

# Biological Reconnaissance Assessment

APN 214-111-006 & 214-112-006

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I and I Ranch

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## Executive Summary

The purpose of this report is to provide a preliminary reconnaissance assessment of the biological resources affected by commercial cannabis cultivation for I and I Ranch, LLC located at 18645 Dyerville Loop Road, Philipsville of Humboldt County, California (APN 214-111-006 & 214-112-006). At APN: 214-112-006, I and I Ranch is seeking a special permit for 43,560 square feet of commercial cannabis cultivation under Humboldt County's Commercial Cannabis Land Use Ordinance. At APN: 214-111-006, I and I Ranch seeks to cultivate 23,520 square feet of commercial cannabis cultivation.

Jurisdictional resources considered for this report include wetlands and non-wetland "waters of the U.S." regulated by the U.S. Army Corps of Engineers (USACE); "waters of the State" regulated by the North Coast Regional Water Quality Control Board (NCRWQCB); and the bed, bank, and channel of all lakes, rivers, and/or streams (and associated riparian vegetation), as regulated by the California Department of Fish and Wildlife (CDFW). "Streamside Management Areas" (SMAs) [section 3432(5) of the Humboldt County 1984 General Plan] are defined in the Humboldt County General Plan (Page G-8) and include, a natural resource area along both sides of streams containing the channel and adjacent land.

Mother Earth Engineering staff visited the site on 17 July 2019 to determine the extent of project impacts, assess potential habitat for sensitive species and develop guidelines and strategies for mitigation measures. Additional consultation with agency staff including USACE, NCRWQCB, CDFW, Humboldt County and US Fish and Wildlife Service (USFW) will continue throughout the life of the project.

The property is characterized as a mosaic of open oak woodlands and grasslands with stands of conifers at the ridge of Dyerville Loop Road. Project sites were historically used as cattle ranching. The project areas are sloped between 3-30% at approximately 1,800 to 2,500 feet above sea level. The property shows documented observations of Peregrine falcons and Howell's montia within the property study area. However, no direct observations were made within the property study area during the site evaluation.

In general, the site was generally well maintained and established. Road traffic, noise, dust and visual impacts were at a minimum. Solid waste pollution or other discharge into terrestrial habitats and further aquatic habitats were not observed. All greenhouses are enclosed by tarp past dusk and no rodenticides are in use. The impacts of the proposed expansion of cultivation sites at PA-1 and PA-2 are minimal. Both sites are flat, stable areas that were historically used for cattle grazing. No trees would be removed at either site. On the day of assessment, the vegetation at both sites contained typical grassland, nonnative disturbance species such as *Plantago lanceolata* (English plantain) and *Elymus caput-medusae* (medusa head).

Due to historic land use disturbance, lack of forested habitat, and current species composition, it is unlikely that expansion at these sites would negatively affect listed, sensitive species. Current cultivation activities are established and have a low probability of negatively affecting the species. Areas of proposed cultivation and pond sites were examined for habitat of sensitive plant and wildlife species. No sensitive species were observed, and proposal sites are unlikely to negatively affect sensitive species or habitat. Additional consultation with agency staff including the California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), Humboldt County and US Fish and Wildlife Service (USFW) will continue throughout the project application.

## 1. Introduction

### 1.1 Purpose and Need

This document was prepared to provide preliminary assessment of the biological resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), the Regional Water Quality Board (RWQCB), and the Humboldt County Streamside Management Area guidance (SMA) for the 232-acre property owned by Shane Gomes of I and I Ranch. The purpose of this assessment is to provide an evaluation of biological resources on site and assess any potential project impacts to biological resources, specifically rare or endangered species within project sites.

### 1.2 Project Description

At APN: 214-112-006, I and I Ranch is seeking a special permit for 43,560 square feet of commercial cannabis cultivation under Humboldt County's Commercial Cannabis Land Use Ordinance. At APN: 214-111-006, I and I Ranch seeks to cultivate 23,520 square feet of commercial cannabis cultivation. The Applicant proposes to build a pond at two potential sites: one on APN: 214-111-006 and one on APN: 214-112-006. The study boundary includes areas of direct and indirect impacts surrounding existing and proposed cultivation and proposed pond sites (*Appendix A, Figure 1*).

## 2. Regulatory Background

### 2.1 U.S. Army Corps of Engineers (USACE)

The USACE Regulatory Branch regulates activities that may discharge dredged or fill materials into “waters of the U.S.” under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. This permitting authority applies to all “waters of the U.S.” where the material (1) replaces any portion of a “waters of the U.S.” with dry land or (2) changes the bottom elevation of any portion of any “waters of the U.S.”. These fill materials include sand, rock, clay, construction debris, wood chips, and materials used to create any structure or infrastructure in these waters. The selection of disposal sites for dredged or fill material is done in accordance with guidelines specified in Section 404(b)(1) of the CWA, which were developed by the U.S. Environmental Protection Agency (USEPA).

### 2.2 Regional Water Quality Control Board (RWQCB)

The RWQCB is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The RWQCB's jurisdiction extends to all “waters of the State” and to all “waters of the U.S.,” including wetlands (isolated and non-isolated).

Section 401 of the CWA provides the RWQCB with the authority to regulate, through a Water Quality Certification, any proposed, federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the USACE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide certification that there is reasonable assurance an activity with the potential for discharge into navigable waters will not violate water quality standards. Water Quality Certification must be based on findings that the proposed discharge will comply with water quality standards, which contain numeric and narrative objectives found in each of the nine RWQCBs' Basin Plans.

### 2.3 California Department of Fish and Wildlife

The CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes pursuant to the California Fish and Game Code (§§1600–1616). Activities of state and local agencies, as well as



public utilities that are project proponents, are regulated by the CDFW under Section 1602 of the California Fish and Game Code.

Because the CDFW includes streamside habitats under its jurisdiction that, under the federal definition, may not qualify as wetlands on a project site, its jurisdiction may be broader than that of the USACE. Riparian forests in California often lie outside the plain of ordinary high water regulated under Section 404 of the CWA, and often do not have all three parameters (wetland hydrology, hydrophytic vegetation, and hydric soils) sufficiently present to be regulated as a wetland.

However, riparian forests are frequently included within CDFW regulatory jurisdiction under Section 1602 of the California Fish and Game Code.

The CDFW jurisdictional limits are not as clearly defined by regulation as those of the USACE. While they closely resemble the limits described by USACE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric and saturated soils conditions. In general, the CDFW extends jurisdiction from the top of a stream bank or to the outer limits of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place within or near a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish and other aquatic plant and/or wildlife species. It also includes watercourses that have a surface or subsurface flow that support or have supported riparian vegetation.

#### 2.4 Humboldt County-Streamside Management Area

“Streamside Management Areas” (SMAs) [Section 3432(5) of the Humboldt County 1984 General Plan] are defined in the Humboldt County General Plan (Page G-8) and include a natural resource area along both sides of streams containing the channel and adjacent land. Updates to the SMA guidance for cannabis activities are defined in the Environmental Impact Assessment Biological Resources Section<sup>1</sup>.

Project applicants proposing development activities within a SMA or wetland areas are required to include a site-specific biological report prepared consistent with these regulations. The written report prepared by a qualified biologist is subsequently referred to CDFW for review and comment. If required, after agency review of the preliminary habitat assessment, protocol level surveys will be completed per recommendations by the Final Environmental Impact Report (FEIR) amendments to the Humboldt County Code Regulating Commercial Cannabis Activities<sup>2</sup>.

#### 2.5 Additional Laws and Policies

In addition to the above-mentioned policies, numerous other policies exist to protect wetlands, waters and biological resources including the California Environmental Quality Act (CEQA), California Endangered Species Act (CESA) and the Z'berg-Nejedly Forest Practice Act.

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<sup>1</sup> <https://humboldt.gov.org/DocumentCenter/View/58840/Section-311-Biological-Resources-Revised-DEIRPDF>

<sup>2</sup> Final Environmental Impact Report: Amendments to the Humboldt County Code Regulating Commercial Cannabis Activities. Prepared by Ascent Environmental. Accessed via <https://humboldt.gov.org/DocumentCenter/View/62689/Humboldt-County-Cannabis-Program-Final-EIR60mb-PDF>. Accessed [July 2019]



### 3. Environmental Setting

#### 3.1 Project Location

The project area is located off Dyerville Loop Road in the Phillipsville area (S8, T3S, R4E) of Humboldt County, California (*Appendix A, Figure 1*). The project is located on two (2) parcels, APN: 214-111-006 and APN 214-112-006, that sums to 232 acres within the U.S. Geological Survey's (USGS) Miranda 7.5-minute quadrangle map. The parcel is zoned Agricultural Grazing (AG). Elevation is approximately 2,000 to 2,500 feet (*Appendix A, Figure 2*).

#### 3.2 Soil, Topography, Hydrology

The soil complex of the project areas on this parcel is composed primarily of Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes (667) and Yorknorth-Witherell complex, 30 to 50 percent slopes (662). These complexes consist of very deep, well drained soils formed in colluvium and residuum derived from chloritic schist, sandstone and other sedimentary and metamorphic rocks. Dryfield soils contain less than 35 percent clay in the control section and occur on linear to slightly convex positions. Witherell soils have fractured bedrock above 50 centimeters and are on convex positions. These soils typically occur on upper mountain side slopes and are used for livestock grazing. These soils have a xeric soil moisture regime and are not considered to be hydric<sup>3</sup>.

The property is situated at the top of ridge where headwaters of watercourses drain into tributaries tributary to the South Fork Eel River to the southwest and Eel River to the north and east. The project areas are on gently sloped sites of less than 15% slope generally at the top of an open ridge. The property is located in the Lower South Fork Eel River watershed and the Butte Creek-South Fork Eel River subwatershed<sup>4</sup>. The area is mapped as possessing moderate levels of instability in the Humboldt County GIS database. The property was historically used for cattle grazing and project areas can be characterized as predominately annual grassland and mixed montane hardwood habitat types.

### 4. Methods

On 17 July 2019, Mother Earth Engineering staff conducted a site visit to survey current and remediated cultivation areas to evaluate potential habitat and record observed, biological resources. The study area, represented as the survey boundary in green dashes, includes areas of direct and indirect impact of current cultivation and proposed expansion areas and potential habitat for special status plant and wildlife species. The orange polygon represents the existing cultivation area and the green polygons represent the two (2) proposed cultivation sites (*Appendix A, Figure 1*).

Approximately three (3) field hours were spent conducting a habitat assessment for listed species and species of concern. The study area was scanned for rare plants and wildlife signs including tracks, scat, tree habitat (cavities, nests scrapes or accumulated vegetation). Full floristic surveys were not conducted at this time. The entire parcel was not surveyed.

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<sup>3</sup> Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: <https://websoilsurvey.sc.egov.usda.gov/>. Accessed [July 2019]

<sup>4</sup> Caltrans Water Quality Planning Tool available at: <http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx>.



Before field visits occurred, the site was remotely evaluated for potential habitat value to protected, endangered, threatened, rare, and sensitive species by Geographic Information Systems (GIS), the California Natural Diversity Database (CNDDB) RareFind and BIOS, and the California Native Plant Society Rare Plant Inventory (CNPS). The localized CNDDB 9-Quad area of Fort Seward was queried to generate occurrences of special-status animal species (Table 1). Within one (1) mile of property project areas, occurrences of *Montia howellii* (Howell's montia) has been observed and the potential for *Falco peregrinus anatum* (peregrine falcon) may occur (Appendix A, Figure 2).

#### 4.1 Limitations

All plant species growing within the study area may not have been observed due to varying flowering phenologies and life forms, such as bulbs, biennials, and annuals. Other potentially dominant species within vegetation communities on site may be present during other times of the year. Some of the plant species identified in this report are tentative due to the absence of morphological characters, resulting from immature reproductive structures or seasonal desiccation, which is required to make species-level determinations.

## 5. Results and Discussion

#### 5.1 Vegetation

The property is characterized as a mosaic of gently rolling annual grasslands and mixed montane hardwood-conifer (Appendix A, Figure 4). The tree layer of this property was dominated primarily of *Pseudotsuga menziesii* var. *menziesii* (Douglas fir) with some stands of *Arbutus menziesii* (pacific madrone), *Quercus garryana* (Oregon white oak), *Notholithocarpus densiflorus* (tanoak) and *Umbellularia californica* (California bay).

Pond Site 1 and Proposed Cultivation Area 1: The site on APN: 214-112-006 was previously used for cattle ranching and is composed of typical disturbance species. First pond site at (PO-1) is characterized as a depression in an open grassland with stands of *Pseudotsuga menziesii* var. *menziesii* (Douglas fir). The area is composed of annual and perennial forbs and grass species but is dominated by nonnative, introduced annual grasses. Observed species include *Cirsium vulgare* (spear thistle), *Poa pratensis* (Kentucky bluegrass), *Bromus diandrus* (ripgut brome), *Vulpia myuros* (foxtail fescue) *Bromus hordeaceus* (soft brome), *Vicia* ssp. (vetch), *Elymus caput-medusae* (medusahead), *Mentha pulegium* (pennyroyal), *Plantago lanceolata* (English pliantain), *Rumex acetosella* (red sorrel), *Hypericum perforatum* (Klamath weed), *Cynosurus echinatus* (dogtail grass), *Polypogon* sp. (rabbits foot grass), *Trifolium* sp. (clover), *Hypochaeris radicata* (rough cat's-ear), *Brodiaea elegans* (harvest brodiaea) and *Holcus lanatus* (common velvet grass). A small depression was observed to contain *Juncus* sp. (rush) and *Luzula* sp. (woodrush).

Downslope of the PO-1 is the headwaters of an ephemeral watercourse. The open grassland habitat turns into a shady, montane hardwood habitat type with *Toxicodendron diversilobum* (poison oak), *Chlorogalum pomeridianum* (wavyleaf soap plant), *Mentha pulegium* (pennyroyal), *Fragaria vesca* (wild strawberry) and *Rumex crispus* (curly dock).

The proposed cultivation area at PA-1 is a flat, open grassland area with slopes less than 15%. The area was dominated with *Plantago lanceolata* (English pliantain), and *Rumex acetosella* (red sorrel), both nonnative and invasive species. No sensitive species were observed here. The second proposed cultivation site (PA-2) is approximately 350 feet north of PA-1 and is a highly altered and disturbed, flat area that was cleared out by previous owners. No sensitive species were observed here.

The existing cultivation site CA-1 on APN: 214-111-006 is an established site with no sensitive species observed. Proposed pond site 2 (PO-2) is characterized as a depression in a mixed grassland area with conifer encroachment. Relatively young Douglas firs and tanoak to be removed. Scan of trees did not yield in any nest observations. Few invasive *Cytisus scoparius* (Scotch broom) are to be removed. This site eventually drains into a more forested area with *Toxicodendron diversilobum* (poison oak), *Rubus leucodermis* (whitebark raspberry), *Mentha pulegium* (pennyroyal), *Polypogon sp.* (rabbits foot grass), *Trifolium sp.* (clover), *Hypochaeris radicata* (rough cat's-ear), *Dryopteris sp.* (wood ferns), *Cirsium sp.* (thistle) and *Clinopodium douglasii* (yerba buena).

## 5.2 Wetlands and SMA areas

Only the areas surrounding cultivation and current project impacts in the parcel were surveyed. A preliminary scoping of the property using Web Soil survey and NWI GIS layers showed that soils on the property are not hydric. Existing project areas and proposed expansion areas did not contain any indications of hydrology, hydric soils or hydrophytic vegetation that would support a wetland. An ephemeral depression was observed in a slight dip in the PO-1 area. All existing and proposed project sites are outside SMA setbacks.

## 5.3 Northern Spotted Owl

One positive occurrence of *Strix occidentalis caurina* (Northern Spotted Owl) was observed within one mile of project areas in the CNDDDB BIOS database. The observation occurred in April of 1999 and is predicted to be associated with the activity center, HUM0958. The activity center HUM0958 was established in 2000 and is approximately 4,400 feet west of existing cultivation area. On site investigation did not yield in a positive sighting or evidence of NSO habitation in the area. Generally, the NSO prefers forests with high, multilayered, multispecies canopy closure with large conifer overstory trees, large snags, large logs, and trees with deformities like broken tops to nest and roost in<sup>5</sup>. The forests surrounding the cleared area was a dense, young forest less than 40 years of age. Given the study area is primarily in annual grassland habitat type, it is an unlikely habitat for the Northern Spotted Owl. However, a protocol level survey was not conducted.

## 5.4 CNDDDB, Special Status Species and other Database Results

The CNDDDB BIOS and RareFind, as well as California Native Plant Society (CNPS) databases, were scoped both before and after the field visit to search for reference sites or known occurrences in or around the project area. Scoping results for the nine (9) USGS 7.5 min quads surrounding Miranda are included in Appendix C of this report. Other literature and databases used for consultation to evaluate potential unique biological communities and special-status species include but not limited to:

- USDA's Ecoregion Classification system
- California's Vegetation Classification and Mapping Program (VegCamp)
- U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC)
- National Marine Fisheries Service California Species List Tool (NOAA 2019)
- CalFlora database
- CNPS Inventory of Rare and Endangered Vascular Plants of California online inventory (CNPS)
- CDFW CNDDDB/Spotted Owl Viewer online database
- *The Jepson Manual, Vascular Plants of California* Second Edition (Baldwin et al. 2012)
- NRCS Websoil Survey

<sup>5</sup> Spotted Owl Species account <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10406>

- *A Manual of California Vegetation* Second Edition (Sawyer et al. 2009)

The following special status wildlife species have the potential to occur in the study boundary<sup>67</sup>. Species such as *Falco peregrinus anatum* (peregrine falcon) and *Montia howelli* (Howell's montia) have been observed within property boundaries. Impacts to special status animals are evaluated in this section based on their likelihood to occur in the area due to habitat needs and natural life history.

### *Mammals*

Special-status wildlife species such as *Pekania pennanti* (west coast fisher), *Martes caurina humboldtensis* (Humboldt marten), *Arborimus pomo* (Sonoma tree vole) and *Lasiurus blossevilli* (western red bat) requires forests and canopy for suitable habitat. Project areas on the property are all historic cattle ranching, altered grassland areas with no suitable habitat for forest wildlife species. At the day of the assessment, no species or evidence of special status wildlife species were observed.

### *Birds*

#### ***Falco peregrinus anatum* (American peregrine falcon)**

The American peregrine falcon is a fully protected species by the State of California. They are the largest falcon over most of the continent with long, pointed wings, and a long tail. They can be observed throughout North America but most commonly along coasts. They perch and nest on water towers, cliffs, and other human made structures. Nest consists of a scrape or a ledge in an open site. Due to their widespread habitat suitability and distribution, there is potential for habitat near and within study boundaries. However, current cultivation activities and proposed sites do not take place within potential nesting habitat and have a low probability of negatively affecting the species. No large rock outcrops were observed in the surrounding area to support nesting habitat. Should further development resulting in disturbance become necessary, Mitigation Measure 3.4-1d of the CCLUO MMRP should be implemented.

### *Fish*

No perennial or fish bearing water courses flow through the subject property. The nearest river is the South Fork Eel River approximately 2.5 miles west and southwest of the property project areas. The South Fork Eel River is known to host *Oncorhynchus mykiss irideus pop. 36* (summer-run North California Coast steelhead) and *Entosphenus tridentatus* (Pacific Lamprey). These species are a California Species of Special Concern and Federally Threatened. Declines in fish populations have been linked to habitat degradation from poor timber harvest practices, mining operations, excessive sport harvesting, road construction and increased sedimentation from poor land management practices. Suitable habitat for state and federally listed anadromous salmonids is likely present within the flowing waters of the South Fork Eel River. The Applicant is currently enrolled with the North Coast Regional Water Board's Cannabis Discharge Waiver Program and will implement sediment and erosion control measures to prevent sediment discharge to nearby watercourses.

### *Reptiles and Amphibians*

No perennial water courses flow through the subject property. There is no riparian habitat near or within the existing cultivation site or proposed sites of the study boundary. Due to the lack of a developed riparian zone, it

<sup>6</sup> California Natural Diversity Database (CNDDDB) Rarefind and Bios Commercial Subscription (Accessed via <http://https://www.wildlife.ca.gov/data/cnddb/maps-and-data>)

<sup>7</sup> California Native Plant Society (CNPS) Inventory of Rare or Endangered Plants (Accessed via <http://www.rareplants.cnps.org/advanced.html>)

is unlikely that the existing activities and proposed expansion sites will negatively impact sensitive and listed aquatic and/or riparian-related species. Species requiring colder, permanent water (foothill yellow-legged frog, red-legged frog, southern torrent salamander, pacific tailed frog) are expected in the more permanent tributaries to the South Fork Eel River. The Applicant is currently enrolled with the North Coast Regional Water Board's Cannabis Discharge Waiver Program and will implement sediment and erosion control measures to prevent sediment discharge to nearby watercourses.

### Plants

#### ***Montia howellii* (Howelli's montia)**

*M. howellii* is small, low mat-forming annual herb in the Montiaceae family. It has the California Rare Plant Rank of 2B.2 and is state listed S2 for imperiled. *M. howellii* is found in vernal wet, mesic sites and often in compacted soils. Threats to population include logging, road construction and maintenance, vehicles, and competition. The CNDDDB lists an occurrence of *Montia howellii* recorded in 2005 near the southeastern portion of APN 214-112-006. On site investigation of the study area did not yield to any positive observations of this species. The areas of existing and proposed cultivation and pond sites are situated in drier, disturbed grasslands with little habitat for *M. howellii*. It is unlikely that the current and proposed activities will negatively impact *M. howellii*.

## 6.0 Conclusion and Discussion

Mother Earth Engineering staff conducted a preliminary biological habitat assessment on July 17, 2019 for potential listed species and species of concern at subject property APN 214-111-006 and 214-112-006. Parcel and project areas were scoped using the CDFW's California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) Rare Plant Inventory to determine the extent of project impacts, assess potential habitat for sensitive species and develop guidelines and strategies for mitigation measures, as necessary.

In general, the site was generally well maintained and established. Road traffic, noise, dust and visual impacts were at a minimum. Solid waste pollution or other discharge into terrestrial habitats and further aquatic habitats were not observed. All greenhouses are enclosed by tarp past dusk and no rat poison are in use. The impacts of the proposed expansion of cultivation sites at PA-1 and PA-2 are minimal. Both sites are flat, stable areas that were historically used for cattle grazing. No trees would be removed at either site. At the day of assessment, the vegetation at both sites contained typical grassland, nonnative disturbance species such as *Plantago lanceolata* (English plantain) and *Elymus caput-medusae* (medusa head). Due to historic land use disturbance, lack of forest habitat, and current species composition, it is unlikely that expansion at these sites would negatively affect listed, sensitive species.

The proposed pond location at PO-2 on APN 214-111-006 is characterized as a depression in a mixed grassland area with stands of young Douglas firs. If site at PO-2 is to move forward, relatively young Douglas firs, tanoak, and few invasive *Cytisus scoparius* (Scotch broom) in the center of the depression are to be removed. During site assessment, a scan of trees did not yield in any nest observations.

There is no riparian habitat near or within the existing cultivation site or proposed sites of the study boundary. Due to the lack of a developed riparian zone, it is unlikely that the existing activities and proposed expansion sites will negatively impact sensitive and listed aquatic and/or riparian-related species. Additional consultation with agency staff including the California Department of Fish and Wildlife (CDFW), U.S. Army Corps of



Engineers (USACE), Humboldt County and US Fish and Wildlife Service (USFW) will continue throughout the project application.



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# Appendix A



Maps

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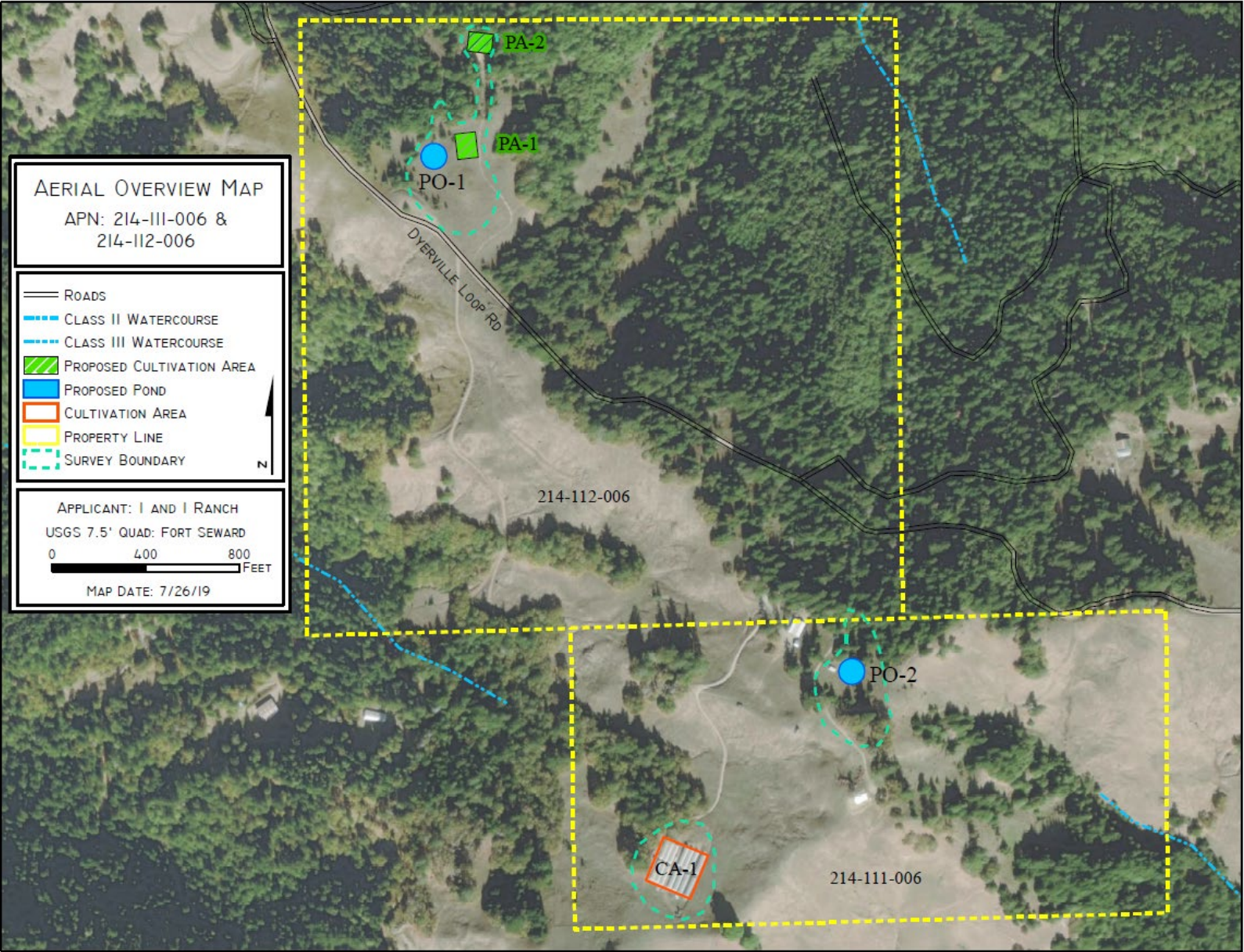


Figure 1: Aerial Overview of the subject property.

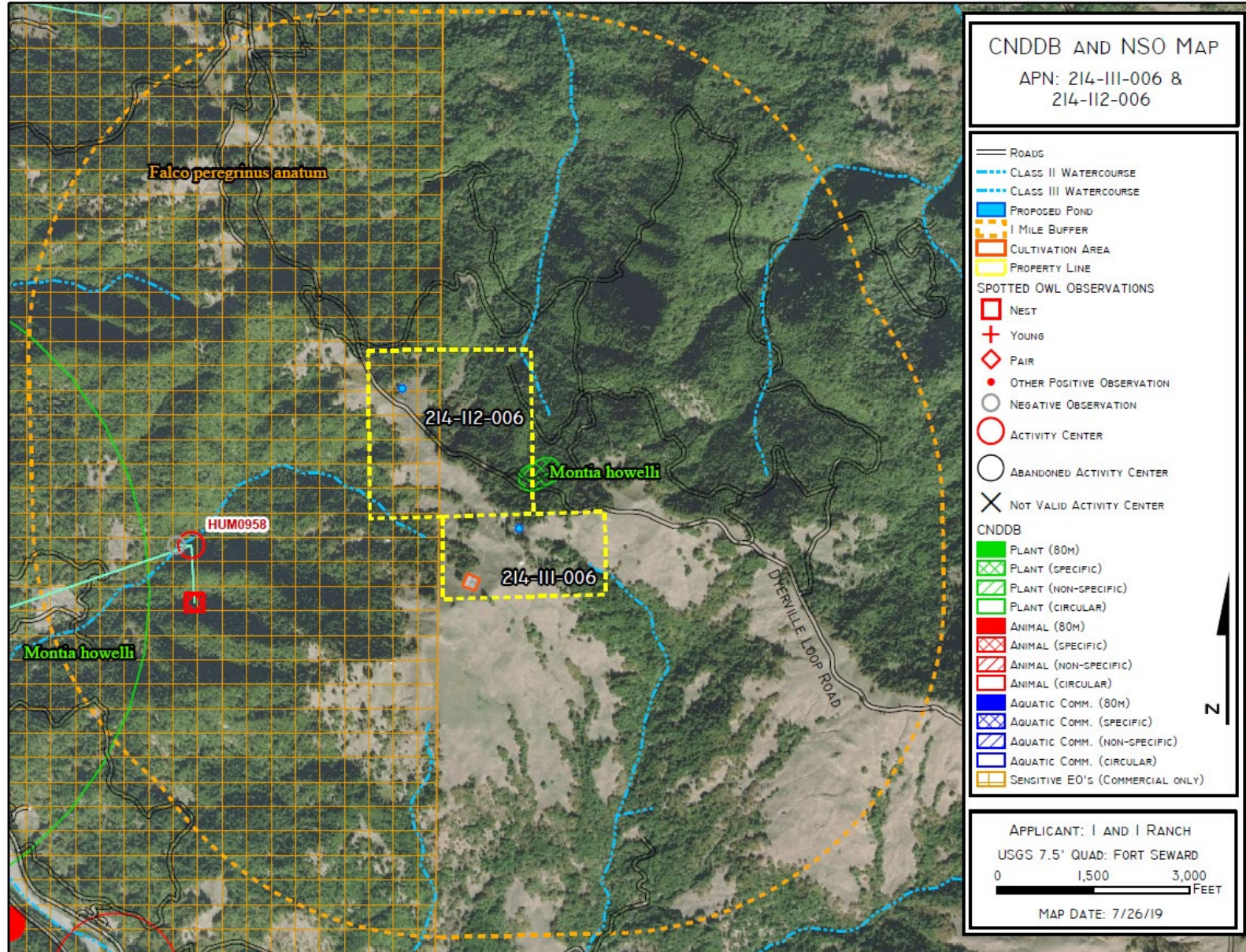


Figure 2: CNDDDB and NSO map

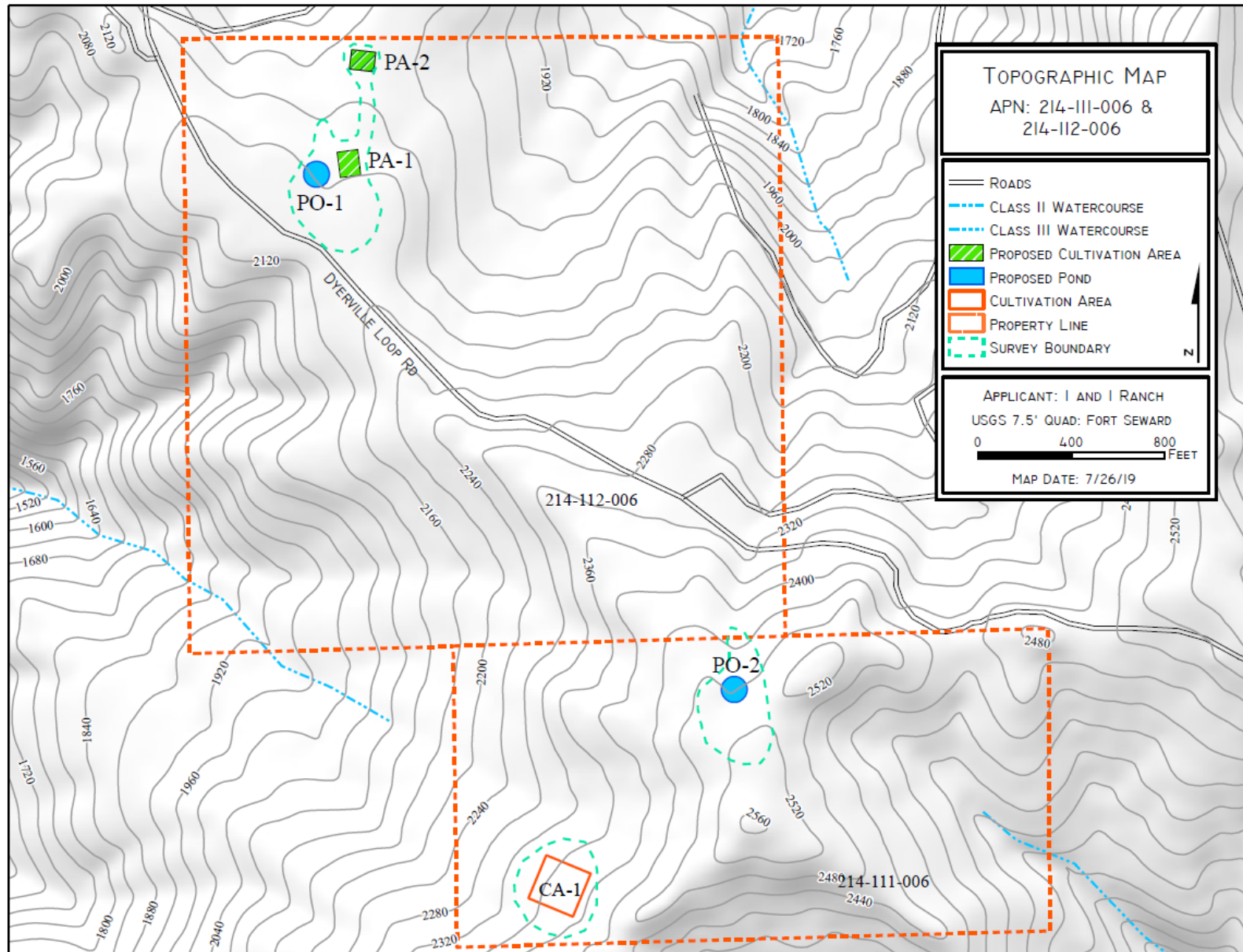


Figure 3 – Topographic map

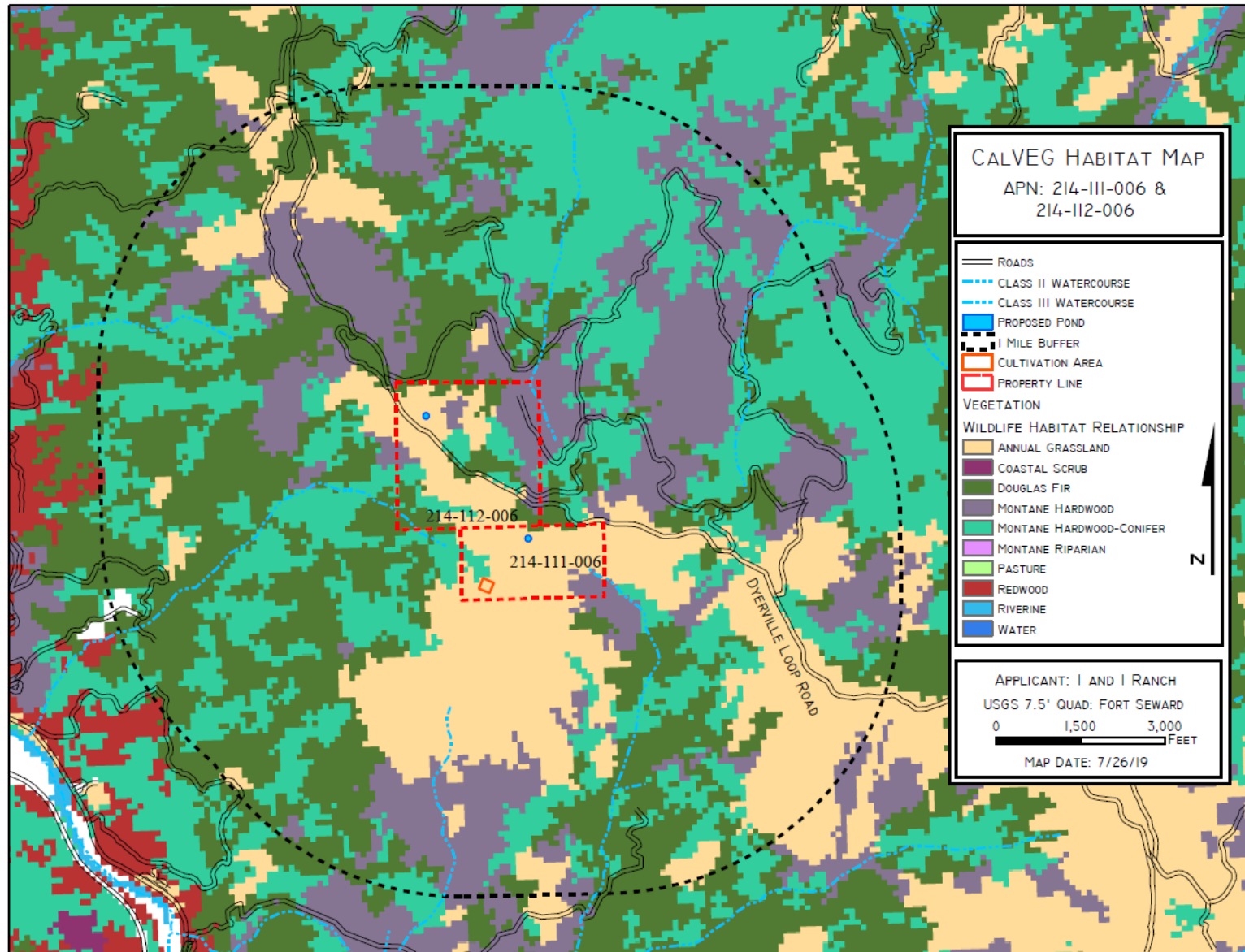


Figure 4 – CalVEG Habitat map for the subject property. The property is characterized as a vegetation mosaic of annual grassland, montane hardwood, Douglas fir and montane hardwood-conifer.

# Appendix B



Photos

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Picture 1: View of the proposed pond area PO-1 looking west. Picture taken 17 July 2019.



Picture 2: Another view of the proposed pond area PO-1 looking east. Picture taken 17 July 2019.



Picture 3: Representative vegetation at proposed site PO-1 looking south and upslope. Picture taken 17 July 2019.



Picture 4: A shallow swale observed at PO-1. Picture taken 17 July 2019.



Picture 5: The tree line beginning downslope of PO-1 looking north. Picture taken 17 July 2019.





Picture 6: View of the proposed cultivation area 1 (PA-1). Picture taken 17 July 2019.

Picture 7: Representative vegetation and habitat at PA-1 looking south. Picture taken 17 July 2019.



Picture 8: Another view of PA-1. Picture taken 17 July 2019.





Picture 9: Proposed cultivation site PA-2 approximately 350 ft north of PA-1. Picture taken 17 July 2019.

Picture 10: Proposed cultivation site PA-2 approximately 350 ft north of PA-1. Picture taken 17 July 2019.





Picture 11: Proposed pond site PO-2 on APN: 214-111-006 looking west. Picture taken 17 July 2019.

Picture 12: Downslope of proposed pond site PO-2 on APN: 214-111-006. Picture taken 17 July 2019.



Picture 13: Representative vegetation at proposed pond site PO-2 on APN: 214-111-006. Picture taken 17 July 2019.



Picture 13: Representative vegetation at proposed pond site PO-2 on APN: 214-111-006. Invasive broom to be removed. Picture taken 17 July 2019.



Picture 14: Representative vegetation and habitat at current cultivation area CA-1 seen in foreground on APN: 214-111-006. Picture taken 17 July 2019.

Picture 15: Representative vegetation at the current cultivation site CA-1 on APN: 214-111-006. Picture taken 17 July 2019.



# Appendix C



## Database Results

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Table 1-CNDDDB and CNPS nine-quad database results for the Miranda USGS 7.5' quadrangle July 2019.

Animals

| Scientific Name                     | Common Name              | Taxon Group | Other Status                                                                                                                                       | General Habitat                                                                                                                                  | Micro Habitat                                                                                                               | Habitat Present in Study Area       |
|-------------------------------------|--------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <i>Accipiter cooperii</i>           | Cooper's hawk            | Birds       | CDFW_WL-Watch List   IUCN_LC-Least Concern                                                                                                         | Woodland, chiefly of open, interrupted or marginal type.                                                                                         | Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.      | Yes                                 |
| <i>Antrozous pallidus</i>           | pallid bat               | Mammals     | BLM_S-Sensitive   CDFW_SSC-Species of Special Concern   IUCN_LC-Least Concern   USFS_S-Sensitive   WBGW_H-High Priority                            | Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.                         | Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.                           | No                                  |
| <i>Aquila chrysaetos</i>            | golden eagle             | Birds       | BLM_S-Sensitive   CDF_S-Sensitive   CDFW_FP-Fully Protected   CDFW_WL-Watch List   IUCN_LC-Least Concern   USFWS_BCC-Birds of Conservation Concern | Rolling foothills, mountain areas, sage-juniper flats, and desert.                                                                               | Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.                       | No                                  |
| <i>Arborimus pomio</i>              | Sonoma tree vole         | Mammals     | CDFW_SSC-Species of Special Concern   IUCN_NT-Near Threatened                                                                                      | North coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood & montane hardwood-conifer forests.                            | Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.            | Potentially present – but unlikely  |
| <i>Ascaphus truei</i>               | Pacific tailed frog      | Amphibians  | CDFW_SSC-Species of Special Concern   IUCN_LC-Least Concern                                                                                        | Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.                                                              | Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.                                         | No perennial streams in study area. |
| <i>Bombus caliginosus</i>           | obscure bumble bee       | Insects     | IUCN_VU-Vulnerable                                                                                                                                 | Coastal areas from Santa Barbara county to north to Washington state.                                                                            | Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.                                       | Yes                                 |
| <i>Bombus occidentalis</i>          | western bumble bee       | Insects     | USFS_S-Sensitive   XERCES_IM-Imperiled                                                                                                             | Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.                             |                                                                                                                             | Yes                                 |
| <i>Brachyramphus marmoratus</i>     | marbled murrelet         | Birds       | CDF_S-Sensitive   IUCN_EN-Endangered   NABCI_RWL-Red Watch List                                                                                    | Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz.                                    | Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.                                | No                                  |
| <i>Empidonax traillii brewsteri</i> | little willow flycatcher | Birds       | USFWS_BCC-Birds of Conservation Concern                                                                                                            | Mountain meadows and riparian habitats in the Sierra Nevada and Cascades.                                                                        | Nests near the edges of vegetation clumps and near streams.                                                                 | No                                  |
| <i>Emys marmorata</i>               | western pond turtle      | Reptiles    | 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, below 6000 ft elevation. | Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. | No                                  |

|                                     |                                                         |            |                                                                                     |                                                                                                                                              |                                                                                                                         |                                            |
|-------------------------------------|---------------------------------------------------------|------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Erethizon dorsatum                  | North American porcupine                                | Mammals    | IUCN_LC-Least Concern                                                               | Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges. | Wide variety of coniferous and mixed woodland habitat.                                                                  | Potentially present in study area.         |
| Falco peregrinus anatum             | American peregrine falcon                               | Birds      | CDF_S-Sensitive   CDFW_FP-Fully Protected   USFWS_BCC-Birds of Conservation Concern | Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.                                  | Nest consists of a scrape or a depression or ledge in an open site.                                                     | No nest sites                              |
| Lasiurus blossevillii               | western red bat                                         | Mammals    | CDFW_SSC-Species of Special Concern   IUCN_LC-Least Concern   WBWG_H-High Priority  | Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests.                                            | Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging. | Possible foraging, but no roosting trees   |
| Martes caurina humboldtensis        | Humboldt marten                                         | Mammals    | CDFW_SSC-Species of Special Concern   USFS_S-Sensitive                              | Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County.                                                       | Associated with late-successional coniferous forests, prefer forests with low, overhead cover.                          | No                                         |
| Myotis evotis                       | long-eared myotis                                       | Mammals    | BLM_S-Sensitive   IUCN_LC-Least Concern   WBWG_M-Medium Priority                    | Found in all brush, woodland and forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests.                  | Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.            | Unlikely – no roost sites                  |
| Noyo intersessa                     | Ten Mile shoulderband                                   | Mollusks   |                                                                                     | Found in coastal dunes, coastal scrub, and riparian redwood forest habitats.                                                                 |                                                                                                                         | No                                         |
| Oncorhynchus kisutch pop. 2         | coho salmon - southern Oregon / northern California ESU | Fish       | AFS_TH-Threatened                                                                   | Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California.                              | State listing refers to populations between the Oregon border and Punta Gorda, California.                              | No perennial water in study area           |
| Oncorhynchus mykiss irideus pop. 36 | summer-run steelhead trout                              | Fish       | CDFW_SSC-Species of Special Concern                                                 | No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS.                         | Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.      | No perennial water in study area           |
| Pandion haliaetus                   | osprey                                                  | Birds      | CDF_S-Sensitive   CDFW_WL-Watch List   IUCN_LC-Least Concern                        | Ocean shore, bays, freshwater lakes, and larger streams.                                                                                     | Large nests built in tree-tops within 15 miles of a good fish-producing body of water.                                  | No                                         |
| Pekania pennanti                    | fisher - West Coast DPS                                 | Mammals    | BLM_S-Sensitive   CDFW_SSC-Species of Special Concern   USFS_S-Sensitive            | Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure.                       | Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.            | Unlikely – study area is an open grassland |
| Rana aurora                         | northern red-legged frog                                | Amphibians | CDFW_SSC-Species of Special Concern   IUCN_LC-Least Concern   USFS_S-Sensitive      | Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover.                         | Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season. | No                                         |

|                            |                                   |            |                                                                                                                    |                                                                                                                                                                     |                                                                                                                                                                                                                                              |                                        |
|----------------------------|-----------------------------------|------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Rana boylei                | foothill<br>yellow-legged<br>frog | Amphibians | BLM_S-Sensitive  <br>CDFW_SSC-Species of<br>Special Concern  <br>IUCN_NT-Near<br>Threatened   USFS_S-<br>Sensitive | Partly-shaded, shallow streams<br>and riffles with a rocky substrate<br>in a variety of habitats.                                                                   | Needs at least some cobble-<br>sized substrate for egg-<br>laying. Needs at least 15<br>weeks to attain<br>metamorphosis.                                                                                                                    | No perennial<br>water in study<br>area |
| Rhyacotriton<br>variegatus | southern<br>torrent<br>salamander | Amphibians | CDFW_SSC-Species of<br>Special Concern  <br>IUCN_LC-Least Concern<br>  USFS_S-Sensitive                            | Coastal redwood, Douglas-fir,<br>mixed conifer, montane riparian,<br>and montane hardwood-conifer<br>habitats. Old growth forest.                                   | Cold, well-shaded,<br>permanent streams and<br>seepages, or within splash<br>zone or on moss-covered<br>rocks within trickling water.                                                                                                        | No perennial<br>water in study<br>area |
| Taricha rivularis          | red-bellied<br>newt               | Amphibians | CDFW_SSC-Species of<br>Special Concern  <br>IUCN_LC-Least Concern                                                  | Coastal drainages from<br>Humboldt County south to<br>Sonoma County, inland to Lake<br>County. Isolated population of<br>uncertain origin in Santa Clara<br>County. | Lives in terrestrial habitats,<br>juveniles generally<br>underground, adults active<br>at surface in moist<br>environments. Will migrate<br>over 1 km to breed, typically<br>in streams with moderate<br>flow and clean, rocky<br>substrate. | No                                     |

Plants

| Scientific Name                                  | Common Name                | Family        | Lifeform                               | CRPR | GRank | SRank | Habitat                                                                                   | Micro Habitat                                  | Habitat present in study area  |
|--------------------------------------------------|----------------------------|---------------|----------------------------------------|------|-------|-------|-------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------|
| <i>Astragalus agnicidus</i>                      | Humboldt County milk-vetch | Fabaceae      | perennial herb                         | 1B.1 | G2    | S2    | Broadleafed upland forest, North Coast coniferous forest                                  | openings, disturbed areas, sometimes roadsides | Yes                            |
| <i>Ceanothus gloriosus</i> var. <i>exaltatus</i> | glory brush                | Rhamnaceae    | perennial evergreen shrub              | 4.3  | G4T4  | S4    | Chaparral                                                                                 | Sandy                                          | No                             |
| <i>Coptis laciniata</i>                          | Oregon goldthread          | Ranunculaceae | perennial rhizomatous herb             | 4.2  | G4?   | S3?   | Meadows and seeps, North Coast coniferous forest (streambanks)                            | Mesic                                          | No                             |
| <i>Epilobium septentrionale</i>                  | Humboldt County fuchsia    | Onagraceae    | perennial herb                         | 4.3  | G4    | S4    | Broadleafed upland forest, North Coast coniferous forest                                  | sandy or rocky                                 | No                             |
| <i>Erigeron biolettii</i>                        | streamside daisy           | Asteraceae    | perennial herb                         | 3    | G3?   | S3?   | Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest             | rocky, mesic                                   | No – study boundary is too dry |
| <i>Erythronium oregonum</i>                      | giant fawn lily            | Liliaceae     | perennial bulbiferous herb             | 2B.2 | G4G5  | S2    | Cismontane woodland, Meadows and seeps                                                    | sometimes serpentinite, rocky, openings        | No                             |
| <i>Erythronium revolutum</i>                     | coast fawn lily            | Liliaceae     | perennial bulbiferous herb             | 2B.2 | G4G5  | S3    | Bogs and fens, Broadleafed upland forest, North Coast coniferous forest                   | Mesic, streambanks                             | No – study boundary is too dry |
| <i>Gilia capitata</i> ssp. <i>pacifica</i>       | Pacific gilia              | Polemoniaceae | annual herb                            | 1B.2 | G5T3  | S2    | Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland |                                                | Yes                            |
| <i>Howellia aquatilis</i>                        | water howellia             | Campanulaceae | annual herb (aquatic)                  | 2B.2 | G3    | S2    | Marshes and swamps (freshwater)                                                           |                                                | No, outside elevation range    |
| <i>Kopsiopsis hookeri</i>                        | small groundcone           | Orobanchaceae | perennial rhizomatous herb (parasitic) | 2B.3 | G4?   | S1S2  | North Coast coniferous forest                                                             |                                                | No                             |
| <i>Lathyrus glandulosus</i>                      | sticky pea                 | Fabaceae      | perennial rhizomatous herb             | 4.3  | G3    | S3    | Cismontane woodland                                                                       |                                                | Yes                            |
| <i>Lilium</i>                                    | redwood lily               | Liliaceae     | perennial                              | 4.2  | G3    | S3    | Broadleafed upland forest,                                                                | Sometimes                                      | No                             |

|                                  |                            |               |                                  |      |      |      |                                                                                                                            |                                         |                                 |
|----------------------------------|----------------------------|---------------|----------------------------------|------|------|------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------|
| rubescens                        |                            |               | bulbiferous herb                 |      |      |      | Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest                 | serpentine, sometimes roadsides         |                                 |
| Listera cordata                  | heart-leaved twayblade     | Orchidaceae   | perennial herb                   | 4.2  | G5   | S4   | Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest                                              |                                         | No                              |
| Lycopodium clavatum              | running-pine               | Lycopodiaceae | perennial rhizomatous herb       | 4.1  | G5   | S3   | Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)                         | often edges, openings, and roadsides    | No                              |
| Mitellastrum caulescens          | leafy-stemmed mitrewort    | Saxifragaceae | perennial rhizomatous herb       | 4.2  | G5   | S4   | Broadleaved upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest               | mesic, sometimes roadsides              | Unlikely                        |
| Montia howellii                  | Howell's montia            | Montiaceae    | annual herb                      | 2B.2 | G3G4 | S2   | Meadows and seeps, North Coast coniferous forest, Vernal pools                                                             | vernally mesic, sometimes roadsides     | No – study boundary is too dry  |
| Packera bolanderi var. bolanderi | seacoast ragwort           | Asteraceae    | perennial rhizomatous herb       | 2B.2 | G4T4 | S2S3 | Coastal scrub, North Coast coniferous forest                                                                               | Sometimes roadsides                     | No – study boundary is too dry  |
| Piperia candida                  | white-flowered rein orchid | Orchidaceae   | perennial herb                   | 1B.2 | G3   | S3   | Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest                                  | sometimes serpentine                    | No                              |
| Pityopus californicus            | California pinefoot        | Ericaceae     | perennial herb (achlorophyllous) | 4.2  | G4G5 | S4   | Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest | mesic                                   | No – study boundary is too dry  |
| Sidalcea malachroides            | maple-leaved checkerbloom  | Malvaceae     | perennial herb                   | 4.2  | G3   | S3   | Broadleaved upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland                | Often in disturbed areas                | Unlikely                        |
| Sidalcea malviflora ssp. patula  | Siskiyou checkerbloom      | Malvaceae     | perennial rhizomatous herb       | 1B.2 | G5T2 | S2   | Coastal bluff scrub, Coastal prairie, North Coast coniferous forest                                                        | often roadcuts                          | Yes                             |
| Tracyina rostrata                | beaked tracyina            | Asteraceae    | annual herb                      | 1B.2 | G2   | S2   | Chaparral, Cismontane woodland, Valley and foothill grassland                                                              |                                         | Yes                             |
| Usnea longissima                 | Methuselah's beard lichen  | Parmeliaceae  | fruticose lichen (epiphytic)     | 4.2  | G4   | S4   | Broadleaved upland forest, North Coast coniferous forest                                                                   | On tree branches; usually on old growth | No large conifers in study area |

|                        |                         |           |                              |      |      |     |                                                                       |                           |    |
|------------------------|-------------------------|-----------|------------------------------|------|------|-----|-----------------------------------------------------------------------|---------------------------|----|
|                        |                         |           |                              |      |      |     |                                                                       | hardwoods<br>and conifers |    |
| Viburnum<br>ellipticum | oval-leaved<br>viburnum | Adoxaceae | perennial<br>deciduous shrub | 2B.3 | G4G5 | S3? | Chaparral, Cismontane<br>woodland, Lower montane<br>coniferous forest |                           | No |