E 33	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2016-08-03	1500-1900	0					40.427656	-123.951987	H 01N 02E 33	Activity center
NEG	2016-08-16	1556-1816	0					40.427656	-123.951987	H 01N 02E 33	Activity center
POS	2017-06-19	1740-1835	1	UU				40.427628	-123.952897	H 01N 02E 33	Quarter-section centroid
NEG	2017-08-06	1630-1730	0					40.427656	-123.951987	H 01N 02E 33	Activity center
NEG	2017-08-09	1630-1840	0					40.427656	-123.951987	H 01N 02E 33	Activity center
NEG	2017-08-30	1545-1745	0					40.427656	-123.951987	H 01N 02E 33	Activity center
Masterowl: HUM1117 Subspecies: NORTHERN											
POS	2011		1	UU		Y		40.402496	-123.921432	H 01S 02E 02	Contributor
POS	2012		2	UMUF	Y	N		40.402496	-123.921432	H 01S 02E 02	Activity center
AC	2013		2	UMUF	Y	Y		40.404110	-123.921208	H 01S 02E 02	Contributor
POS	2014		2	UMUF	Y			40.404110	-123.921208	H 01S 02E 02	Activity center
POS	2015		2	UMUF	Y	N		40.404110	-123.921208	H 01S 02E 02	Activity center
POS	2016-03-07	2051-2101	1	UU				40.408543	-123.923995	H 01S 02E 02	Contributor
NEG	2016-03-07	1800-1920	0					40.404110	-123.921208	H 01S 02E 02	Activity center
NEG	2016-03-07	2012-2022	0					40.402333	-123.926729	H 01S 02E 02	Contributor
NEG	2016-03-07	1958-2008	0					40.401282	-123.921955	H 01S 02E 11	Contributor
NEG	2016-03-07	2024-2034	0					40.405340	-123.927566	H 01S 02E 02	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2016-03-07	1931-1946	0					40.403596	-123.921181	H 01S 02E 02	Contributor
NEG	2016-03-08	0900-1130	0					40.408889	-123.919869	H 01S 02E 02	Section centroid
POS	2016-05-25	1920-2045	1	UU				40.405214	-123.919911	H 01S 02E 02	Half-section centroid
POS	2016-06-30	1715-1815	1	UU				40.405214	-123.919911	H 01S 02E 02	Half-section centroid
POS	2017-04-13	1952-2030	2	UMUF	Y			40.401282	-123.921955	H 01S 02E 11	Contributor
NEG	2017-04-13	1730-1930	0					40.405214	-123.919911	H 01S 02E 02	Half-section centroid
NEG	2017-04-13	1935-1945	0					40.403596	-123.921181	H 01S 02E 02	Contributor
POS	2017-05-26	1830-2000	1	UF				40.401282	-123.921955	H 01S 02E 11	Contributor
POS	2017-06-20	1830-2000	2	UMUF	Y			40.401282	-123.921955	H 01S 02E 11	Contributor
NEG	2018-04-04	1700-1900	0					40.405285	-123.924699	H 01S 02E 02	Quarter-section centroid
NEG	2018-05-18	0059-0109	0					40.401282	-123.921955	H 01S 02E 11	Contributor
NEG	2018-05-18	0007-0017	0					40.405340	-123.927566	H 01S 02E 02	Contributor
NEG	2018-05-18	0021-0031	0					40.402333	-123.926729	H 01S 02E 02	Contributor
NEG	2018-05-18	2338-2348	0					40.408543	-123.923995	H 01S 02E 02	Contributor
NEG	2018-05-18	0037-0047	0					40.403596	-123.921181	H 01S 02E 02	Contributor
NEG	2018-05-31	2205-2215	0					40.405340	-123.927566	H 01S 02E 02	Contributor
NEG	2018-05-31	2218-2228	0					40.408543	-123.923995	H 01S 02E 02	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2018-05-31	2119-2135	1	UU				40.401282	-123.921955	H 01S 02E 11	Contributor
POS	2018-06-06	1757-1820	1	UU				40.403502	-123.921572	H 01S 02E 02	Contributor
Positive Spotted Owl detections not associated with a known Activity Center Subspecies: NORTHERN											
POS	2002		1	UF				40.427645	-123.943136	H 01N 02E 34	Quarter-section centroid
POS	2013-03-26	1013-1100	1	UM				40.427647	-123.943132	H 01N 02E 34	Quarter-section centroid
POS	2015-05-18	2311-2340	1	UU				40.427647	-123.943132	H 01N 02E 34	Quarter-section centroid
POS	2015-07-10	0945-1140	1	UM				40.427652	-123.933368	H 01N 02E 34	Quarter-section centroid
Additional surveys within the search area with no Spotted Owls detected											
NEG	2003		0					40.430829	-123.940504	H 01N 02E 34	Contributor
NEG	2014-07-21	0945-1130	0					40.429509	-123.941076	H 01N 02E 34	Activity center
NEG	2015-05-11	1530-1735	0					40.429509	-123.941076	H 01N 02E 34	Activity center
NEG	2015-05-19	1507-1814	0					40.429509	-123.941076	H 01N 02E 34	Activity center
NEG	2016-07-18	1839-2008	0					40.429509	-123.941076	H 01N 02E 34	Activity center
NEG	2017-07-12	1813-1939	0					40.429509	-123.941076	H 01N 02E 34	Activity center
NEG	2017-08-09	1620-1745	0					40.429509	-123.941076	H 01N 02E 34	Activity center

Appendix C

Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation for APN: 209-331-002, Holmes, Humboldt County

Wetland Delineation Data Forms and Associated Maps

July 2019

Wetland Determination Data Form TP-1
Wetland Determination Data Form TP-2
Wetland Determination Data Form TP-3
Wetland Determination Data Form TP-4
National Cooperative Soil Survey Map
National Wetlands Inventory Map

Pacific Watershed Associates
Georgia Hamer
Greg Davis
Margo Moorhouse

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 5497 Williamson City/County: Holmes/Humboldt Sampling Date: 6-17-2019

Applicant/Owner: Wyatt Williamson State: CA Sampling Point: TP-1

Investigator(s): Greg Davis Section, Township, Range: Redcrest USGS 7.5-Minute Quadrangle, Section 10, T1N, R2E

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRR-A Lat: 40.415665° Long: -123.945162° Datum: WGS84

Soil Map Unit Name: 110 - Weott, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
This wetland is located on the fringe of the alfalfa field and tree line. There was some vegetation clearing on the slope to the south and slash piles now exist in the proximity of this wetland, along with mounded spoils that make the boundary of the wetland difficult to discern in some locations.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 10 ft x 10 ft)			
1. Alisma lanceolatum	90	X	OBL
2. Mentha pulegium	10		FACW
3. Holcus lanatus	10		FAC
4. Rumex acetosella	5		FACU
5. Ranunculus repens	5		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
There is an old spoil pile east of TP-1, potentially from pond excavation on adjacent parcel or from activities on the hillslope to the south.

SOIL

Sampling Point: TP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	5G 3/1	100					SiL	greasy, organic modified
5-17	10R 4/1	95	10R 5/6	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☑ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Clay layer 5-17 in acts as a restrictive layer for water, 0-5 in layer was inundated in some areas and completely saturated in other areas.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 5497 Williamson City/County: Holmes/Humboldt Sampling Date: 6-17-2019

Applicant/Owner: Wyatt Williamson State: CA Sampling Point: TP-1

Investigator(s): Greg Davis Section, Township, Range: Redcrest USGS 7.5-Minute Quadrangle, Section 10, T1N, R2E

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRR-A Lat: 40.415665° Long: -123.945162° Datum: WGS84

Soil Map Unit Name: 110 - Weott, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
This wetland is located on the fringe of the alfalfa field and tree line. There was some vegetation clearing on the slope to the south and slash piles now exist in the proximity of this wetland, along with mounded spoils that make the boundary of the wetland difficult to discern in some locations.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10 ft x 10 ft)			
1. Alisma lanceolatum	90	X	OBL
2. Mentha pulegium	10		FACW
3. Holcus lanatus	10		FAC
4. Rumex acetosella	5		FACU
5. Ranunculus repens	5		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
There is an old spoil pile east of TP-1, potentially from pond excavation on adjacent parcel or from activities on the hillslope to the south.

SOIL

Sampling Point: TP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	5G 3/1	100					SiL	greasy, organic modified
5-17	10R 4/1	95	10R 5/6	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- [✓] Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- [✓] Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Clay layer 5-17 in acts as a restrictive layer for water, 0-5 in layer was inundated in some areas and completely saturated in other areas.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- [✓] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- [✓] FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 5497 Williamson City/County: Holmes/Humboldt Sampling Date: 6-17-2019

Applicant/Owner: Wyatt Williamson State: CA Sampling Point: TP-1

Investigator(s): Greg Davis Section, Township, Range: Redcrest USGS 7.5-Minute Quadrangle, Section 10, T1N, R2E

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRR-A Lat: 40.415665° Long: -123.945162° Datum: WGS84

Soil Map Unit Name: 110 - Weott, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
This wetland is located on the fringe of the alfalfa field and tree line. There was some vegetation clearing on the slope to the south and slash piles now exist in the proximity of this wetland, along with mounded spoils that make the boundary of the wetland difficult to discern in some locations.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10 ft x 10 ft)			
1. Alisma lanceolatum	90	X	OBL
2. Mentha pulegium	10		FACW
3. Holcus lanatus	10		FAC
4. Rumex acetosella	5		FACU
5. Ranunculus repens	5		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: _____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
There is an old spoil pile east of TP-1, potentially from pond excavation on adjacent parcel or from activities on the hillslope to the south.

SOIL

Sampling Point: TP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	5G 3/1	100					SiL	greasy, organic modified
5-17	10 R 4/1	95	10 R 5/6	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- [✓] Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Clay layer 5-17 in acts as a restrictive layer for water, 0-5 in layer was inundated in some areas and completely saturated in other areas.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- [✓] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- [✓] Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- [✓] FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 5497 Williamson City/County: Holmes/Humboldt Sampling Date: 6-17-2019

Applicant/Owner: Wyatt Williamson State: CA Sampling Point: TP-1

Investigator(s): Greg Davis Section, Township, Range: Redcrest USGS 7.5-Minute Quadrangle, Section 10, T1N, R2E

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRR-A Lat: 40.415665° Long: -123.945162° Datum: WGS84

Soil Map Unit Name: 110 - Weott, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
This wetland is located on the fringe of the alfalfa field and tree line. There was some vegetation clearing on the slope to the south and slash piles now exist in the proximity of this wetland, along with mounded spoils that make the boundary of the wetland difficult to discern in some locations.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
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4. Rumex acetosella	5		FACU
5. Ranunculus repens	5		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
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- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
There is an old spoil pile east of TP-1, potentially from pond excavation on adjacent parcel or from activities on the hillslope to the south.

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Sampling Point: TP-1

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5-17	10R 4/1	95	10R 5/6	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
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- ☑ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Clay layer 5-17 in acts as a restrictive layer for water, 0-5 in layer was inundated in some areas and completely saturated in other areas.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
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- ___ Inundation Visible on Aerial Imagery (B7)
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- ___ Salt Crust (B11)
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- ___ Hydrogen Sulfide Odor (C1)
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- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☑ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
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- ☑ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soil Map—Humboldt County, South Part, California

Map Scale: 1:3,490 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 50, 100, 200, 300

Feet: 0, 150, 300, 600, 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- ~~Landfill~~
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- ~~Sinkhole~~
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California
Survey Area Data: Version 7, Sep 13, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Nov 6, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
110	Weott, 0 to 2 percent slopes	25.6	57.8%
179	Eelriver and Cottoneva soils, 0 to 2 percent slopes	2.3	5.2%
384	Scoutcamp-Rootcreek-Redcrest complex, 30 to 50 percent slopes	16.4	37.0%
Totals for Area of Interest		**44.3**	**100.0%**

U.S. Fish and Wildlife Service

National Wetlands Inventory

USFWS National Wetlands Inventory

June 19, 2019

Wetlands

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

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Appendix D

Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation for APN: 209-331-002, Holmes, Humboldt County

Northern Spotted Owl Survey
Holmgren Forestry
Cameron Holmgren

July 2019

Pacific Watershed Associates
Georgia Hamer
Greg Davis
Margo Moorhouse

AMENDMENT NO 3 (Minor)

Holmgren Forestry
PO Box 247
Fortuna, CA 95540
(707) 599-6416
holmgrenforestry@hotmail.com

This amendment conforms to the rules and the regulations of the Board of Forestry and the Forest Practice Act.
Reviewed by MB/ccc date routed 7-10-19
cc: Unit (2), BOE, SUB, RPF

NSO
Valid Until: 2/1/2020

June 6, 2019

CAL FIRE Review Team
135 Ridgeway Avenue
Santa Rosa, CA 95401

Re: Holmes THP 1-18-163HUM Minor Amendment #3. Request for NSO Compliance Review

Dear CAL FIRE Representative,

On behalf of the landowners, I request compliance review from CAL FIRE regarding Northern spotted owls (NSO) for the Holmes THP 1-18-163HUM

There is one NSO Activity Center HUM1108 within 0.7 air miles of the plan area. All NSO surveys followed Take Avoidance USFWS Scenario 4 using "Attachment A". All surveys were called with a digital caller. NSO survey stations are place to cover as much of the THP 0.7 mile buffer as possible, however some locations are not possible to survey due to private property constraints.

2019 was the second year of protocol surveys for the Holmes THP area. In 2019 the nearby Childs NTMP landowners are not willing to share NSO data so two new overlapping calling stations 6 & 7 were added. In 2019 six complete visits were called from stations 1-7. There were no NSO or Barred owl detections.

In 2018 six complete visits were called from stations 1-5. There were no NSO or Barred owl detections.

The THP is one unit totaling 16.7 acres. The THP is located in Section 34, T1N, R2E & Section 3, T1S, R2E; HB&M, Humboldt County. The silviculture is group selection/selection. The primary timber types are redwood, Douglas-fir, tanoak and madrone with a small component of alder, maple and pepperwood. Canopy cover ranges from 20% to 100% and is typed as 16 acres of Nesting/Roosting habitat and 0.7 acres of non-habitat. After timber operations are complete 11 acres of Nesting/Roosting habitat will be reduced to Foraging habitat. NSO suitable habitat will not be reduced. (See Habitat Maps with acres).

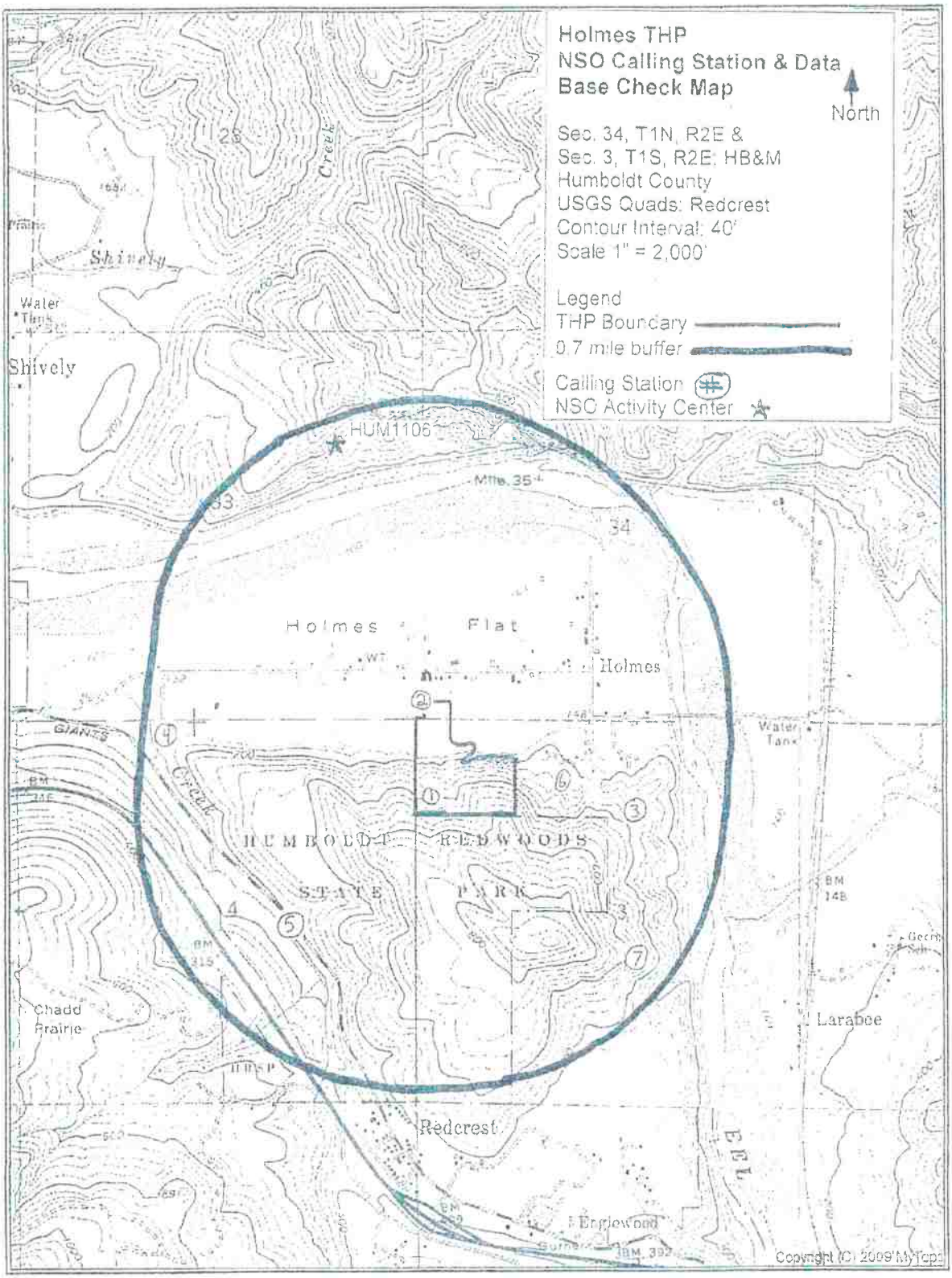
Please see attachments as follows:

- NSO Calling Station Map
- 2019 NSO Surveys (6)

Thank you,

Cameron Holmgren, RPF #2929

RECEIVED
JUN - 7 2019



SCALE 1:24000

0 1000 2000 3000 4000 5000 6000

Feet

Northern Spotted Owl Survey Form

Visit # 1

Project: Holmes THP

Observer: Justin Tallman | Date: 3/12/19 | Weather, Wind, Temp.: PC, 1-2, 45

Station*	Start	End	NSO Con/NC	CON Time	Species	Sex	Bearing	Distance	Notes
7	2030	2040	N/C						
3	2130	2140	N/C						
6	2150	2200	N/C						
2	2212	2222	N/C						
1	2240	2250	N/C						
4	2312	2322	N/C						
5	2336	2346	N/C						

*List all stations and note if skipped.

Weather codes:

CL	Clear
FG	Fog
PC	Partly Cloudy
OC	Overcast
DR	Drizzle

Wind Codes:

0	Calm
1	Light Air
2	Light Breeze
3	Gentle Breeze
4	Moderate Breeze
5	Fresh Breeze
6	Strong Breeze

Sex Codes:

M	Male
F	Female
U	Unknown
PR	Pair

Date Logged _____ Date Entered _____

Northern Spotted Owl Survey Form

Visit # 2

Project: Holmes THP

Observer: Justin Tallman | Date: 3/23/19 | Weather, Wind, Temp.: OC 1-2 50

Station*	Start	End	NSO Con/NC	CON Time	Species	Sex	Bearing	Distance	Notes
7	2040	2050	N/C						
3	2130	2140	N/C						
6	2156	2206	N/C						
2	2214	2224	N/C						
1	2239	2249	N/C						
4	2257	2307	N/C						
5	2320	2330	N/C						

*List all stations and note if skipped.

Weather codes:
CL Clear
FG Fog
PC Partly Cloudy
OC Overcast
DR Drizzle

Wind Codes:
0 Calm
1 Light Air
2 Light Breeze
3 Gentle Breeze
4 Moderate Breeze
5 Fresh Breeze
6 Strong Breeze

Sex Codes:
M Male
F Female
U Unknown
FR Pair

Date Logged _____ Date Entered _____

Northern Spotted Owl Survey Form

Visit # 3

Project: Holmes THP

Observer: Justin Tallman | Date: 4-19-19 | Weather, Wind, Temp.: CL 1-2 50

Station*	Start	End	NSO Con/NC	CON Time	Species	Sex	Bearing	Distance	Notes
7	2018	2028	N/C						
3	2046	2056	N/C						
6	2110	2120	N/C						
2	2128	2138	N/C						
1	2152	2202	N/C						
4	2218	2228	N/C						
5	2237	2247	N/C						

*List all stations and note if skipped.

Weather codes:

CL	Clear
FG	Fog
PC	Partly Cloudy
OC	Overcast
DR	Drizzle

Wind Codes:

0	Calm
1	Light Air
2	Light Breeze
3	Gentle Breeze
4	Moderate Breeze
5	Fresh Breeze
6	Strong Breeze

Sex Codes:

M	Male
F	Female
U	Unknown
PR	Pair

Date Logged _____ Date Entered _____

Northern Spotted Owl Survey Form

Visit # 4

Project: Holmes THP

Observer: Justin Tallman | Date: 4/27/19 | Weather, Wind, Temp.: OC/F-2 45

Station*	Start	End	NSO Con/NC	CON Time	Species	Sex	Bearing	Distance	Notes
5	2351	0101	N/C						
4	0109	0119	N/C						fireworks went off in
2	0131	0141	N/C						brush around 0114
1	0156	0206	N/C						
6	0228	0238	N/C						
3	0251	0301	N/C						
7	0328	0338	N/C						

*List all stations and note if skipped.

Weather codes:
CL Clear
FG Fog
PC Partly Cloudy
OC Overcast
DR Drizzle

Wind Codes:
0 Calm
1 Light Air
2 Light Breeze
3 Gentle Breeze
4 Moderate Breeze
5 Fresh Breeze
6 Strong Breeze

Sex Codes:
M Male
F Female
U Unknown
PR Pair

Data Logged _____ Data Entered _____

RECEIVED
JUN - 6 2019
COAST AREA OFFICE
RESOURCE MANAGEMENT

Northern Spotted Owl Survey Form

Visit # 5

Project	Holmes THP		
Observer: Justin Tallman	Date: 5/6/19	Weather, Wind, Temp.: PC 1-2 50-55	

Station*	Start	End	NSO Cor/NC	CON Time	Species	Sex	Bearing	Distance	Notes
5	2339	2349	N/C						
H	2357	0107	N/C						
2	0114	0124	N/C						
1	0136	0146	N/C						Loud frogs
6	0159	0209	N/C						
3	0220	0230	N/C						Loud dogs
7	0247	0257	N/C						

*List all stations and note if skipped.

Weather codes:

CL	Clear
FG	Fog
PC	Partly Cloudy
OC	Overcast
DR	Drizzle

Wind Codes:

0	Calm
1	Light Air
2	Light Breeze
3	Gentle Breeze
4	Moderate Breeze
5	Fresh Breeze
6	Strong Breeze

Sex Codes:

M	Male
F	Female
U	Unknown
PR	Pair

Data Logged _____ Date Entered _____

Northern Spotted Owl Survey Form

Visit # 6

Project: Holmes flat

Observer: Justin Tallman | Date: 5/30/19 | Weather, Wind, Temp.: F6 1. 50

Station*	Start	End	NSO Con/NC	CON Time	Species	Sex	Bearing	Distance	Notes
7	0229	0239	N/C						
3	0251	0301	N/C						
6	0309	0319	N/C						
2	0326	0336	N/C						
1	0349	0359	N/C						
4	0418	0428	N/C						Homeless camp yelling
5	0441	0451	N/C						

*List all stations and note if skipped.

Weather codes:
- CL Clear
- FG Fog
- PC Partly Cloudy
- OC Overcast
- DR Drizzle

Wind Codes:
- 0 Calm
- 1 Light Air
- 2 Light Breeze
- 3 Gentle Breeze
- 4 Moderate Breeze
- 5 Fresh Breeze
- 6 Strong Breeze

Sex Codes:
- M Male
- F Female
- U Unknown
- PR Pair

Data Logged: _____ Data Entered: _____

From: Cameron Holmgren <holmgrenforestry@hotmail.com>
Sent: Thursday, June 6, 2019 12:39 PM
To: Santa Rosa Review Team@CALFIRE
Subject: Holmes THP 1-18-163HUM Minor Amendment #3, Request for NSO Compliance Review
Attachments: scan0730.pdf

Cameron Holmgren, RPF #2929
Holmgren Forestry
PO Box 247
Fortuna, CA 95540
(707) 599-6416 Cell

Curtis, Chris@CALFIRE

From: Baker, Michael@CALFIRE
Sent: Thursday, June 6, 2019 4:29 PM
To: Santa Rosa Review Team@CALFIRE; Curtis, Chris@CALFIRE; Flamik, Glenn@CALFIRE; Headley, Shawn@CALFIRE; Montgomery, Timothy@CALFIRE; Schwab, Dominik@CALFIRE; Stanish, Anastasia@CALFIRE
Cc: Solinsky, Bill@CALFIRE
Subject: RE: Holmes THP 1-18-00163HUM Minor Amendment #3, Request for NSO Compliance Review

Santa Rosa Review Team,

I have reviewed the survey summary, calling stations map, and field data sheets submitted as an amendment request to THP # 1-18-00163 HUM, dated June 6, 2019.

The 2019 USFWS Protocol Surveys, as conducted, meet the requirements of the USFWS 2012 NSO Survey Protocol guidance and zero NSO were detected.
Therefore, no changes to the NSO Protection Measures in the approved plan, as informed by the USFWS guidance, are warranted.

I recommend that this amendment request be accepted and applicable until February 1, 2020.

Michael Baker

Michael D. Baker, Ph.D.
Forest Practice Biologist
Sr. Environmental Scientist
CAL FIRE Sacramento
Email preferred over voicemail
Cell: 916-616-0021

Every Californian should conserve water and keep trees alive.
Find out how at: saveourwater.com/trees · Drought.CA.gov

From: Santa Rosa Review Team@CALFIRE
Sent: Thursday, June 6, 2019 1:56 PM
To: Baker, Michael@CALFIRE <Michael.Baker@fire.ca.gov>; Curtis, Chris@CALFIRE <Chris.Curtis@fire.ca.gov>; Flamik, Glenn@CALFIRE <Glenn.Flamik@fire.ca.gov>; Headley, Shawn@CALFIRE <Shawn.Headley@fire.ca.gov>; Montgomery, Timothy@CALFIRE <timothy.montgomery@fire.ca.gov>; Schwab, Dominik@CALFIRE <Dominik.Schwab@fire.ca.gov>; Stanish, Anastasia@CALFIRE <Anastasia.Stanish@fire.ca.gov>
Subject: FW: Holmes THP 1-18-00163HUM Minor Amendment #3, Request for NSO Compliance Review

From: Cameron Holmgren [mailto:holmgrenforestry@hotmail.com]
Sent: Thursday, June 6, 2019 12:39 PM
To: Santa Rosa Review Team@CALFIRE <SantaRosaReviewTeam@fire.ca.gov>
Subject: Holmes THP 1-18-163HUM Minor Amendment #3, Request for NSO Compliance Review

Warning: this message is from an external user and should be treated with caution.

Cameron Holmgren, RPF #2929
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Fortuna, CA 95540
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Appendix E

Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation for APN: 209-331-002, Holmes, Humboldt County

Photo Page

July 2019

Pacific Watershed Associates
Georgia Hamer
Greg Davis
Margo Moorhouse

Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation

Photo 1- View looking across the property at the proposed project area, with the hayed pasture in the background (Photo June 17, 2019).

Photo 2 – Overlook of the property with Wetland #1 in the foreground (bottom right frame). The redwood stand in the pasture is in line with the central drainage ditch (May 15, 2019).

Photo 3 – View of the forest-pasture fringe south of Wetland #1 (May 15, 2019).

Photo 4 – View of the area adjacent to the western property line and central drainage ditch (Photo June 17, 2019).

Photo 5 – View of Wetland #1 with the boundary at the abrupt vegetation change directly behind PWA staff in photo (May 15, 2019).

Photo 6 – View of hydric soils at TP-1, Wetland #1 (June 17, 2019).

Photo 7 – View of the surface water present at Wetland #1 (Photo June 17, 2019).

Photo 8 – View of Wetland #2, a spring-fed pond at the southern edge of the alfalfa field (May 15, 2019).

Photo 9 – View of the pond overflow of Wetland #2 looking westward towards the property line (May 15, 2019).

Photo 10 – View of Wetland #3 at the southwestern edge of the alfalfa field, looking beyond the property line, marked by the pink flag to the right (Photo June 17, 2019).

Photo 11 – View of Wetland #3 looking beyond property line to the west (Photo June 17, 2019).

Photo 12 – View of the property and beyond looking northwards with the bare rock outcrop on the opposite side of the □el River (May 15, 2019).

Appendix F

Biological Reconnaissance, Protocol Level Survey, and Wetland Delineation for APN: 209-331-002, Holmes, Humboldt County

Species Listing Status Definitions Corresponding to Report Section 3.0

July 2019

Pacific Watershed Associates
Georgia Hamer
Greg Davis
Margo Moorhouse

Species Listing Status Definitions

Definitions within this Appendix correspond to Section 3.0 of the "Biological Reconnaissance, Protocol Level Survey, Wetland Delineation, and nvasive Species Management Plan for APN 209-331-002, Holmes, Humboldt County, California.

All information in this Appendi can be found at

Rare ind ield Descriptions. *RareFind Field Descriptions*, California Department of ish and Wildlife, 2019, map.dfg.ca.gov rarefind view R I ieldDescriptions.htm.

1) **California Rare Plant Rank** - The *California Rare Plant Rank* status applies to plants only. The *California Rare Plant Ranks* are a ranking system originally developed by the California Native Plant Society (CNPS) to better define and categori e rarity in California's flora. These ranks were previously known as the CNPS lists but were renamed to the *California Rare Plant Ranks* to better reflect the joint effort among the CNPS, the CNDDB, and a wide range of botanical e perts, who work together to assign a rarity ranking. All plants tracked by the CNDDB are assigned to a *California Rare Plant Rank* category. These categories are

CA Rare Plant Rank	Description
1A	Plants presumed e tinct in California and rare e tinct elsewhere
1B.1	Plants rare, threatened, or endangered in California and elsewhere seriously threatened in California
1B.2	Plants rare, threatened, or endangered in California and elsewhere fairly threatened in California
1B.3	Plants rare, threatened, or endangered in California and elsewhere not very threatened in California
2A	Plants presumed e tirpated in California, but more common elsewhere
2B.1	Plants rare, threatened, or endangered in California, but more common elsewhere seriously threatened in California
2B.2	Plants rare, threatened, or endangered in California, but more common elsewhere fairly threatened in California
2B.3	Plants rare, threatened, or endangered in California, but more common elsewhere not very threatened in California
3.1	Plants about which we need more information seriously threatened in California

3.2	Plants about which we need more information fairly threatened in California
3.3	Plants about which we need more information not very threatened in California
.1	Plants of limited distribution seriously threatened in California
.2	Plants of limited distribution fairly threatened in California
.3	Plants of limited distribution not very threatened in California

2) **Federal Listing Status** - The nited States legal status under the ederal ndangered Species Act (SA).

Listing Status	Description
ndangered	The classification provided to an animal or plant in danger of e tinction within the foreseeable future throughout all or a significant portion of its range.
Threatened	The classification provided to an animal or plant which is likely to become an ndangered species within the foreseeable future throughout all or a significant portion of its range.
Proposed ndangered	The classification provided to an animal or plant that is proposed for federal listing as ndangered in the ederal Register under Section of the ndangered Species Act.
Proposed Threatened	The classification provided to an animal or plant that is proposed for federal listing as Threatened in the ederal Register under Section of the ndangered Species Act.
Candidate	The classification provided to an animal or plant that has been studied by the nited States ish and Wildlife Service, and the Service has concluded that it should be proposed for addition to the ederal ndangered and Threatened species list.
None	The plant or animal has no federal status.
Delisted	The plant or animal was previously listed as ndangered or Threatened, but is no longer listed on the ederal ndangered and Threatened species list.

3) **Global Rank** - The *Global Rank* is a reflection of the overall condition and imperilment of an element throughout its global range. Both the lobal and State ranks represent a letter number score that reflects a combination of Rarity, Threat and Trend factors, with weighting being heaviest on the rarity factors. The *Global Ranks* are assigned by NatureServe in coordination with the appropriate state program(s) where the element occurs.

Global Rank	Definition
	Presumed Extinct (species) Not located despite intensive searches and virtually no likelihood of rediscovery. **Extinct** (ecological communities and systems) liminated throughout its range, with no restoration potential due to e tinction of dominant or characteristic ta a and or elimination of the sites and ecological processes on which the type depends.
H	**Possibly Extinct** nown from only historical occurrences but still some hope of rediscovery. There is evidence that the species may be e tinct or the ecosystem may be eliminated throughout its range, but not enough to state this with certainty. amples of such evidence include 1) that a species has not been documented in appro imately 20 0 years despite some searching or some evidence of significant habitat loss or degradation 2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is e tinct or eliminated throughout its range.
1	**Critically Imperiled** At very high risk of e tinction due to e treme rarity (often 5 or fewer populations), very steep declines, or other factors.
2	**Imperiled** At high risk of e tinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
3	**Vulnerable** At moderate risk of e tinction or elimination due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
	Apparently Secure ncommon but not rare some cause for long-term concern due to declines or other factors.
5	**Secure** Common widespread and abundant.
NR	**Unranked** lobal rank not yet assessed.
	Unrankable Currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.
# #	**Range Rank** A numeric range rank (e.g., 2 3) is used to indicate the range of uncertainty about the e act status of a ta on or community.
#T#	**Infraspecific Taxon** The status of infraspecific ta a (subspecies or varieties) are indicated by a T-rank following the species lobal Rank. Rules for assigning T-ranks follow the same principles as those for lobal Ranks. However, a T-rank cannot imply the subspecies or variety is more abundant than the species. With the subspecies, the -rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety.
	Qualifier: Inexact Numeric Rank A uestion mark represents a rank ualifier, denoting an ine act or uncertain numeric rank.
	Qualifier: Questionable Taxonomy The distinctiveness of this entity as a ta on or community at the current level is uestionable resolution of this uncertainty may result

	in change from a species to a subspecies or hybrid, or inclusion of this ta on or type in another ta on or type, with the resulting ta on having a lower-priority (numerically higher) conservation status rank.
C	**Qualifier: Captive or Cultivated Only** The ta on or community at present is presumed or possibly e tinct or eliminated in the wild across its entire native range but is e tant in cultivation, in captivity, as a naturali ed population (or populations) outside its native range, or as a reintroduced population or ecosystem restoration, not yet established.

4) **Other Status** - The *Other Status* field provides additional status listings for an element, including the Department of ish and Wildlife s ully Protected and Species of Special Concern designations.

Organization	Status Listing
A S - American isheries Society	N ndangered
	TH Threatened
	V Vulnerable
BLM - Bureau of Land Management	S Sensitive
CD - California Department of orestry ire Protection	S Sensitive
CD W - California Department of ish Wildlife	P - ully Protected
	SSC - Species of Special Concern
	WL - Watch List
CN - nternational nion for the Conservation of Nature	CD - Conservation Dependent
	CR - Critically ndangered
	DD - Data Deficient
	N - ndangered
	W - tinct in the Wild
	tinct
	LC - Least Concern
	N - Not valuated

	NT - Near Threatened
	V - Vulnerable
MMC - Marine Mammal Commission	SSC - Species of Special Concern
NABC - North American Bird Conservation nitiative	RWL - Red Watch List
	WL - ellow Watch List
NM S - National Marine isheries Service	SC - Species of Concern
SB - Seed Banked	BerrySB - Berry Seed Bank
	CR S - San Diego oo CR S Native ene Seed Bank
	ewB - ew Royal Botanic ardens
	RSAB - Rancho Santa Ana Botanic arden
	SBB - Santa Barbara Botanic arden
	CBB - C Berkeley Botanical arden
	SDA - S Dept of Agriculture
S S - nited States orest Service	S Sensitive
S WS - nited States ish Wildlife Service	BCC - Birds of Conservation Concern
WBW - Western Bat Working roup	H - High Priority
	MH - Medium-High Priority
	M - Medium Priority
	LM - Low-Medium Priority
RC S - erces Society	C - Critically mperiled
	M mperiled
	V - Vulnerable
	DD - Data Deficient

5) State Listing Status - The State of California legal status.

Listing Status	Description
ndangered	The classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming e tinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overe ploitation, predation, competition, or disease.
Threatened	The classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with e tinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
Rare	The classification provided to a native plant species, subspecies, or variety when, although not presently threatened with e tinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. This designation stems from the Native Plant Protection Act of 1977.
None	The plant or animal has no state status.
Delisted	The plant or animal was previously listed as ndangered, Threatened or Rare but is no longer listed by the State of California.
Candidate ndangered	The classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the ish and ame Commission has formally noticed as being under review by the Department of ish and Wildlife for addition to the list of endangered species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of endangered species.
Candidate Threatened	The classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the ish and ame Commission has formally noticed as being under review by the Department of ish and Wildlife for addition to the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of threatened species.