BIOLOGICAL ASSESSMENT REPORT

Assessor Parcel Number (APN):
104 – 261 – 006 & 105 – 021 – 011

Prepared For:

Rainmaker Properties, LLC

5725 Old Mattole Road
Petrolia, CA

Prepared By:

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Date Prepared:

May 26th, 2020

Certification: I hereby certify that the statements furnished in this report present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

X _____.

Mason London, MS Biology

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Section 1 Summary of Findings and Conclusions

The project applicant seeks a Zoning Clearance Certificate (ZCC) to cultivate an additional 22,584 ft^2 of mixed-light cannabis. Currently the property is permitted to cultivate 20,976 ft^2 of mixed-light cannabis under CCLUO 1.0, Conditional Use Permit (CUP) Case No. 16-006 and Special Permit (SP) Case N0. 16-185. This will equate to a total of 43,560 ft^2 (1 acre) of cultivated cannabis on the property.

The proposed project site is located approximately 3.50 air miles northwest of Petrolia, California in Humboldt County. The proposed project site location has been grazed by cattle for a period of time over 150 years. Although the seasonal timing of the field visit was not appropriate for the detection of all blooming rare and special status plant species, the preexisting disturbance at the proposed cultivation site, and the habitat observed, makes it unlikely that special status plant and animal species are present within the proposed site location, or would be negatively impacted by the project. No sensitive or special status vegetation will be removed within the project site or in the adjacent area for this project. With the proposed recommendations observed, this project is not anticipated to cause any direct or indirect impacts to the surrounding wildlife, environment and/or habitats.

Section 2 Introduction, Background, and Project Understanding

2.1 Purpose and Need

This Biological Assessment Report has been prepared by request from the applicant. This report has been prepared as a preliminary measure to investigate the potential impact of the cultivation of 22,584 ft^2 of mixed-light cannabis over one project site location. Even though the location of the proposed project has historic disturbance in the form of continual livestock grazing, all Humboldt County commercial cannabis cultivation applications, under the *Application Requirements Cannabis 2.0*, require a "Biological Reconnaissance Survey for Special Status Species and Sensitive Habitat." This document reports on the investigation and findings of the biological resource and habitat quality on the parcel and the project area. This report also addresses the status and potential utilization of the project area by special status plant and animal species found within the region.

This document has been prepared in accordance with legal requirements set forth under Section 7 of the Federal Endangered Species Act (FESA) (16 U.S. Code § 1536) subsection (c). Under this subsection (c), it is stated that "...based on the best scientific and commercial data available, that such species [which are listed or proposed to be listed] may be present, such agency shall conduct a biological assessment for the purpose of identifying any endangered species or threatened species which is likely to be affected by such action. Such assessments shall be completed ... before any contract for construction is entered into and before construction is begun with respect to such action."[1]

2.2 Biologist's Qualifications

The biological assessment for this report was conducted by Mason London. Mason is the primary biological consultant and owner of Naiad Biological Consulting. Mason holds a Master of Science Degree in Biology with a concentration in aquatic ecology from Humboldt State University. Mason has 10 years of experience working professionally as a botanist, wildlife biologist, aquatic ecological research scientist, and has instructed ecological field and classroom courses at the university level.

2.3 Parcel and Project Site Description

This Biological Assessment Report considers the potentially occurring species and communities that could be affected by the proposed project based on available spatial data, habitat requirements, and observations made during a site visit. The project site was evaluated for potential habitat value to protect endangered, threatened, rare, and sensitive species by walking around the project area to observe sensitive species as well as overall

[1] Section 7 of the Federal Endangered Species Act (FESA) (16 U.S. Code § 1536) subsection (c): https://www.fws.gov/endangered/laws-policies/section-7.html

habitat quality and habitat modification. In this regard, habitat quality directly relates to the distribution of individuals in space and influences the potential for resource acquisition. Habitat modification, both positive and/or negative, refers to the changes in habitat quality, which can induce changes in species acquisition of resources. Other project related aspects, such as irrigation source, site location and cultivation methods were assessed in terms of ecological and biological impact.

The parcels (APNs: 104-261-006 & 105-021-011) where the proposed project site is to occur is 150.70 GIS acres in total (APN: 104-261-006 is 125.52 GIS acres and APN:105-021-011 is 25.18 GIS acres) (Map 1 & Map 2) and located approximately 3.50 air miles northwest of Petrolia, California in Humboldt County. The project area is located in Section 30, Township 1 South, Range 2 West (S30, T1S, R2W) of the Humboldt Base and Meridian (HBM) and in the Petrolia 7.5-minute USGS quadrangle (Quad code: 4012433). The parcel occurs within the McNutt Gulch watershed (CDFW Region: 1), which is a coastal stream draining into the Pacific Ocean approximately 6.50 miles south of Cape Mendocino. The center location of this parcel is 40°21'01.1"N 124°19'48.9"W. The elevation of the center of the proposed project site is approximately 495 feet (~150 meters) above sea level (Google Earth Pro, 2020). This parcel is zoned as Agriculture Exclusive (AE) and Timberland Production (TPZ). According to the conditionally permitted uses of parcels in an AE zone, "[t]he proposed use will not impair the continued agricultural use on the subject property or on adjacent lands or the economic viability of agricultural operations on site," (Section 18.1.1[2], Humboldt Co. Code). The Current General Plan of the parcel is Agriculture/Grazing (AG) and Timber Production (T). Parcels with a current general plan of AG have allowable uses of "intensive agricultural" and where "[r]esidential uses must support agricultural operations" (Table 4-G[3], Humboldt Co. General Plan 2017).

The proposed project at this parcel, investigated in this biological assessment, consists of the cultivation of approximately 22,584 ft^2 of mixed-light cannabis in one location within an open field which has been used to graze cattle for the last 150 years or more. A grading plan is being submitted in association with this project in order to level out the project site location to better suit cultivation operation. This biological assessment investigates the location of the cultivation for both indirect disturbance as well as potential impact to habitat quality from grading. The parcel's preexisting permitted 20,976 ft^2 of mixed-light cannabis cultivation exists over three (3) separate sites on the parcel (Figure 1; Map 2).

[2] From Humboldt County Code Zoning Regulations, Title III Land Use and Development: https://humboldtgov.org/DocumentCenter/View/4029/Humboldt-County-Zoning-Regulations-PDF?bidId=

[3] From 2017 Humboldt County General Plan: https://humboldtgov.org/DocumentCenter/View/62021/Section-48-Land-Use-Designations-PDF?bidId=

For this report *project site* will refer to the location of potential disturbance from direct action or interface with the environment, whereas *project area* will refer to the extent of the project (which will include the project site and surrounding area) that has the potential to be directly or indirectly disturbed from project related activities.

2.4 Cultivation

All cultivation for the proposed project will occur within Nexus Greenhouses (Figure 2). Nexus Greenhouses have internal light denervation systems which allows the mixed-light cannabis to have artificial light supplementation without any light pollution (Figure 3). Furthermore, the applicant has a 1600-amp, 3 phase PG&E power drop which completely eliminates the need for the cannabis operation to utilize generates (Figure 4). Since all wattage used will be from grid power, the greenhouse fans will produce minimal daytime decibels, and the greenhouses will be completely covered when artificially lit, there is no expected noise or light pollution to impact the project area. This will eliminate all potential for disturbance to the environment or surrounding wildlife from noise and light pollution associated with the cultivation operations.

As previously mentioned, a grading plan is being submitted in association with this project in order to level out the project site to better suit cultivation operation and construction of the new Nexus Greenhouses.

2.5 Water Collection and Storage

The applicant will utilize water for irrigation from an engineered one million (1,000,000) gallon lined rain catchment pond located on the parcel (Figure 5; Map 2). According to the National Weather Service, the annual average precipitation (averaged between 1961 and 1990), shows this region receiving, on average, between 75 and 100 inches of rain per year. This amount of rain is adequate to fill the pond that the applicant will utilize during the farming/forbearance season.

This responsible method of water recruitment renders no impact to the surrounding environment or habitat, except in the form of potentially harboring nonnative aquatic species in the proposed pond. Measures to abate and mitigate the potential impacts of the recruitment of key nonnative and invasive aquatic species is described in section *5.1.3 Recommendations*.

Section 3 Methods

3.1 Pre-Site Visit Data Compilation and Preparation

A list of special-status plant and animal species to consider to be potentially present within the parcel was downloaded from the California Department of Fish and Wildlife's California Natural Diversity Database Biogeographic Information and Observation System (CNDDB BIOS)(CDFW, 2020), the United State Fish and Wildlife Service Information for Planning and Conservation (IPaC, USFWS 2020) and Calflora Project (Calflora, 2020) for the USGS Petrolia 9-quad area. Animals on the CNDDB list were primarily included based on state or federal listing status or CDFW designation. Native pollinators found in the area were also included based on the state rarity and their potential to be affected by cannabis cultivation.

The special status species in the 7.5 minute USGS Petrolia quadrangle, and the 8 adjacent quadrangles, resulted in twenty six (26) special status animal species (5 amphibians, 9 birds, 5 fishes, 1 insect, 5 mammals, 1 reptile) (Appendix C -Table 1), thirty two (32) special status plant (1 lichen, 31 Vascular) (Appendix C - Table 2) and 2 special status habitat communities (Coastal and Valley Freshwater Marsh and Coastal Douglas Fir Western Hemlock Forest).

3.2 Biological Resource and Habitat Investigation

A biological resource and habitat investigation was conducted at the parcel where the project site occurs between 10:00 and 13:00 on May 7th, 2020 (Map 1). The weather was sunny and clear. The timing of the investigation, in the middle of spring, was outside the blooming period for the majority of the plant species on the sensitive species list (see *Bloom Period* in Appendix C -Table 2). However, the goal of the investigation was to determine suitable habitat for potential species within the project area. Habitat and habitat characteristic for the proposed project site and the adjacent area was investigated (Map 1). Dominate species in surrounding habitats, project related features such as cultivation methods, irrigation sources, and project site setbacks from watercourses were also observed and recorded. A TruPulse 200X laser rangefinder was used to make all of the distance and slope measurements and for determining adequate setbacks.

3.2.1 Project Site Location and Description

All activities associated with this project will occur within an open sloping hilltop that has been degraded and modified by its original habitat quality by grazing cattle for at least the last 150 years (Figure 6). The project site will be graded in order to have more suitable contours for cultivation. No sensitive or special status vegetation will be removed from this site, or within the surrounding area, for this proposed project. The site location was determined to be environmentally adequate for cultivation based on the surrounding habitat, observed species, and the site setbacks to watercourses. The project site was surveyed for sensitive species as well as assessed

based on overall habitat quality and habitat modification. Due to the history of disturbance, and the observed habitat type, the activities associated with this project are not anticipated to negatively impact this already disturbed habitat, or its quality, any more than already has been from historic habitat modification (i.e. continual grazing).

3.2.2 Sensitive Species

Of the twenty six (26) special status animal species, four (4) had a moderate potential of occurring at or within the project site with additional species having potential to occur adjacent to the project site. Of the thirty two (32) special status plant species, four (4) had a moderate potential of occurring at or within the project site with additional species having potential to occur adjacent to the project site. Neither of the 2 special status habitat communities were observed on the parcel.

Section 4 Results and Discussion

4.1 Habitat Area and Existing Site Conditions

The main habitat investigated within the parcel for the project area consists of a large open hilltop where the proposed project site occurs (Figure 7). During the field survey other surrounding habitats on the parcel, described in more detail in Section *4.1.1*, were also investigated for habitat quality and species presence. A wetland feature and watercourses on the parcel were also investigated and measured for adequate buffered setback from the proposed project site.

4.1.1 Terrestrial

Because of the history of grazing, and therefore a regularly occurring disturbance regime taking place on the parcel, the project site is dominated by many nonnative and invasive species. This habitat is unlikely to harbor any sensitive and/or rare plants due to the nature of disturbance. However, the project site, as well as the surrounding area, was assessed for species occurrence potential. It is not anticipated that any vegetation communities outside of the project site will be impacted by the project.

Although no sensitive or special status species were observed during the field survey, the timing of the survey was outside the blooming period for some species on the CNDDB and Calflora lists and therefore this field survey may affect the comprehensiveness of the results. However, the field survey also assessed suitable habitat for potential species within the project area. Of the four (4) species whose habitat requirements fit the description of the project site, their phenological bloom period occurs during the time of the site visit and none of these species were observed. Further detail regarding these species' potential occurrence within the project site and surrounding area is explained in *Section 4.2 Special Status Plant Species*.

This was a "focused survey," since a list of potential occurring species was obtained prior to the site visit and because all of the potential species that could occur within the project area were in bloom at the time of the field survey. According to the CDFW protocol, " [f]ocused surveys' are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants," (CDFW, 2018). A focused survey is an on-site survey that is limited in scope, content, length and designed to gather information on a specific issue(s). Because of the focal species for this survey, the habitats were targeted based on predetermined features. Therefore, a meandering, or wandering transect, approach to the survey was implemented in order to cover all habitats that could potentially harbor

these four (4) species (Map 1). This wandering transect was walked with the intentional bias of seeing the species previously mentioned.

The open sloping hilltop habitat, where the grading and project site will occur, was assessed for species presence (Figure 8). Dominate species observed in this habitat were sheep sorrel (*Rumex acetosella*), narrowleaf plantain (*Plantago lanceolate*), California poppy (*Eschscholzia californica*), flatweed (*Hypochaeris radicata*), hairy vetch (*Vicia villosa*), pale flax (*linum bienne*), red clover (*Trifolium pretense*), scarlet pimpernel (*Anagallis arvensis*), field mustard (*Brassica rapa*), Italian thistle (*Carduus pycnocephalus*), dwarf brodiaea (*Brodiaea terrestris*), cutleaf crane's bill (*Geranium dissectum*), Idaho blue-eyed grass (*Sisyrinchium idahoense*), milky oats (*Avena sativa*), Kentucky bluegrass (*Poa pratensis*), rattlesnake grass (*Briza maxima*), Sweet vernal grass (*Anthoxanthum odoratum*), soft brome (*Bromus hordeaceus*), great brome (*Bromus diandrus*), California oatgrass (*Danthonia californica*), wildrye (*Elymus spp.*), fescue (*Festuca spp.*), toad rush (*juncus bufonius*), canary grass (*Phalaris spp.*) and seaside barley (*Hordeum marinum*). A soil pit was dug in the center of this habitat to observe the soil texture and to confidently determine that the habitat does not have hydric soils (Figure 9). No listed special status plant species were observed in this habitat.

Surrounding the project site, to the north approaching the wetland habitat, the same field habitat species were observed, as well as a few others (Figure 10). These other dominate species observed were coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), California wild rose (*Rosa californica*), common groundsel (*Senecio vulgaris*), chickweed (*Stellaria media*), Pacific blackberry (*Rubus ursinus*), curly dock (*Rumex crispus*) and cow parsnip (*Heracleum lanatum*). No listed special status plant species were observed in this habitat.

Within the wetland habitat (Figure 11), dominate species observed include curly dock (*Rumex crispus*), cow parsnip (*Heracleum lanatum*), hairy vetch (*Vicia villosa*), Pennyroyal (*Mentha pulegium*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), buttercup (*Ranunculus spp.*), soft rush (*Juncus effuses*), spreading rush (*Juncus patens*), and many other species previously listed. No listed special status plant species were observed in this habitat, and due to the required setback of the project site being in accordance with the most conservative buffer distance, as required and defined in Section 1, Requirement 37 of the State Water Resource Control Board: *Cannabis Cultivation Policy Attachment A: Definitions and Requirements for Cannabis Cultivation*[4], there is no anticipated impact to this habitat from the project in anyway.

[4] State Water Resources Control Board: Cannabis Cultivation Policy Principles and Guidelines for Cannabis Cultivation https://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/policy/final_cannabis_policy_with_attach_a.pdf

Surrounding this wetland habitat, there is a dense forest dominated by Grand Fir (*Abies grandis*) and Douglas Fir (*Pseudotsuga menziesii*) that comprises the majority of the northwestern half of the parcel (Figure 12). Since this habitat is well outside of the project area it was determined that there would be no impacts to this habitat by the proposed activities associated with this project. Therefore, this habitat was not further investigated for this biological assessment.

No listed special status plant species were observed during the field survey, and based on the findings from this survey, it is unlikely that any sensitive species currently not in bloom would utilize the observed habitat of the project area based on these species' elevation, habitat and micro-habitat requirements.

Because of the species observed, and since no sensitive species or sensitive habitats were found within the project area, no further botanical surveys are recommended before ground-disturbing activities commence.

Furthermore, the project sites management plan will protect the further spread of nonnatives and invasive species because all present invasive species at this site will be removed for the anticipation of cultivation and in accordance to the methods explained in the associated *Invasive Species Control Plan* created for this project. The proposed grading will help with the initial removal of the present invasive species

4.1.2 Hydrologic and Aquatic

The habitat wetland investigated near the project site had been previously delimited. All grading for the proposed project is to occur at a minimum of 100 feet outside of the delineated wetland habitat. This setback adheres to the most conservative buffer as required by the California State Water Resource Control Board (Section 1, Requirement 37 of *Cannabis Cultivation Policy Attachment A: Definitions and Requirements for Cannabis Cultivation*[4]) (Map 2).

To the east of the project site, on the eastern boarder of the property, there is a Class II watercourse. This is the closest watercourse to the proposed project site, but occurs well outside of the required 100 foot setback (it occurs approximately 600 feet from the nearest boundary of the project site) (Map 2).

To the west of the proposed project site, McNutt Gulch, a Class I watercourse, occurs on the parcel. The nearest edge of the proposed project site to the nearest location of McNutt Gulch occurs over 1,100 feet away and there is country road (Old Mattole Rd.) that exists between the project site and the watercourse. This project is not anticipated to impact this habitat, or the species that utilize this habitat, in anyway.

It is likely that to the north and west of the wetland previously described there are seasonal watercourses that drain into McNutt Gulch. However, these habitats occur outside of the required setback from the project site so were not further investigated for this biological assessment.

The perimeter of the irrigation pond that exists on the parcel is dominated by crimson clover (*Trifolium incarnatum*), white clover (*Trifolium repens*), red clover (*Trifolium pretense*), bird's-foot trefoil (*Lotus corniculatus*), and coyote brush (*Baccharis pilularis*) (Figure 12). This habitat, though manmade, is capable of harboring both special status as well as invasive species. Recommendations for how to combat invasive species, as well as proceed with the presence of special status species, is explained in *Section 5.1.3 Recommendations*.

4.1.3 Sensitive Species and Habitats

Each species derived from the previously mentioned databases were evaluated for their potential of occurrence within the project site by the following criteria:

1. "***None***." Species listed as having "none" potential of occurrence are those species for which there is no suitable habitat within the project area (elevation, hydrology, plant community, disturbance regime, etc.)

2. "***Low***." Species listed as having a "low" potential of occurrence are those species for which there is no known occurrence of the species within the project area and there is limited or marginal suitable habitat present at the project area.

3. "***Moderate***." Species listed as having "moderate" potential of occurrence within the project area are those species for which there is a known record of occurrence within or in the vicinity of the project area and/or there is suitable habitat present within the project area.

4. "***High***." Species listed as having "high" potential of occurrence within the project area are those species for which there is a known record of occurrence within or in the vicinity of the project area and/or there is highly suitable habitat present within the project area.

5. "***Present***." Species listed as having "present" potential of occurrence within the project area are those species for which the species was observed during the field survey.

Species with a 'low' potential of occurrence were not further investigated for likelihood to exist within or utilize the project site habitat. A rank of low was given to species that most likely will not occur, or are highly unlikely for them to occur, based on their habitat requirements. However, there are always exceptions to natural rules and so these species were not given the rank of 'none' because it is not entirely impossible for them to occur, just extremely unlikely.

4.2 Special Status Plant Species

Potential habitat for four (4) special-status species exist within the project area. These species include maple-leaved checkerbloom (*Sidalcea malachroides*), Siskiyou checkerbloom (*Sidalcea malviflora ssp. Patula*), leafy

reed grass (*Calamagrostis foliosa*) and Pacific gilia (*Gilia capitata ssp. pacifica*). None of these species were observed within the project area during the field survey and site visit.

Maple-leaved checkerbloom (*Sidalcea malachroides*) has a moderate potential of occurring at the project site. Its elevation range is between 0 and 730 meters. This species blooms between April and Augusts and is known to occur in broadleafed upland forests, coastal prairies, coastal scrubs, North Coast coniferous forests, and riparian woodlands and also is often found in disturbed areas. Since the project site does have a history of disturbance, the potential of *Sidalcea malachroides* occurrence could be likely. Due to the time of year, and current weather conditions, *Sidalcea malachroides* would have been in bloom during the site visit, but was not observed. Furthermore, *Sidalcea malachroides* have distinct "maple like" leaves, making it easily identifiable even when not in bloom. No *Sidalcea malachroides* were observed during the site investigation and it is concluded that it is highly unlikely that this species occurs at the project site. There is a known occurrence of this species mapped with a nonspecific accuracy "3 miles northwest of Petrolia on Mattole Road enroute to Capetown," (Map 3 & Appendix D; Occurrence Report 1). The nearest distance the project site occurs to the buffered occurrence of this species is approximately 1,000 feet away (Map 3). This observation was made in 1986 and was recorded to be found in a "moist talus slope" habitat. The project site does not have this sort of habitat and therefore it is likely that this recorded population does not extend to the open field habitat where the project is proposed to occur. The potential habitat areas surrounding the project site will not be disturbed by this proposed project.

Siskiyou checkerbloom (*Sidalcea malviflora ssp. patula*) has a moderate potential of occurring at the project site. Its elevation range is between 15 and 880 meters and is known to occur in costal bluff scrub, coastal prairies, North Coast coniferous forests, and also found in roadcuts. While habitat for this species does exist within the project area, the history and level of disturbance makes it highly unlikely that this species occurs at the project site. Also, this species prefers wetland/wetter areas, which is nonexistent in the project site. *Sidalcea malviflora ssp. patula* is also a perennial herb, which blooms between May and August, that was not observed during the project site survey. The potential habitat areas surrounding the project site will not be disturbed by this proposed project.

Leafy reed grass (*Calamagrostis foliosa*) is a perennial bunchgrass found between 0 and 1220 meters in coastal bluff scrub North Coast coniferous forests and prefers rocky places. The habitat of the field makes it moderately likely that *Calmagrostis foliosa* could exist within the project site. Given the history of disturbance (i.e. grazing) at this site, it is highly unlikely that this species occurs within project site. Also, given that this bunch grass is perennial, it is easily identified outside of its blooming period, which is May through September, and no

Calamagrostis foliosa where observed during the site visit. The potential habitat areas surrounding the project site will not be disturbed by this proposed project.

Pacific gilia (*Gilia capitata ssp. pacifica*) has a moderate potential of occurring at the project site. Its elevation range is between 5 and 1665 meters and is known to occur in coastal bluff scrub, chaparral openings, coastal prairies and valley/foothill grasslands. While habitat for this species does exist within the field at the project site, the history of disturbance, makes it highly unlikely that this species would be able to establish and occur at the location. Furthermore, this species blooms between April and August and was not observed during the field survey. The potential habitat areas surrounding the project site will not be disturbed by this proposed project.

4.3 Special Status Animals Species

Moderate potential habitat for four (4) special status animal species exists within the project location. One (1) of these four (4) species is a Cooper's hawk (*Accipiter cooperii*) and would only utilize the site for hunting/foraging and would otherwise only pass over in flight (Appendix C -Table 1). This species would not utilize the project site for nesting or shelter due to the void of canopy cover and other structures. Moreover, due to the cultivation methods of this proposed project mitigating the production of noise or light pollution, there is no potential take of this species from indirect disturbance. Therefore, it is not expected that Cooper's hawk will be impacted in anyway but the proposed project. The remaining 3 special-status species include the Western Bumblebee (*Bombus occidentalis*), the North American porcupine (*Erethizon dorsatum*) and the American badger (*Taxidea taxus*).

The **Western Bumblebee (*Bombus occidentalis*)** is widely distributed in California and is known to pollinate a wide variety of flowering plants. This species lives in abandoned burrows and cavities and potential nesting locations may exist within the project area. However, it is unlikely that there would be a significant loss of nesting habitat or foraging material as a result of the project due to the vast acreage of similar habitat surrounding the proposed project site. It is not anticipated that the project will negatively impact this species.

The **North American Porcupine (*Erethizon dorsatum*)** can be found in forested habitats in broadleaf upland forest, cismontane woodland, and lower and upper montane conifer forest. Even though this species may reside nearby and could pass through the project site while foraging, the lack of cover within the project area makes it unlikely that this species would utilize open field habitat. Also, the frequent human activity that occurs within the project area proximity likely results in *Erethizon dorsatum* not utilizing the site. It is not anticipated that the project will negatively impact this species.

The **American badger (*Taxidea taxus*)** is most abundant in drier open stages of most shrub, forest, and herbaceous habitats. *Taxidea taxus* requires sufficient food, friable soils (soils with a crumbly texture) and open, uncultivated ground. This species preys on burrowing rodents and digs burrows. Though the habitat of the project site is suitable for *Taxidea taxus*, the history heavy grazing, resulting in the compaction of the soils within the specific project site location, renders these soils to be not desirable for this species burrowing and hunting. The surrounding suitable habitat (the forested margins and less disturbed areas) will not be disturbed in anyway related to this project's proposed activities and therefore this species is still capable of existing within the parcel without a negative impact. Furthermore, the frequent human activity that occurs near the project area likely results in *Taxidea tacus* not utilizing the site. It is not anticipated that the project will negatively impact this species.

4.3.1 Other Special Status Animal Species

The nearest known **Northern Spotted Owl (*Strix occidentalis caurina*)** Activity Center (HUM0198), according to the most up to date CNDDB Spotted Owl Viewer, is approximately 3.60 air miles from the proposed project site (Map 4; Occurrence Report 2). *Strix occidentalis caurina* reside in dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2300 meters. They usually nest in trees or snag cavities, or in broken tops of large trees (Polite C. 1990). The surrounding habitat on the parcel is not dominated by this forest type, but rather, surrounding the open field habitat where the project will occur, is more dominated by more open landscape and second growth trees which is not preferred for nesting or roosting by *Strix occidentalis caurina*.

Even though this project will not "...remove or modify spotted owl nesting, roosting or foraging habitat...", according to the USFWS Northern Spotted Owl Survey protocol: Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls, the "... protocol should also be applied to activities that disrupt essential breeding activities and to activities that may injure or otherwise harm spotted owl other than through habitat modification (e.g., noise disturbance, smoke from prescribed fire)," (USFWS, 2012). It is noted that in general, noise levels of 70 dB or less, would not generate a significant disturbance unless within very close proximity (<25 m) to an active nest (USFWS 2006). Since the cultivation methods proposed for this project will not utilize generates, will mitigate for noise produced by fans, and the greenhouses will be completely covered with artificially lit, all potential for noise and light pollution are eliminated, and therefore there is no expected disruptions towards essential breeding activities or any activates that may injure or harm this species, or any other species, related to this project.

4.4 Special Status Habitat Communities

The two (2) special status habitat communities identified in the CNDDB BIOS search in the 7.5-minute USGS Petrolia quadrangle, and the 8 adjacent quadrangles, are the Coastal and Valley Freshwater Marsh habitat and Coastal Douglas Fir Western Hemlock Forest habitat.

The **Coastal and Valley Freshwater Marsh** is only documented to occur within the Petrolia quadrangle south of the Mattole River mouth, approximately 5.00 air miles southwest of the project site. The description of a Freshwater Marsh habitat is described to consist of freshwater that develop in shallow, standing or slow-moving water at the edge of ponds and streams, and at other sites that, lack currents and is permanently flooded by fresh water. There was no such habitat observed during the site visit and is therefore determined to not exist on the parcel. This project is not anticipated to impact this habitat in anyway.

The **Coastal Douglas Fir Western Hemlock Forest** was also only documented to occur within the Petrolia quadrangle as well, south of the Mattole River, approximately 2.50 miles upriver from the Mattole River mouth. According to the Society of American Foresters: *Forest Cover Types of the United States and Canada*, this habitats composition is defined by "[c]oast Douglas fir and western hemlock both present in substantial amounts in this mixed-species type, and together comprise at least 80 percent of the stocking. Douglas fir usually is predominant, but hemlock may be so on more moist or less fertile sites." No western hemlock were observed on the parcel, and the Douglas fir trees observed on the parcel do not meet this forest type composition description. Therefore, this habitat type was determined to not exist on parcel. This project is not anticipated to impact this habitat in anyway.

Section 5 Conclusion

5.1 Potential Impacts and Recommended Mitigation

5.1.1 Potential Direct Impacts

Direct impacts are considered to be effects that may occur to the environment from direct interface with the proposed action. Since grading will occur in association with the cultivation plan, direct impacts will occur to the environment. However, given the preexisting quality of the habitat being modified by cattle grazing for over a century, and subsequently rendering no special status species, the activities that will occur at this location will have no negative impacts to sensitive habitats or severely alter the already disturbed habitat quality any more than it already has been. Given the preexisting disturbance to the project site, and the fact that no sensitive vegetation will be removed within and surrounding the project site, the proposed cultivation plan renders no negative habitat alterations. As a result of the abundance of invasive and nonnative species on the parcel and within the proposed project sites, the applicant will be improving the surrounding environment and habitat by the removal of these species during the grading process, and ultimately halting their spread. Because of these factors, the activities associated with the cultivation at the proposed site would only potentially have direct impacts as disturbance-based.

Common disturbance-based impacts include noise and light pollution. For the proposed project, no continuous noise (above 70 dB to the nearest tree line) or light will be generated in association with this project, due to the Nexus Greenhouse self-contained light deprivation methods and PG&E grid power. For the proposed project, all construction (i.e. grading and constructing the Nexus Greenhouses) is anticipated to occur after August 31, so there is no potential impact from sound to migratory nesting birds, since the construction will occur outside of migratory bird nesting season (which is generally February 1 to August 31). Since this project will only occur during daylight hours, there is no anticipation that light pollution will impact any nocturnal species as a result of the development of this project. Therefore, there will be no expected disturbance-based impacts to the surrounding wildlife or habitats.

5.1.2 Potential Indirect Impacts

Given the existing habitat and environment of the parcel, the proposed irrigation source being rainwater, and the existing disturbance to the proposed cultivation site, the development that will occur should have no significant adverse indirect impacts to the surrounding environment, habitats and wildlife.

The only foreseeable negative indirect outcome of the cannabis cultivation process is the potential for the lined 1,000,000-gallon rain catchment pond to harbor the invasive American bullfrog (*Lithobates catesbeianus*).

5.1.3 Recommendations

Best management practices (BMPs) should be used to prevent sediment, fuels or contaminates from entering the surrounding terrestrial and aquatic environments during the grading process and construction of the greenhouses. A complete list of BMPs can be found at Humboldt County: Title III – Land Use And Development - Division 3 - Building Regulations (Ch. 7 § 337-13)[5].

Best management practices for this project should include the installation of waddles, silt fences, and berms to combat and prevent erosion and to eliminated contaminates and sediment movement towards any watercourses. Construction equipment fueling and greasing should occur within one location at the project site, at least 200 feet away from any watercourse or wetland habitat. This location should be clear of brush, flat and contain fuel mats in case of accidental spillage. Every morning, and throughout the day during construction, the equipment should be inspected for hydraulic fluid, oil or fuel leaks. If leaks are detected, they should be repaired immediately and before any further work in completed in order to prevent excess spillage entering the watercourse.

If for whatever reason the project construction occurs prior to August 31, during the migratory bird nesting season (which occurs between February 1 and August 31), it is recommended that a biologist survey for nesting birds within the proximity of the project within a few weeks prior to the project construction. This should be done as a measure to investigate if any migratory birds have constructed nests in any of the trees or vegetation within the proximity that they could be impacted by the noise generated by the grading and greenhouse construction.

Regarding the pond habitat and the recruitment of invasive species, it is recommended that during the growing season, while still in use as water storage, the applicant search for *Lithobates catesbeianus* after dusk by listening for their distinctive deep calls and searching with a flashlight. This should be done at least twice annually. If *Lithobates catesbeianus* is found, the pond is to be drained at the end of the growing season in order to avoid the recruitment of *Lithobates catesbeianus*. If no *Lithobates catesbeianus* are heard or observed during the applicant's survey, the pond should stay full during the seasons when not in use in order to be utilized as habitat for other native aquatic and semi aquatic species.

It is also recommended that the applicant remove all cultivation materials currently within setback buffers from watercourse and wetland habitat.

[5] Best Management Practices for Humboldt Co. can be located at: https://humboldt.county.codes/Code/337-13

If additional activities are proposed that may result in take of a listed species, agency personnel from CDFW and USFWS can further analyze the potential impacts and provide technical assistance for any listed species. If required, guidelines for these reconnaissance surveys should be followed in accordance to the Humboldt County Cannabis Program EIR, CDFW Survey and Monitoring Protocols and Guidelines[6].

It is recommended that the applicant follow the procedures for eradicating the invasive species identified in the associated *Invasive Species Control Plan* document. The location of the proposed site is adequately setback and will adhere to the required riparian buffers, as met by the most conservative California requirements[4]. The applicant is to obey the measured setbacks from the watercourses and wetland habitats identified.

[6] CDFW Survey and Monitoring Protocols and Guidelines: https://www.wildlife.ca.gov/conservation/survey-protocols

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Appendix A: Photos

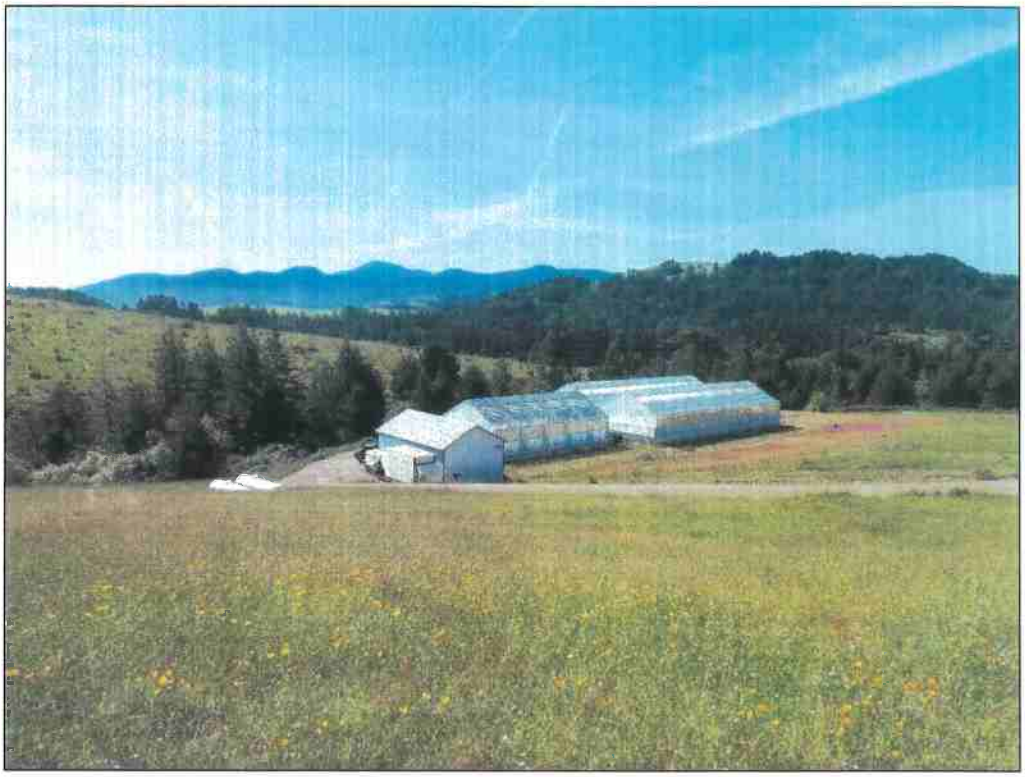


Figure 1. Photo taken within the proposed project site location facing southeast towards one (1) of the three (3) sites that contains the preexisting permitted cannabis cultivation on the parcel.

Figure 2. All proposed cultivation will occur within Nexus Greenhouses. This photo was taken inside of one of the applicants preexisting permitted Nexus Greenhouses.

Figure 3. The Nexus Greenhouses internal light deprivation tarping system.

Figure 4. The new PG&E power drop.

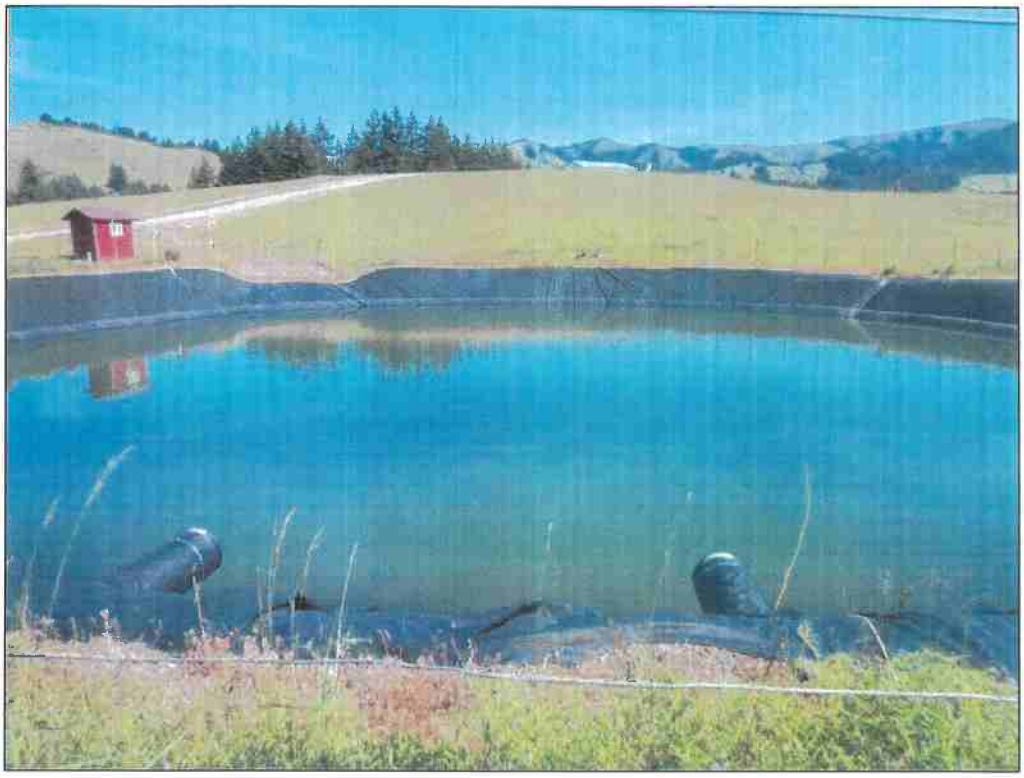


Figure 5. The 1,000,000-gallon irrigation pond.

Figure 6. Evidence of recent cattle grazing within the project area.

Figure 7. The dominate habitat investigated on the parcel where the project site occurs. Photo taken within the project site facing south.

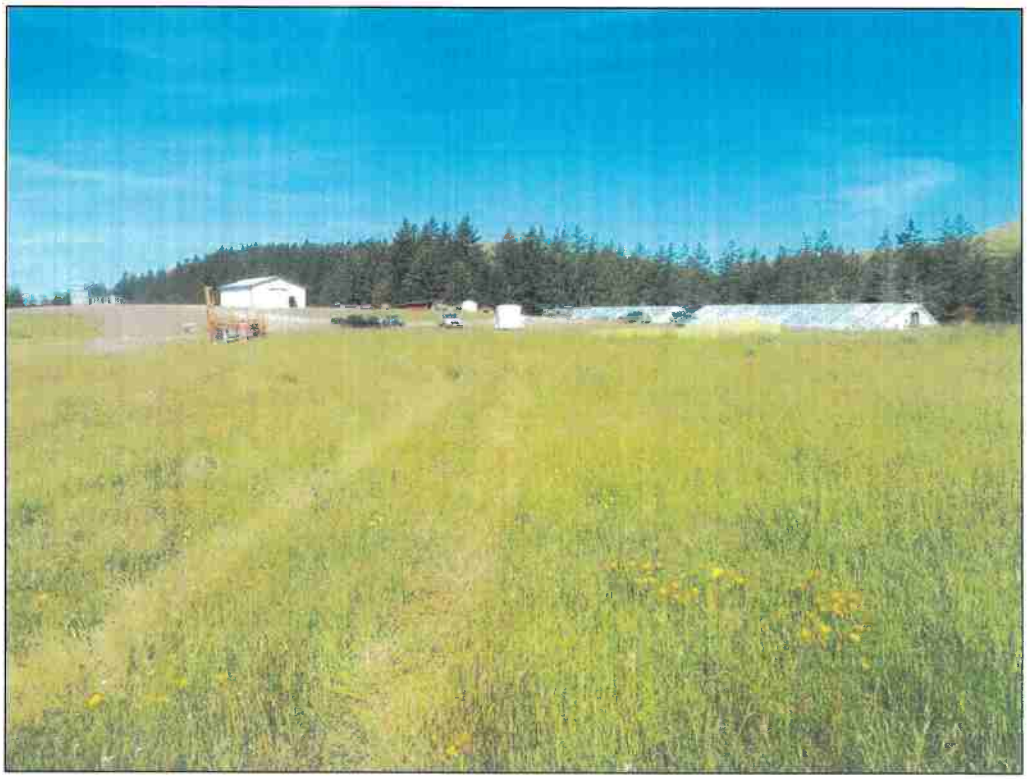


Figure 8. The open sloping hilltop habitat, where the grading and project site will occur. Photo taken within the project site facing north east towards one of the three preexisting permitted cultivation sites.

Figure 9. The soil from the pit dug within the project set to determine no hydric soils are present.

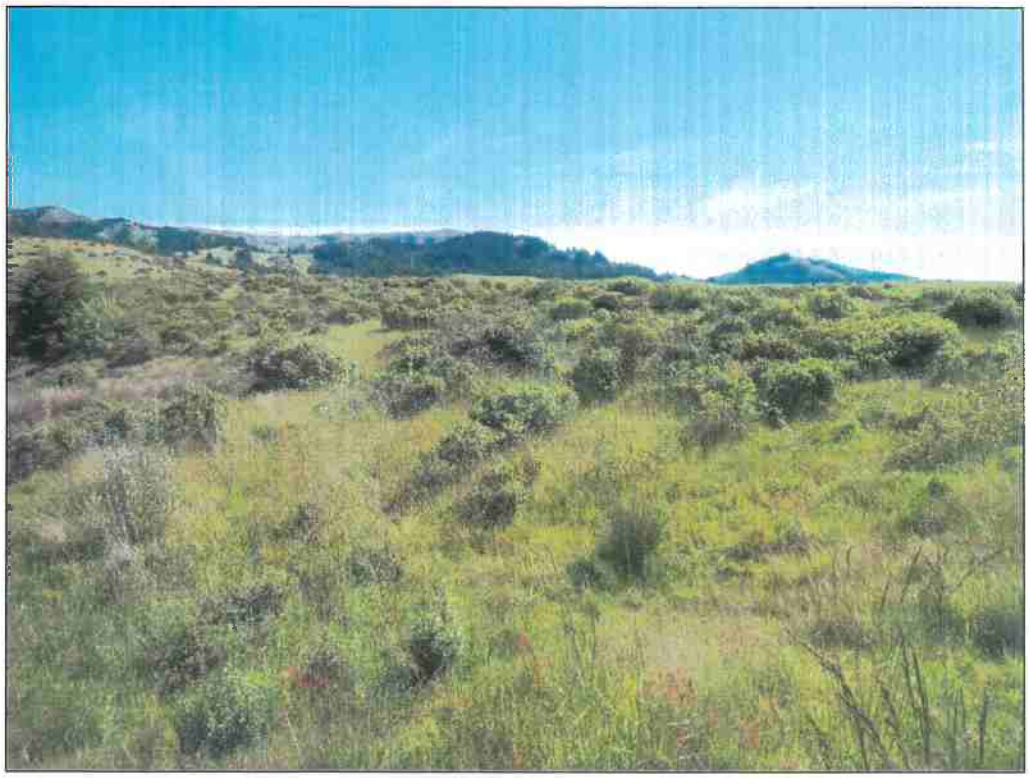


Figure 10. The habitat in the transitional zone from the field where the project site will occur to the wetland habitat north of the project site location.

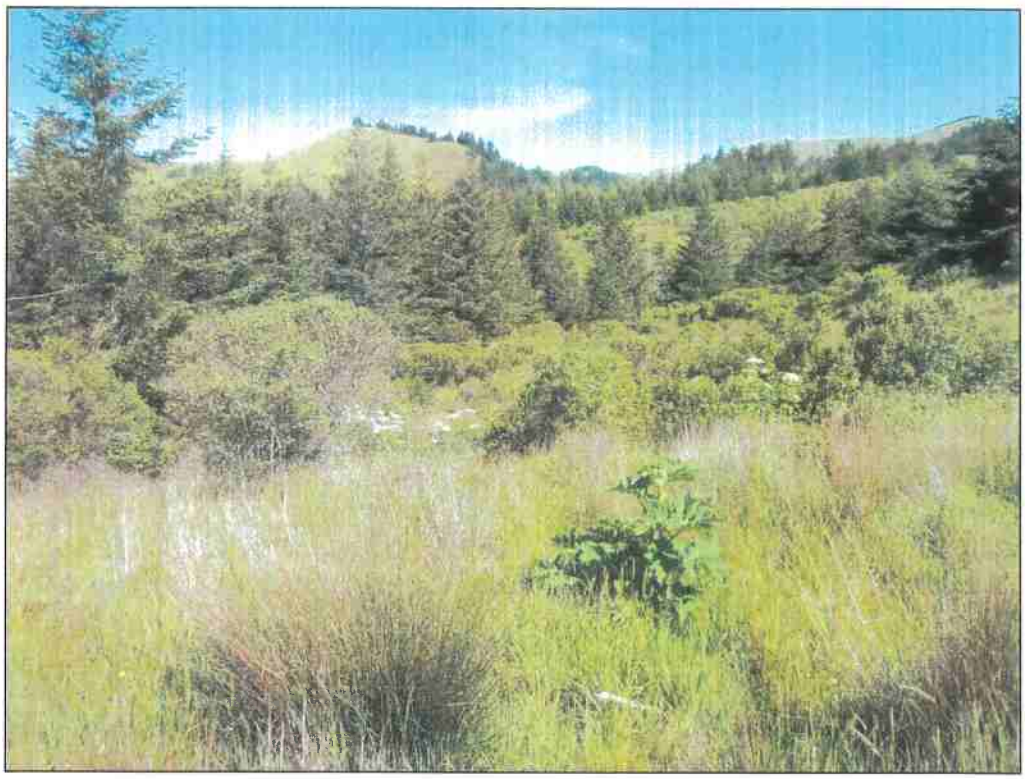
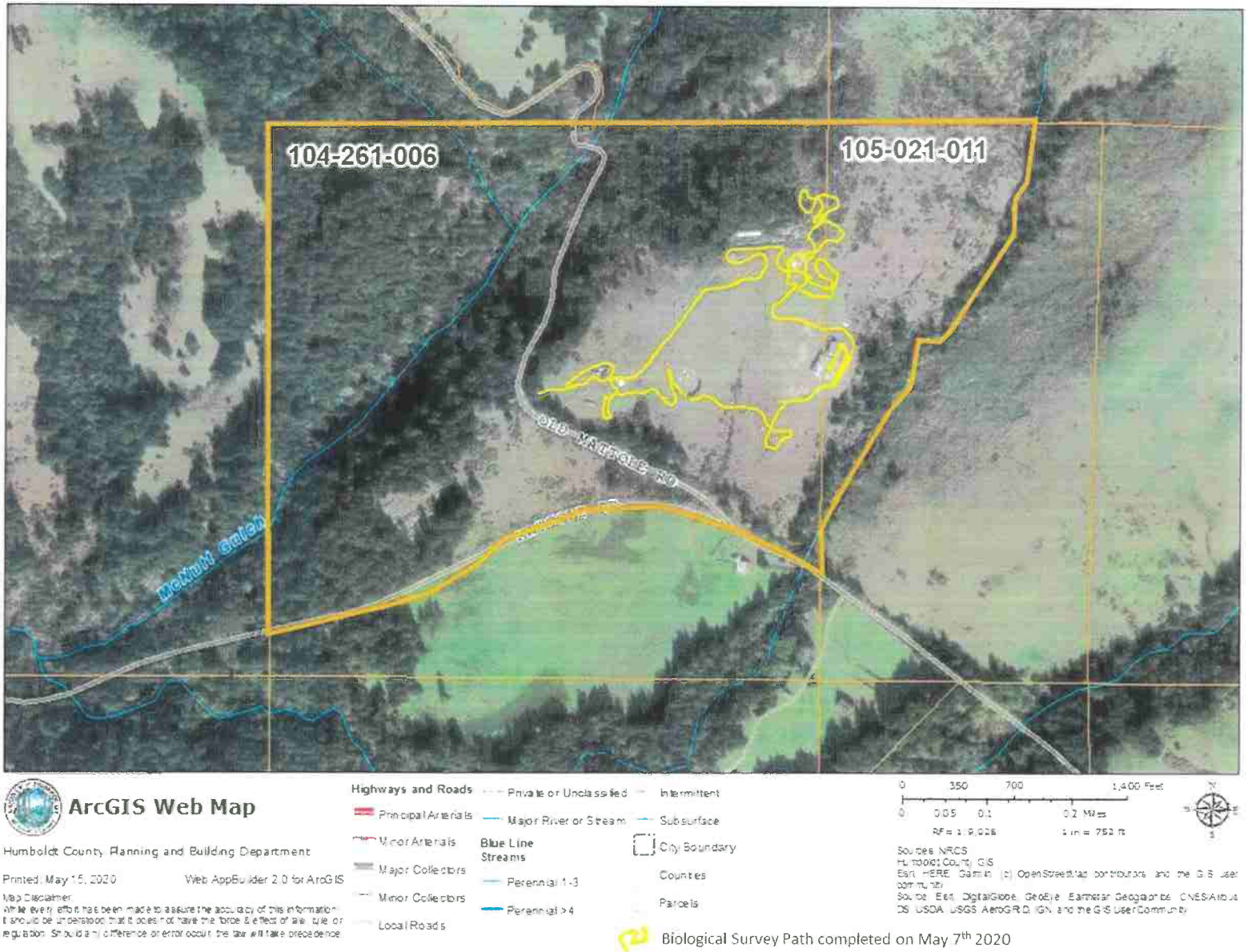


Figure 11. Photo taken within the wetland habitat north of the project site facing north.

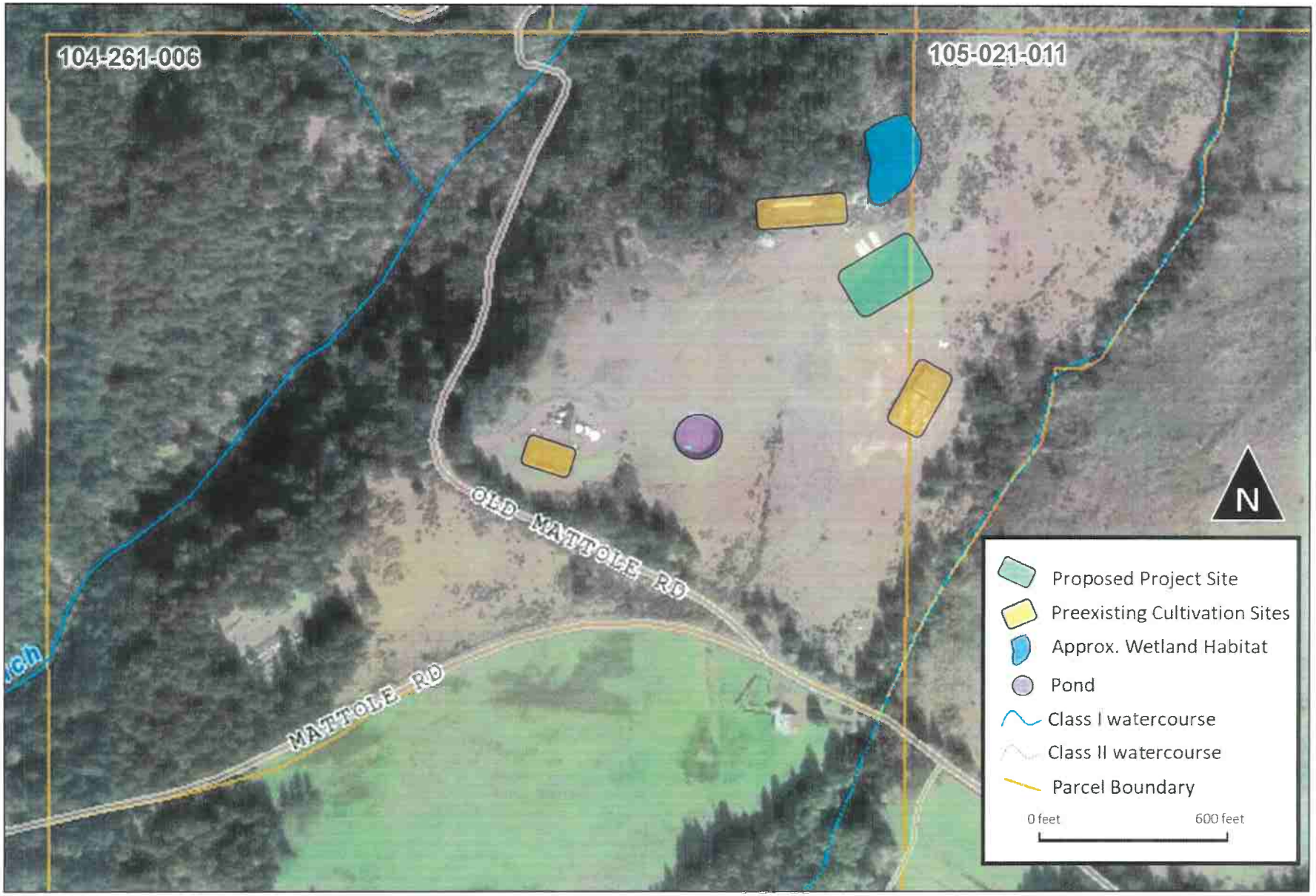
Figure 12. The Grand Fir (Abies grandis) and Douglas Fir (Pseudotsuga menziesii) habitat that dominates the northwestern half of the parcel.

Figure 13. The habitat surrounding the 1,000,000 gallon irrigation pond.

Appendix B: Maps

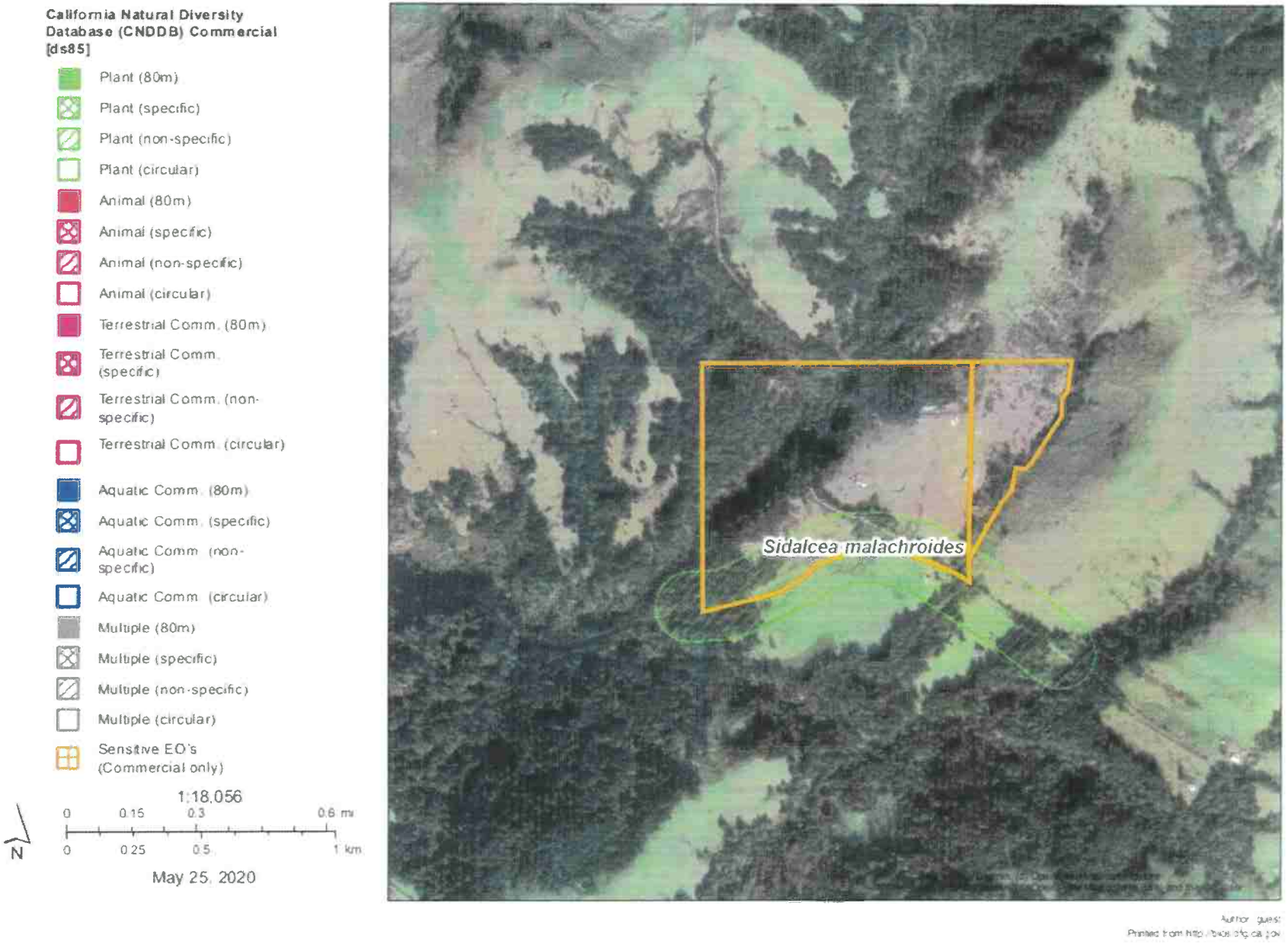


Map 1. The general path taken during the biological survey and site visit investigation on May 7th, 2020. (This is not a boundary survey, property lines shown here are approximated and taken from Humboldt County Web GIS)



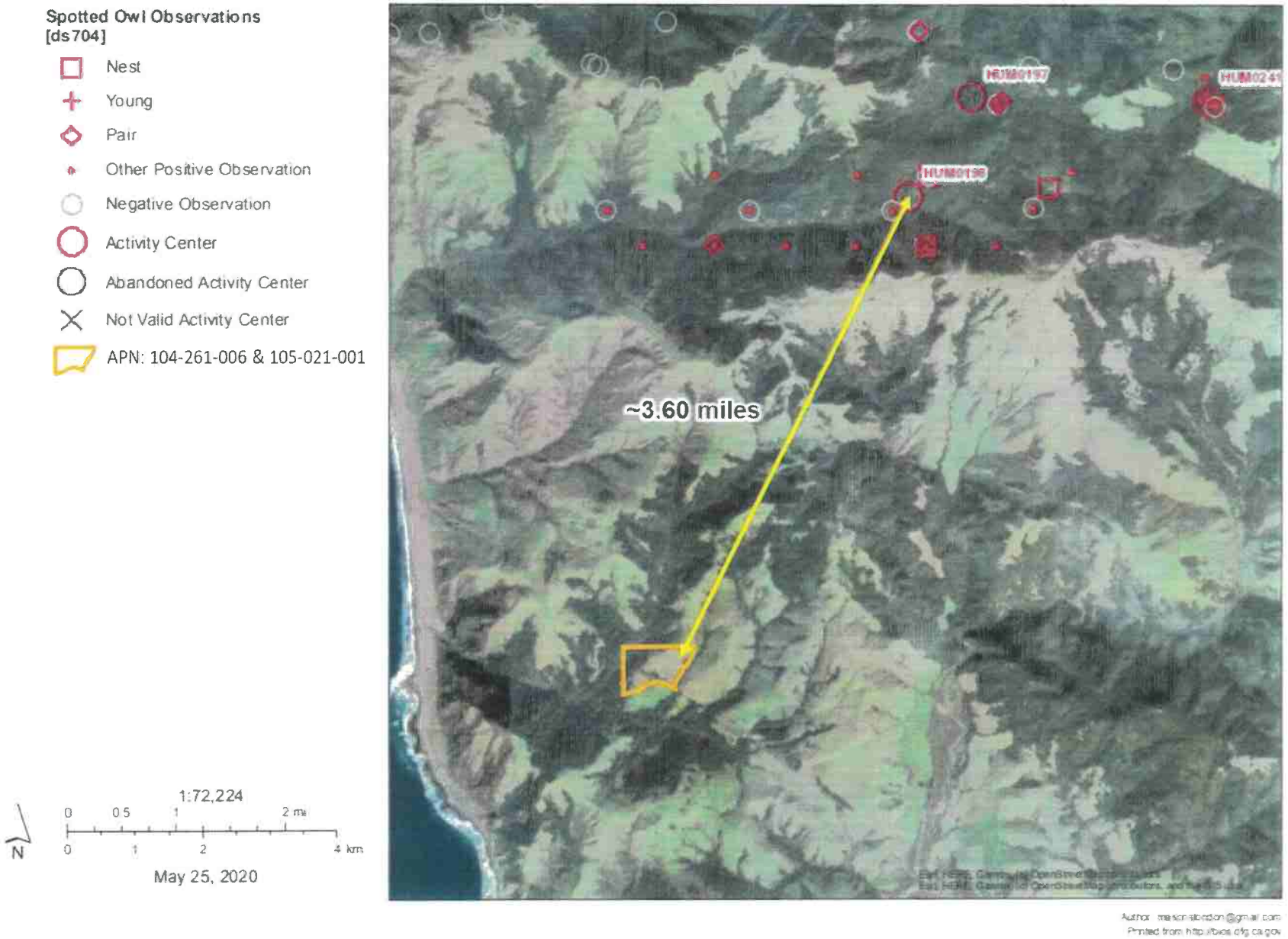
Map 2. The parcel showing the approximate locations of the proposed project site, the preexisting cultivation sites, the irrigation pond, the location and proximity of the Class I and Class II watercourses and the approximate wetland north of the proposed project site location. The location of the cultivation site was determined to be adequately setback from these watercourses. NOTE: This is not a wetland delineation, wetland habitat was approximated for this map (This is not a boundary survey, property lines shown here are approximated and taken from Humboldt County Web GIS)

Surrounding Sensitive Species Occurrences



Map 3. The parcel with the surrounding area showing occurrence of observed sensitive species. *(This is not a boundary survey, property lines shown here are approximated from Humboldt County Web GIS)*

Nearest Spotted Owl Activity Center to Project Site



Map 4. Distances from project site to the nearest Northern Spotted Owl Activity Center. *(This is not a boundary survey, property lines shown here are approximated from Humboldt County Web GIS)*

Appendix C

Table 1 – Special Status Animal Species – May 2020 – APN 104-261-006 & 105-021-011 – Petrolia and surrounding 7.5 min quadrangles

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitats	Potential of Occurrence
Amphibians						
Ascaphus truei	Pacific tailed frog	None	None	SSC	Inhabits cold, clear, permanent rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for protective cover for adults, eggs, and larvae. After heavy rains, adults may be found in the woods away from the stream.	None in project area. Low in surrounding area
Rana aurora	northern red-legged frog	None	None	SSC	inhabits quiet pools of streams, marshes, and occasionally ponds. Occurs along the Coast Ranges from Del Norte County to Mendocino County, usually below 1200 m (3936 ft).	Low in project area. Moderate in adjacent area.
Rana boylii	foothill yellow-legged frog	None	Candidate Threatened	SSC	found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valleyfoothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types.	Low in project area. Moderate in adjacent area.
Rhyacotriton variegatus	southern torrent salamander	None	None	SSC	This species occurs in cold, well-shaded permanent streams and seepages in shady coastal forests.	None in project area. Low in adjacent area.
Taricha rivularis	red-bellied newt	None	None	SSC	Broadleaved upland forest North coast coniferous forest Redwood Riparian forest Riparian woodland. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	Low in project area. Moderate in adjacent area.
Birds						
Accipiter cooperii	Cooper's hawk	None	None	WL	A breeding resident throughout most of the wooded portion of the state. Breeds in southern Sierra Nevada foothills, New York Mts., Owens Valley, and other local areas in southern California. Ranges from sea level to above 2700 m (0-9000 ft). Dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently.	Moderate in project area (flyover). Moderate in adjacent area.
Accipiter gentilis	northern goshawk	None	None	SSC	Prefers middle and higher elevations, and mature, dense conifer forests. Casual in winter along north coast, throughout foothills, and in northern deserts, where it may be found in pinyon-juniper and low- elevation riparian habitats.	Low in project area (flyover). Moderate in adjacent area.
Aquila chrysaetos	golden eagle	None	None	FP ; WL	Ranges from sea level up to 3833 m (0-11,500 ft) (Grinnell and Miller 1944). Habitat typically rolling foothills, mountain areas, sage-juniper flats, desert.	Low in project area (flyover). Low in adjacent area.
Fratercula cirrhata	tufted puffin	None	None	SSC	Tufted Puffins can be found in many coastal habitats adjacent to the Washington coast and elsewhere in the northern Pacific, with the exception of estuaries. They breed in colonies on islands with steep, grassy slopes or on cliff tops. Winter habitat is well offshore, in mid-ocean.	None in project area. Low in adjacent area.
Ardea alba	great egret	None	None	-	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland:Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	Low in project area. Moderate in adjacent area.

Ardea herodias	great blue heron	None	None	-	The great blue heron is fairly common all year throughout most of California, in shallow estuaries and fresh and saline emergent wetlands. Less common along riverine and rocky marine shores, in croplands, pastures, and in mountains above foothills.	Low in project area. Moderate in adjacent area.
Pelecanus occidentalis californicus	California brown pelican	Delisted	Delisted	FP	Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	None.
Phalacrocorax auritus	double-crested cormorant	None	None	WL	A yearlong resident along the entire coast of California and on inland lakes, in fresh, salt and estuarine waters. August to May, fairly common to locally very common along the coast and in estuaries and salt ponds; uncommon in marine subtidal habitats from San Luis Obispo Co. south, and very rare to the north.	None in project area. Low in adjacent area.
Strix occidentalis caurina	Northern spotted owl	Threatened	Threatened	SSC	Northern spotted owls typically nest or roost in multilayered, mature coniferous forest with high canopy closure, large overstory trees, and broken-topped trees or other nesting platforms (USFWS 2012). Confirmed breeding areas are widespread throughout Humboldt County (Hunter et al. 2005). Northern spotted owls may use a broad range of habitats for foraging. Their favored prey, the dusky-footed woodrat (Neotoma fuscipes), typically inhabits the forest edge (Harris 2005).	None in project area (flyover). Low in adjacent area.
Fish						
Entosphenus tridentatus	Pacific lamprey	None	None	SSC	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None in project area.
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	-	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None in project area. Low in adjacent area.
Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	Threatened	None	-	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None in project area. Low in adjacent area.
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	None	None	SSC	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None in project area. Low in adjacent area.
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	Threatened	None	-	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None in project area. Low in adjacent area.
Insects						
Bombus occidentalis	western bumble bee	None	None	-	nests underground or above ground in abandoned bird nests. food plants include Baccharis, Cirsium, Lupinus, Lotus, Grindella, Phacella	Moderate in project area. Moderate in adjacent area.
Mammals						
Erethizon dorsatum	North American porcupine	None	None	-	broadleaf upland forest, cismontane woodland, lower and upper montane conifer forest	Moderate in project area. Moderate in adjacent area.

Arborimus pomo	Sonoma tree vole	None	None	SSC	Occurs in old-growth and other forests, mainly Douglas-fir, redwood, and montane hardwood- conifer habitats.	Low in project area. Moderate in adjacent area.
Pekania pennanti	fisher - West Coast DPS	None	Threatened	SSC	Occurs in intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high percent canopy closure (Schempf and White 1977).	Low in project area. Moderate in adjacent area.
Taxidea taxus	American badger	None	None	SSC	Alkali marsh Alkali playa Alpine Alpine dwarf scrub Bog & fen Brackish marsh Broadleaved upland forest Chaparral Chenopod scrub Cismontane woodland Closed-cone coniferous forest Coastal bluff scrub Coastal dunes Coastal prairie Coastal scrub Desert dunes Desert wash Freshwater marsh Great Basin grassland Great Basin scrub Interior dunes Ione formation Joshua tree woodland Limestone Lower montane coniferous forest Marsh & swamp Meadow & seep Mojavean desert scrub Montane dwarf scrub North coast coniferous forest Oldgrowth Pavement plain Redwood Riparian forest Riparian scrub Riparian woodland Salt marsh Sonoran desert scrub Sonoran thorn woodland Ultramafic Upper montane coniferous forest Upper Sonoran scrub Valley & foothill grassland: Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Moderate in project area. Moderate in adjacent area.
Eumetopias jubatus	Steller (=northern) sea-lion	Delisted	None	-	Steller sea lions are found in coastal waters of the North Pacific Ocean from Japan to central California.. Breeding occurs along the North Pacific Rim from Año Nuevo Island in central California to the Kuril Islands north of Japan, with the greatest concentration of rookeries (breeding grounds) in the Gulf of Alaska.	None.
Reptile						
Emys marmorata	western pond turtle	None	None	SSC	aquatic, flowing waters, standing waters, marsh, swamp, wetland	Low in project area. Moderate in adjacent area.

Definitions of CDFW statuses:

FP

Fully Protected: This classification was the State of California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal endangered species acts.

SS

Species of Special Concern: It is the goal and responsibility of the Department of Fish and Wildlife to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as "Species of Special Concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "Species of Special Concern" is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability.

WL

Watch List: The Department of Fish and Wildlife maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Definitions of Federal Statuses (Federal Endangered Species Act):

Endangered species:

As defined in the U.S. Government Code and California Fish and Game Code (16 U.S. Government Code 1532[6] and California Fish and Game Code Section 2062), a native species, subspecies, variety of organism, or distinct population segment that is in serious danger of becoming extinct throughout all or a significant portion of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

Threatened species:

Native species, subspecies, variety, or distinct population segment of an organism that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future throughout all of a significant portion of its range.

Candidate Species:

Not defined or addressed in statute or regulations. Candidate species are those which USFWS has sufficient information on their biological status and threats to propose listing, but for which the development of a proposed listing regulation is precluded by other higher priority listing activities. Candidates receive no protection under the ESA.

Definitions of State Statuses (California Endangered Species Act):

Endangered species:

A native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Fish & G. Code, §2062

Threatened species:

A native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Fish & G. Code, §2067

Candidate Species:

A native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the Department for listing. Candidates are given full CESA protection. Fish & G. Code, §2068

Appendix C

Table 2 – Special Status Plant Species – May 2020 – APN 104-261-006 & 105-021-011 – Petrolia and surrounding 7.5 min quadrangles

Scientific Name	Common Name	Federal Status	State Status	CESA	Bloom Period	Lifeform	Habitat	Micro Habitat	Elevation (m)	Potential of Occurrence
Usnea longissima	Methuselah's beard lichen	None	None	4.2	NA	fruticose lichen (epiphytic)	Broadleafed upland forest; North Coast coniferous forest	On tree branches; usually on old growth hardwoods and conifers.	50 - 1460 meters	None. Moderate in adjacent area.
Erigeron biolettii	streamside daisy	None	None	3	Jun-Oct	perennial herb	Broadleafed upland forest; Cismontane woodland; North Coast coniferous forest	Rocky, mesic	30 - 1100 meters	Low in project area. Moderate in adjacent area.
Hemizonia congesta ssp. tracyi	Tracy's tarplant	None	None	4.3	May-Oct	annual herb	Coastal prairie; Lower montane coniferous forest; North Coast coniferous forest	openings, sometimes serpentinite.	120 - 1200 meters	None due to elevation range.
Hesperevax sparsiflora var. brevifolia	short-leaved evax	None	None	1B.2	Mar-Jun	annual herb	Coastal Strand, Northern Coastal Scrub	dunes, coastal	0 - 215 meters	None.
Layia carnosa	beach layia	Endangered	Endangered	1B.1	Mar-Jul	annual herb	Coastal Strand, Northern Coastal Scrub (sandy)	dunes, coastal	0 - 60 meters	None.
Packera bolanderi var. bolanderi	seacoast ragwort	None	None	2B.2	May-Jul	perennial rhizomatous herb	Coastal scrub; North Coast coniferous forest	Sometimes roadsides.	30 - 650 meters	Low in project area. Moderate in adjacent area.
Erysimum concinnum	bluff wallflower	None	None	1B.2	Feb-Jul	annual / perennial herb	Coastal bluff scrub, coastal dunes, coastal prairie	dunes, coastal	0 - 185 meters	None.
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	None	None	1B.2	(Apr)Jun-Oct	perennial herb	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)	dunes, coastal	0 - 30 meters	None due to elevation range.
Hosackia gracilis	harlequin lotus	None	None	4.2	Mar-Jul	perennial rhizomatous herb	Broadleafed upland forest; Coastal bluff scrub; Closed-cone coniferous forest; Cismontane woodland; Coastal prairie; Coastal scrub; North Coast coniferous forest; Valley and foothill grassland	Wetlands; Roadsides; Meadows and seeps; Marshes and swamps;	0 - 700 meters	Low in project area. Moderate in adjacent area.
Lathyrus glandulosus	sticky pea	None	None	4.3	Apr-Jun	perennial rhizomatous herb	Cismontane woodland	NA	300 - 800 meters	None due to elevation range.
Ribes roezlii var. amictum	hoary gooseberry	None	None	4.3	Mar-Apr	perennial deciduous shrub	Broadleafed upland forest; Cismontane woodland; Lower montane coniferous forest; Upper montane coniferous forest	NA	120 - 2300 meters	Low in project area. Moderate in surrounding area.
Romanzoffia tracyi	Tracy's romanzoffia	Nonr	Nonr	2B.3	Mar-May	perennial herb	Coastal bluff scrub. Coastal scrub	rocky	15 -30 meters	None due to elevation
Iris longipetala	coast iris	None	None	4.2	Mar-May	perennial rhizomatous herb	Coastal prairie, Lower montane coniferous forest, Meadows and seeps.	Mesic sites, heavy soils	0 - 600 meters	Low in project area due to know occurrences. Low in adjacent area.

Sisyrinchium hitchcockii	Hitchcock's blue-eyed grass	None	None	1B.1	Jun	perennial rhizomatous herb	Cismontane woodland (openings), Valley and foothill grassland	Known in CA from only one occurrence near Cape Ridge.	NA	Low in project area. Moderate in adjacent area.
Erythronium oregonum	giant fawn lily	None	None	2B.2	Mar-Jun	perennial bulbiferous herb	Cismontane woodland	sometimes serpentinite, rocky, openings; Meadows and seeps	100 - 1150 meters	None due to elevation range.
Erythronium revolutum	coast fawn lily	None	None	2B.2	Mar-Jul	perennial bulbiferous herb	Broadleafed upland forest; North Coast coniferous forest	Mesic, streambanks; Bogs and fens	0 - 1600 meters	None in project area. Moderate in adjacent area
Lilium rubescens	redwood lily	None	None	4.2	Apr-Aug	perennial bulbiferous herb	Broadleafed upland forest; Chaparral; Lower montane coniferous forest; North Coast coniferous forest; Upper montane coniferous forest	Sometimes serpentinite, sometimes roadsides.	30 - 1910 meters	None in project area. Moderate in adjacent area.
Sidalcea malachroides	maple-leaved checkerbloom	None	None	4.2	Apr-Aug	perennial herb	Broadleafed upland forest; Coastal prairie; Coastal scrub; North Coast coniferous forest; Riparian woodland	Often in disturbed areas.	0 - 730 meters	Moderate in project area. Moderate in adjacent area.
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	None	None	1B.2	May-Aug	perennial rhizomatous herb	Coastal bluff scrub; Coastal prairie; North Coast coniferous forest	often roadcuts.	15 - 880 meters	Moderate in project area. Moderate in adjacent area.
Pityopus californicus	California pinefoot	None	None	4.2	May-Aug	perennial herb (achlorophyllous)	Broadleafed upland forest; Lower montane coniferous forest; North Coast coniferous forest; Upper montane coniferous forest	mesic.	15 - 2225 meters	Low in project area. Moderate in adjacent area.
Montia howellii	Howell's montia	None	None	2B.2	Mar-May	annual herb	North Coast coniferous forest	Vernally mesic, sometimes roadsides; Meadows and seeps; Vernal pools	0 - 835 meters	Low in project area. Moderate in adjacent area.
Epilobium septentrionale	Humboldt County fuchsia	None	None	4.3	Jul-Sep	perennial herb	Broadleafed upland forest; North Coast coniferous forest	sandy or rocky.	45 - 1800 meters	Low in project area. Moderate in adjacent area.
Oenothera wolfii	Wolf's evening-primrose	None	None	1B.1	May-Oct	perennial herb	Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest	sandy, usually mesic.	3 - 800 meters	None.
Listera cordata	heart-leaved twayblade	None	None	4.2	Feb-Jul	perennial herb	Lower montane coniferous forest; North Coast coniferous forest	Bogs and fens	5 - 1370 meters	None in project area. Moderate in adjacent area.
Piperia candida	white-flowered rein orchid	None	None	1B.2	May-Sep	perennial herb	Broadleafed upland forest; Lower montane coniferous forest; North Coast coniferous forest	sometimes serpentinite	30 - 1310 meters	None in project area. Moderate in adjacent area.
Castilleja litoralis	Oregon coast paintbrush	None	None	2B.2	Jun-Jul	perennial herb (hemiparasitic)	Coastal bluff scrub, Coastal dunes, Coastal scrub	Sandy	15 - 100 meters	None due to elevation
Calamagrostis foliosa	leafy reed grass	None	Rare	4.2	May-Sep	perennial herb	Coastal bluff scrub, North Coast coniferous forest	rocky	0 - 1220 meters	Moderate in project area. Low in adjacent area.
Pleuropogon refractus	nodding semaphore grass	None	None	4.2	Apr-Aug	perennial rhizomatous herb	Lower montane coniferous forest; Meadows and seeps; North Coast coniferous forest	mesic; riparian forest	0 - 1600 meters	Low in project area. Moderate in adjacent area.

Gilia capitata ssp. pacifica	Pacific gilia	None	None	1B.2	Apr-Aug	annual herb	Coastal bluff scrub; Chaparral (openings); Coastal prairie; Valley and foothill grassland	NA	5 - 1665 meters	Moderate in project area. None in adjacent area.
Gilia millefoliata	dark-eyed gilia	None	None	1B.2	Apr - Jul	annual herb	Coastal Dunes	Sandy	0 - 30 meters	None due to elevation range.
Polemonium carneum	Oregon polemonium	None	None	2B.2	Apr-Sep	perennial herb	Coastal prairie, Coastal scrub, Lower montane coniferous forest	NA	0 - 1830 meters	Low in project area. None in adjacent area.
Chrysosplenium glechomifolium	Pacific golden saxifrage	None	None	4.3	Feb-Jun(Jul)	perennial herb	North Coast coniferous forest, Riparian forest	Streambanks, sometimes seeps, sometimes roadsides.	10 - 455 meters	None in project area. Moderate in adjacent area.

Global Conservation Status Definition

Listed below are definitions for interpreting NatureServe global (range-wide) conservation status ranks. These ranks are assigned by NatureServe scientists or by a designated lead office in the NatureServe network.

G1 **Critically Imperiled** – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 **Imperiled** – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.

G3 **Vulnerable** – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.

G4 **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 **Secure** – Common; widespread and abundant.

G#G# **Range Rank** – A numeric range range (e.g. G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

Infraspecific Taxon Conservation Status Ranks

T# **Infraspecific Taxon** (trimonial) – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species. For example, a G1T2 subrank should not occur. A vertebrate animal population, (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an infraspecific taxon and given a T-rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic

status.

Subnational (S) Conservation Status Ranks

S1 **Critically Imperiled** – Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.

S2 **Imperiled** – Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.

S3 **Vulnerable** – Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 **Secure** – Common, widespread, and abundant in the jurisdiction.

S#S# **Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).

Rank Qualifiers

? **Inexact Numeric Rank** – Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status

Q **Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The "Q" modifier is only used at a global level and not at a national or subnational level.

Appendix D

Occurrence Report 1 – *Sidalcea malachroides*

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Species IS (Sidalcea malachroides)

Map Index Number:	35119	**EO Index:**	12
Key Quad:	Petrolia (4012433)	**Element Code:**	PDMAL110E0
Occurrence Number:	25	**Occurrence Last Updated:**	1996-03-14

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:	1986-05-23	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1986-05-23	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

3 MILES NORTHWEST OF PETROLIA ON MATTOLE ROAD ENROUTE TO CAPETOWN

Detailed Location:

MAPPED ALONG THE ROAD WITHIN THE SE 1/4 OF SECTION 30

Ecological:

MOIST TALUS SLOPE

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1986 COLLECTION BY UTECH

PLSS:	T01S, R02W, Sec. 30, SE (H)	**Accuracy:**	nonspecific area	**Area (acres):**	66
UTM:	Zone-10 N4467037 E386496	**Latitude/Longitude:**	40.34617 / -124.33646	**Elevation (feet):**	240

County Summary:	**Quad Summary:**
Humboldt	Petrolia (4012433)

Sources:

UTE86S0001 UTECH - UTECH #86-399 CAS #766286 1986-05-23

Data Version Date:
04/28/2020

Report Generation Date:
5/25/2020

Report #2 - Observations Reported

List of observations reported by site.

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

H_01S_02W Sections(09):

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
Masterowl: HUM0198 Subspecies: NORTHERN											
POS	1989		1	UU				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
POS	1989-05-31	0220	1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
NEG	1989-06-06	2100	0					40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
POS	1989-07-06	0118	1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
NEG	1989-07-18	2320	0					40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
NEG	1989-07-27		0					40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
POS	1990		1	UM				40.392453	-124.314229	H 01S 02W 08	Quarter-section centroid
POS	1991		1	UM				40.392453	-124.314229	H 01S 02W 08	Quarter-section centroid
NEG	1991-03-06	0257	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	1991-03-27	2140	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
POS	1991-04-03	0050	1	UM				40.392453	-124.314229	H 01S 02W 08	Quarter-section centroid
NEG	1991-04-09	0830	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	1991-06-27	1945	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	1991-07-17	2042	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
POS	1992-02-04	1845	1	UM				40.396075	-124.318954	H 01S 02W 08	Section centroid
POS	1992-02-05	0600	1	UM				40.396075	-124.318954	H 01S 02W 08	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	1992-02-06	0614	1	UM				40.396075	-124.318954	H 01S 02W 08	Section centroid
POS	1992-02-27	1730	1	UM				40.396075	-124.318954	H 01S 02W 08	Section centroid
POS	1992-04-15	1509	2	UMUF	Y			40.392508	-124.323868	H 01S 02W 08	Quarter-section centroid
POS	1992-05-21		1	UM				40.392508	-124.323868	H 01S 02W 08	Quarter-section centroid
POS	1993-05-10		1	UM				40.392489	-124.333176	H 01S 02W 07	Quarter-section centroid
POS	1993-05-11		1	UM				40.392489	-124.333176	H 01S 02W 07	Quarter-section centroid
POS	1993-05-21		1	UM				40.392489	-124.333176	H 01S 02W 07	Quarter-section centroid
NEG	1993-06-03		0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	1993-07-19		0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	1994-03-16		0					40.396019	-124.337959	H 01S 02W 07	Section centroid
POS	1994-03-17		1	UM				40.396019	-124.337959	H 01S 02W 07	Section centroid
POS	1994-03-18		1	UM				40.392489	-124.333176	H 01S 02W 07	Quarter-section centroid
POS	1994-05-17		1	UM				40.392489	-124.333176	H 01S 02W 07	Quarter-section centroid
POS	1994-07-14		1	UM				40.392489	-124.333176	H 01S 02W 07	Quarter-section centroid
NEG	1995-03-28		0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	1995-04-21		0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	1995-05-05		0					40.395893	-124.299946	H 01S 02W 09	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1995-05-25		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1995-06-19		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1995-08-09		0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	1995-08-09		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-03-26		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-04-03		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-04-09		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-04-30		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-05-12		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-05-13		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-05-25		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-06-21		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-06-24		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1996-07-01		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	1996-07-11		1	UM				40.392333	-124.295339	H 01S 02W 09	Quarter-section centroid
NEG	1996-07-12		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
AC	1996-07-17		2	UMUF	Y	Y	1	40.397486	-124.297807	H 01S 02W 09	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1996-07-17		0					40.398019	-124.337959	H 01S 02W 07	Section centroid
NEG	1997		0					40.398019	-124.337959	H 01S 02W 07	Section centroid
NEG	1997-02-11		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1997-02-18		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1997-02-25		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1997-03-10		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1997-03-28		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	1997-04-23		1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
NEG	1997-05-05		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1997-06-19		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	1997-06-20		1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
POS	1997-06-30		1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
NEG	1997-07-31		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1998-03-29		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1998-05-30		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1998-06-16		0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1999		0					40.395993	-124.299946	H 01S 02W 09	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1999-05-06	0747	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	1999-06-08	2047	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	1999-07-29	2041	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2000-03-22	1932	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2000-03-22	1830	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2000-03-22	1830	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2000-04-12	1953	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2000-04-13	2318	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2000-05-08	2021	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
POS	2000-05-08		1	UM				40.399580	-124.304646	H 01S 02W 09	Quarter-section centroid
POS	2000-05-08	0036	1	UU				40.399580	-124.304646	H 01S 02W 09	Quarter-section centroid
NEG	2000-05-11	1409	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2000-05-31	2041	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2000-05-31	2054	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2000-05-31	2054	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2000-06-20	2050	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2000-07-01	2052	0					40.396019	-124.337959	H 01S 02W 07	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-07-17	2040	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2000-07-27	2050	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2001-04-09	1950	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2001-04-09	1950	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2001-04-09	1950	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2001-04-09	1950	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2001-04-11	2230	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2001-04-24	2005	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2001-04-24	2005	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
POS	2001-04-24	1915	1	AU				40.392398	-124.304778	H 01S 02W 09	Quarter-section centroid
NEG	2001-04-25	1030	0					40.396019	-124.337959	H 01S 02W 07	Section centroid
NEG	2001-05-10	2023	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2001-05-10	1249	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2001-05-16	2028	0					40.396019	-124.337958	H 01S 02W 07	Section centroid
POS	2001-05-23		1	UM				40.399697	-124.323691	H 01S 02W 08	Quarter-section centroid
NEG	2001-05-23	2305	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2001-05-23	2209	1	UM				40.399697	-124.323691	H 01S 02W 08	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2001-05-24	0715	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2001-05-29	2109	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
NEG	2001-05-29	2158	0					40.396075	-124.318954	H 01S 02W 08	Section centroid
POS	2001-06-05		1	UM				40.399697	-124.323691	H 01S 02W 08	Quarter-section centroid
POS	2001-06-05	0552	1	AM				40.399697	-124.323691	H 01S 02W 08	Quarter-section centroid
POS	2002		1	UU				40.392508	-124.323668	H 01S 02W 08	Quarter-section centroid
POS	2002-04-04	1536	1	AM				40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2002-04-04		1	UM				40.399697	-124.323691	H 01S 02W 08	Quarter-section centroid
NEG	2002-04-05	1234	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2002-04-20	2212	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2002-05-03	1542	1	AM				40.399697	-124.323691	H 01S 02W 08	Quarter-section centroid
POS	2002-05-17	1035	1	AM				40.392333	-124.295339	H 01S 02W 09	Quarter-section centroid
POS	2002-05-17	2311	1	UM				40.392333	-124.295339	H 01S 02W 09	Quarter-section centroid
POS	2002-05-18		1	UM				40.392333	-124.295339	H 01S 02W 09	Quarter-section centroid
POS	2002-06-03	1638	1	AM				40.399697	-124.323691	H 01S 02W 08	Quarter-section centroid
POS	2002-06-29	2357	1	UU				40.392474	-124.285951	H 01S 02W 10	Quarter-section centroid
POS	2002-06-30	0735	1	AM				40.392474	-124.285951	H 01S 02W 10	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2002-06-30	0025	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2003-03-29	2218	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2003-05-19	2345	1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
POS	2003-05-20	1125	2	AMAF	Y	Y		40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
NEG	2003-05-20	1618	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2003-06-22	0432	1	UM				40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2004-03-06	1408	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2004-03-06	1850	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2004-03-22	1333	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2004-04-22	1345	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2004-04-22	2306	1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
NEG	2004-04-23	1012	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2004-04-24	0550	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2004-05-21	0531	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
NEG	2004-05-21	1231	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2004-05-21		1	UU				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid
POS	2004-05-22	0523	1	UM				40.399543	-124.295053	H 01S 02W 09	Quarter-section centroid

Type	*Date*	*Time*	*#Adults*	*Age/Sex*	*Pair*	*Nest*	*#Young*	*Latitude DD NAD83*	*Longitude DD NAD83*	*MTRS*	*Coordinate Source*
POS	2004-05-22	0008	1	UU				40.398543	-124.295053	H 01S 02W 09	Quarter-section centroid
POS	2004-06-23	2308	1	UU				40.399580	-124.304646	H 01S 02W 09	Quarter-section centroid
NEG	2004-06-23	1322	0					40.395993	-124.299946	H 01S 02W 09	Section centroid
POS	2004-06-24	0817	2	AMAF	Y	Y	1	40.392333	-124.295339	H 01S 02W 09	Quarter-section centroid
POS	2005-03-02	1611	2	UMAF	Y	N		40.392333	-124.295339	H 01S 02W 09	Quarter-section centroid