

A Biological Assessment for Commercial Cannabis Cultivation

For
Mayers Flat Farm
13360 Dyerville Loop Road
Myers Flat, CA 95554
APN 211-372-006



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1.0 Introduction

1.1 Purpose and Need

This biological assessment has been prepared for the Mayers Flat Farm property at 13360 Dyerville Loop Road, Myers Flat, CA, as a supplemental document for a commercial cannabis cultivation permit.

Through obligations of environmental review under the California Environmental Quality Act (CEQA), permits are required by both the State of California and Humboldt County for all cannabis cultivation and irrigation activities.

Humboldt County regulates cannabis production through the Commercial Medical Marijuana Land Use Ordinance (CMMLUO), which requires permit applicants to assess all potentially significant impacts to sensitive biological resources from existing or proposed cannabis cultivation operations.

1.2 Project Sites and Biological Assessment Area

The project sites are defined as the two cultivation sites, 1 and 2, located within the ~ 80-acre property under ownership of Mayers Flat Farm (APN 211-372-006, Figure 2). The biological assessment area (BAA) is defined as the entire 80-acre parcel. All occurrences of sensitive species within the BAA are noted in the species accounts (4.5-4.5.6).

2.0 Regulatory Background

2.1 Cannabis Cultivation

With the passage of Proposition 64 in November 2016 (Medical Cannabis Regulation and Safety Act, MCRSA) cannabis was determined to be a commercial agricultural crop and was legalized for recreational use as well by the State of California. Cannabis production is regulated by the California Department of Food and Agriculture (CDFA) which administers the Cal Cannabis program regulating cannabis licensing from the state. This permitting process is subject to environmental review under The California Environmental Quality Act (CEQA).

Under CEQA, Humboldt County, as the lead agency, requires that CMMLUO permit applicants have a qualified biologist professional assess the project area for the presence of sensitive biological communities and protected species of plants and animals.

2.2 Sensitive Biological Communities

Habitats that fulfill distinctive functions or values such as wetlands, streams or riparian habitat are termed sensitive biological communities. These communities are protected federally with the Clean Water Act (CWA) regulations. In addition, these habitats are regulated by the state via the Porter-Cologne Act, The California Department of Fish and Wildlife (CDFW) Fish and Game Code and the California Environmental Quality Act (CEQA). They are further governed by local ordinances such as city or county tree ordinances, Special Habitat Management Areas or General Plan Elements.

2.2.1 Aquatic Habitats

Federal, State and local regulatory agencies have recognized aquatic habitats such as water bodies, waterways and wetlands as ecologically significant biological communities.

The Clean Water Act (CWA) authorizes the U.S. Army Corp of Engineers (ACOE) to regulate the "Waters of the United States" under section 404. These are defined as "waters susceptible to use in commerce, including interstate waters and wetlands, all other waters, and their tributaries (33 CFR 328.3). Non-wetland waters of a sufficient depth and inundated for a sufficient duration, which also exclude hydrophytic vegetation, are considered "other waters" and are usually defined by the high-water mark. These non-wetland waters include lakes, streams and rivers.

The state of California defines "Waters of the state", through the Porter-Cologne Act, as "any surface or groundwater, including saline waters, within the boundaries of the state." Within the state, the Regional Water Quality Control Board (RWQCB) is responsible for protecting all waters within its regulatory boundaries, with a special emphasis on wetlands, riparian areas, and headwaters. These sensitive areas that are not fully protected by the ACOE's section 404 are regulated by the RWQCB. State waters are also protected from cannabis cultivation impacts through Order 2015-0023 Waiver of Waste Discharge and General Water Quality Certification for Discharges of Waste from Cannabis and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region. CDFW also exerts jurisdiction over lakes, streams and riparian areas through section 1600-1616 of the CDFG Code, and Humboldt County has additional jurisdiction through the Humboldt County General Plan (§BR-P5).

2.2.2 Sensitive Biological Communities

CDFW and the California Native Plant Society (CNPS) defines Sensitive Natural Communities as vegetation types with a state ranking of S1 to S3 by protocols established by the Nature Serve Heritage methodologies. This system uses the best science available to determine each community's range and distribution, and potential threats, to establish rarity. There are no specific protocols for mitigating impacts to sensitive communities, but they are considered for environmental review under CEQA checklist IVb.

The state ranking (S) is as follows:

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

2 -Imperiled–**At** risk because of rarity due to very restricted range, very few populations, (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

3 -Vulnerable–**At** moderate risk of extinction due to a restricted range, relatively few populations, (often 80 or fewer), recent widespread declines, or other factors.

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

5 – Secure – Common; widespread and abundant.

A global ranking (G) is also often used; for this assessment the state ranking should be sufficient for analysis.

2.2.3 Sensitive and Protected Species

The Federal Endangered Species Act (FESA) of 1973 is intended to protect and recover imperiled animal and plant species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (Service) and the Commerce Department's National Marine Fisheries Service (NMFS). Under the ESA, species may be listed as either endangered, threatened, or as a candidate for listing. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. Candidate species are currently under review for a proposed listing.

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. CESA prohibits the take of any species of wildlife designated by the California Fish and Game Commission as endangered, threatened, or as a proposed candidate species.

CDFW has also developed a list of "Species of Special Concern" (SSC) that includes species whose populations, reproductive capacity, or habitat may be declining, as well as a number of "fully protected" species, listed by the state before CESA was enacted into law.

The Migratory Bird Treaty Act of 1918 (Canada, Mexico, Japan Russia) also extends federal protections to all nesting birds, regardless of sensitive status. Nesting adults, eggs, and young are protected by this treaty.

3.0 Methods

3.1 Field Observations

All field data was recorded by Wildlife Biologist Brit O'Brien on January 17th, 2020, using a 100' measuring tape for all distance measurements and a Theodolite application for measuring slope, elevation, and GPS locations. Leica binoculars (10 x 42) were used to identify any wildlife sightings. Portions of all aquatic and terrestrial habitats within the project area were assessed.

Larger trees and snags were examined for potential raptor nests. Presence of invasive species such as Scotch Broom (*Cytisus scoparius*), Pampas Grass (*Cortaderia selloana*) and Himalayan Blackberry (*Rubus armeniacus*) and others were noted if seen during the survey.

3.2 Review of Scientific Literature

Most of the scientific literature and reference material was sourced online through journals, databases or published public sources. Some general data was sourced from USFWS, USDA, and CDFW factsheets, CEQA reference material and naturalist field guides.

3.3 Agency Consultation

Much of the scientific literature referenced in this report was produced by various State and Federal agencies. As most of the necessary data and sources are available online and in other formats, no agencies were consulted on behalf of this assessment.

3.4 Sensitive Biological Communities

The Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) was analyzed for specific soil types that could support sensitive plant communities and/or any aquatic features within the BAA. Satellite imagery from USGS topographic maps, the National Agriculture Imagery Project, the Humboldt County Biological Resources Map, and the National Wetlands Inventory was used to scope for possible sensitive natural communities within the BAA.

Survey data from the site visit was analyzed with existing published literature and data to classify any potential sensitive biological communities per federal, state, and local jurisdictions. Classification of plant communities was conducted using *A Manual of California Vegetation, Online Editions* (CNPS).

3.5 Sensitive and Protected Species

The preliminary scoping procedure used to determine the listed plants and animals noted in this report included a January query of the California Natural Diversity Database (CNDDDB) for any sensitive species detections within nine 7.5' quadrangle maps, of which the Myers Flat quad is at the center (CDFW 2020). These quadrangles also include Redcrest, Bridgeville, Larabee Valley, Weott, Blocksburg, Ettersburg, Miranda, and Fort Seward. A general habitat assessment was performed as well. Given the habitat types listed within the BAA, a species list was developed for sensitive animals and plants utilizing the following: CDFW Endangered and Threatened Species, Special Animals List (November 2019), (November 2019), and the California Native Plant Society (CNPS) Endangered and Rare Plants. The above lists were obtained from <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>. The Interactive Distribution Map v2.02 available through Calflora was used to check for potential occurrences within the BAA.

Plant species have an additional ranking system designed by the CNPS. The Following alphanumeric codes are from the CNPS List, California Rare Plants Ranks (CRPR):

1A -Presumed extirpated in California and either rare or extinct elsewhere

1B -Rare or endangered in California and elsewhere

2A -Presumed extirpated in California, but more common elsewhere

2B– Rare or endangered in California, but more common elsewhere.

3– Plants for which more information is needed–Review List

4 – Plants of limited distribution–Watch List

The CRPR use a decimal style threat rank. The threat rank is an extension added on to the CRPR and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. Most CRPRs read as 1B.1, 1B.2, 1B.3, etc. Note that some rank 3 plants do not have a threat code extension due to difficulty in ascertaining threats. Rank IA and 2A plants have no code extensions as there are no known extant populations in California.

Threat code extensions and their meanings are as follows:

- 1) Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 2) Moderately threatened in California (20-80% of occurrences threatened/moderate degree of threat)
- 3) Not very threatened in California (<20 % of occurrences threatened/Low degree and immediacy of threat or no current threats known)

Every wildlife species that was summarized in the CNDDDB report was evaluated as to the potential for occurrence on the BAA, based on their habitat occurrence and availability. Four possible conclusions for occurrence were selected.

- No potential for occurrence
- Unlikely to occur
- Likely to occur
- Occurs - Reported or detected on the BAA

Plant species were evaluated for occurrence by whether typical potential habitat exists. Two conclusions for occurrence were selected.

- Potential habitat does exist
- Potential habitat does not exist

3.6 Invasive Species

Invasive plant and animal species can impact wildlife by competing with or replacing native species. This may degrade wildlife habitats important for forage or shelter. The current Humboldt County cannabis permitting ordinance includes language addressing the presence and removal of invasive plant species from cultivation sites. Site visits include an assessment of invasive species present and recommendations for removal as necessary.

4.0 Results and Discussion

4.1 BAA Description

There are several types of habitat on the BAA, primarily Montane Hardwood Conifer, and early to mid-succession Douglas Fir (DFR) forest, including common tree species Douglas Fir (*Pseudotsuga menziesii*), Pacific Madrone (*Arbutus menziesii*), Tanoak (*Notholithocarpus densiflorus*), California Bay Laurel (*Umbellularia californica*), and Canyon Live Oak (*Quercus chrysolepsis*) and California Black Oak (*Quercus kelloggii*) (Mayer and Laudenslayer 1988). There is also some Annual Grasslands on the BAA, likely including Brome, Fescue, and other grass species.

Annual mean rainfall in northern coastal California regions is ~ 40" (WRCC), although some areas may receive more than twice that amount. Elevation ranges from ~1300 to ~1700 feet above sea level. Measured slopes in the BAA vary from 5% to 30%. The BAA contain aquatic habitats in the form of intermittent stream habitat, a small spring pond, and a manmade irrigation pond. Photos of the BAA are included (Figure 8).

The BAA primarily contains likely three soil types: Sproulish-Canoe creek-Redwohly complex, 15 to 30% slopes; Sproulish-Canoe creek-Redwohly complex, 30 to 50% slopes; Yorknorth-Windynip complex, 15 to 50% slopes; (Figures 3, 3A, 3B).

Land use on the BAA is primarily restricted to cannabis cultivation. The biological assessment site visit on January 17th, 2020 included an inventory of wildlife species observed. Eight species of birds were observed or heard. The species detected were American Robin, Dark-Eyed Junco, Song Sparrow, Red Tailed Hawk, Steller's Jay, Pacific Wren, Northern Flicker, and Common Raven. Pacific Chorus frogs were heard calling at various locations on the BAA. No species of mammal were detected. None of these species are considered sensitive. Raptor nests or potential supporting habitat were not discovered during the visit. No invasive plant species were noted at any of the cultivation site, or along any roads.

4.2 Site Description

The property is an assessed 80-acre parcel located approximately 2.5 miles northeast of Miranda, CA (Figure 1). The parcel is within Section 25, Township 2S, Range 3E, HB&M, as made known on the 7.5' USGS Quadrangle Map, Myers Flat, CA. Existing development is limited to the road network, the cannabis cultivation site with two greenhouse structures, and a residence with several associated processing/storage buildings.

4.3 Commercial Cannabis Cultivation

The cannabis cultivation currently occurs only at cultivation site 2 in two adjacent greenhouses, located in the central portion of the parcel (Figure 4). The existing cultivation area currently in use totals ~ 8,500 sq. ft. All water for cannabis irrigation is currently supplied from the 350,000-gallon onsite pond. There are also three 3,000-gallon water storage tanks, and one 1,100-gallon tank used for temporary storage. There is also a 220' deep well that provides 20 GPM of water and is a reserve for the pond. All water and fertilizers are applied by hand at agronomic rates to minimize runoff. Total annual water storage for cannabis irrigation is ~ 68,212 gal.

4.4 Sensitive Biological Communities

4.4.1 Aquatic Habitats

The BAA has riverine habitat in the form of two intermittent streams, tributaries of Elk creek, and ultimately the South and main-stem Eel river. The intermittent streams may provide flowing water as habitat for aquatic wildlife for at least a portion of the year. The streams have coarse sediment beds with high and moderate slope gradients and high canopy cover over much of their run. These stream systems may provide habitat for wildlife such as Coast Tailed Frog (*Ascaphus truei*), Pacific Giant Salamander (*Dicamptodon tenebrosus*) and Foothills Yellow-Legged Frog (*Rana boylei*). Downstream, Elk creek and the Eel river provide habitat for Summer-run Steelhead (*Onchorhynchus mykiss irideus*, Northern California DPS, pop. 16), Chinook Salmon (*Onchorhynchus tshawytscha*, Coastal California ESU, Pop. 17), Western Pond Turtle (*Emys marmoratus*) and Red-Bellied Newt (*Taricha rivularis*). Plant species associated with these riparian systems include often Red alder (*Alnus rubra*), Sword fern (*Polystichum munitum*), Big Leaf Maple (*Acer macrophyllum*), Leopard lily (*Lilium pardalinum*) and other vegetation associated with the Douglas-Fir vegetation series (Raphael, 1988).

There is also some lacustrine habitat: a small natural spring pond, and a larger manmade pond for cultivation irrigation (Photos 4, 5). These areas likely provide breeding habitat for Pacific Chorus frogs (*Pseudacris regilla*), Rough-Skinned Newts (*Taricha granulosa*), and Western Toads (*Anaxyrus boreas*).

4.4.2 Wetlands

The Biological Assessment Area is located within the USACE Land Resources Region A, in the Western Mountains, Valleys and Coast Region. This region often experiences frequent and sustained rainfall events that can encourage growth of diverse wetland vegetation, but hydric indicators of wetland presence may often be absent at sites with present wetland vegetation species.

A wetland delineation was conducted December 21, 2018 and January 10, 2019 by professional Botanist Kyle Wear. Several wetland areas were identified, the most significant located just east and downslope of cultivation site 2 (Photo). The edge of the wetland area was approximately 120' from the cultivation site, which is a sufficient buffer for protection.

4.4.3 Sensitive Natural Communities

No known Sensitive Natural Communities of state ranking S1 or S2 were reported by CNDDB within the BAA. The dominant vegetation series is Douglas-Fir forest, which is a state-ranked S3 series. No associations in this vegetation series are ranked lower than S3.

4.5 Sensitive and Protected Species

4.5.1 Bird Species of Special Concern

Cooper's Hawk (*Accipiter cooperii*)

Status: CDFW - Watch list (WL); Federal and state status – none; State Rank – S4:

Habitat: Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.

Status within BAA: Four listed historical listed occurrences within the 9-quad CNDDDB report, Myers Flat, Miranda, Bridgeville and Redcrest quads. The most recent occurrence in 2005 in the Miranda quad approximately 1.5 mi ENE of Miranda. Suitable nesting habitat may exist within the BAA.

Sharp-shinned hawk (*Accipiter striatus*)

Status: CDFW - Watch list (WL); Federal and state status – none; State Rank – S4:

Habitat: Breeds in deep forests. During migration, look for them in open habitats or high in the sky, migrating along ridgelines. During the nonbreeding season they hunt small birds and mammals along forest edges

Status within BAA: No occurrences within the BAA. One listed historical listed occurrence within the 9-quad CNDDDB report, the Redcrest quad. Suitable nesting habitat likely does exist within the BAA.

Golden Eagle (*Aquila chrysaetos*)

Status: CDFW - Fully Protected (FP), Watch list (WL); Federally protected under the Bald and Golden Eagle Act, State Rank - S3:

Habitat: Nests in mature and old-growth forests with more than 60% closed canopy (Harris 2005). Uses old nests and maintains alternate nest sites. North coast coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.

Status within BAA: Three listed historical listed occurrence within the 9-quad CNDDDB report, Myers Flat, Miranda and Bridgeville quads. The most recent in 1999 in the Miranda quad, ~4.5 miles SSW of Miranda. Potential suitable nesting habitat is unlikely to occur within the BAA.

Bald Eagle (*Haliaeetus leucocephalus*)

Status: CDFW - Fully Protected (FP), Watch list (WL); Federally protected under the Bald and Golden Eagle Act, State Rank - S3:

Habitat: Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.

Status within BAA: No occurrences within the BAA. One listed historical listed occurrence within the 9-quad CNDDDB report in the Redcrest quad. Suitable nesting habitat is unlikely to exist within the BAA.

Marbled Murrelet (*Brachyramphus marmoratus*)

Status: CDFW - FP; Federal status – threatened; State status – endangered; State rank- S1

Habitat: Feeds near shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.

Status within BAA: No occurrences within the BAA. There were two listed occurrences within one quad in the 9-quad CNDDDB report, the Weott and Redcrest quads in 1994 and 1995. No suitable nesting habitat likely exists within the BAA.

American Peregrine Falcon (*Falco peregrinus anatum*)

Status: CDFW - FP; Federal status – Delisted; State status – Delisted; State rank-S3, S4

Habitat: Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest commonly consists of a scrape or a depression or ledge in an open site.

Status within BAA: No occurrences within the BAA. There were three listed occurrences within the 9-quad CNDDDB report, In the Miranda, Redcrest and Larabee Valley quads. No suitable nesting habitat exists within the BAA.

Yellow-breasted Chat (*Icteria virens*)

Status: CDFW - SSC; Federal status – None; State status – None; State rank- S3

Habitat: Riparian forest, Riparian scrub, Riparian woodland: Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.

Status within BAA: There was one occurrence within the 9-quad CNDDDB report, In the Myers Flat quad. Suitable nesting habitat may potentially exist within the BAA.

Osprey (*Pandion haliaetus*)

Status: CDFW - WL; Federal status – None; State status – None; State rank- S4

Habitat: Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in treetops within 15 miles of a good fish-producing body of water.

Status within BAA: No occurrences within the BAA. There were five occurrences within the 9-quad CNDDDB report, In the Miranda, Redcrest, Blocksburg, Weott and Myers Flat quads. Potential suitable nesting habitat likely does not exist within the BAA.

Yellow Warbler (*Setophaga petechia*)

Status: CDFW – SSC; Federal status - none; State status – none; State rank-S3, S4

Habitat: Riparian scrub, woodland: Plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.

Status within BAA: No occurrences within the BAA. There was one occurrence within the 9-quad CNDDDB report in the Myers Flat quad. Suitable nesting habitat potentially may exist within the BAA.

Northern Spotted Owl (*Strix occidentalis caurina*)

Status: CDFW – SSC; Federal and State status – Threatened; State rank - S2, S3

Habitat: Unlogged, expansive, mature coniferous forest stands with lars and a complex array of vegetation types. Primarily inhabits old growth forests in the northern part of its range and landscapes with a mix of old and younger forest types in the southern part of its range (Klamath region and California). The subspecies' range is the Pacific coast from extreme southern British Columbia to Marin County in northern California. It nests in cavities or on platforms in large trees and will use abandoned nests of other species (USFWS 2011). Spotted owls form long-term pair bonds and remain in the same geographical areas year after year.

Status within BAA: See **Figure 6** and **4.6.1**

Little Willow Flycatcher (*Empidonax traillii brewsteri*)

Status: CDFW - WL; Federal status – None; State status – Endangered; State rank- S4

Habitat: Mountain meadows and riparian habitats in the Sierra Nevada and Cascades. Nests near the edges of vegetation clumps and near streams.

Status within BAA: No occurrences within the BAA. There was one occurrence within the 9-quad CNDDDB report, in the Miranda, quad. Possible suitable nesting habitat likely does not exist within the BAA.

4.5.2 Amphibian Species of Special Concern

Pacific Tailed Frog (*Ascaphus truei*)

Status: CDF– SSC; Federal and State status - none; State rank - S3, S4

Habitat: Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C (Thomson et al 2016).

Status within BAA: No listed occurrences within the BAA. There were three listed historical occurrences within the 9-quad CNDDDB report, Redcrest, Larabee Valley and Weott. Potential suitable habitat likely does exist within the BAA.

Northern Red-legged Frog (*Rana aurora*)

Status: CDF– SSC; Federal and State status - none; State rank - S3, S4

Habitat: Humid forests, woodlands, grasslands, and streambanks in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.

Status within BAA: There were three occurrences within the 9-quad CNDDDB report, Myers Flat, Blocksburg and Weott. Potential suitable habitat likely exists within the BAA.

Foothill Yellow-Legged Frog (*Rana boylei*)

Status: CDFW – SSC; Federal status – none; State status -Threatened (candidate); State rank - S3

Habitat: Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis (Thomson et al 2016).

Status within BAA: No listed occurrences within the BAA. There were nine occurrences within the 9 quad CNDDDB report Myers Flat, Blocksburg, Weott, Ettersburg, Miranda, Fort Seward, Redcrest, Bridgeville, and Larrabee Valley. Potential suitable habitat likely exists within the BAA.

Southern Torrent Salamander (*Rhyacotriton variegatus*)

Status: CDFW - SSC; Federal and State status - none; State rank - S2, S3

Habitat: Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water (Welsh and Lind, 1996).

Status within BAA: There were six occurrences within the 9-quad CNDDDB report, Weott, Bridgeville, Larabee Valley, Redcrest, Ettersburg and Myers Flat. Potential suitable habitat likely exists within the BAA.

Red Bellied Newt (*Taricha rivularis*)

Status: CDFW – SSC; Federal and State status – none; State rank - S2

Habitat: Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County (Thomson et al 2016). 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.

Status within BAA: No listed occurrences within the BAA. There was one listed occurrence within the 9-quad CNDDDB report, Ettersburg. Potential suitable habitat likely exists within the BAA.

Western Pond Turtle (*Emys marmorata*)

Status: CDFW – SSC; Federal and State status – none; State rank - S3

Habitat: Resides in ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying (Thomson et al 2016).

Status within BAA: There were six occurrences within the 9-quad CNDDDB report, Larabee Valley, Miranda, Redcrest, Weott, Myers Flat and Ettersburg. Potential suitable habitat likely does exist within the BAA.

4.5.3 Mammal Species of Special Concern

Sonoma Tree Vole (*Arborimus pomo*)

Status: CDFW – Species of Special Concern (SSC); Federal and State status – none; State rank - S3

Habitat: North coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood & montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce (Polite and Pratt, 1990).

Status within BAA: No listed occurrences within the BAA. There were five listed historical occurrences within the 9-quad CNDDDB report, Myers Flat, Larabee Valley, Redcrest, Bridgeville and Weott. Potential suitable habitat likely exists within the BAA.

Humboldt Marten (*Martes caurina humboldtensis*)

Status: CDFW – SSC; Federal– none; State status – candidate endangered; State rank – S1

Habitat: Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.

Status within BAA: No listed occurrences within the BAA. There was one occurrence within the 9-quad CNDDDB report, Weott. Potential suitable habitat likely does not exist within the BAA.

West Coast Fisher (*Pekania pennanti*)

Status: CDFW – SSC; Federal status – none; State status–Threatened; State rank –S2, S3

Habitat: Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning (USFWS 2016). Needs large areas of mature, dense forest.

Status within BAA: There were four occurrences within the 9 quad CNDDDB report Myers Flat, Larabee Valley, Bridgeville and Weott. Potential suitable habitat does likely exist within the BAA.

American Badger (*Taxidea taxus*)

Status: CDFW – SSC; Federal status – none; State status–Threatened; State rank –S2, S3

Habitat: Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.

Status within BAA: No listed occurrences within the BAA. There were two occurrences within the 9 quad CNDDDB report Larabee Valley, and Myers Flat. Potential suitable habitat likely exists within the BAA.

Townsend's big-eared bat (*Corynorhinus townsendii*)

Status: CDFW – SSC; Federal and State status – none; State rank - S2

Habitat: Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, occasionally on buildings. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.

Status within BAA: No listed occurrences within the BAA. There were two listed occurrences within the 9-quad CNDDDB report, Redcrest and Bridgeville. Potential suitable habitat likely exist within the BAA.

Western Red Bat (*Lasiurus blossevillii*)

Status: CDFW – SSC; Federal and State status – none; State rank – S3

Habitat: Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.

Status within BAA: No listed occurrences within the BAA. There was one occurrence within the 9-quad CNDDDB report, Weott. Potential suitable habitat likely exists within the BAA.

4.5.4 Insect Species of Special Concern

Obscure Bumble Bee (*Bombus caliginosus*)

Status: CDFW- None; Federal and State status - none; State rank – S1, S2; IUCN - Vulnerable

Habitat: Occurs in western North America states of California, Oregon, Washington, as well as British Columbia. Prefers foraging on *Ceanothus* spp., *Rubus* spp., lupines, thistles, clovers, sweet peas, and rhododendrons. Queens prefer plants in the family Ericaceae. This species is

experiencing significant declines throughout portions of its historical range.

Status within the BAA: There are six historical listed occurrences from 1935 to 1963 within the 9-quad CNDDDB report in Redcrest, Miranda, Fort Seward, Myers Flat, Blocksburg and Weott; the most recent in mid-June 1963 in the Weott quad. Additional historical occurrences can be found throughout Humboldt County. Potential suitable habitat likely does exist on the BAA.

Western Bumble Bee (*Bombus occidentalis*)

Status: CDFW- None; Federal and State status – none
; State rank – S1; USFS - Sensitive

Habitat: Occurs in most western North America states, including California, Oregon, Washington, Idaho, Montana, Wyoming, Utah, and Colorado, as well as British Columbia, Saskatchewan and Alaska. The species is a generalist forager, using both wild plants and crops as a food source. It is an important pollinator of human food species. This bee is experiencing widespread declines throughout portions of its historical range, especially within the pacific states.

Status within the BAA: There are five historical listed occurrences from 1959 to 1969 within the 9-quad CNDDDB report in Miranda, Fort Seward, Bridgeville, Myers Flat and Weott the most recent in mid-August 1969 in the Weott quad. Additional historical occurrences can be found throughout Humboldt County. Potential suitable habitat likely does currently exist on the BAA.

Wawona Riffle Beetle (*Atractelmis wawona*)

Status: CDFW- None; Federal and State status - none; State rank – S1, S2

Habitat: found in riffles of rapid, small to medium clear mountain streams; 2000-5000 ft elev. Strong preference for inhabiting submerged aquatic mosses.

Status within the BAA: There was one historical listed occurrence within the 9-quad CNDDDB report in July 1988 in the Larabee Valley quad. Potential habitat does not likely exist within the BAA.

4.5.5 Fish Species of Special Concern

Pacific Lamprey (*Entosphenus tridentatus*)

Status: CDFW – SSC; Federal and State status – none; State rank - S3

Habitat: Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs are declining. Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.

Status within BAA: No listed occurrences within the BAA. There was one occurrence within the 9-quad CNDDDB report, Weott. Potential suitable habitat likely does not exist within the BAA.

Coast Cutthroat Trout (*Oncorhynchus clarkii clarkii*)

Status: CDFW – SSC; Federal and State status – none; State rank - S3

Habitat: Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs are declining. Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.

Status within BAA: No listed occurrences within the BAA. There was one occurrence within the 9-quad CNDDDB report, Redcrest. Potential suitable habitat does not likely exist within the BAA.

Coho Salmon (*Oncorhynchus kisutch*) Pop 2

Status: Federal and State status –Threatened; State rank - S2

Habitat: Aquatic, Anadromous fish requiring cool rocky streambeds for breeding. Klamath/North coast flowing waters, Sacramento/San Joaquin flowing water. Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California. State listing refers to populations between the Oregon border and Punta Gorda, California (CDFW 2018).

Status within BAA: There were occurrences in six quads within the 9-quad CNDDDB report, Redcrest, Eppersburg, Miranda, Blocsburg, Weott, and Myers Flat. Potential suitable habitat does not exist within the BAA.

Steelhead – Northern California DPS (*Oncorhynchus mykiss irideus*) Pop 16

Status: CDFW – SSC; Federal and State status - none; State rank - S2

Habitat: Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.

Status within BAA: There were occurrences in all quads within the 9-quad CNDDDB report: Potential suitable habitat likely does not exist within the BAA.

Steelhead – Summer-run Steelhead Trout (*Oncorhynchus mykiss irideus*) Pop 36

Status: CDFW – SSC; Federal and State status - none; State rank - S2

Habitat: No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS. Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.

Status within BAA: There were occurrences in seven quads within the 9-quad CNDDDB report: Fort Seward, Redcrest, Weott, Blocksburg, Larabee Valley, Bridgeville and Ettersburg. Potential suitable habitat likely does not exist within the BAA.

Chinook salmon - California coastal ESU (*Oncorhynchus tshawytscha*) Pop 17

Status: CDFW – SSC; Federal status - Threatened: State status – none; State rank - S1

Habitat: Aquatic, Klamath/North coast flowing waters. Spring-run chinook in the Trinity River and the Klamath River upstream of the mouth of the Trinity River. Major limiting factor for juvenile chinook salmon is temperature, which strongly effects growth and survival (CDFW 2018).

Status within BAA: No listed occurrences within the BAA. There were occurrences in four quads within the 9-quad CNDDDB report, Larabee Valley, Miranda, Redcrest, and Weott. No potential suitable habitat likely exists within the BAA.

4.5.6 Plant Species of Special Concern

<i>Packera bolanderi</i> var. <i>bolanderi</i>	Seacoast ragwort
Fed status – none	State status – none
CA rare plant rank – 2B.2	
USGS 7.5’ Quad – Myers Flat, Redcrest	
Documented in BAA - no	Potential Habitat in BAA - yes
Habitat – Coastal scrub, north coast coniferous forest. Sometimes along roadsides. 30-915 m.	

<i>Tracyina rostrata</i>	Beaked tracyina
Fed status – none	State status – none
CA rare plant rank – 1B.2	
USGS 7.5’ Quad – Fort Seward	
Documented in BAA - no	Potential Habitat in BAA - yes
Habitat – Cismontane woodland, valley and foothill grassland, chaparral.	
Open grassy meadows usually within oak woodland and grassland habitats. 150-795 m.	

<i>Howellia aquatilis</i>		Water howellia
Fed status – threatened	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Fort Seward		
Documented in BAA - no		Potential Habitat in BAA - no
Habitat – Freshwater marshes and swamps.		

<i>Carex arcta</i>		Northern clustered sedge
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Redcrest		
Documented in BAA - no		Potential Habitat in BAA - yes
Habitat – Bogs and fens, north coast coniferous forest.		

<i>Astragalus agnicidus</i>		Humboldt County milk-vetch
Fed status – none	State status – endangered	CA rare plant rank – 1B.1
USGS 7.5' Quad – Bridgeville, Miranda, Myers Flat		
Documented in BAA - no		Potential Habitat in BAA - yes
Habitat – Broad-leaved upland forest, north coast coniferous forest. Disturbed openings in partially timbered forest lands; also, along ridgelines, south aspects. 115-670 m.		

<i>Erythronium oregonum</i>		Giant fawn lily
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Myers Flat, Ettersburg, Blocksburg,		
Documented in BAA - no		Potential Habitat in BAA - yes
Habitat – Cismontane woodland, meadows and seeps.		

<i>Erythronium revolutum</i>		Coast fawn lily
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Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad –Ettersburg, Miranda, Myers Flat		
Documented in BAA - no	Potential Habitat in BAA - yes	
Habitat –Bogs and fens, broadleaved upland forest, north coast coniferous forest. Mesic sites; streambanks. 60-1405 m.		

<i>Sidalcea malviflora ssp. patula</i>	Siskiyou checkerbloom	
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Bridgeville, Myers Flat		
Documented in BAA - no	Potential Habitat in BAA - yes	
Habitat – Coastal bluff scrub, coastal prairie, north coast coniferous forest. Open coastal forest; roadcuts. 5-1255 m.		

<i>Montia howellii</i>	Howell's montia	
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad –Bridgeville, Larabee Valley, Redcrest, Miranda, Fort Seward, Blocksburg, Myers Flat		
Documented in BAA - no	Potential Habitat in BAA - yes	
Habitat – Moist to wet habitat, including <u>vernal pools</u> and meadows. It sometimes grows in shallow standing water such as puddles.		

<i>Piperia candida</i>	White-flowered rein orchid	
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad –Weott, Miranda, Myers Flat, Bridgeville, Larabee Valley, Fort Seward, Ettersburg		
Documented in BAA - no	Potential Habitat in BAA - yes	
Habitat – Northern California Coniferous forest.		

<i>Kopsiopsis hookeri</i>	Small groundcone	
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Fed status – none	State status – none	CA rare plant rank – 2B.3
USGS 7.5' Quad – Miranda		
Documented in BAA - no	Potential Habitat in BAA - yes	
Habitat – North coast coniferous forest. Open woods, shrubby places, generally on Gaultheria shallon. 120-1435 m.		

<i>Gilia capitata ssp. pacifica</i>		Pacific gilla
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Weott, Myers Flat, Bridgeville, Larabee Valley		
Documented in BAA - no	Potential Habitat in BAA - yes	
Habitat – Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland.		

4.6 Potential Impacts

4.6.1 Northern Spotted Owl

The cannabis cultivation process at the Mayers Flat Farm property will be restricted to the existing roads and the existing cultivation site. No habitat removal is proposed under the current interim permit. Potential impacts to NSO within the BAA are limited to disturbance from noise from traffic accessing the site and the likely intermittent use of small equipment such as generators, ATVs, etc.

The Arcata Fish and Wildlife Office (AFWO) has provided a 2006 guidance document regarding disturbance from noise-generated activities, "Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California." The document provides likely disturbance distances to nesting owls and murrelets, based on ambient sound levels at the site, the use of typical equipment, and visual line-of-sight distance to nests.

A review of the document suggests that scenario 3 under appendix B, the Northern Spotted Owl Sound and Visual Harassment Decision Support Tool, best reflects the likely ambient sound conditions at the site and the equipment likely to be used during cultivation. Under this scenario, "The existing environment is characterized by the near absence of sounds associated with human activities, and is typified by natural background sounds found in the species habitat"

The typical action-generated sounds from cultivation under this scenario could include " larger gas-powered engines, large generators, amplified music, ATVs and small trucks at moderate speed on improved trails, and large chain saws." This scenario 4 closely approximates the likely ambient background noise at the site, and the potential action-generated noise from the cultivation activities.

Under scenario 4, the predicted auditory disturbance distance that may impact nesting Spotted Owls is 300 meters, with low ambient sounds at the site. The visual line-of-sight disturbance distance for nests is a maximum 100 meters, or less if vegetation obscures a view of the nest.

The BAA does have potential appropriate habitat to support Spotted Owl nesting/roosting. The forested areas to the south of the cultivation site have appropriately aged coniferous forest ($\geq 11.5'$ dbh), and a portion of the stand is along Elk creek, a riparian habitat often preferred by NSO.

The nearest critical habitat for the spotted owl is ~ 4.1 miles to the west from the nearest cultivation site (Figure 5). The nearest known spotted owl activity center (HUM0785) is approximately 0.48 miles to the east of the cultivation site (Figure 6). At least one historical positive detection of NSO appears to have occurred on the southern edge of the BAA (Figure 6).

Based on the estimated auditory disturbance distance of 300 meters, and the visual disturbance distance of 100 meters, and the fact that the nearest activity center is less than .5 miles to the east, there is a potential significant impact to Spotted Owl nesting habitat from cannabis cultivation.

As there is a possibility that NSO may be found on or near the property, potentially at a previously undetected location, NSO surveys should be conducted beginning in the spring 2020 season. Surveys should be conducted per Section 9.0 of the Northern Spotted Owl Survey Protocol, Surveys for Disturbance Only Projects (See **Recommendations**). An experienced Spotted Owl biologist should plan and conduct the surveys.

4.6.2 Marbled Murrelet

Nesting Marbled Murrelets require older forests with trees that support potential nesting “platforms”, such as large mossy branches or significant canopy deformities. The forested habitat on the Mayers Flat Farm property generally does not have trees of sufficient age or canopy complexity to support breeding Marbled Murrelets. Several Douglas Fir trees were observed to have branches potentially large enough to support a nest, but the trees were exposed on ridges and the branches were also widely exposed to wind and extreme environmental conditions, making them unlikely to support nesting Murrelets. The nearest mapped critical habitat for Marbled Murrelets is approximately 1.7 miles to the west, portions of Avenue of the Giants (Figure 7). There is likely no potential Marbled Murrelet nesting habitat located on the BAA.

4.6.3 Sensitive/Nesting Birds

Cultivation activities at the existing project site are unlikely to disturb nesting or sensitive birds, as impacts would generally be limited to noise disturbance only. As the cultivation is located on flat open ground, away from potential forested nesting habitat, minimal noise disturbance should be expected. There is grassland surrounding the cultivation flat, which may provide nesting habitat for species such as Western Meadowlark and Grasshopper Sparrow, If any significant vegetation removal or habitat conversion is proposed during the bird nesting season, generally March 1st to August 31st, nesting bird surveys should be considered.

4.6.4 Sensitive Fish/Amphibians

The Water Resources Protection Plan outlines the necessary BMPs (Best Management Practices)

needed to protect water quality from erosion sources and cultivation practices. These BMP's, if implemented promptly and effectively, should protect water quality on the BAA and to downstream waters. Protective buffers for wetlands/aquatic habitats allow for infiltration of any runoff from cultivation areas. All of the cultivation sites are outside of protective buffers for watercourses. If the BMPs and buffers are maintained, there should be no deleterious effects to fish or other aquatic species.

4.6.5 Sensitive Mammals

Forest carnivores (Fisher, Humboldt Marten) may potentially use the BAA for foraging as part of a larger home territory. Older forests with complex canopies are preferred habitat for denning for these species; the BAA does not likely provide appropriate habitat for natal dens. As no habitat removal is planned for the BAA, there is a very low likelihood of impacts to potential carnivore foraging habitats.

Arboreal animals such as the Sonoma tree vole are unlikely to be affected by cultivation activities as no tree or vegetation removal is planned.

Sensitive bat species that may occur on buildings or in forested habitat are not likely to be disturbed by typical cultivation activities. Any construction or development on the BAA may disturb roosting bat species; surveys should be considered before any significant building construction or demolition is begun.

4.6.6 Sensitive Insects

Insects such as the Western and Obscure Bumblebees are undergoing notable declines throughout their historic range; they are not currently listed for protection by the U.S., but the State of California has proposed the Western Bumblebee as a candidate for endangered status, and a status review is underway. Significant impacts to their populations include pesticide use and habitat loss. Maintaining the presence of flowering native plant species such as *Ceanothus* and *Rhododendron* species, as well as others, and greatly restricting or eliminating the use of pesticides can reduce impacts to these species from cultivation activities.

4.6.7 Sensitive Plants

Use of the existing cultivation sites will likely not affect sensitive plants, as activities should be generally limited to previously impacted areas, associated roads and residences. Species that prefer disturbed areas, such as *Montia Howelli*, are likely to persist, due to the seasonal operation of the farm, which may provide appropriate habitat annually. Any conversion of native habitats for cultivation would likely involve some ground disturbance. Spring season floristic (botanical) surveys are effective at identifying sensitive plants for protection if site expansions are proposed.

5.0 Recommendations

All cultivation activities should be conducted to minimize potential runoff from the project sites. Any fertilizers or pesticides should be used in strict accordance with the manufacturer's directions. All fertilizers, pesticides, and other cultivation-related products or amendments should be properly stored in secured facilities to prevent exposure to precipitation events and to prevent access to wildlife.

Pesticides used for cannabis cultivation should be limited to products endorsed by the

Department of Pesticide Regulation's "Legal Pest Management Practices for Marijuana Growers in California" (DPR).

Any restoration and water protection measures required under Water Resource Protection Plans (WRPPs) should be conducted with minimal ground disturbance, and all recommended erosion control devices (straw bales, fiber rolls) should be installed before any significant precipitation events.

All trash and food waste should be stored in animal proof containers and secured away from human habitation areas and disposed of off-site regularly.

Generators should be housed inside insulated enclosures to muffle noise and adhere to noise thresholds of the CCLUO (≤ 50 decibels of maximum noise exposure at 100 feet from noise source or to the edge of potential habitat).

Conduct nesting bird surveys if any significant vegetation removal or habitat alteration is planned within the nesting bird season (generally March 1 - August 31). If necessary, use appropriate distance buffers for discovered active nests.

If invasive plants are discovered or become established on the property, efforts should be undertaken to remove them, including removing established plant colonies, and grubbing out any young plants.

Conduct springtime floristic (botanical) surveys for rare plants before significant cultivation expansion is initiated.

Spotted owl surveys should be conducted to determine potential presence on the BAA beginning in 2020, as per specifications outlined in the Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Surveys should be conducted per Section 9.0, Surveys for Disturbance Only Projects. An experienced NSO biologist should be consulted to plan and conduct the surveys and interpret the results.

The cannabis cultivation process at Mayers Flat Farm has a low likelihood of having significant impacts to sensitive wildlife or plant species as the farm currently operates. Any proposed expansion should re-consider the potential for significant impacts to biological resources.

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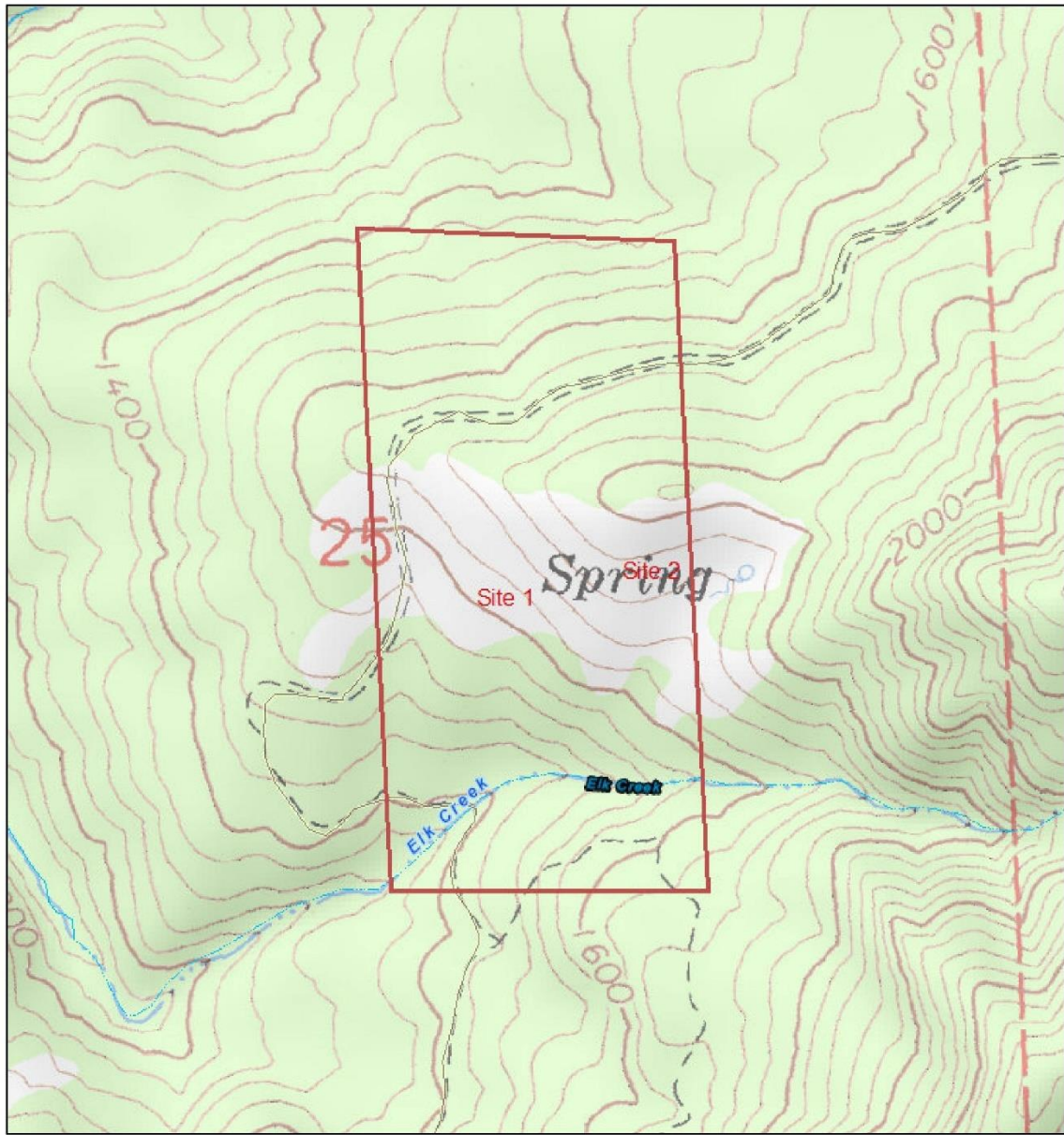
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Department of Pesticide Regulation (DPR)

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Western Regional Climate Center (WRCC). <https://wrcc.dri.edu/summary/climsmnca.html>

7.0 Appendix



Topo Map of Myers Flat Farm
 Humboldt County Planning and Building Department

Printed: January 18, 2020 Web AppBuilder 2.0 for ArcGIS

Map Disclaimer: While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

Source: Humboldt County GIS, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Lines	— Minor Collectors	Blue Line Streams	--- City Boundary
— Override 1	— Local Roads	— Perennial 1-3	--- Counties
Highways and Roads	— Private or Unclassified	— Perennial >4	
— Principal Arterials	— Major River or Stream	— Intermittent	
— Minor Arterials	— Major Collectors	— Subsurface	

Scale: 0 350 700 1,400 Feet
 0 0.05 0.1 0.2 Miles
 RF= 1:9,028 1 in = 752 ft

Figure 1. Mayers Flat Farm Topo Parcel Map

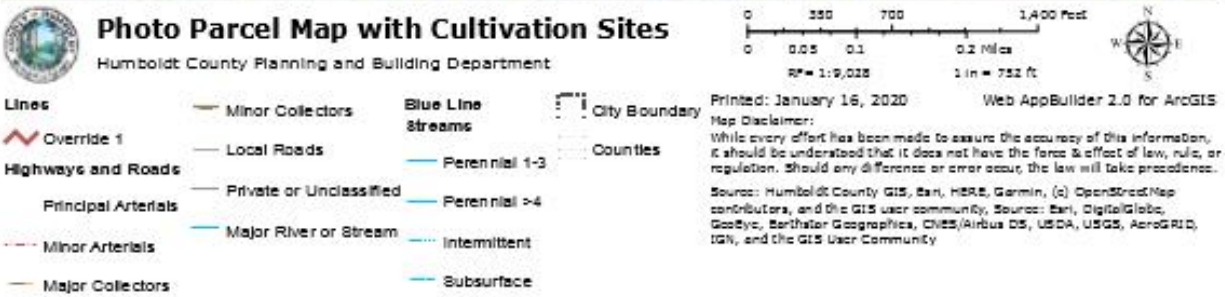
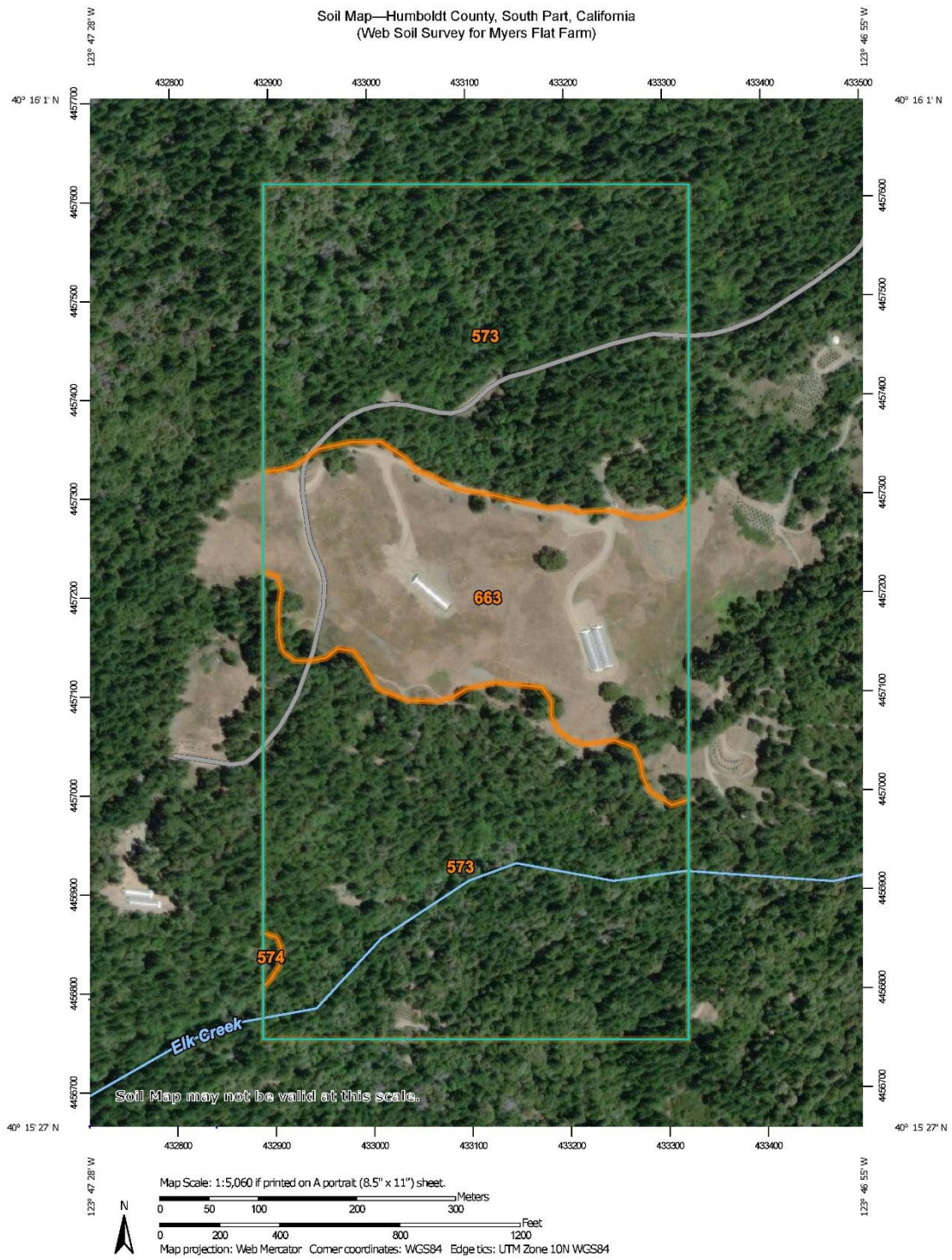


Figure 2. Mayers Flat Farm Photo Parcel Map with Cultivation Sites



USDA
Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/18/2020
Page 1 of 3

Figure 3. Web Soil Survey for Myers Flat Farm Property

MAP LEGEND

<p>Area of Interest (AOI)</p> <ul style="list-style-type: none"> Area of Interest (AOI) <p>Soils</p> <ul style="list-style-type: none"> Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points <p>Special Point Features</p> <ul style="list-style-type: none"> Blowout Borrow Pit Clay Spot Closed Depression Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water Rock Outcrop Saline Spot Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot 	<ul style="list-style-type: none"> Spoil Area Stony Spot Very Stony Spot Wet Spot Other Special Line Features <p>Water Features</p> <ul style="list-style-type: none"> Streams and Canals <p>Transportation</p> <ul style="list-style-type: none"> Rails Interstate Highways US Routes Major Roads Local Roads <p>Background</p> <ul style="list-style-type: none"> Aerial Photography
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MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Humboldt County, South Part, California
Survey Area Data: Version 8, Sep 17, 2019

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

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

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

Figure 3A. Map Legend/Map Information for Myers Flat Farm Soil Survey

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
573	Sproulish-Canoecreek- Redwohly complex, 15 to 30 percent slopes, warm	69.0	74.4%
574	Sproulish-Canoecreek- Redwohly complex, 30 to 50 percent slopes, warm	0.2	0.2%
663	Yorknorth-Windynip complex, 15 to 50 percent slopes	23.5	25.4%
Totals for Area of Interest		92.7	100.0%

Figure 3B. Map Unit Legend for Mayers Flat Farm Soil Survey

Aquatic Habitats on Myers Flat Farm



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

- January 18, 2020
- Wetlands**
- Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Other
 - Riverine

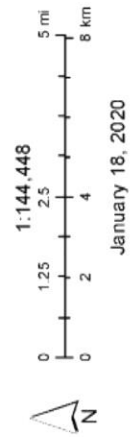
National Wetlands Inventory (NWI)
 This page was produced by the NWI mapper

Figure 4. Aquatic Habitats on Mayers Flat Farm

Nearest NSO Critical Habitat to Myers Flat Farm



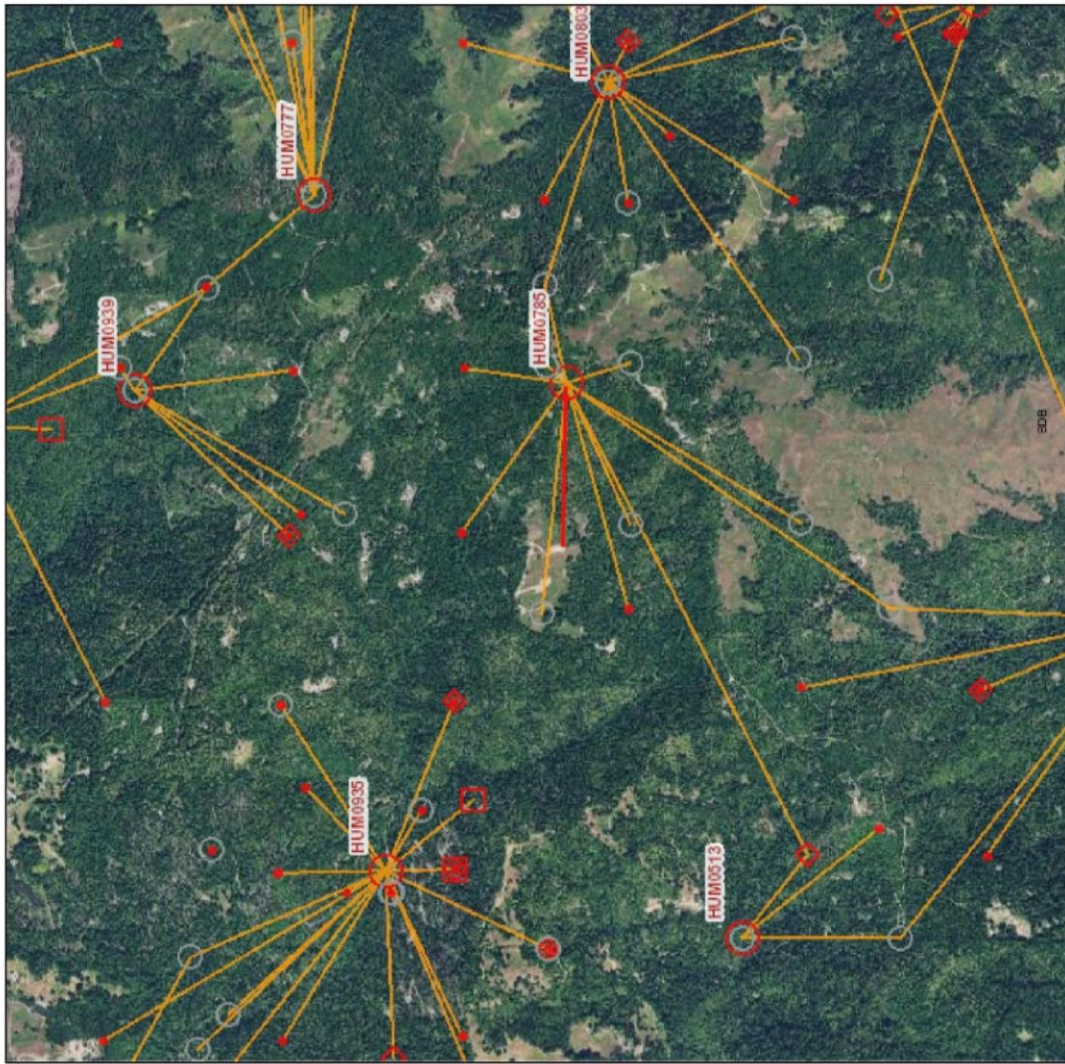
Northern Spotted Owl -
Final Critical Habitat -
USFWS [ds156]



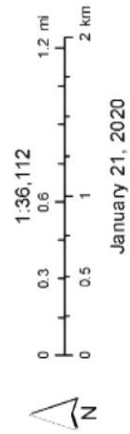
Author: cradib_com@dfg.ca.gov
Printed from <http://bos.dfg.ca.gov>

Figure 5. Nearest NSO Critical Habitat to Mayers Flat Farm

Nearest NSO Activity Center to Myers Flat Farm



- Spotted Owl Observations [ds704]**
- Nest: □
 - Young: +
 - Pair: ◆
 - Other Positive Observation: ●
 - Negative Observation: ○
 - Activity Center: ○
 - Abandoned Activity Center: ○
 - Not Valid Activity Center: X
 - Spotted Owl Observations Spider Diagram [ds705]: |



Author: ccsob.com@gfg.ca.gov
 Printed from <http://obs.fg.ca.gov>

Figure 6. Nearest NSO Activity Center to the Myers Flat Farm Cultivation Site

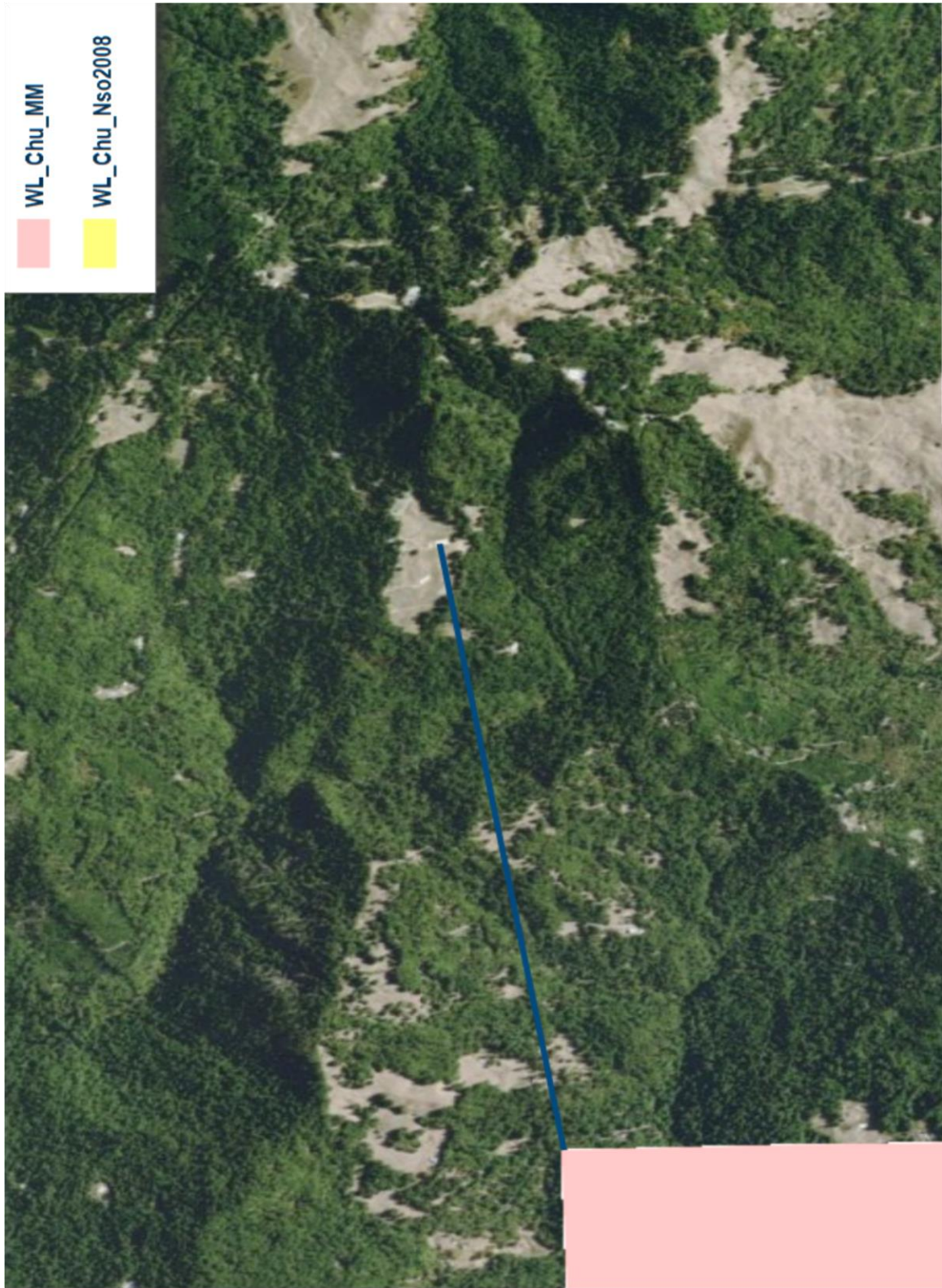


Figure 7. Nearest Marbled Murrelet Critical Habitat to Mayers Flat Farm (~1.7 miles)

Figure 8. Photos of the Myers Flat Farm BAA



1.0 Cultivation Site 1 (closed)



2.0 Additional Photo of Cultivation Site 1



3.0 Cultivation Site 2



4.0 Pond for Cannabis Irrigation



5.0 Small Spring Pond Southeast of Cultivation Site 2



6.0 Oak Woodland Habitat on the BAA



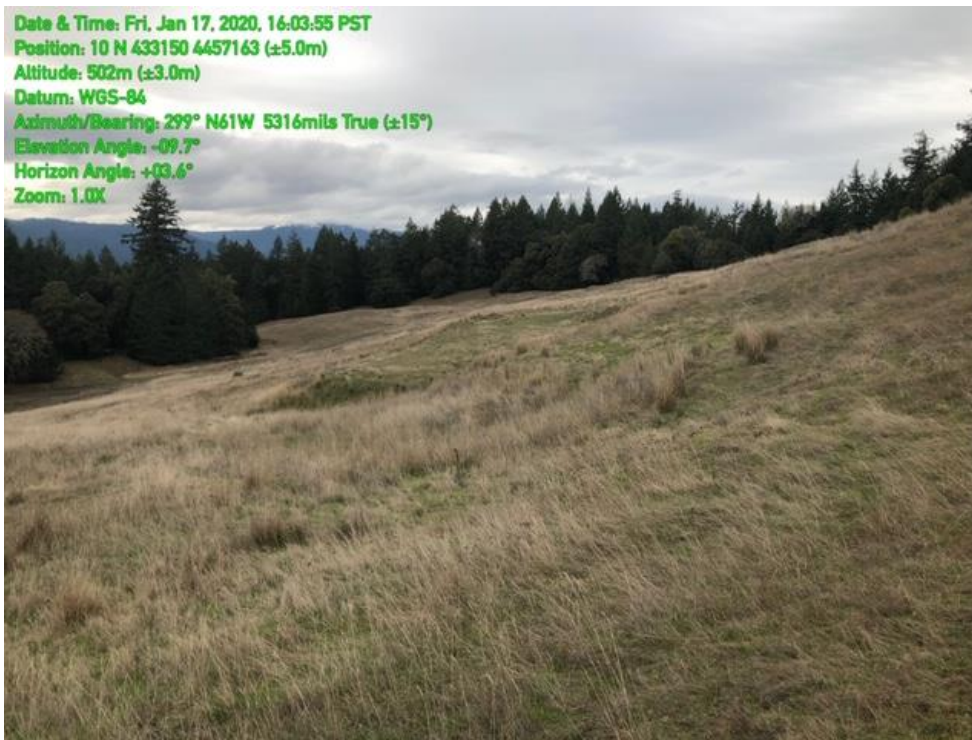
7.0 Forested Habitat on the BAA



8.0 Example of Larger Conifer on the BAA



8.0 Example of Hardwood Tree Size



10.0 Open Grassland on the BAA



11.0 Tributary to Elk Creek



12.0 Elk Creek