

# BIOLOGICAL RECONNAISSANCE AND PROJECT FEASIBILITY ASSESSMENT REPORT

**Assessor Parcel Numbers (APN):**

**218 – 031 – 008**

**Prepared For:**

**Golden Bud, LLC**

3550 Island Mountain Rd.  
New Harris, CA 95542

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October 29<sup>th</sup>, 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 

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## **Section 1 Summary of Findings and Conclusions**

A Biological Reconnaissance and Project Feasibility Assessment was completed for Golden Bud, LLC as a measure to investigate the impacts of cannabis cultivation within the established Study Area.

The Study Area defined in this Report is located outside of New Harris, California in Humboldt County. Although the seasonal timing of the field visit did not fall within the blooming period of all rare and special-status plant species, the preexisting habitat quality observed within the areas of current project activities, the areas of potential project development, and the habitat observed, suggests it unlikely that special-status plant species, not in bloom during the field survey, are present within the project site locations, or would be negatively impacted by the project. No sensitive or special-status vegetation was observed during the site visit nor will be removed within the project area.

The Relocated Cultivate Site, described further in this Report, was found to be environmentally superior to the Pre-Existing Cultivation Site, due to the slope of each project site prior to any grading having occurred.

With the proposed recommendations observed, the continued operations, and the potential development of project expansion locations are not anticipated to cause any major 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 Reconnaissance and Project Feasibility Assessment Report has been prepared by request from the client. This Report describes the findings from a biological assessment, which in the case of this document is the initial reconnaissance survey to assess potential biological resource and present habitat. This Report has been prepared as a preliminary measure to investigate the impacts of the current and proposed cannabis cultivation over one (1) parcel, referred to throughout this Report as the Study Area.

This Report also addresses the request from the County of Humboldt Planning and Building Department, which states that “[a] quick review of aerial imagery reveals that unpermitted relocation occurred [within the Study Area], including the grading of previously undisturbed ground. Be aware that this necessitates further study. Any proposal must either include (1) a restoration plan for the area disturbed after 2016 and plan to return to pre-2016 footprint OR (2) must include a professional analysis which demonstrates that the relocation is a benefit to the environment, including analysis of slope/sediment delivery, stream setbacks, biological communities and any other site-specific concerns. The planning department can only support relocation when it clearly results in a benefit to the environment.” This Report includes a professional analysis of the environmental superiority of the post-2016 relocated site in comparison to the pre-2016 foot print.

The biological and habitat assessment of proposed expansion sites are also reported in this document. Even though the current and potential cultivation sites identified have preexisting habitat disturbance and degradation, all County of Humboldt commercial cannabis cultivation applications, under the Commercial Cannabis Land Use Ordinance (CCLUO) *Application Requirements Cannabis 2.0*, require a “Biological Reconnaissance Survey for Special-Status Species and Sensitive Habitat.”

A biological assessment, as defined by the United States Fish and Wildlife Service’s (USFWS), is “information prepared by a qualified biologist to determine whether a proposed action is likely to: (1) adversely affect listed species or designated critical habitat; (2) jeopardize the continued existence of a species that are proposed for listing; or (3) adversely modify proposed critical habitat. A biological assessment is a specific document required under Section 7 of the Federal Endangered Species Act (FESA) when project actions have the potential to result in “may affect” determination,” (USFWS: Endangered Species Glossary, 2020).

The locations and presence of potential wetland features and other sensitive habitats, within the Study Area assessed in this Report, were identified and mapped in order to determine adequate setbacks for preexisting and potential sites for cannabis cultivation to occur. This was done as an initial measure to address the feasibility of expanding cannabis cultivation within the Study Area.

This document reports on the investigation and findings of the biological resource and habitat quality on the parcels, the environmental superiority of the post-2016 relocation cultivation site, and the feasibility of development of potential project areas in relation to the findings from the biological reconnaissance survey. This Report therefore addresses the status and possible utilization of the potential project areas by special-status plant and animal species found within the region, and assesses the environmental impacts to these resources in association to the cultivation of cannabis within the defined project site locations. Special-status species, both plant and animal, include all state or federal rare, threatened, and/or endangered species and all species listed in the California Natural Diversity Database (CNDDDB) list of *Special-Status Plants, Animals and Natural Communities*.

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."<sup>1</sup>

## **2.2 Biologist's Qualifications**

The biological assessment for this Report was conducted by Mason London. Mason is the primary biological consultant 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 11 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 Study Area Description and Geographic Setting**

This Report summarizes the results of a reconnaissance level survey, which assessed the Study Area for: (1) the potential to support special-status species; and (2) the potential presence of sensitive biological communities such as wetlands, riparian habitats and other sensitive biological resources protected by local, state, and federal laws and regulations. Site observations relating to the presence of such special-status species or sensitive habitats may require that protocol-level surveys be conducted.

This Assessment Report considers the potentially occurring species and communities that could be affected by cannabis cultivation within one (1) parcel, based on available spatial data, habitat requirements, and observations made during a single site visit. The parcel was evaluated for potential habitat value to protect endangered, threatened, rare, and sensitive species by traversing the Study Area

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<sup>1</sup> 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>

on foot to observe special-status species as well as overall 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 proposed project related aspects, such as irrigation source, site location and cultivation methods were assessed in terms of ecological and biological impact.

The parcel assessed for the feasibility of cannabis cultivation, referred to as the Study Area, in this Report is Assessor's Parcel Number (APN): 218-031-008 (Map 1 & Map 2).

APN: 218-031-008 is 43.58 acres (per Humboldt WebGIS) with a high elevation of approximately 2300 feet (approx. 700 meters) and a low elevation of approximately 1900 feet (approx. 580 meters) (Google Earth Pro, 2020). This parcel is located in Section 11, Township 5 South, Range 5 East (S11, T5S, R5E) of the Humboldt Base and Meridian (HBM).

The approximate center location of the Study Area is located approximately 3.40 air miles east of New Harris, California in Humboldt County (Map 1). The Study Area occurs in the Jewett Rock 7.5-minute USGS quadrangle (Quad code: 4012315) within the Chamise Creek watershed. Chamise Creek is a tributary of the Eel River which is a coastal river draining into the Pacific Ocean approximately 60.00 air miles north to northwest of the center location of the parcels (CDFW Region: 1). Island Mountain Road bisections the entire northern portion of the parcel (Map 2). The center location of the Study Area is 40°02'40.1"N 123°34'42.5"W. The parcel is zoned as Forestry Recreation (FR) which allows the parcel to be utilized for “[g]eneral agricultural, nurseries and greenhouses...”<sup>2</sup>(Humboldt County Code Zoning Regulations: Title III Land Use and Development - *Section 314-7.3*). The Current General Plan of Residential Agriculture (RA) which allowable uses include “general agriculture” and “intensive agriculture”<sup>3</sup> (2017 Humboldt County General Plan, 2017).

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<sup>2</sup> **Humboldt County Code – Zoning Regulations:** <https://humboldt.gov/DocumentCenter/View/4029/Humboldt-County-Zoning-Regulations-PDF?bidId=>

<sup>3</sup> **Humboldt County General Plan:** <https://humboldt.gov/DocumentCenter/View/62021/Section-48-Land-Use-Designations-PDF?bidId=>

## Section 3 Methods

### 3.1 Pre-Site Visit Data Compilation and Preparation

A list of special-status plant and animal species considered to have potential presents within the Study Area was downloaded from the California Department of Fish and Wildlife's California Natural Diversity Database Biogeographic Information and Observation System (CNDDDB 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 Jewett Rock 7-quad area. Animals on the CNDDDB 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 Jewett quadrangle, and the eight (8) adjacent quadrangles, resulted in twenty two (22) special-status animal species (3 amphibians, 5 birds, 4 fishes, 2 insect, 4 mammals, 2 mollusks, 2 reptile) (Table 1), thirty six (36) special-status plant (1 lichen, 35 Vascular) (Table 2) and two (2) special-status habitat communities (Northern Interior Cypress Forest and Upland Douglas Fir Forest).

### 3.2 Biological Resource and Habitat Investigation

A biological resource and habitat investigation was conducted within the Study Area between 1100 and 1300 on October 14, 2020 by Mason London (Map 3). The weather was sunny and clear. The goal of the investigation was not to conduct a complete botanical field survey for special-status plants species, but rather a focused survey to determine suitable habitat for potential species within the habitats present within the Study Area, and document any of these species' occurrences. 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 CNDDDB generated list of focal special-status species targeted for this survey (Table 2), the habitats of potential likelihood of occurrence were surveyed based on predetermined features. Only habitats that were determined to be potentially impacted by the project were investigated for the presence of the focal special-status species. Therefore, a meandering, or wandering transect, approach to the survey was implemented in order to cover all habitats that could potentially harbor the listed species currently in bloom (Map 3). The scope of this survey was limited as a result of the cultivation locations being preestablished sites and therefore any disturbance associated with the project is preexisting and will likely cause no further harm to any plant communities. However, two (2) other locations habitat quality within the Study Area were assessed for the feasibility of potential project expansion sites (Map 2). All habitats encountered on the meandering transect were surveyed for likely special-status species occurrence (Map 3). Since the focused survey targeted special-status species, not all species encountered were documented. The focused survey conducted within the Study Area is not an official protocol-level botanical survey.

A similar approach to assessing potential occurrences of special-status animal species was taken during the meandering survey throughout the Study Area (Map 3). All major habitats within the parcels were investigated in order to determine current quality in context of species acquisition. The assessment of animal habitat within the Study Area is not an official protocol-level survey. Specific wildlife surveys may be recommended based on the location and timing of future project development.

Dominant species in surrounding habitats, presence of sensitive habitats such as riparian areas and potential wetland features, and project site setbacks from watercourses were observed and recorded. These observations were ultimately used to determine the most suitable and environmentally superior locations to potentially cultivate cannabis within the Study Area. A TruPulse 200X laser rangefinder was used to make all of the distance and slope measurements and for determining adequate setbacks in the field. True buffers and setbacks, used in all of the maps associated with this Report were generated with GIS software out of the field.

### **3.2.1 Wetland Determination**

Prior to the site investigation, the Study Area was assessed for the presence of wetlands utilizing several digital databases and resources including but not limited to the USFWS National Wetland Inventory (NWI), NRCS Web Soil Survey, USGS topographic maps, and inundation or saturation visible on aerial imagery.

No soil test pits were dug for evaluating the presence of hydric soil since other wetland indicators such as hydrophytic vegetation and wetland hydrology were visible during the time of the site visit investigation. However, only potential wetland features surrounding the proposed cultivation sites were targeted. The “error on the side of caution” approach to determining potential wetland habitats was implemented when visually assessing the site and determining setbacks. Field observations of identifiable plant communities were used to assist interpretation of aerial imagery in defining potential wetland areas and their boundaries. A thorough investigation during the spring would be more appropriate for evaluating the presence of wetland hydrology. The general extent of these potential wetland features was digitized utilizing field observations of plant communities and aerial imagery. Test pits for determining hydric soil presence would be recommended for confirming the determinations of potential wetland features within the Study Area. The assessment of potential wetland habitats within the Study Area described in this Report do not represent an official protocol-level delineation.

### **3.2.2 Occurrence of Special-Status Species**

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.

## Section 4 Results and Discussion

### 4.1 Study Area Habitat, Existing Site Conditions and Project Location Feasibility

The main habitats investigated within the Study Area consist of large open upland grassland fields, riparian corridors, oak dominated woodlands, Class III watercourses and a constructed pond feature. These habitats were assessed based on habitat quality parameters in relationship to previous habitat modification. These habitats were also assessed based on the potential to harbor special-status species. The potential wetland feature (the constructed pond) and watercourses within the Study Area were also investigated and adequately buffered with setbacks to preexisting project sites and potential project areas (Map 2).

#### 4.1.1 Study Area Habitats and Features

The upland grassland, that comprises the majority of the habitat type on the parcel and surrounds the preexisting cultivation sites, is dominated mesdusahead (*Taeniatherum caput-medusae*), yellow star-thistle (*Centaurea solstitialis*), milky oats (*Avena sativa*), turkey mullein (*Croton setiger*), rough dog's-tail (*Cynosurus echinatus*), Sain John's wort (*Hypericum perforatum*), Italian thistle (*Carduus pycnocephalus*) and with clusters of coyote brush (*Baccharis pilularis*) (Photo 1 & 2). Due to the seasonal timing of this site visit, not all of the species within this habitat were identifiable. However, given the density and thickness in which many of the invasive species were found within this habitat, it appears that the habitat quality of this site has been severely degraded and modified from its natural state, likely due to a legacy of intense cattle grazing within this location.

The oak woodlands within the Study Area are comprised of California black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), and California bay laurel (*Umbellularia californica*) (Photo 3). The understory of this habitat is dominated by quaking grass (*Briza maxima*), rough dog's-tail (*Cynosurus echinatus*) and milky oats (*Avena sativa*) (Photo 3). This habitat exists east of the current cultivation site, and along the western portion of the Study Area, around the furthers western Class III watercourse identified on the parcel (Map 2).

Four (4) Class III watercourses were identified within the Study Area (Map 2). A conservative buffer of 50 ft has been placed around the riparian corridor habitat in order to follow the most conservative setback requirements (Map 2). This buffer was established at the edge of the riparian corridor which is in accordance with the Humboldt County Streamside Management Ordinance (1995), as amended by the Humboldt County General Plan, which states that the buffer distances are to be “[m]easured as the horizontal distance from the top of the bank or the edge of riparian drip-line, whichever is greater on either side of the stream,” and according 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<sup>4</sup>). Since no true riparian corridor habitat exists for these watercourses, the “top of bank” was used to establish these setbacks. According to the *Forest Practice Rules Water Course and Lake Protection Zone*<sup>5</sup> definitions, a Class III watercourse has “[n]o aquatic life present. Capable of sediment transport to a Class I or Class II under normal water flow conditions. Usually flows only in response to storms.” All four (4) watercourse identified within the Study Area fit this definition since there was no visible evident of a regularly occurring flow regime (Photos 4 - 6). The species identified within these watercourses were rough dog's-tail (*Cynosurus echinatus*), Sain John's wort (*Hypericum perforatum*), Italian thistle (*Carduus pycnocephalus*), canary grass (*Phalaris canariensis*) and coyote brush (*Baccharis pilularis*). The most eastern watercourse also has included spreading rush (*Junus patens*), pennyroyal (*Mentha pulegium*), yellow star-thistle (*Centaurea solstitialis*), field horsetail (*Equisetum arvense*), bull thistle (*Cirsium vulgare*), ribwort plantain (*Plantago lanceolate*) and a few small bigleaf maples (*Acer macrophyllum*) (Photo 7). This eastern watercourse has a culvert which exists underneath the county road (Island Mountain Road) (Photo 8 & 9).

The constructed pond feature exists north of Island Mountain Road and is surrounded by coyote brush (*Baccharis pilularis*), pennyroyal (*Mentha pulegium*), small-flowered bulrush (*Scirpus microcarpus*), spreading rush (*Junus patens*) and canary grass (*Phalaris canariensis*) (Photo 10). A buffer of 100 ft was also placed around the constructed pond since it is currently not being utilized for cultivation and has become a potential wetland habitat within the Study Area (Map 2). This buffer is established in accordance with the most conservative requirements set forth by the California State Water Resource Control Board. This pond feature is also the headwaters of the Class III watercourse which flows through a culvert under the Island Mountain Road (Map 2; Photo 11).

No special-status species in bloom at the time of the field survey were observed. The previous species mentioned are to describe the general habitat type and habitat quality (based on the abundance of invasive species) and the listing of these species does not represent an official protocol-level survey.

#### **4.1.2 Pre-Existing and Relocation Cultivation Site Assessment**

The locations of pre-2016 cannabis cultivation (the Pre-Existing Cultivation Site), and the post-2016 unpermitted relocation of cannabis cultivation (the Relocation Cultivation Site) are presented on Map 2 in Appendix C. A “pre-existing cultivation site,” according to Humboldt County Commercial Cannabis Land Use Ordinance (CCLOU) §55.4.4, is “a physical location where outdoor, mixed-light, or nursery cannabis cultivation activities occurred at any time between January 1, 2006, and December 31, 2015, which has been recognized by the Planning and Building Department, following receipt and review of

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<sup>4</sup> 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](https://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/policy/final_cannabis_policy_with_attach_a.pdf)

<sup>5</sup> California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4,5 and 6 Forest District Rules Article 6 Water Course and Lake Protection: [http://carules.elaws.us/code/t.14\\_d.1.5\\_ch.4](http://carules.elaws.us/code/t.14_d.1.5_ch.4)

adequate evidence. The maximum cultivation area that may be recognized is the largest extent of the area under concurrent cultivation at a single point in time during the ten (10) year period specified above.”<sup>6</sup> Since the pre-2016 cultivation site is considered pre-existing, a biological reconnaissance assessment of this location is not required under Humboldt County CCLOU §55.4.6.5. However, since the Relocated Cultivation Site was established after the December 31, 2015 deadline to be considered pre-existing, the environmental integrity of this relocated site was assessed in order to determine environmental superiority compared to the pre-existing site location.

To assess the environmental superiority of the relocation site, the surrounding floristic species were inventoried to determine the quality of the preexisting habitat. The species identified surrounding the relocation site were the same as the ones surrounding the pre-existing cultivation site. This botanical community is dominated by invasive species, with the majority of the species observed being canary grass (*Phalaris canariensis*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), milky oats (*Avena sativa*), turkey mullein (*Croton setiger*), rough dog's-tail (*Cynosurus echinatus*), Sain John's wort (*Hypericum perforatum*), and patches of coyote brush (*Baccharis pilularis*). Even though a protocol-level botanical survey was not conducted at this location prior the unpermitted grading of this site, the dominance of invasive species indicates the relocation site was heavily disturbed and modified from its natural habitat prior to any grading activities. The habitat quality of this location, and given the thickness in which the invasive species are currently established, makes it unlikely that any special-status plant species would have occurred at this location prior to cultivation site development.

Since the habitat quality of the relocation site is similar to the disturbed quality of the pre-existing site, the next assessment done to determine environmental superiority was to measure the slope of each site prior to any site development occurred. The slope of the pre-existing cultivation site was measured at 25% while the relocation cultivation site was measured to have been established along a hillslope of 13.5% (Photo 12 & 13). According to the Humboldt County CCLOU §55.4.6.5, “[f]or other areas, where the size of a Pre-Existing Cultivation Site is smaller than the allowed cultivation area which can be permitted, the site may be expanded to the maximum allowed for the applicable parcel size and permit type within existing Non-Forested areas with Slopes of 15 percent or less.”<sup>6</sup>

The Relocation Cultivation Site is considered environmentally superior since it was established on a hillslope less than 15%, compared to the Pre-Existing Cultivation Site which was established on a hillslope of 25%.

### 4.1.3 Potential Expansion Site Locations

Two other locations within the Study Area were identified during the site visits for locations of potential cultivation expansion (Potential Expansion Site 1 and Potential Expansion Site 2 on Map 2).

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<sup>6</sup> Commercial Cannabis Land Use Ordinance (CCLUO): <https://humboldt.county.codes/Code/314-55>

Potential Expansion Site 1 appears to have been previously graded prior to 2004, according to aerial imagery dated December 31, 2004 on Google Earth Pro (Map 2; Photo 14). This location has a flat area of approximately 3,500 sq ft. This potential cultivation site is dominated by invasive yellow star-thistle (*Centaurea solstitialis*) and mesdusahead (*Taeniatherum caput-medusae*), and due to the preexisting and continued disturbance, it is unlikely that any special-status plant species currently not in bloom would be found in this location due to the preexisting habitat modification and current habitat quality (Photo 15). There is a preexisting road accessing this site from the west side of the Pre-Existing Cultivation Site (Photo 16). If this site is to be developed for cultivation, this road will likely need to be regraded prior to project development occurring.

Potential Expansion Site 2 appears to have been previously cleared and graded prior to 2014, according to aerial imagery dated May 28, 2014 on Google Earth Pro (Map 2; Photo 16). This location has a flat area of approximately 6,500 sq ft. This potential cultivation site is dominated by invasive yellow star-thistle (*Centaurea solstitialis*), Saint John's wort (*Hypericum perforatum*), field mustard (*Brassica rapa*), bull thistle (*Cirsium vulgare*), rough dog's-tail (*Cynosurus echinatus*) and patches of coyote brush (*Baccharis pilularis*), and due to the preexisting and continued disturbance, it is unlikely that any special-status plant species currently not in bloom would be found in this location due to the preexisting habitat modification and current habitat quality (Photo 17). If this site is pursued as a cultivation expansion location, the client will need to adhere to the setbacks from the Class III watercourse east of this location displayed on Map 2. A potential issue with developing this site would be that there are currently PG&E utility lines within the proximity to this location (Photo 18). PG&E is known to chemically spray their line easements and/or pole locations and latent chemicals could be an issue for cultivation since the threshold for testing is so low. Furthermore, PG&E has the ability to exercise their right to clear the area under the lines at any given time, which may impact the cannabis cultivation process. To avoid these issues, the client could utilize raised beds or above ground pots to avoid the potential of chemical contaminants accumulating in the cannabis, and the cannabis can be located on the flat outside of the area that PG&E may likely want to clear.

If either of these sites are to be developed for expansion of cultivation, the client will be improving the habitat quality of both of these locations since they will be required to follow the recommendations for eradicating the invasive species identified at these locations, as explained in the associated *Invasive Species Control Plan*. Cultivation at either or both of these locations would not render any foreseeable impact to surrounding wildlife, biological resource, or environmental integrity.

Further investigation of these sites will be conducted for cultivation expansional feasibility prior to the establishment of any cultivation project.

## 4.2 Special-Status Plant Species

Not all previously mentioned habitats within the Study Area were surveyed for special-status plant species with equal effort. The habitats investigated for presence of special-status plant species primarily consist of the habitats that were determined to be the feasible sites for the potential cultivation expansions (Map 2), and therefore would have the potential to be impacted by proposed project activities. The Pre-Existing Cultivation Site and the Relocation Cultivation Site have no new development proposed that would cause any further disturbance than has already occurred, eliminating any potential to impact special-status plant species in the future. However, all species derived from the CNDDDB list were assessed for potential occurrence within the Study Area, both within the potential project locations, and within the surrounding habitats (Table 2).

No listed special-status plant species were observed during the field survey. Furthermore, no special-status plant species occurrences have been documented within the Study Area on the CNDDDB (Map 4). Based on the findings from this survey, it is unlikely that any special-status species would utilize the observed suitable sites for cannabis cultivation, previously described as Potential Expansion Site 1 and Potential Expansion Site 2, based on these species' elevation, habitat and micro-habitat requirements, as well as due to the level of preexisting, and current, disturbance and the density in which invasive species were observed.

Potential habitat for one (1) special-status plant species exists within the preexisting and potential project areas described in *Section 4.1.1 & 4.1.2*, based on specific habitat requirements. This species was not observed within the potential, pre-existing, or relocated project areas during the field survey and site visit and since this focal survey occurred during the bloom period for all of these species, it has been determined that no special-status species plant will be impacted for the proposed project.

The species with potential habitat within the project sites is **Tracy's tarplant (*Hemizonia congesta ssp. Tracyi*)**. *Hemizonia congesta ssp. Tracyi* has a moderate potential of occurring at the current and potential project sites. Its elevation range is between 120 and 1200 meters. This species blooms between May and October and is known to occur in coastal praires, lower montane coniferous forests, and throughout the North Coast. It is sometimes found in open habitats which is why it is moderately likely that this species could be found within the potential project sites. However, the level of disturbance that has occurred at these sites makes it highly unlikely that this species would be found at these locations. Furthermore, this focused botanical survey occurred within the bloom period of this species, and no *Hemizonia congesta ssp. Tracyi* were observed during the site investigation. It has been determined to be unlikely that this species occurs at the potential project site locations, or the preexisting and relocated cultivation locations as well.

### 4.3 Special-Status Animals Species

Not all previously mentioned habitats within the Study Area were surveyed for special-status animal species potential utilization with equal effort. The habitats investigated for presence and habitat requirements of special-status animal species primarily consist of the habitats that were determined to be feasible sites for the development of cultivation sites, and therefore these species would have the potential to be impacted by proposed project activities. However, all species derived from the CNDDDB list were assessed for potential occurrence within the Study Area, all within the potential project locations, current cultivation sites, and within the surrounding habitats (Table 1). It should be noted that no special-status animal species occurrences have been documented within the Study Area on the CNNDDB (Map 4).

Within the locations determined to be feasible sites for project development, moderate potential habitat for five (5) special-status animal species exist. Two (2) of these five (5) species are Cooper's hawk (*Accipiter cooperii*) and golden eagle (*Aquila chrysaetos*) and would only utilize the cultivation sites for hunting/foraging and would otherwise only pass over in flight (Table 1). This species would not utilize the potential project site locations, or the current cultivation locations, for nesting or shelter due to the void of canopy cover and other structures. Moreover, depending on the cultivation method proposed for these potential projects, mitigating the production of noise or light pollution is recommended in order to avoid the potential take from indirect disturbance of species utilizing surrounding habitats (see *Section 5 Conclusion*). Therefore, it is not expected that Cooper's hawk, golden eagle or other special-status species likely residing in other habitats within the Study Area, will be impacted in anyway but the proposed project activities. The remaining three (3) special-status species include the Western Bumblebee (*Bombus occidentalis*), the North American porcupine (*Erethizon dorsatum*) and the American badger (*Taxidea taxus*).

**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 suitable project areas. Due to the project areas habitat quality, and due to the abundant suitable habitat within the Study Area, it is unlikely that there would be a significant loss of nesting habitat as a result of project development. Furthermore, it is unlikely that the potential project development would result in a significant decrease in forage material. It is not anticipated that the project will negatively impact this species.

**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 areas makes it unlikely that this species would utilize open field habitat. Also, the frequent human activity that occurs within the Study Area likely results in *Erethizon dorsatum* not utilizing the site. It is not anticipated that the project will negatively impact this species.

**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. There was evidence of *Taxidea taxus* activity in the large open pasture where Site 2 is located. No evidence of *Taxidea taxus*, such as ground disturbance or burrows, was observed during the site visit. The surrounding suitable habitat will not be disturbed in anyway related to proposed project activities and therefore this species is still capable of existing within the Study Area without a negative impact. Furthermore, all noise and light pollution will be mitigated and will therefore not disrupt the nocturnal life history of this species.

#### 4.3.1 Other Special-Status Animal Species

The nearest known **northern spotted owl (*Strix occidentalis caurina*)** Activity Center (HUM0223), according to the most up to date CNDDDB Spotted Owl Viewer, is approximately 2.55 air miles northwest of nearest of the Study Area (Map 5; Occurrence Report 1). *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 habitat of the Study Area is not dominated by this forest type, and is therefore 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),”<sup>7</sup> (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 all activities associated with the development of the potential cultivation sites, and the continued cultivation of the previously established sites, will have cultivation methods that will mitigate all noise and light pollution, there is no expected disruptions towards essential breeding activities or any activities that may injure or harm this species, or any other species, related to this project. There will be no need for generators since the parcel is connected to PG&E grid power, and the client can avoid light pollution by completely covering greenhouses when artificially lit, if this method of cultivation is to be pursued.

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<sup>7</sup> USFWS Northern Spotted Owl Survey protocol: Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls: <https://www.fws.gov/yreka/ES/2012RevisedNSOprotocol-2-15-12.pdf>



#### 4.4 Special Status Habitat Communities

The two (2) special-status habitat communities identified in the CNDDDB BIOS search in the 7.5-minute USGS Jewett Mountain quadrangle, and the 6 adjacent quadrangles, are the Northern Interior Cypress Forest and Upland Douglas Fir Forest habitat.

**Northern Interior Cypress Forest**, as described by the California Native Plant Society, is dominated by a cypress tree endemic to California known as Macnab Cypress (*Hesperocyparis macnabiana*). This habitat community was only recorded to exist in the Noble Butte quadrangle in Mendocino County. The occurrence of this habitat is located approximately 9.50 air miles south of the project site. Under the *Ecological Comments* section in the Occurrence Report for this habitat observation, it is stated that this habitat was found “[o]n serpentine derived soils, dominated by *Cupressus sargentii* (Sargent’s cypress) [and] *C. Macnabiana*...” Neither Sargent’s cypress nor Macnab cypress were observed in or around the project site or on the parcel and therefore it was directed that the activities associated with this project will cause no harm or disturbance to any Northern Interior Cypress Forest habitat in anyway.

The other special-status habitat community identified on the CNDDDB BIOS is **Upland Douglas Fir Forest** which has a documented occurrence of approximately 1.50 air miles northwest of the Study Area. All of the occurrence reports that identify this habitat throughout California describe, in the *Ecological Comments* section, Douglas fir individuals in this community are either “mature” or “old-growth.” No Douglas fir individuals on the property fit this description. Furthermore, according to the California Native Plant Society (CNPS), a Douglas fir forest is comprised of “*Pseudotsuga menziesii* > 50% relative cover in the tree canopy and reproducing successfully, though hardwoods may dominate or co-dominate in the subcanopy and regeneration layer; *Abies concolor*, *Chamaecyparis lawsoniana*, *Pinus contorta*, *P. ponderosa*, and *Sequoia sempervirens* <20% relative cover; and *Notholithocarpus densiflorus* <10% relative cover in the tree canopy” (Jimerson et al. 1996). This habitat description was not observed on the parcel, and given the proposed cultivation methods associated with this project, there are no anticipated impacts to any forested habitat.

## 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. The biological reconnaissance and project feasibility assessment of the Study Area resulted in locations that have been determined to be suitable sites for cannabis cultivation expansion based on the preexisting habitat type and quality, observed species and the locations setbacks from sensitive habitats. These locations have been established as a means to minimize or negate the potential for direct impact to occur to the environment from direct interface with the project development.

If potential project related activities occur at the locations defined in Map 2 there will likely be no negative impacts to sensitive habitats or severely alter the already disturbed habitat quality of these sites any more than already has been. Given the preexisting disturbance to these sites, and the fact that no sensitive vegetation will be removed within and surrounding the Study Area, the effects of the project to the environment can be mitigated and a neutral or positive impact can be achieved if the actions proposed for this project development follow the recommendations listed in *Section 5.2*.

As a result of the abundance of invasive and nonnative species on the parcel and within the potential and preexisting project sites, the client is capable of improving the surrounding environment and habitat by removing these invasive species during the project site development process, and ultimately halting their spread. Because of these factors, the activities associated with the cultivation at the proposed sites would only potentially have direct impacts as disturbance-based.

Common disturbance-based impacts associated with cannabis cultivation include noise and light pollution. For the potentially proposed projects, no continuous noise (above 70 dB to the nearest tree line) or light is to be generated in association with this project. These disturbance-based impacts can be mitigated since the parcel within the Study Area is connected to PG&E grid power, avoiding the need for noise producing generators, and if the cultivation method proposed requires artificially lit greenhouses, the greenhouses will be completely covered when lit to avoid any potential for light pollution. Therefore, there will be no expected disturbance-based impacts to the surrounding wildlife or habitats.

#### 5.1.2 Potential Indirect Impacts

If best management practices are following, there are no foreseeable indirect impacts associated with this project to the environment, surrounding habitat, or wildlife.

### 5.1.3 Recommendations

The following recommendations should be followed and/or taken into consideration through the development of the proposed and current projects and operations:

- The buffers and setbacks identified in this Report, and throughout the associated maps, are to be respected when developing a project plan as a measure to protect sensitive habitats and special-status species that may reside within these habitats. If the client proceeds with cultivating cannabis in other locations not defined in this Report, protocol level surveys may be required in specific locations in order to more accurately establish the project sites required setbacks from watercourse and delineated wetland features. However, if the client uses the buffers established in Map 2, and develops these sites in the identified potential areas for expansion, there is no foreseeable issue to any sensitive habitats or watercourses.
- Depending on the level of development that will occur at the potential expansion sites, best management practices (BMPs) should be used to prevent sediment, fuels or contaminants from entering the surrounding terrestrial environment. 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)<sup>8</sup>. The implementation of BMPs will be dependent on the project construction methods.
- If Potential Expansion Site 2 does not become developed for cannabis cultivation operations, this site should be cleaned and all cultivation materials should be removed from this location.
- It is recommended that during the time of project site development, the client follow the procedures for eradicating the invasive species which will be identified in the projects associated Invasive Species Control Plan document required under the *Application Requirements Cannabis 2.0*.
- A protocol-level floristic survey is not recommended to be completed since the survey described in this Report occurred at locations that have been heavily disturbed, and therefore do not appear to have habitat that would be suitable for any special-status plant species to occur. However, if local or state agencies request a protocol-level floristic survey to be completed prior to any ground disturbance, the survey should follow procedures recommended by CDFW, and are in accordance with the guidelines established by CNPS, from the document *Protocols for Surveying and Evaluating Impacts to Specie Status Native Plant Populations and Sensitive Natural Communities*<sup>9</sup> (CDFW, 2018).

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<sup>8</sup> Best Management Practices for Humboldt Co. can be located at: <https://humboldt.county.codes/Code/337-13>

<sup>9</sup> Botanical Survey Protocol: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>

- Since the Relocation Cultivation Site was determined to be environmental superior to the Pre-Existing Cultivation site, based on the measured slope prior to ground disturbance, it is not required that this site location get restored to its pre-graded habitat.
- 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, which can be located here: <https://www.wildlife.ca.gov/conservation/survey-protocols>

## 5.2 Statement of Limitation

The data and findings presented in this Report are valid to the extent that they represent habitat analysis and/or actual sightings of the wildlife and special-status species described. These findings outlined in this Report are based on one (1) site visit and may not be seasonally appropriate for all conclusive results.

Deficiencies in these findings may result from the following:

- The wetland feature (i.e. pond) identified within the Study Area, expressed in this Report, is a potential wetland. The assessment of this wetland within the Study Area is not an official protocol-level delineation or survey, which may be required for project approval by local, state, or federal agencies.
- The floristic survey conducted at the time of the site visit investigation was not conducted as a protocol-level survey. A protocol-level floristic survey, conducted at the seasonally appropriate times, may be required for project approval by local, state, or federal agencies.
- The assessment of habitat utilization within the Study Area, by special-status animal species, was based upon the observations made during a single site visit and further studies and surveys may be required for project approval by local, state or federal agencies as well.
- The parcel boundaries displayed in the maps created for this Report do not represent a boundary survey. Parcel and property lines shown within these maps are approximated and were acquired from Humboldt County Web GIS, and any errors within these boundaries are a result of errors in Humboldt County's GIS database.
- This Report is not intended to be a complete biological survey report for all species generated from the CNDDDB, but rather an initial reconnaissance and feasibility assessment based on present biological conditions.
- It has been assumed that prior to implementation of this project, protocol-level surveys will be conducted to verify field and data-based observations documented in this Report, if recommendations established in this Report are not followed.

- The biological resource buffers and setbacks defined in this Report, and presented in Map 2, only represent buffers to biological resources and do not include cultural resources (i.e. historical landmarks and/or cemeteries). Additional buffers and setbacks may be required for cultural resources which may alter the size of the potential cultivation areas defined in this Report.

The opinions, conclusions and recommendations in this Report are based on assumptions made by Naiad Biological Consulting staff members when undertaking services and preparing the Report. As a result of this Report being an initial biological reconnaissance and project feasibility assessment, and not a protocol-level survey, Naiad Biological Consulting expressly disclaims responsibility for any error in, or omission from, this Report arising from or in connection with any of the assumptions being incorrect.



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# Appendix A

## Photo Documentation

**APN: 218 – 031 – 008**

**Biological Reconnaissance and  
Project Feasibility Assessment Report**

**October 2020**





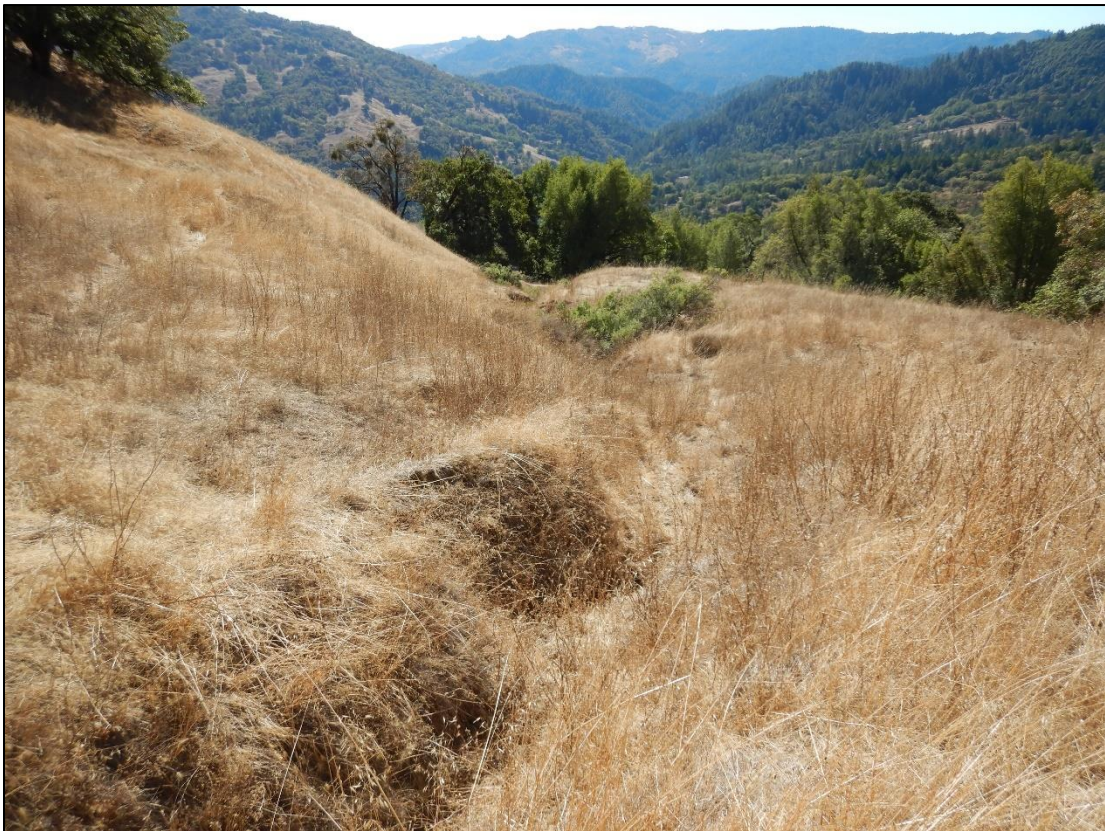
*Photo 1. The nonnative upland grassland plant community habitat type that comprises the majority of the parcel. Photo taken between the Pre-Existing Cultivation Site and the Relocated Cultivation Site.*



*Photo 2. The nonnative upland grassland plant community habitat type that comprises the majority of the parcel. Photo taken between the below the Relocated Cultivation Site facing south.*



*Photo 3. The oak woodland habitat within the Study Area east of the Pre-Existing Cultivation Site.*



*Photo 4. The second to the most western Class III watercourse identified within the Study Area.*



*Photo 5. The mixed California bay laurel and oak habitat surrounding the most western Class III watercourse indefinite within the Study Area.*



*Photo 6. Part of the Class III watercourse identified on the most eastern portion of the Study Area along Island Mountain Road.*



*Photo 7. The most eastern Class III watercourse facing downstream. Photo taken from Island Mountain Road.*



*Photo 8. The upstream end of the eastern watercourse's culvert under Island Mountain Road.*



*Photo 9. The downstream end of the eastern watercourse's culvert under Island Mountain Road.*



*Photo 10. The constructed pond (i.e. potential wetland feature) observed within the Study Area (reference Map 2 & 3 for locations).*



*Photo 11. The pond overflow culvert underneath Island Mountain Road which is the headwaters area of the second most eastern Class III watercourse within the Study Area.*



*Photo 12. A portion of the Pre-Existing Cultivation Site which was measured to have a slope, prior to ground disturbance, of approximately 25% (Map 2).*



Photo 13. The Relocation Cultivation Site which was measured to have a slope of approximately 13.5% prior to grading of the site (Map 2).

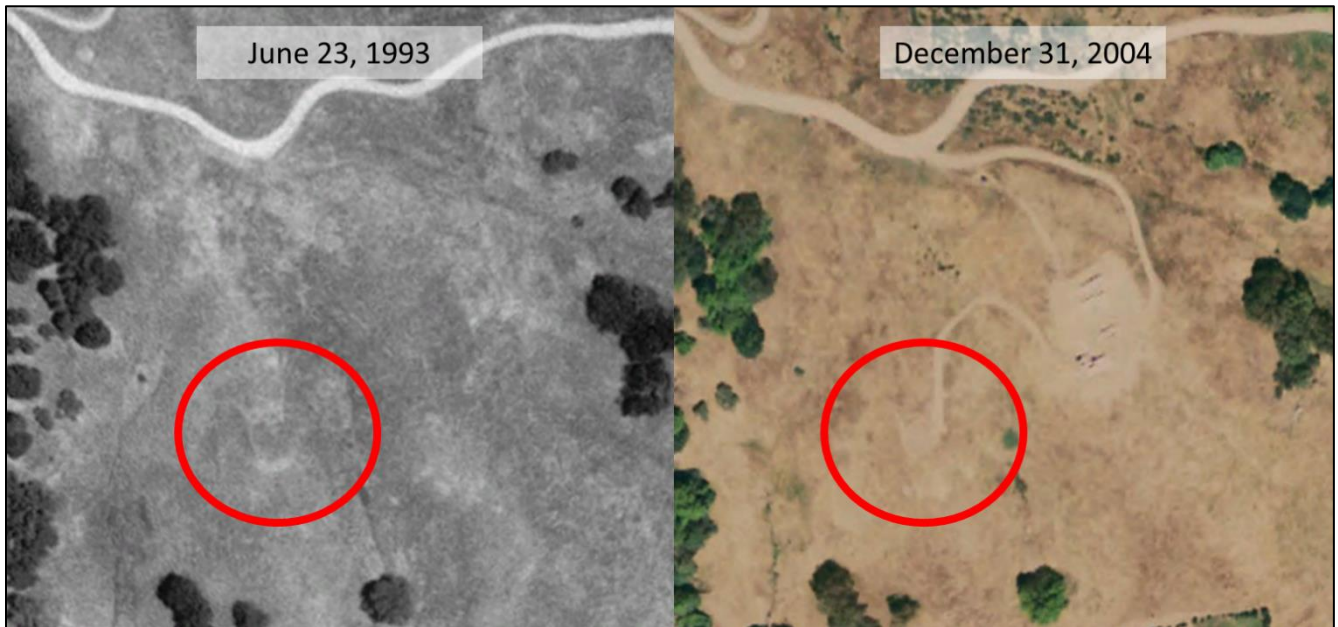


Photo 14. Aerial imagery showing the grading that occurred at Potential Expansion Site 1 (circled in red) sometime between 1993 and 2004 (Map 2).



*Photo 15. Potential Expansion Site 1 (Map 2).*



*Photo 16. The previously cut road that leads from the Pre-Existing Cultivation Site to the Potential Expansion Site 1 (Map 2).*





*Photo 17. Aerial imagery showing the grading that occurred at Potential Expansion Site 2 (circled in red) sometime between 2012 and 2014 (Map 2)*



*Photo 18. Potential Expansion Site 2 (Map 2).*



*Photo 19. The PG&E utility lines near Potential Expansion Site 2 (Map 2).*

# Appendix B

## Special-Status Species Tables

**APN: 218 – 031 – 008**

**Biological Reconnaissance and  
Project Feasibility Assessment Report**

**October 2020**

**Table 1 – Special-Status Animal Species – October 2020 – APN 218-031-008 – Jewett Rock and surrounding 7.5 min quadrangles**

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitats	Potential of Occurrence
<b>Amphibians</b>						
<i>Ascaphus truei</i>	Pacific tailed frog	None	None	SSC	This species is restricted to perennial streams of low temperature in steep-walled valleys with dense vegetation. Intermittent streams are unsuitable. Egg embryos tolerate water temperature between 5°-18°C. Tadpoles actively avoid water temperatures above 22°C and die at temperatures exceeding 30°C, while water temperatures between 23°-24° C appear lethal to adults (Jennings and Hayes 1994).	None in project site. None in adjacent area
<i>Rana aurora</i>	northern red-legged frog	None	None	SSC	Found in still to slow moving water: lakes, ditches, ponds, slow moving streams, etc. Disperses during rains in non-breeding season and may be seen considerable distances from water. Attaches eggs to aquatic or overhanging vegetation, or submerged roots. Are most active at night.	None in project site. Low in adjacent area
<i>Rana boylei</i>	foothill yellow-legged frog	None	Candidate Threatened	SSC	Found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types.	None in project site. Low in adjacent area.
<b>Birds</b>						
<i>Accipiter cooperii</i>	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 site (flyover). Moderate/high in adjacent area.
<i>Accipiter gentilis</i>	northern goshawk	None	None	SSC	Northern Goshawks nest in mature and old-growth forests with more than 60% closed canopy.	Low in project site (flyover). Low in adjacent area.
<i>Aquila chrysaetos</i>	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.	Moderate in project site (flyover). Moderate/high in adjacent area.
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Low in project area (flyover). Low in adjacent area.
<i>Strix occidentalis caurina</i>	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).	Low in project area (flyover). Low in adjacent area.

					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 ( <i>Neotoma fuscipes</i> ), typically inhabits the forest edge (Harris 2005).	
<b>Fish</b>						
<i>Oncorhynchus kisutch</i> 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
<i>Oncorhynchus mykiss irideus</i> pop. 1	steelhead - Klamath Mountains Province DPS	None	None	SSC	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
<i>Oncorhynchus mykiss irideus</i> pop. 16	steelhead - northern California DPS	Threatened	None	-	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
<i>Oncorhynchus mykiss irideus</i> pop. 36	summer-run steelhead trout	None	None	SSC	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
<b>Insects</b>						
<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	nests underground or above ground in abandoned bird nests. food plants include Baccharis, Cirsium, Lupinus, Lotus, Grindella, Phacella	Low in project site. Moderate in adjacent area.
<i>Bombus occidentalis</i>	western bumble bee	None	None	-	Pollinates a wide variety of flowers, nests in cavities or abandoned burrows	Moderate in project site. Moderate in adjacent area.
<b>Mammals</b>						
<i>Erethizon dorsatum</i>	North American porcupine	None	None	-	broadleaf upland forest, cismontane woodland, lower and upper montane conifer forest	Moderate in project site. Moderate in adjacent area.
<i>Arborimus pomo</i>	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 site. Low in adjacent area.

<i>Pekania pennanti</i>	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 site. Moderate in adjacent area.
<i>Taxidea taxus</i>	American badger	None	None	SSC	American badgers prefer grasslands and open areas with grasslands, which can include parklands, farms, and treeless areas with friable soil and a supply of rodent prey. They may also be found in forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows.	Moderate in project site. Moderate/high in adjacent area.
<b>Mollusk</b>						
<i>Margaritifera falcata</i>	western pearlshell	None	None	-	Prefers lower velocity waters.	None.
<i>Anodonta oregonensis</i>	Oregon floater	None	None	-	freshwater lakes and slow-moving streams and rivers	None.
<b>Reptile</b>						
<i>Emys marmorata</i>	western pond turtle	None	None	SSC	aquatic, flowing waters, standing waters, marsh, swamp, wetland	None in project site. Low in adjacent area.
<i>Gopherus agassizii</i>	desert tortoise	Threatened	Threatened	-	The desert tortoise lives in a variety of habitats from sandy flats to rocky foothills, including alluvial fans, washes and canyons where suitable soils for den construction might be found. It is found from near sea level to around 3,500 feet in elevation.	Low in project site. Low 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



**Table 2 – Special-Status Plant Species – October 2020 – APN 218-031-008 – Jewett Rock and surrounding 7.5 min quadrangles**

Scientific Name	Common Name	Federal Status	State Status	CA Rare Plant Rank	Blooming Period	Lifeform	Habitat	Micro Habitat	Elevation (meters)	Potential of Occurrence
<i>Usnea longissima</i>	Methuselah's beard lichen	None	None	4.2	NA	fruticose lichen (epiphytic)	Broadleaved upland forest; North Coast coniferous forest	On tree branches; usually on old growth hardwoods and conifers.	50 - 1460 meters	None in project area. Low in adjacent area.
<i>Lomatium engelmannii</i>	Engelmann's lomatium	None	None	4.3	May-Aug	perennial herb	Lower montane coniferous forest. Upper montane coniferous forest	Serpentinite, Chaparral	870 - 2740 meters	None due to elevation range.
<i>Sanicula tracyi</i>	Tracy's sanicle	None	None	4.2	Apr-Jul	perennial herb	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	openings	100 - 1585 meters	None in project area. Low in adjacent area.
<i>Calycadenia micrantha</i>	small-flowered calycadenia	None	None	1B.2	Jun-Sep	annual herb	Chaparral, Meadows and seeps (volcanic), Valley and foothill grassland	Roadsides, rocky, talus, scree, sometimes serpentinite, sparsely vegetated areas.	5 - 1500 meters	Low in project area. Low in adjacent area.
<i>Erigeron biolettii</i>	streamside daisy	None	None	3	Jun-Oct	perennial herb	Broadleaved upland forest; Cismontane woodland; North Coast coniferous forest	Rocky, mesic	30 - 1100 meters	None in project area. Low in adjacent area.
<i>Erigeron maniopotamicus</i>	Mad River fleabane daisy	None	None	1B.2	May-Aug	perennial herb	Lower montane coniferous forest, Meadows and seeps (open, dry)	open, disturbed areas (road cuts); rocky.	1275 - 1500 meters	None due to elevation range.
<i>Erigeron robustior</i>	robust daisy	None	None	4.3	Jun-Jul	perennial herb	Lower montane coniferous forest	Meadows and seeps; sometimes serpentinite	200 - 610 meters	None due to elevation range.
<i>Hemizonia congesta ssp. tracyi</i>	Tracy's tarplant	None	None	4.3	May-Oct	annual herb	Coastal prairie; Lower montane coniferous forest; North Coast	openings, sometimes serpentinite.	120 - 1200 meters	Moderate in project site. Moderate in adjacent area.

							coniferous forest			
<i>Tracyina rostrata</i>	beaked tracyina	None	None	1B.2	May-Jun	annual herb	Chaparral	Cismontane woodland, Valley and foothill grassland	90 - 790 meters	Low in project area. Moderate adjacent
<i>Arabis mcdonaldiana</i>	McDonald's rockcress	Endangered	Endangered	1B.1	May-Jul	perennial herb	Lower montane coniferous forest, Upper montane coniferous forest	Serpentinite	135 - 1800 meters	None in project area. None in adjacent area.
<i>Brasenia schreberi</i>	watershield	None	None	2B.3	Jun-Sep	perennial rhizomatous herb (aquatic)	Marshes and swamps	freshwater	30 - 2200 meters	None in project area. None in adjacent area.
<i>Howellia aquatilis</i>	water howellia	Threatened	None	2B.2	Jun	annual herb (aquatic)	Marshes and swamps	NA	1085 - 1290 meters	None due to elevation range.
<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None	2B.3	May-Jun	perennial deciduous shrub	Chaparral, Cismontane woodland, Lower montane coniferous forest	NA	215 - 1400 meters	Low in project site. Moderate in adjacent area.
<i>Silene campanulata ssp. campanulata</i>	Red Mountain catchfly	None	Endangered	4.2	Apr-Jul	perennial herb	Chaparral	Lower montane coniferous forest, usually serpentinite, rocky.	425 - 2085 meters	None in project area. None in adjacent area.
<i>Calystegia atriplicifolia ssp. buttensis</i>	Butte County morning-glory	None	None	4.2	May-Jul	perennial rhizomatous herb	Chaparral	rocky, sometimes roadside. Lower montane coniferous forest, Valley and foothill grassland	565 - 1524 meters	Low in project site. Moderate in adjacent area.
<i>Sedum laxum ssp. eastwoodiae</i>	Red Mountain stonecrop	None	None	1B.2	May-Jul	perennial herb	Lower montane coniferous forest	serpentinite	600 - 1200 meters	None in project area. None in adjacent area.
<i>Arctostaphylos manzanita ssp. elegans</i>	Konocti manzanita	None	None	1B.3	(Jan)Mar-May(Jul)	perennial evergreen shrub	Chaparral, Cismontane woodland, Lower montane coniferous forest	volcanic	395 - 1615 meters	None in project area. Moderate in adjacent area.
<i>Arctostaphylos stanfordiana</i>	Raiche's manzanita	None	None	1B.1	Feb-Apr	perennial evergreen shrub	Chaparral	rocky, often serpentinite	450 - 1035 meters	None in project area. Low in adjacent area.
<i>Astragalus rattanii var. rattanii</i>	Rattan's milk-vetch	None	None	4.3	Apr-Jul	perennial herb	Chaparral	gravelly streambanks, Cismontane woodland	30 - 825 meters	None in project/adjacent area.
<i>Gentiana setigera</i>	Mendocino gentian	None	None	1B.2	(Apr-Jul)Aug-Sep	perennial herb	mesic	Meadows and seeps	335 - 1065 meters	None in project area. LOW in adjacent area..

<i>Erythronium citrinum</i> var. <i>citrinum</i>	lemon-colored fawn lily	None	None	4.3	Mar-May	perennial bulbiferous herb	Chaparral	Lower montane coniferous forest, usually serpentinite.	150 - 1300 meters	Low in project area. Low in adjacent area.
<i>Erythronium revolutum</i>	coast fawn lily	None	None	2B.2	Mar-Jul(Aug)	perennial bulbiferous herb	Mesic	streambanks, Bogs and fens, Broadleaved upland forest, North Coast coniferous forest	0 - 1600 meters	None in project area. None in adjacent area..
<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	4.3	Mar-Jun	perennial bulbiferous herb	Chaparral	Lower montane coniferous forest, usually serpentinite.	175 - 2255 meters	Low in project area. Low in adjacent area.
<i>Montia howellii</i>	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	None in project site. None in adjacent area.
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	None	None	4.3	Jul-Sep	perennial herb	Broadleaved upland forest; North Coast coniferous forest	sandy or rocky.	45 - 1800 meters	Low in project site. Low/Moderate in adjacent area.
<i>Cypripedium californicum</i>	California lady's-slipper	None	None	4.2	Apr-Aug(Sep)	perennial rhizomatous herb	Bogs and fens	seeps and streambanks, usually serpentinite.	30 - 2750 meters	None in project area. None in adjacent area.
<i>Cypripedium fasciculatum</i>	clustered lady's-slipper	None	None	4.2	Apr-Aug(Sep)	perennial rhizomatous herb	Bogs and fens	seeps and streambanks, usually serpentinite.	100 - 2435 meters	None in project area. None in adjacent area.
<i>Cypripedium montanum</i>	mountain lady's-slipper	None	None	4.2	Mar-Aug	perennial rhizomatous herb	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest	NA	185 - 2225 meters	None in project area. None in adjacent area.
<i>Listera cordata</i>	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. None in adjacent area.
<i>Piperia candida</i>	white-flowered rein orchid	None	None	1B.2	May-Sep	perennial herb	Broadleaved upland forest; Lower montane coniferous forest; North Coast coniferous forest	sometimes serpentinite	30 - 1310 meters	None in project area. Low in adjacent area.

<i>Collomia tracyi</i>	Tracy's collomia	None	None	4.3	Jun-Jul	annual herb	Broadleafed upland forest, Lower montane coniferous forest	rocky, sometimes serpentinite.	300 - 2100 meters	None in project area. Low in adjacent area.
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	None	None	4.3	Apr-Jul	annual herb	Chaparral; Cismontane woodland; Coastal prairie; Valley and foothill grassland	NA	55 - 1500 meters	Low in project site. Moderate in adjacent area.
<i>Leptosiphon rattanii</i>	Rattan's leptosiphon	None	None	4.3	May-Jul	annual herb	Cismontane woodland	rocky or gravelly	1700 - 2000 meters	None due to elevation range.
<i>Eriogonum kelloggii</i>	Kellogg's buckwheat	None	Endangered	1B.2	(May)Jun-Aug	perennial herb	Lower montane coniferous forest	rocky, serpentinite	579 - 1250 meters	Low in project site. Moderate in adjacent area.
<i>Ceanothus foliosus var. vineatus</i>	Vine Hill ceanothus	None	None	1B.1	Mar-May	perennial evergreen shrub	Chaparral	NA	45 - 305 meters	None due to elevation range.
<i>Frangula purshiana ssp. ultramafica</i>	Caribou coffeeberry	None	None	1B.2	May-Jul	perennial deciduous shrub	Chaparral	serpentinite, Meadows and seeps	825 - 1930 meters	None due to elevation range.

## 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).

## Intraspecific Taxon Conservation Status Ranks

- T# Intraspecific Taxon** (trimonial) – The status of intraspecific 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 intraspecific 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.

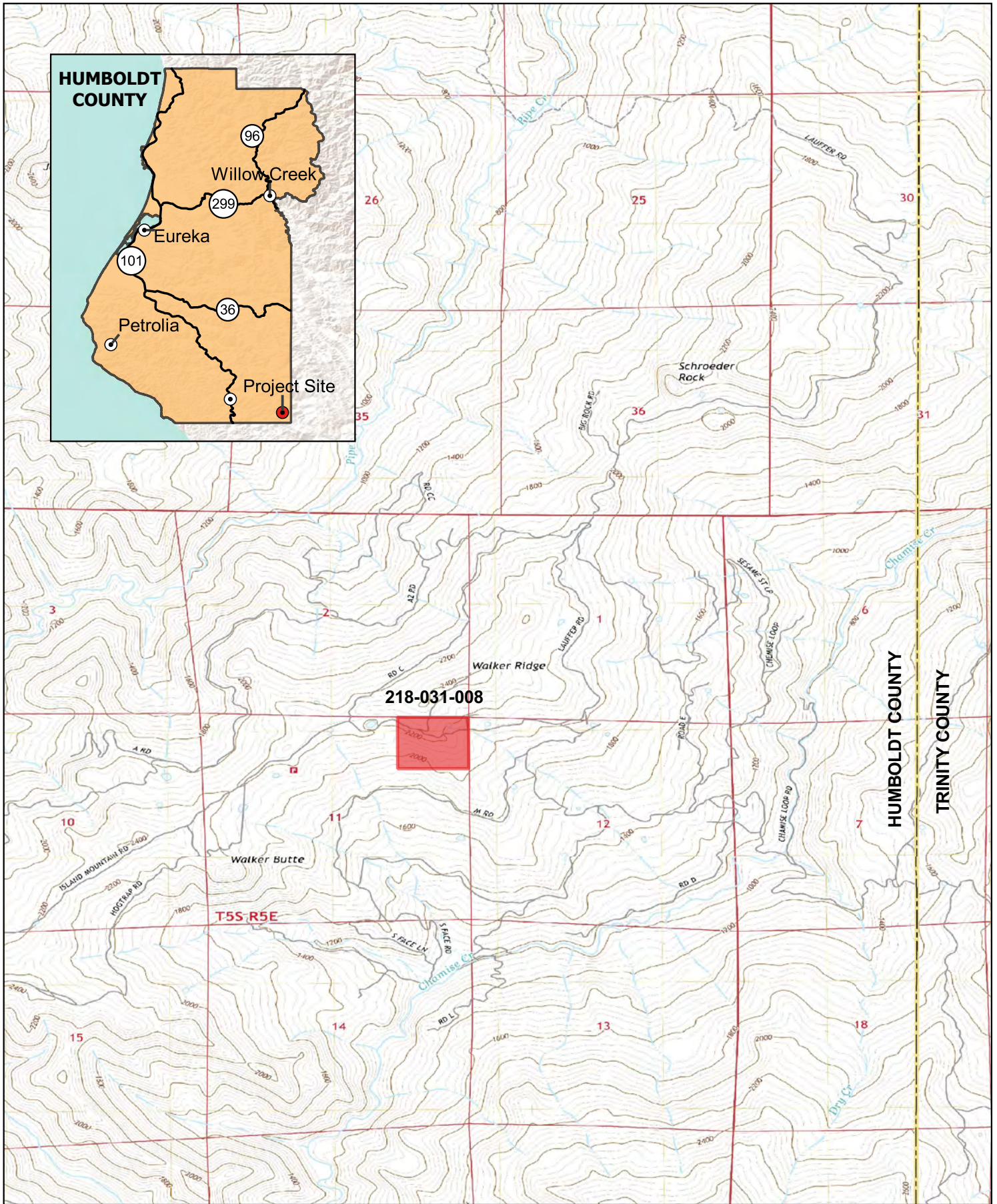
# Appendix C

## Project Maps

**APN: 218 – 031 – 008**

**Biological Reconnaissance and  
Project Feasibility Assessment Report**

**October 2020**



3550 Island Mountain Road  
 New Harris, CA 95542  
 APN: 218-031-008



**MAP 1. SITE LOCATION MAP**

SCALE: 1:22,160  - STUDY AREA

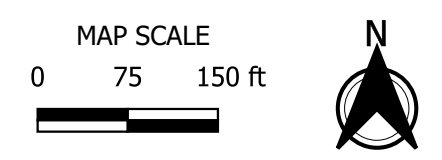
Source: Jewett Rock 7.5-Minute USGS Quadrangle







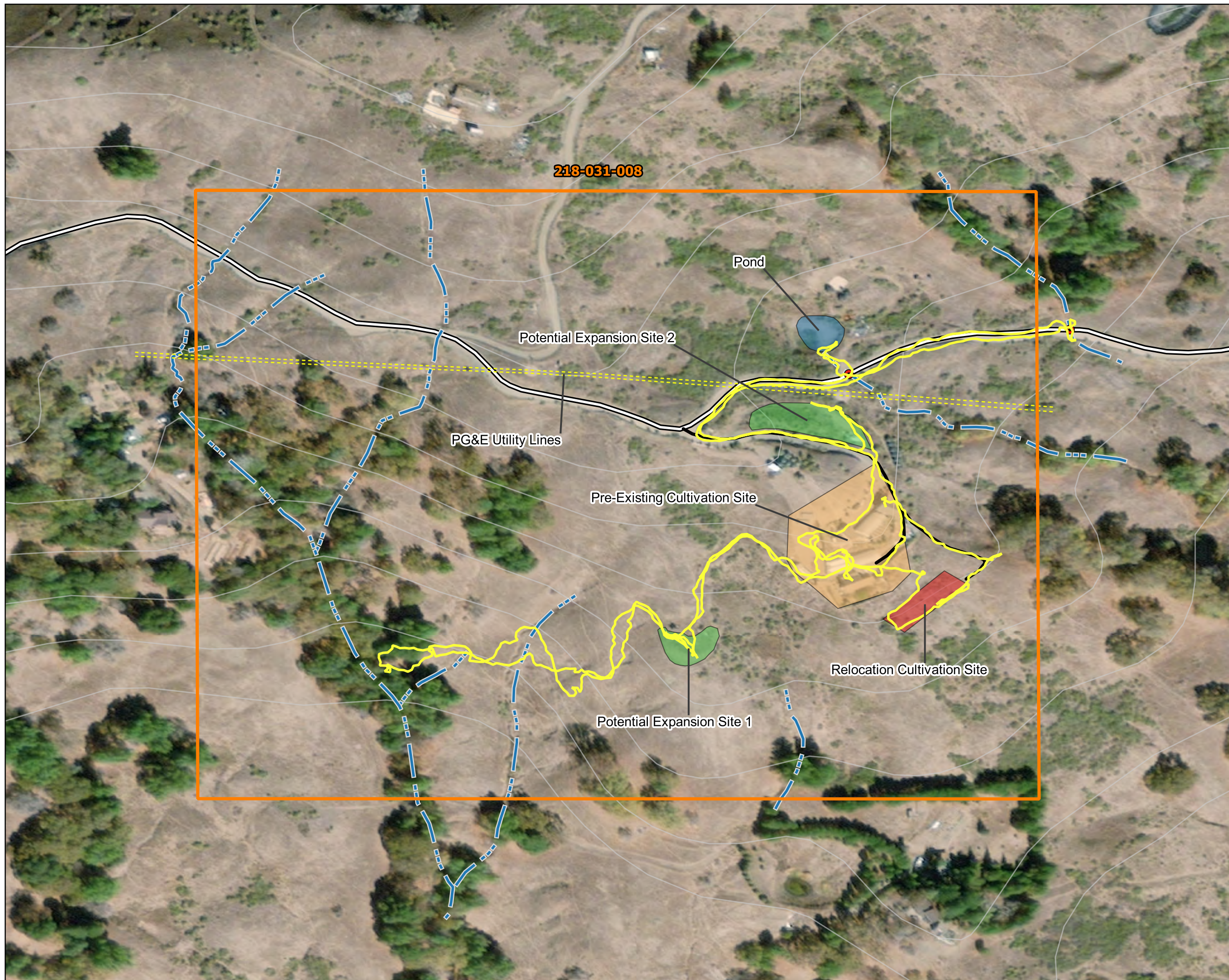
**MAP 2.  
GOLDEN BUD, LLC  
BIOLOGICAL  
RESOURCE  
ASSESSMENT SITE MAP**



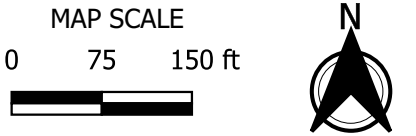
**LEGEND**

- Humboldt County APN
- Culverted Stream Crossing
- Biological Survey Path (10/14/2020)
- PG&E Utility Lines
- Island Mountain Road
- Access Roads
- Class III Streams
- USGS Jewett Rock 40-ft Topo
- Pond
- Aquatic Resource Buffers
- Potential Expansion Site
- Pre-Existing Cultivation Site
- Relocation Cultivation Site

LOCATED AT:  
3550 ISLAND MOUNTAIN ROAD  
NEW HARRIS, CALIFORNIA



**MAP 3.  
GOLDEN BUD, LLC  
BIOLOGICAL  
RESOURCE  
ASSESSMENT SURVEY  
PATH MAP**






**LEGEND**

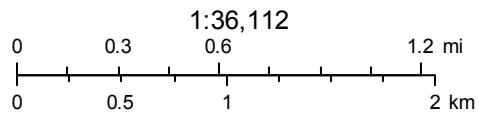
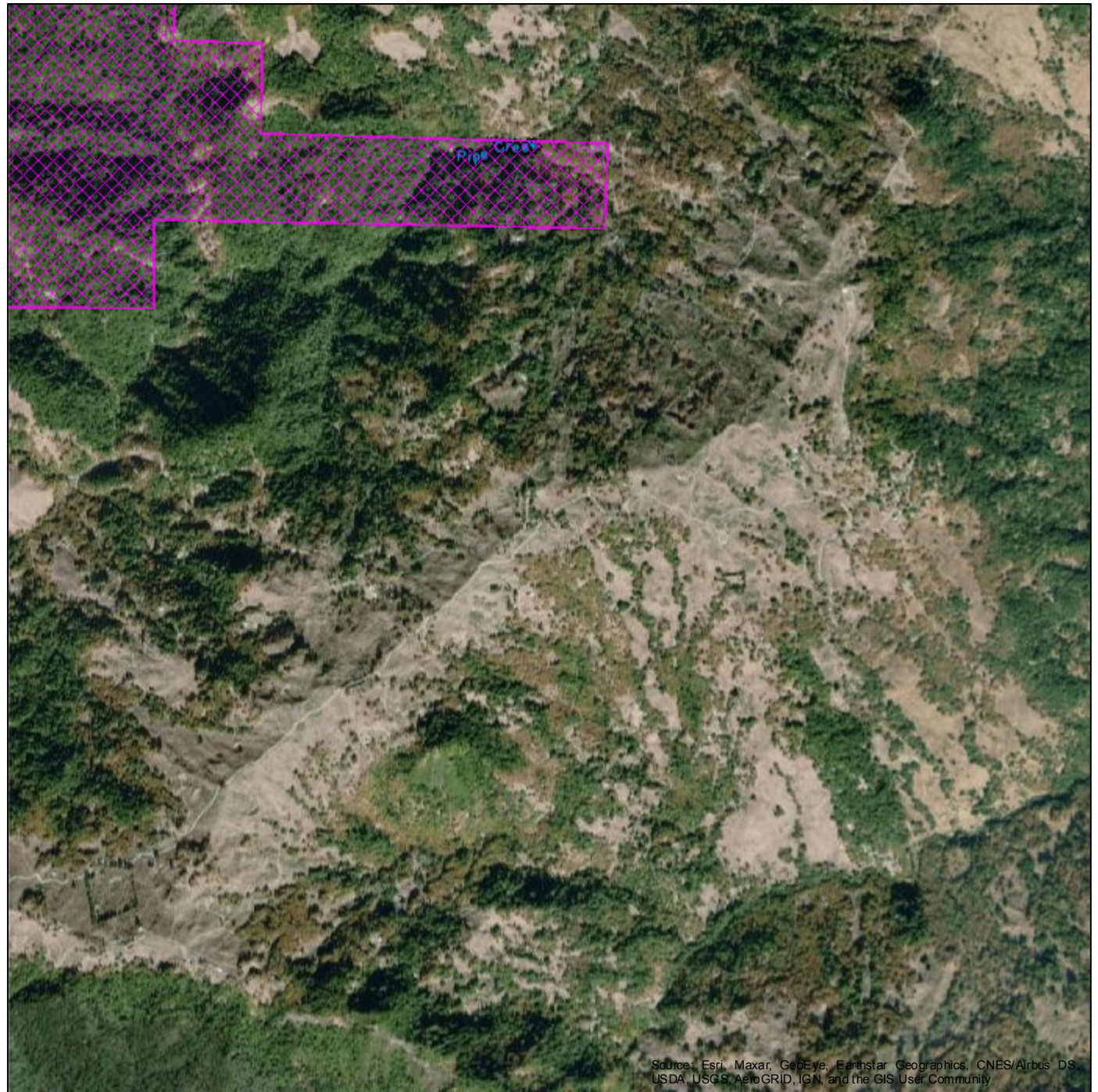
- Humboldt County APN
- Culverted Stream Crossing
- Biological Survey Path (10/14/2020)
- PG&E Utility Lines
- Island Mountain Road
- Access Roads
- Class III Streams
- USGS Jewett Rock 40-ft Topo
- Pond
- Aquatic Resource Buffers
- Potential Expansion Site
- Pre-Existing Cultivation Site
- Relocation Cultivation Site

LOCATED AT:  
3550 ISLAND MOUNTAIN ROAD  
NEW HARRIS, CALIFORNIA

# Map 4. Surrounding Special-Status Species and Habitat Communities to Study Area

California Natural Diversity Database (CNDDDB) Commercial [ds85]

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



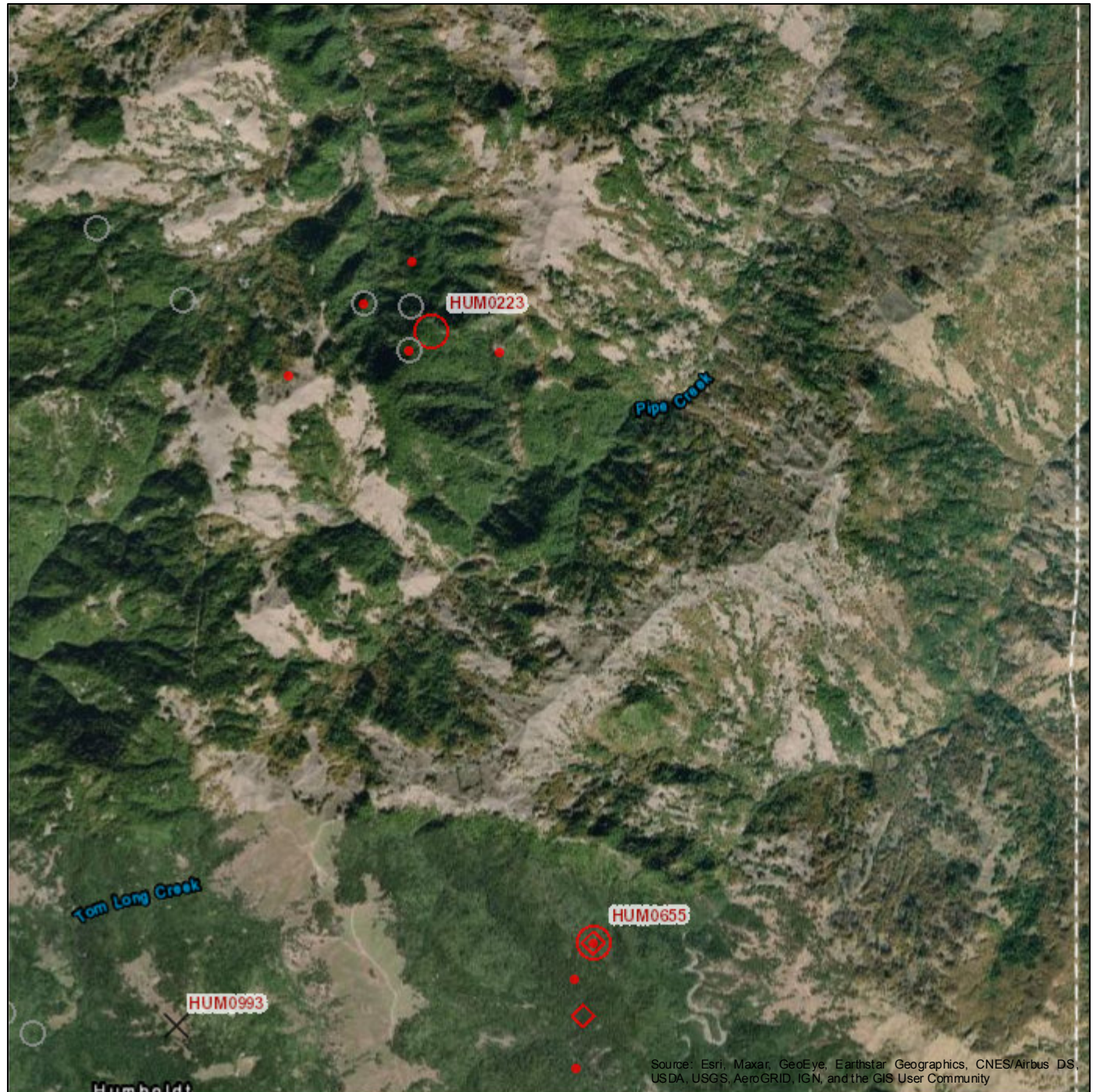
October 27, 2020

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Map 5. Nearest Northern Spotted Owl Activity

## Spotted Owl Observations [ds704]

- Nest
- + Young
- ◇ Pair
- Other Positive Observation
- Negative Observation
- Activity Center
- Abandoned Activity Center
- ✕ Not Valid Activity Center



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

October 27, 2020

# Appendix D

## Occurrence Reports

**APN: 218 – 031 – 008**

**Biological Reconnaissance and  
Project Feasibility Assessment Report**

**October 2020**

Data Version Date:  
06/29/2020

Report Generation Date:  
10/27/2020

**Report #2 - Observations Reported**  
**List of observations reported by site.**



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

H\_04S\_05E Sections(33,34);

<i>Type</i>	<i>Date</i>	<i>Time</i>	<i>#Adults</i>	<i>Age/Sex</i>	<i>Pair</i>	<i>Nest</i>	<i>#Young</i>	<i>Latitude DD NAD83</i>	<i>Longitude DD NAD83</i>	<i>MTRS</i>	<i>Coordinate Source</i>
Masterowl: HUM0223 Subspecies: NORTHERN											
NEG	1989-07-26		0					40.065585	-123.617809	H 04S 05E 33	Quarter-section centroid
POS	1989-07-26		1	UF				40.073065	-123.617466	H 04S 05E 33	Quarter-section centroid
NEG	1989-07-27		0					40.069325	-123.617631	H 04S 05E 33	Half-section centroid
AC	1990		2	UMUF	Y			40.067193	-123.615361	H 04S 05E 33	Contributor
POS	1991-05-31		1	UM				40.063504	-123.631040	H 04S 05E 33	Contributor
POS	1991-07-17		1	UM				40.065385	-123.607898	H 04S 05E 34	Quarter-section centroid
POS	1992-04-20		1	UM				40.065585	-123.617809	H 04S 05E 33	Quarter-section centroid
POS	1992-04-21		1	UM				40.069523	-123.622734	H 04S 05E 33	Section centroid
NEG	1999-04-12	1920	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	1999-05-12	2040	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	1999-06-21	2127	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	1999-07-01	2050	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	1999-07-07	0330	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	1999-07-14	2225	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2000-04-03	1937	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2000-05-08	1947	0					40.069783	-123.642696	H 04S 05E 32	Section centroid

<i>Type</i>	<i>Date</i>	<i>Time</i>	<i>#Adults</i>	<i>Age/Sex</i>	<i>Pair</i>	<i>Nest</i>	<i>#Young</i>	<i>Latitude DD NAD83</i>	<i>Longitude DD NAD83</i>	<i>MTRS</i>	<i>Coordinate Source</i>
NEG	2000-06-17	2131	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2001-05-06	2015	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2001-05-25	0248	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2001-06-12	2030	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2002-04-08	2055	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2002-05-30	2310	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2002-06-06	2058	0					40.069783	-123.642696	H 04S 05E 32	Section centroid
NEG	2005-04-07		0					40.069523	-123.622734	H 04S 05E 33	Section centroid
NEG	2005-04-18		0					40.069523	-123.622734	H 04S 05E 33	Section centroid
NEG	2005-04-25		0					40.069523	-123.622734	H 04S 05E 33	Section centroid
NEG	2006-04-21	2030	0					40.069523	-123.622734	H 04S 05E 33	Section centroid
NEG	2006-04-28	2020	0					40.069523	-123.622734	H 04S 05E 33	Section centroid
NEG	2006-06-18	1833	0					40.069523	-123.622734	H 04S 05E 33	Section centroid
NEG	2007-05-26	1910	0					40.069523	-123.622734	H 04S 05E 33	Section centroid