

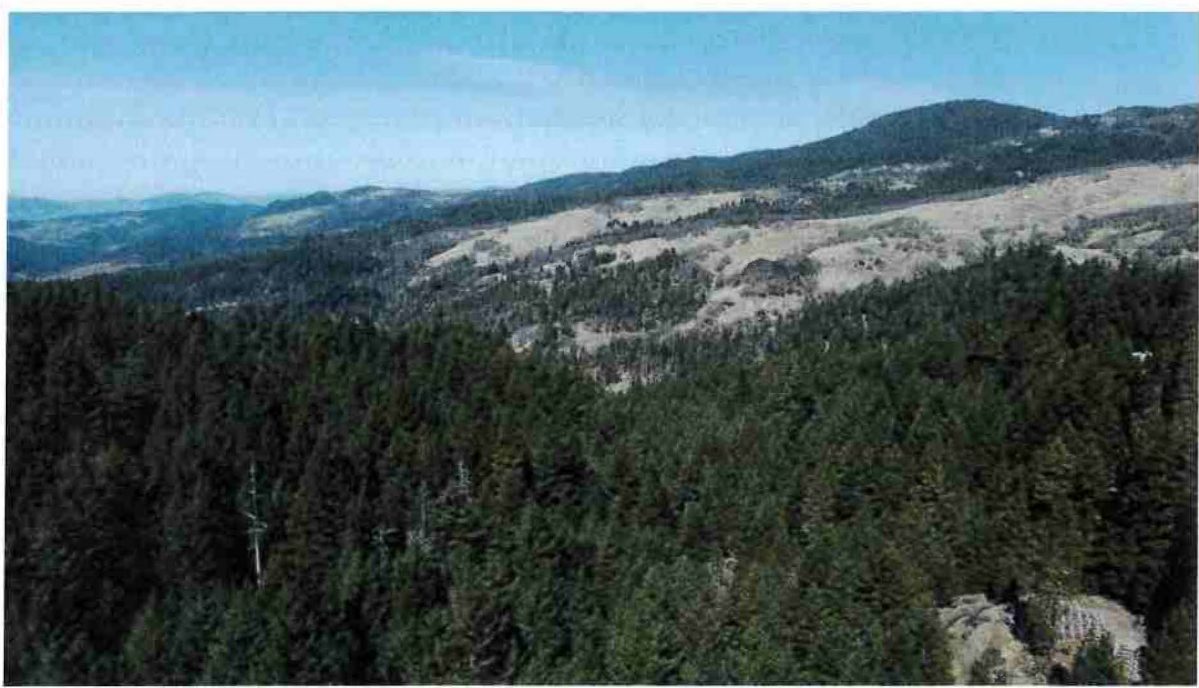


# A Biological Assessment for Commercial Cannabis Cultivation

*For*

Curtis Tatum – Maui’84 Property  
Burr Valley Road  
APN 210-144-014  
APN 210-144-015

**CONFIDENTIAL**



*Prepared by:*

Brit O'Brien - Wildlife Biologist  
O'Brien Biological Consultants  
2407 Frank St.  
Eureka, CA 95501  
707.845.6627

**CONFIDENTIAL**

*Prepared for:*

Timberland Resource Consultants  
165 So. Fortuna Blvd.  
Fortuna, CA 95540  
707.725.1897

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## **1.0 Introduction**

### **1.1 Purpose and Need**

This biological assessment has been prepared for a commercial cannabis permit for two Curtis Tatum properties, APN's 210-144-014 and 210-144-015, known as respectively as Maui/'84, on Burr Valley Road, Dinsmore, CA.

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 biological resources from existing or proposed cannabis cultivation operations.

### **1.2 Project Sites and Biological Assessment Area**

The project sites are defined as the six cultivation areas, A-F located within the ~ 74-acre property under ownership of Tatum. The biological assessment area (BAA) is defined as the entire 74-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.

### **2.2.4 Invasive Species**

Invasive plant and animal species can impact wildlife by competing with or replacing native species. This may degrade 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.

## **3.0 Methods**

### **3.1 Field Observations**

All field data was recorded by Wildlife Biologist Brit O'Brien on March 3rd, 2021, 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 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 June query of the California Natural Diversity Database (CNDDDB) for any sensitive species detections within 9 quadrangles, of which the Dinsmore quad is at the center (CDFW 2021). These quadrangles also include Showers Mtn., Blake Mountain, Hyampom, Larabee Valley, Sportshaven, Blocksburg, Black Lassic, and Ruth Reservoir. A general habitat assessment was performed as well. Given the habitat types listed within the BAA, a species list was developed for animals and plants utilizing the following: CDFW Endangered and Threatened Species, Special Animals List (April 2021), Special Vascular Plants Bryophytes and Lichens List (April 2021), and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California. 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):

IA -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)

## **4.0 Results and Discussion**

### **4.1 BAA Description**

The BAA consists of the 2 parcels totaling approximately ~ 74 acres under Tatum's ownership. Terrestrial habitat on the property is mostly early to mid-age forest of the Douglas Fir Alliance, (Sawyer *et al*, 2009)), including common tree species Douglas Fir (*Pseudotsuga menziesii*), Ponderosa Pine, (*Pinus ponderosa*), Madrone (*Arbutus menziesii*), Tanoak (*Notholithocarpus densiflorus*), Oregon White Oak (*Quercus garryana*), California Black Oak (*Quercus kelloggii*), and Canyon Live Oak (*Quercus chrysolepis*),. Some portions of the forest are interspersed with small grassland areas, rocky outcrops, and likely some serpentine soils. Annual mean rainfall in northern coastal California regions is ~ 40" (WRCC), although some areas may receive more than twice that amount. Elevation ranges from ~3,600 to ~4,000 feet above sea level. Measured slopes in the BAA vary from 5% to 35%. The BAA contains limited aquatic habitat in the form of springs and intermittent stream habitat. The northern portion (~1/2) of the property drains to Dairy creek; the southern portion of the property drains to Panther creek. Both creeks are tributaries of the little Van Duzen river, Van Duzen river, and ultimately, the main-stem Eel river. Photos of the BAA are included (Figure 8).



The BAA primarily contains two soil types: **461**, Tannin-Burgsblock-Rockyglen complex, 30 to 50% slopes; **4426**, Pasturerock-Coyoterock-Maneze complex, 15-50% slopes, dry (Figures 3, 3A, 3B).

Land use on the BAA is currently restricted to cannabis cultivation. There was a Timber Harvest Plan conducted on the property in 1994. The biological assessment site visit conducted on March 3rd, 2021 included an inventory of wildlife species observed. Eight species of birds were observed or heard. The species detected were Dark-Eyed Junco, Scrub Jay, Common Raven, Spotted Towhee, Hairy Woodpecker, Northern Flicker, Turkey Vulture, and Red-Tailed Hawk. None of these species are considered sensitive. No reptiles, amphibians, or mammals were observed. Raptor nests were not discovered during the visit. No invasive plant species were noted at any of the cultivation or residential sites, or along most roads.

## **4.2 Site Descriptions**

The property is assessed at 80 acres, consisting of two parcels located approximately 6 miles south of Dinsmore, CA (Figure 1). Existing development is limited to the road network, the six cannabis cultivation sites A-F, a residence, water storage tanks, and associated processing and storage buildings. Sites A, B, D, and F are located stable flats with no nearby springs or watercourses. At site C, an existing spring above the site is causing some erosion to the access road. Site E was established adjacent to a skid road and along an intermittent watercourse. Under current conditions the Class III watercourse runs around and immediately adjacent to site E and the associated water storage tanks.

## **4.3 Commercial Cannabis Cultivation**

The cannabis cultivation occurs only at the six existing sites located in the northwest and southeast portions of the parcel (Figure 2). All of the sites use natural light and seasonal 'hoop' houses or outdoor cultivation. All of the sites are fenced to exclude wildlife, and they all have storage sheds available. All cannabis irrigation is applied by hand at agronomic rates to minimize runoff.

## **4.4 Sensitive Biological Communities**

### **4.4.1 Aquatic Habitats**

The BAA includes a number of springs and several Class III intermittent streams, tributaries of little Van Duzen river and ultimately the main-stem Eel river. These intermittent streams may provide flowing water as habitat for aquatic species for likely only a portion of the year. The streams have coarse sediment beds with low and moderate slope gradients and low to moderate canopy cover over most of their runs. These stream systems may provide habitat for wildlife such as Coastal Giant Salamander (*Dicamptodon tenebrosus*), and Foothills Yellow-Legged Frog (*Rana boylei*). The Eel river and Van Duzen river provide habitat for Summer-run Steelhead (*Onchorhynchus mykiss irideus*, Klamath Mountains Province DPS), Chinook Salmon (*Onchorhynchus tshawytscha*, Coastal California ESU, Pop. 17), and Western Pond Turtle (*Emys marmoratus*). 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 Forest Alliance (Sawyer *et al*, 2009).

#### 4.4.2 Wetlands

The BAA 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 review of the USFWS National Wetlands Inventory indicates there is low potential for a seasonal wetland on the property. No wetland areas were observed in the project area during the March 3<sup>rd</sup>, 2021 visit. However, many springs can be found on the property, on both the Dairy and Panther creek drainages.

#### 4.4.3 Sensitive Natural Communities

No known Sensitive Natural Communities of state-ranking S1 or S2 were reported by CNDDDB within the BAA. The dominant vegetation 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

**Northern Goshawk** (*Accipiter gentilis*)

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

**Habitat:** Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, often near water. Large Douglas Fir, Red fir, Lodgepole pine, Jeffrey pine, and aspens are typical nest trees.

**Status within BAA:** No listed occurrences within the BAA. There were occurrences within three of the 9-quad CNDDDB report; Blake Mountain, Dinsmore, and Blocksburg. Suitable nesting habitat may 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:** Broadleaved upland forest, Cismontane woodland, Coastal prairie: Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.

**Status within BAA:** No listed occurrences within the BAA. There was an unprocessed occurrence within one quad of the 9-quad CNDDDB report: Sportshaven. Suitable nesting habitat likely does not exist 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. There are occurrences within three quads of the 9-quad CNDDDB report; Sportshaven, Hyampom, and Ruth Reservoir. Suitable nesting habitat likely does not exist within the BAA.

**Marbled Murrelet** (*Brachyramphus marmoratus*)

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

**Habitat:** Forages at-sea near shore; nests inland along pacific coast from southeast Alaska to Santa Cruz. Nests in primarily old-growth redwood or Douglas Fir forests, up to 40 miles inland from coast.

**Status within BAA:** No occurrences within the BAA. No listed occurrences within the 9-quad CNDDDB report, Suitable nesting habitat does not exist 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 on a ledge in an open site.

**Status within BAA:** No listed occurrences within the BAA. There was an occurrence within one quad of the 9-quad CNDDDB report, Larabee Valley. Suitable nesting habitat does not exist within the BAA.

**Prairie Falcon** (*Falco Mexicanus*)

**Status:** CDFW - none; Federal status – None; State status – Threatened; State rank- S2

**Habitat:** Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.



**Status within BAA:** No listed occurrences within the BAA. One unprocessed occurrence within the 9-quad CNDDDB report, Ruth Reservoir. Suitable nesting habitat may exist within the BAA.

**Yellow-breasted Chat** (*Icteria virens*)

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

**Habitat:** 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:** No occurrences within the BAA. One listed occurrence within the 9-quad CNDDDB report in the Myers Flat quad. Possible suitable nesting habitat may potentially exist within the BAA.

**Yellow Warbler** (*Setophaga petechia*)

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

**Habitat:** Riparian 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 are no occurrence within the 9-quad CNDDDB report. Suitable nesting habitat 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**

**Willow Flycatcher** (*Empidonax traillii*)

**Status:** CDFW – none; Federal status – none; State status – endangered; State rank – S1, S2

**Habitat:** Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2000-8000 ft elevation. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.



**Status within BAA:** No occurrences within the BAA. There was one unprocessed occurrence within the 9-quad CNDDDB report, in the Dinsmore quad. Suitable nesting habitat likely does not exist within the BAA.

#### 4.5.2 Amphibian Species of Special Concern

##### **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 occurrences within all quads in the 9 quad CNDDDB report, with the exception of Showers Mtn. Potential suitable habitat may exist within the BAA.

##### **Pacific Tailed Frog** (*Ascaphus truei*)

**Status:** CDFW– 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 occurrences within one quad of the 9-quad CNDDDB report in the Hyampom, Larabee Valley, and Sportshaven quads. Potential suitable habitat may exist within the BAA.

##### **Northern Red-Legged Frog** (*Rana aurora*)

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

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

**Status within BAA:** No listed occurrences within the BAA. There were historical occurrences in two of the 9-quad CNDDDB report, the Larabee Valley and Blocksburg quads. Potential suitable habitat does not likely exist 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:** No listed occurrences within the BAA. There were occurrences within 2 quads of the 9-quad CNDDDB report, in Larabee Valley and Sportshaven, Potential suitable habitat may exist 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:** No listed occurrences within the BAA. There were occurrences in six of nine quads of the 9-quad CNDDDB report, in Sportshaven, Dinsmore, Hyampom, Larabee Valley, Ruth Reservoir, and Blocksburg. Potential suitable habitat may exist within the BAA.

**4.5.3 Animal Species of Special Concern**

**Sonoma Tree Vole** (*Arborimus pomo*)

**Status:** CDFW – 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 occurrences within three quads of the 9-quad CNDDDB report, Dinsmore, Sportshaven, Hyampom, and Larabee Valley. Potential suitable habitat likely does not exist within the BAA.

**Humboldt Marten** (*Martes caurina humboldtensis*)

**Status:** CDFW – SSC; Federal status – none; State status–Endangered (Candidate); 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 were no occurrences within the 9-quad CNDDDB report. Potential suitable habitat does not likely 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:** No listed occurrences within the BAA. There were occurrences within four of the 9-quad CNDDDB report, Ruth Reservoir, Sportshaven, Larabee Valley, Hyampom. Potential suitable habitat may exist within the BAA.

**American Badger** (*Taxidea taxus*)

**Status:** CDFW – SSC; Federal and State status – none; State rank – 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 listed occurrences within the 9-quad CNDDDB report, in the Larabee Valley and Ruth Reservoir quads. Potential suitable habitat does not likely exist 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 no listed occurrences within the 9-quad CNDDDB report, Hyampom and Blake Mountain. Potential suitable habitat may 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, 20-40 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 were no listed occurrences within the 9-quad CNDDDB report. Potential suitable habitat does not exist within the BAA.

**Pallid Bat** (*Antrozous pallidus*)

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

**Habitat:** Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.

**Status within BAA:** No listed occurrences within the BAA. There were occurrences within one quad of the 9-quad CNDDDB report, Hyampom. Potential suitable habitat may exist within the BAA.

#### **North American Porcupine (*Taxidea taxus*)**

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

**Habitat:** Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges.

**Status within BAA:** No listed occurrences within the BAA. There were five listed occurrences within the 9-quad CNDDDB report in Black Lassic, Miranda, Alderpoint, Bridgeville and Dinsmore quads. Potential suitable habitat may exist within the BAA.

### **4.5.4 Fish Species of Special Concern**

#### **Coho Salmon - Southern Oregon / Northern California ESU (*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:** No listed occurrences within the BAA. There were occurrences in two quads within the 9-quad CNDDDB report, Larabee Valley and Hyampom. Suitable habitat does not exist within the BAA.

#### **Steelhead – Northern California DPS (*Oncorhynchus mykiss irideus*) Pop 1**

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

**Habitat:** Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead. Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer (CDFW 2020).

**Status within BAA:** No listed occurrences within the BAA. There is an unprocessed occurrence within one quad of the 9-quad CNDDDB report, Hyampom. 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 - Threatened; State rank - S2 S3

**Habitat:** Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead. Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer (CDFW 2020).

**Status within BAA:** No listed occurrences within the BAA. There were occurrences within six quads of the 9-quad CNDDDB report, in the Larabee Valley, Showers Mtn., Dinsmore, Ruth Reservoir, Blocksburg, and Black Lassic quads. Potential suitable habitat may exist within the BAA.

**Steelhead – Summer Run Steelhead** (*Oncorhynchus mykiss irideus*) Pop 36

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

**Habitat:** Northern California 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 (CDFW 2020).

**Status within BAA:** There were occurrences in all nine quads within the 9-quad CNDDDB report, Blocksburg, Larabee Valley, Dinsmore, Showers Mtn., Blake Mountain, Black Lassic, Sportshaven, Ruth Reservoir, and Hyampom. 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 was an unprocessed occurrence in one quad within the 9-quad CNDDDB report, Larabee Valley. Potential suitable habitat does not exist within the BAA.

**Chinook salmon - California coastal ESU** (*Oncorhynchus tshawytscha*) Pop 30

**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 two quads within the 9-quad CNDDDB report, Hyampom and Sportshaven. Suitable habitat does not exist within the BAA.

#### 4.5.5 Insect Species of Special Concern

##### Western Bumble Bee (*Bombus occidentalis*)

**Status:** CDFW- None; Federal status - none; State status– candidate endangered; 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. This 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 precipitous declines throughout portions of its historical range, especially within the pacific states.

**Status within the BAA:** No listed occurrences within the BAA. There is an unprocessed occurrence within one quad of the 9-quad CNDDDB report, Sportshaven. Potential suitable habitat may exist on the BAA.

#### 4.5.5 Plant Species of Special Concern

<u><i>Calycadenia micrantha</i></u>	Small-flowered calycadenia	
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Blake Mountain, Sportshaven		
Documented in BAA - no		Potential Habitat in BAA - unlikely
Habitat – Chaparral, valley and foothill grassland, meadows and seeps.		
Rocky talus or scree; sparsely vegetated areas. occasionally on roadsides; sometimes on serpentine. 435-1405		

<u><i>Anisocarpus scabridus</i></u>	Scabrid alpine tarplant	
Fed status – none	State status – none	CA rare plant rank – 1B.3
USGS 7.5' Quad – Black Lassic		
Documented in BAA - no		Potential Habitat in BAA - No

Habitat – Upper montane coniferous forest. Open stony ridges, metamorphic scree slopes of mountain peaks, and cliffs in or near red fir forest. 1550-2350 m

<u>Carex praticola</u>	Northern meadow sedge	
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Black Lassic		
Documented in BAA - no		Potential Habitat in BAA - Unlikely
Habitat – Meadows and seeps. Moist to wet meadows.		

<u>Iliamna latibracteata</u>	California Globe Mallow	
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Black Lassic		
Documented in BAA - no		Potential Habitat in BAA - Yes
Habitat – North coast coniferous forest, chaparral, lower montane coniferous forest, riparian scrub (streambanks). Seepage areas in silty clay loam. 60-1655 m.		

<u>Astragalus umbraticus</u>	Bald Mountain milk-vetch	
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Showers Mtn.		
Documented in BAA - no		Potential Habitat in BAA - Unlikely
Habitat – Cismontane woodland, lower montane coniferous forest. Dry open oak and pine woodlands. sometimes on roadsides. 210-1220 m.		

<u>Erigeron maniopotamicus</u>	Mad River fleabane daisy	
Fed status – none	State status – none	CA rare plant rank – 1B.2

USGS 7.5' Quad – Dinsmore		
Documented in BAA - no	Potential Habitat in BAA - Likely	
Habitat – Meadows and seeps (open and dry), lower montane coniferous forest. Open slopes, disturbed areas (road cuts); tan-colored, rocky soils. 1280-1505 m.		

<u>Harmonia doris-nilesiae</u>		Niles Harmonia
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Hyampom		
Documented in BAA - no	Potential Habitat in BAA - Unlikely	
Habitat – Lower montane coniferous forest, chaparral, cismontane woodland. Serpentine barrens. 650-1660 m.		

<u>Erythranthe trinitensis</u>		Pink-margined monkeyflower
Fed status – none	State status – none	CA rare plant rank – 1B.3
USGS 7.5' Quad – Hyampom		
Documented in BAA - no	Potential Habitat in BAA - Unlikely	
Habitat – Lower montane coniferous forest, upper montane coniferous forest, cismontane woodland, meadows and seeps. Often on serpentine and along roadsides. 1370-1950 m.		

<u>Navarretia leucocephala ssp. bakeri</u>		Baker's navarretia
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Hyampom		
Documented in BAA - no	Potential Habitat in BAA - Unlikely	
Habitat - Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 3-1680 m.		

<u>Howellia aquatilis</u>	Water howellia
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Fed status – threatened	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Black Lassic		
Documented in BAA - no	Potential Habitat in BAA - No	
Habitat – Freshwater marshes and swamps. In clear ponds with other aquatics and surrounded by ponderosa pine forest and sometimes riparian associates. 1080-1375 m.		

<u><i>Sabulina decumbens</i></u>		The Lassics sandwort
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Black Lassic		
Documented in BAA - no	Potential Habitat in BAA - Unlikely	
Habitat – Lower montane coniferous forest, upper montane coniferous forest. Endemic to serpentine soils. Only known from upper, north-facing slopes under Jeffrey pines. 1580-1680 m.		

<u><i>Arctostaphylos manzanita ssp. elegans</i></u>		Konocti manzanita
Fed status – none	State status – none	CA rare plant rank – 1B.3
USGS 7.5' Quad – Dinsmore		
Documented in BAA - no	Potential Habitat in BAA - Unlikely	
Habitat – Chaparral, cismontane woodland, lower montane coniferous forest. Volcanic soils. 225-1830 m.		

<u><i>Hosackia vollaболиensis</i></u>		Yolla Bolly Mtns. bird's-foot trefoil
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Dinsmore, Sportshaven, Hyampom, Blake Mountain		
Documented in BAA - no	Potential Habitat in BAA - Likely	
Habitat – Upper montane coniferous forest, meadows and seeps. 1580-2135 m.		

<u><i>Lathyrus biflorus</i></u>		Two flowered pea
Fed status – none	State status – none	CA rare plant rank – 1B.1
USGS 7.5' Quad – Dinsmore		
Documented in BAA - no		Potential Habitat in BAA - Yes
Habitat – Lower montane coniferous forest. Endemic to serpentine soils. 1370-1385 m.		

<u><i>Lupinus constancei</i></u>		The Lassics lupine
Fed status – none	State status – none	CA rare plant rank – 1B.1
USGS 7.5' Quad – Black Lassic		
Documented in BAA - no		Potential Habitat in BAA - No
Habitat – Lower montane coniferous forest. Serpentine barrens. 1500-2000 m.		

<u><i>Lupinus elmeri</i></u>		South Fork Mountain Lupine
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Blake Mountain, Hyampom, Sportshaven		
Documented in BAA - no		Potential Habitat in BAA - Unlikely
Habitat – Lower montane coniferous forest, 1340-1800 m.		

<u><i>Erythronium revolutum</i></u>		Coast fawn lily
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Black Lassic, Dinsmore		
Documented in BAA - no		Potential Habitat in BAA - Yes
Habitat – Streambanks, bogs, and wet redwood and mixed evergreen forest understory.		

<u><i>Thermopsis robusta</i></u>		Robust false lupine
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Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Blake Mountain		
Documented in BAA - no	Potential Habitat in BAA - Likely	
Habitat – North Coast coniferous forest, broad-leafed upland forest. Ridgetops; sometimes on serpentine. 365-1405 m.		

<u>Montia howellii</u>	Howell's montia	
Fed status – none	State status – none	CA rare plant rank – 2B.2
USGS 7.5' Quad – Blocksburg, Larabee Valley		
Documented in BAA - no	Potential Habitat in BAA - Likely	
Habitat – Meadows and seeps, north coast coniferous forest, vernal pools		

<u>Piperia candida</u>	White-flowered rein orchid	
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Blake Mountain, Showers Mtn., Larabee Valley, Hyampom		
Documented in BAA - no	Potential Habitat in BAA - Likely	
Habitat – North Coast coniferous forest, lower montane coniferous forest, broad-leafed upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m.		

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

<u>Sanicula tracyi</u>	Tracy's Sanicle	
Fed status – none	State status – none	CA rare plant rank – 4.2

USGS 7.5' Quad – Sportshaven, Dinsmore, Larabee Valley, Showers Mtn., Blake Mountain, Ruth Reservoir, Black Lassic		
Documented in BAA - no	Potential Habitat in BAA - Likely	
Habitat - Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m. Dry gravelly slopes or flats, usually in or at the margin of oak woodland with scattered trees. In openings. 100-1585 m.		

<i>Gilia capitata ssp. pacifica</i>		Pacific gilia
Fed status – none	State status – none	CA rare plant rank – 1B.2
USGS 7.5' Quad – Dinsmore		
Documented in BAA - no	Potential Habitat in BAA - Likely	
Habitat – Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 5-1345 m.		

#### 4.6 Potential Impacts

##### 4.6.1 Northern Spotted Owl

The cannabis cultivation process at the Tatum property will be restricted to the existing roadways, cultivation sites, and the associated storage and processing buildings. 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 pumps, ATVs, construction equipment, 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 specific 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 (e.g., bird calls, light breezes through vegetation, distant stream flow). Typical sources of sounds in this situation are larger gas-powered engines, large generators, amplified music, ATVs and small trucks at moderate speed on improved trails, and large chain saws."



This scenario 3 closely approximates the typical ambient background noise at the site, and the potential action-generated noise from the cultivation activities.

Under scenario 3, the predicted auditory disturbance distance that may impact nesting Spotted Owls is 300 meters with low ambient sounds at the site. The predicted disturbance distance drops to 100 meters with moderate ambient background noise at the site. The visual line-of-sight disturbance distance for nests is a maximum 100 meters, or less if vegetation obscures a direct view of the nest.

The Tatum BAA generally does not have forested habitat to support Spotted Owl nesting/roosting. Much of the forest on the BAA is relatively young and open and insufficient to provide the core closed-canopy habitat nesting NSO generally prefer. The mixed conifer/hardwood open forest does provide quality foraging habitat.

The nearest critical habitat for the spotted owl is approximately 1.5 miles to the east from the nearest cultivation site (Figure 5). The nearest known spotted owl activity center (HUM0548) is approximately 0.5 miles to the northwest of the nearest cultivation site (Figure 6).

Based on the relatively low-impact cultivation activities, the maximum estimated auditory disturbance distance of 300 meters, a visual disturbance distance of 100 meters, and the fact that the nearest activity center is > 0.5 miles to the northwest, there is little potential likelihood of significant impact to Spotted Owl nesting habitat. Foraging habitat will remain widely available for NSO both on and off the BAA.

#### **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 Tatum property does not generally have trees of sufficient age or canopy complexity to support breeding marbled murrelets. The nearest potential breeding habitat for marbled murrelets is approximately 3.5 miles to the west (Figure 7). There is very likely no potential murrelet nesting habitat located on the BAA.

#### **4.6.3 Sensitive/Nesting Birds**

Cultivation activities at the existing project sites are unlikely to disturb nesting or sensitive birds, as impacts would be limited to noise disturbance only. As the cultivation is located in seasonal greenhouses or on open ground, generally away from potential nesting habitat, minimal noise disturbance should be expected. If any significant vegetation removal or habitat conversion is proposed during the bird nesting season, generally March 1<sup>st</sup> to August 31<sup>st</sup>, nesting bird surveys should be considered.

#### **4.6.4 Sensitive Fish/Amphibians**

Aquatic habitat on the BAA consists primarily of springs and intermittent stream habitat. The previous timber harvest in 1994 has left some springs and watercourses with interrupted and confused flows.

At cultivation site C, flow from a nearby spring has caused some watercourse erosion across the road (Photo 8). As other springs are located adjacent to and downslope from this site, there is discontinuous flow from these areas into the upper portion of Dairy creek. To prevent further erosion from the access road and to protect water quality in Dairy creek, Site C should be

considered for closure and restoration.

Cultivation Site E is located within the upper portions of an intermittent Class III watercourse, as are the adjacent water storage tanks. Site E should be closed and restored to a native watercourse and the water tanks removed from the site (Photos 39-41). These measures should help protect downstream water quality in Panther creek

Any site closures and restorations should take place outside of the wet season, and any disturbed soils should be protected from erosion with straw wattles or hay bales as needed.

If the sites with erosion problems are closed and stabilized properly, and the appropriate protective buffer is maintained for the Class III watercourses, there should be no harmful effects to fish or other aquatic species downstream from the cultivation process.

#### **4.6.5 Sensitive Forest Carnivores**

Forest carnivores (Fisher, Humboldt Marten) may use the BAA for foraging as part of a larger home territory. Older mature forests with complex canopies and large downed woody debris are preferred denning areas for these species; the BAA does not provide appropriate habitat for natal dens. As no habitat removal or ground disturbance is currently planned for the BAA, there is a low likelihood of impacts to potential foraging habitats. Fully arboreal mammals such as Sonoma tree voles are unlikely to be impacted from cultivation activities as no tree removal is planned for the BAA.

#### **4.6.6 Sensitive Plants**

The cultivation sites may be associated with populations of sensitive plants, as there are existing populations of Pacific Gilia (*Gilia capitata ssp. pacifica*), Two-flowered pea (*Lathyrus biflorus*), Tracy's Sanicle (*Sanicula tracyi*), and Yolla-Bolly Mtns. Birds-Eye Trefoil (*Hosackia yollabollensis*) within ~ 2 miles of the Tatum property (CNDDDB BIOS report). Habitats favorable for these species and others also may occur on the property. Spring season floristic (botanical) surveys are effective at identifying sensitive plants for protection.

### **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.

All 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 or water protection measures required under LSAA agreements or Water Resource Protection Plans (WRPP's) should be conducted with minimal ground disturbance, and all recommended erosion control (straw bales, fiber rolls, mulch) 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.

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 digging out established plant colonies and removing any new plants or shoots.

Conduct protocol-level, spring season floristic (botanical) surveys for rare plants at cultivation or significant ground disturbance sites. Follow established protocol for blooming-period surveys and submit results to HCPD/CDFW for review. Retain all native vegetation on the BAA where possible.

Any proposed construction or maintenance of roads should occur outside of the critical nesting period for Spotted owls, Feb 1<sup>st</sup> to July 9<sup>th</sup>. If any operations with the potential to disturb Spotted owls are proposed during the critical nesting period, Spotted owl surveys should be conducted 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.

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



## 6.0 References

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Department of Pesticide Regulation (DPR)

<https://humboldt.gov/DocumentCenter/View/53255/Pesticide-Resources---Pest-Management-Practices-for-Marijuana-Growers?bidId=>

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

## **7.0 Appendix**

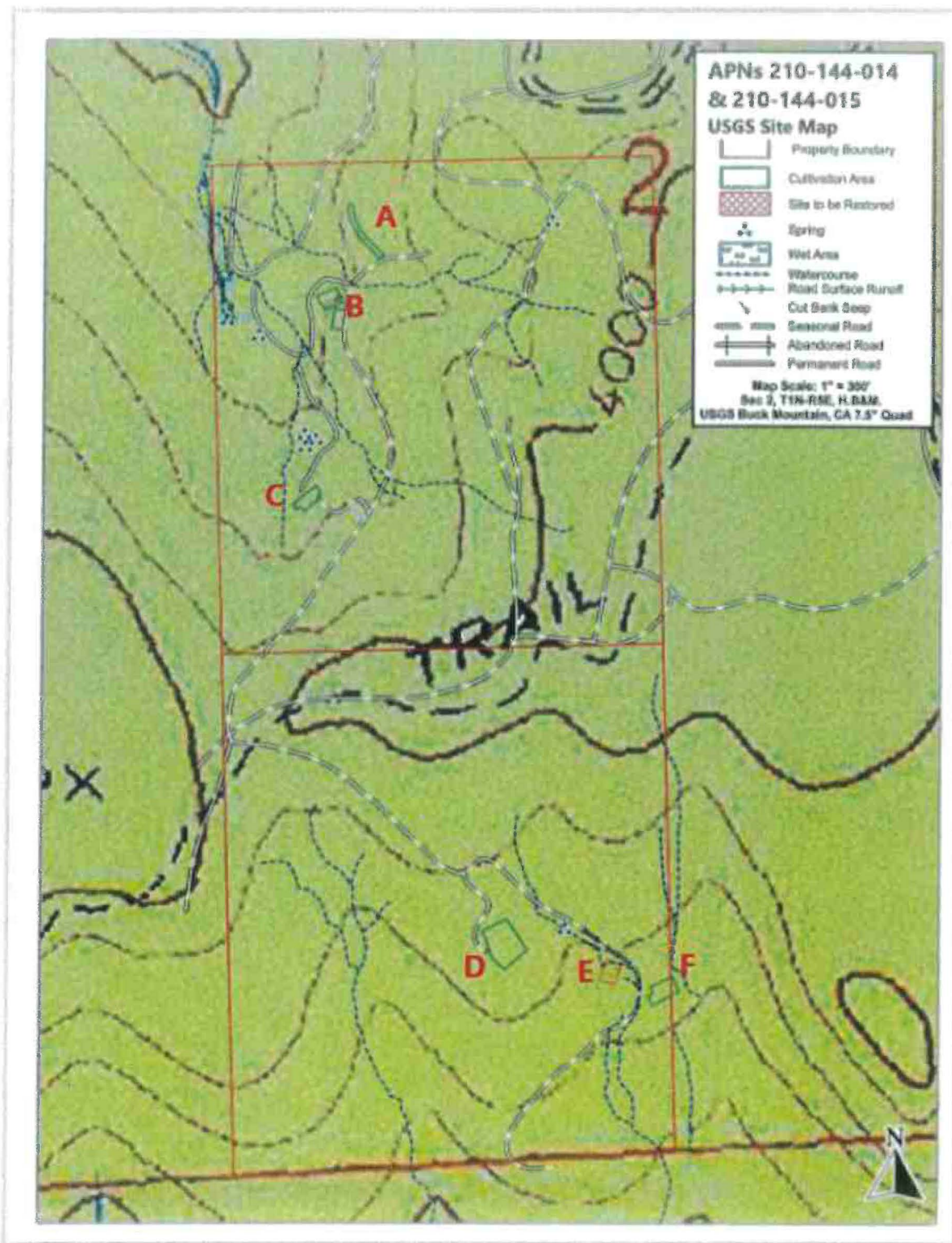


Figure 1. Tatum Topo Parcel Map of Maui/'84 with Cultivation Sites A-F (Courtesy TRC)



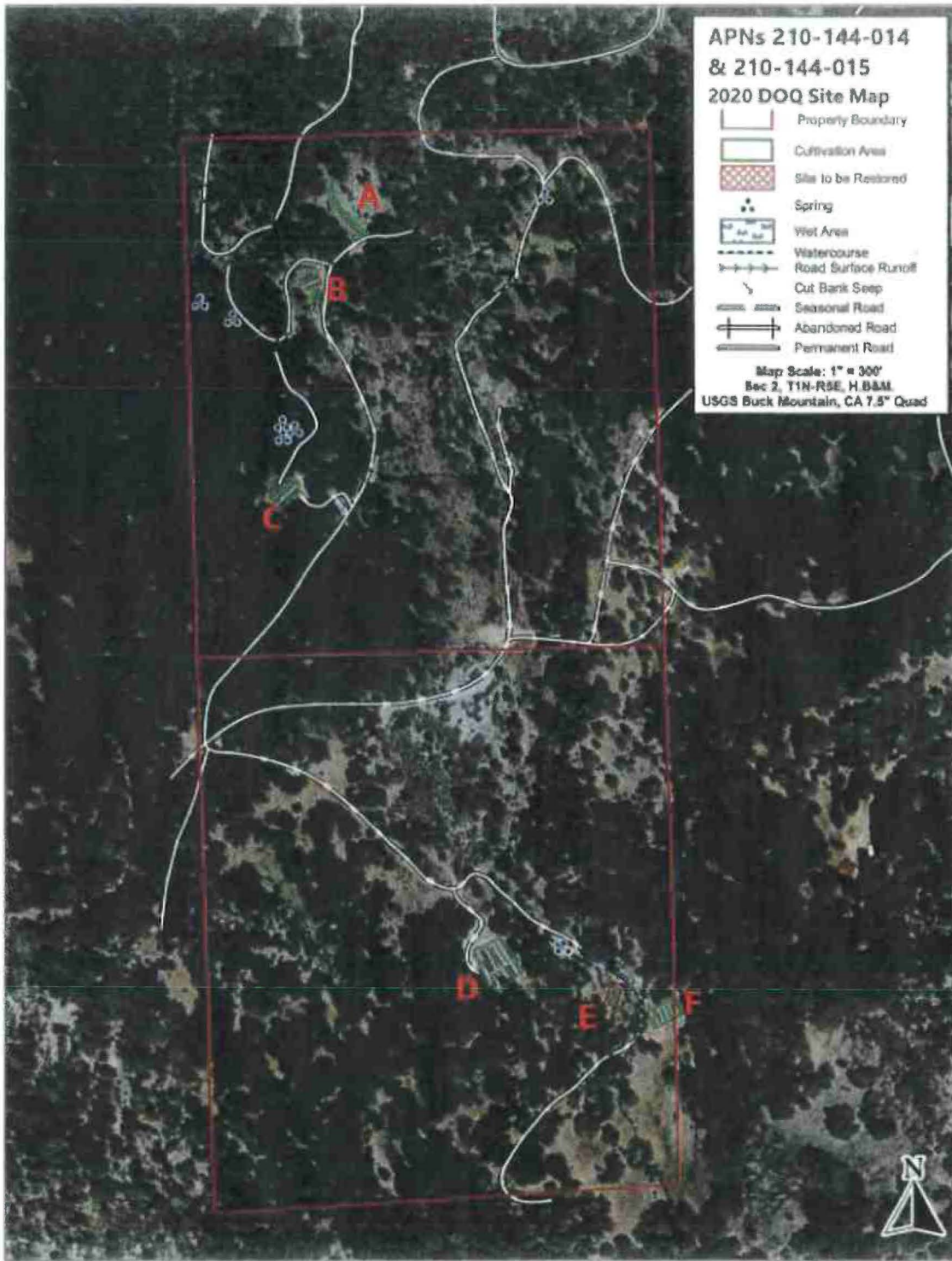


Figure 2. Tatum Photo Parcel Map of Maui/'84 with Cultivation Sites A-F (Courtesy TRC)



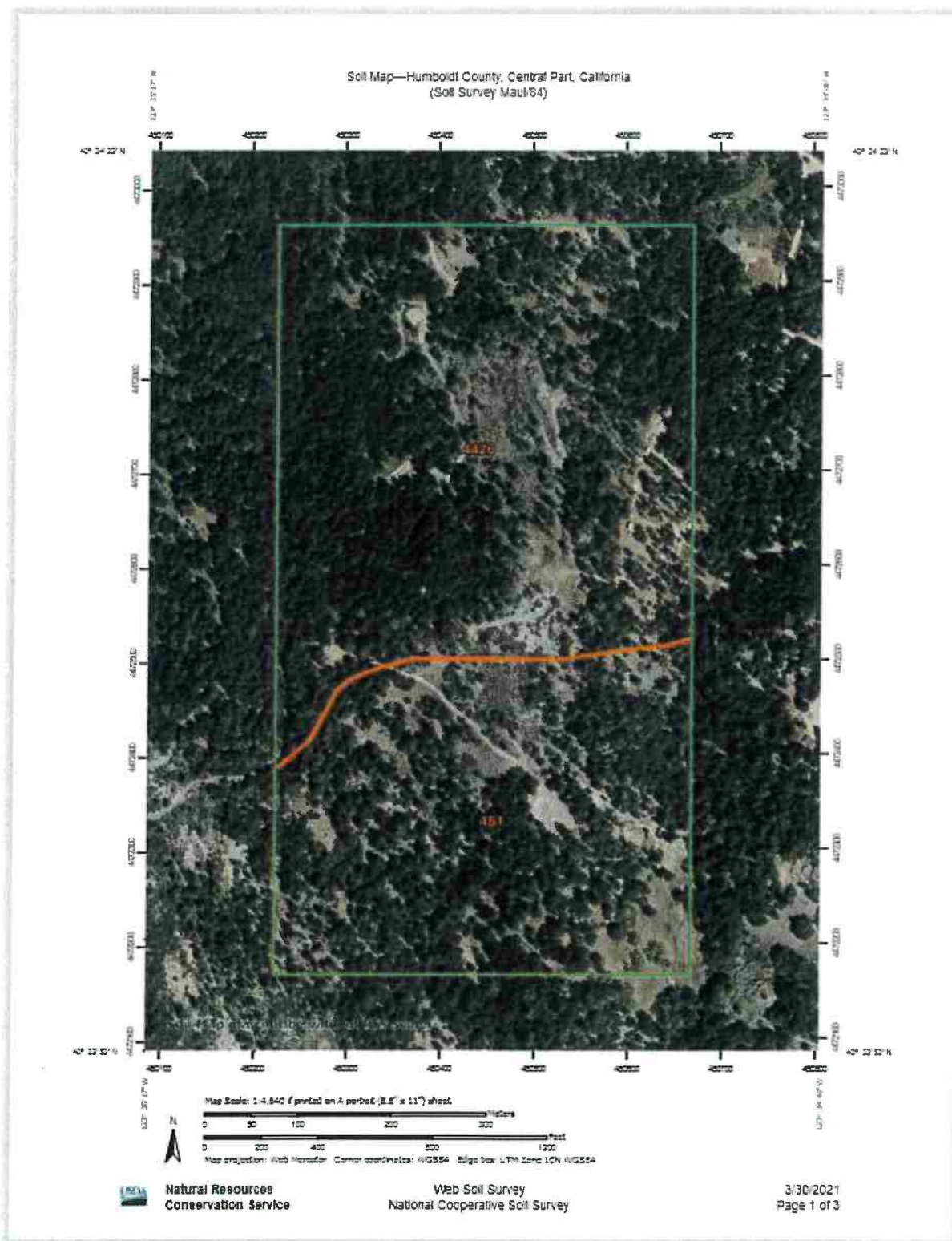
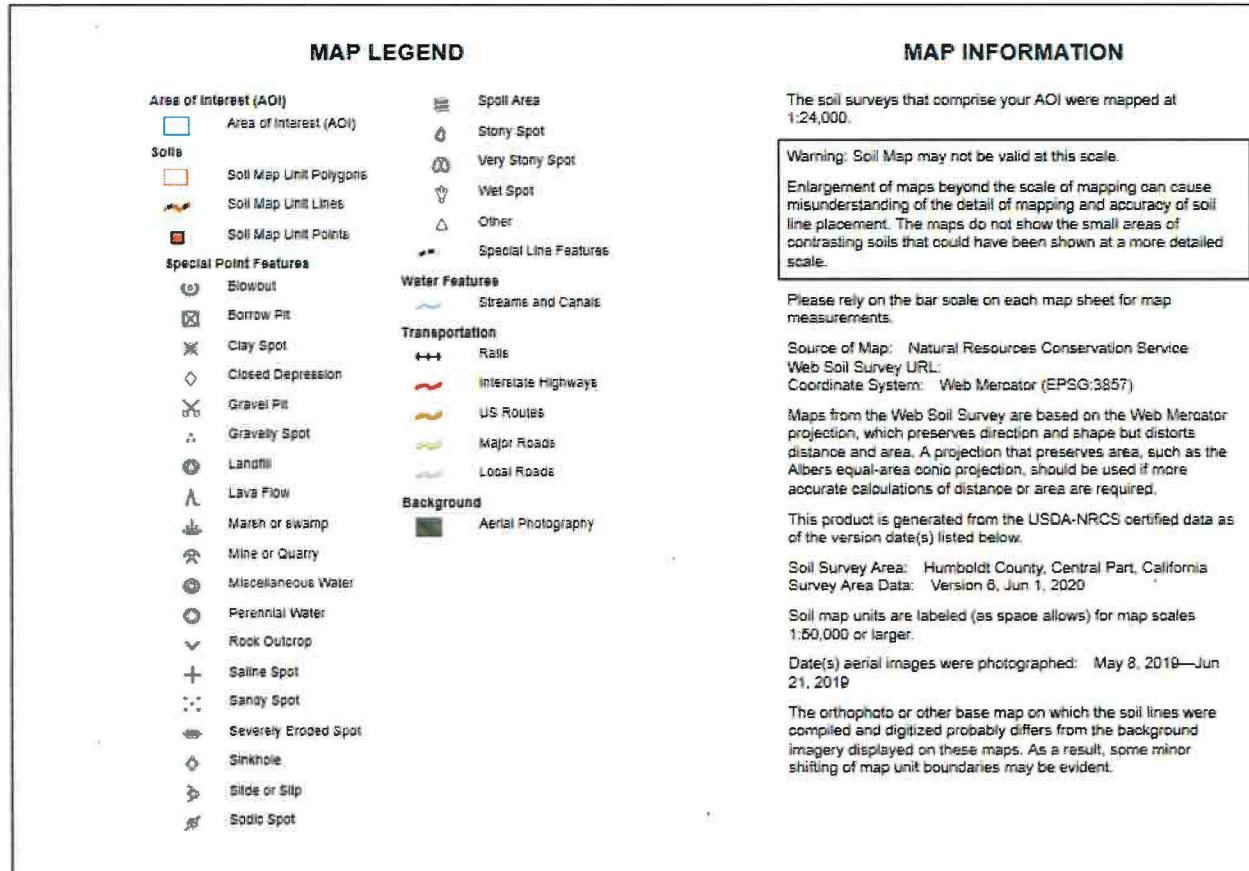


Figure 3. Web Soil Survey for Tatum Property

Figure 3A. Web Soil Survey Map Unit Legend Tatum

Soil Map—Humboldt County, Central Part, California  
(Soil Survey Maui/34)



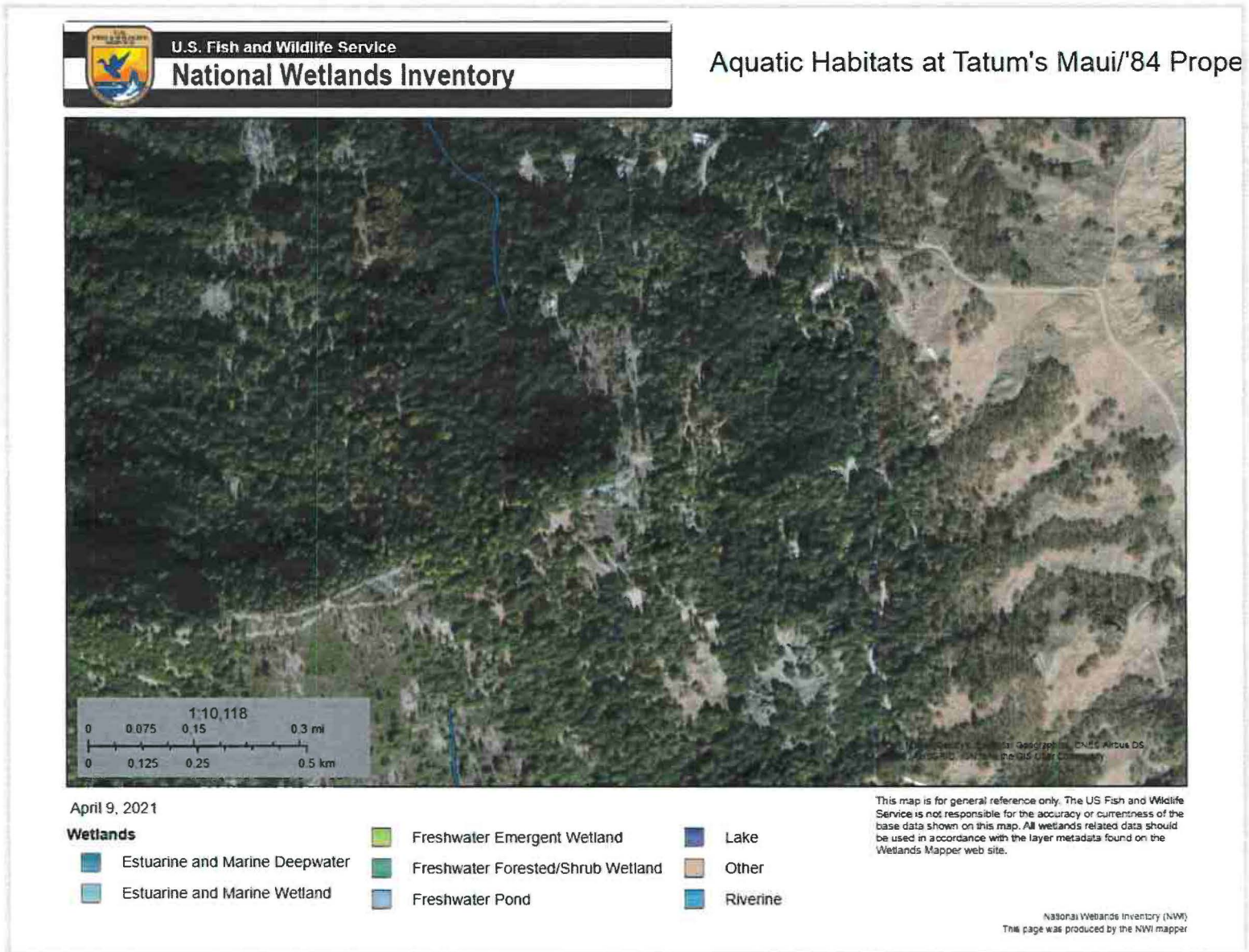
### Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOf	Percent of AOf
451	Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	35.4	40.6%
4426	Pasturerock-Coycterock-Maneze complex, 15 to 50 percent slopes, dry	51.9	59.4%
Totals for Area of Interest		87.3	100.0%

Figure 3B. Map Legend/Map Information Tatum



Figure 4. Aquatic Habitats for Tatum Maui/'84 Property





# Nearest NSO Critical Habitat to Tatum's Maui/'84 Property



Author: wslw@ch2m.com  
Firm: htp://ch2m.com

Figure 5. Nearest NSO Critical Habitat to Tatum's Maui/'84 Property



Figure 6. Nearest NSO Activity Center Location to the Tatum Property



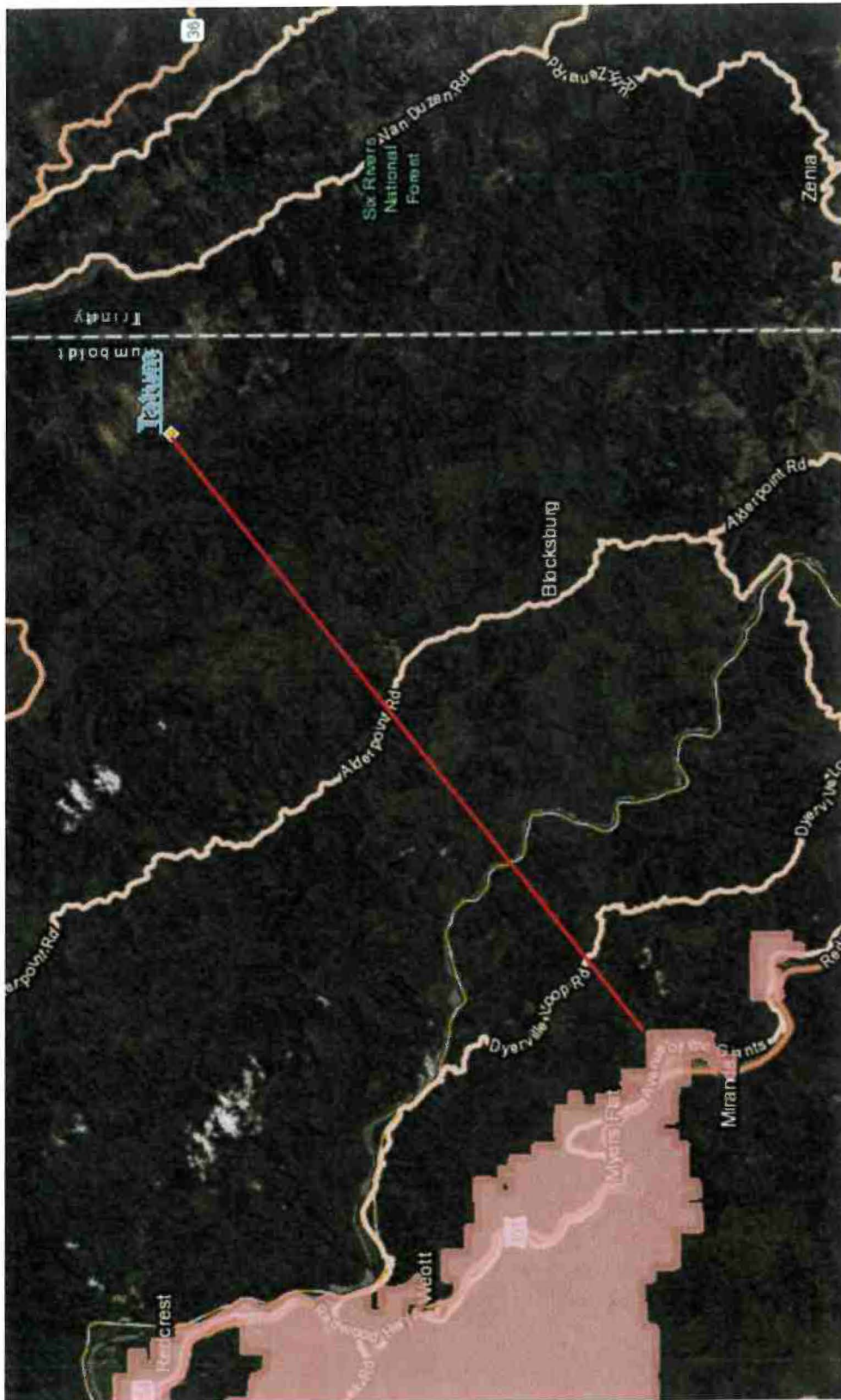
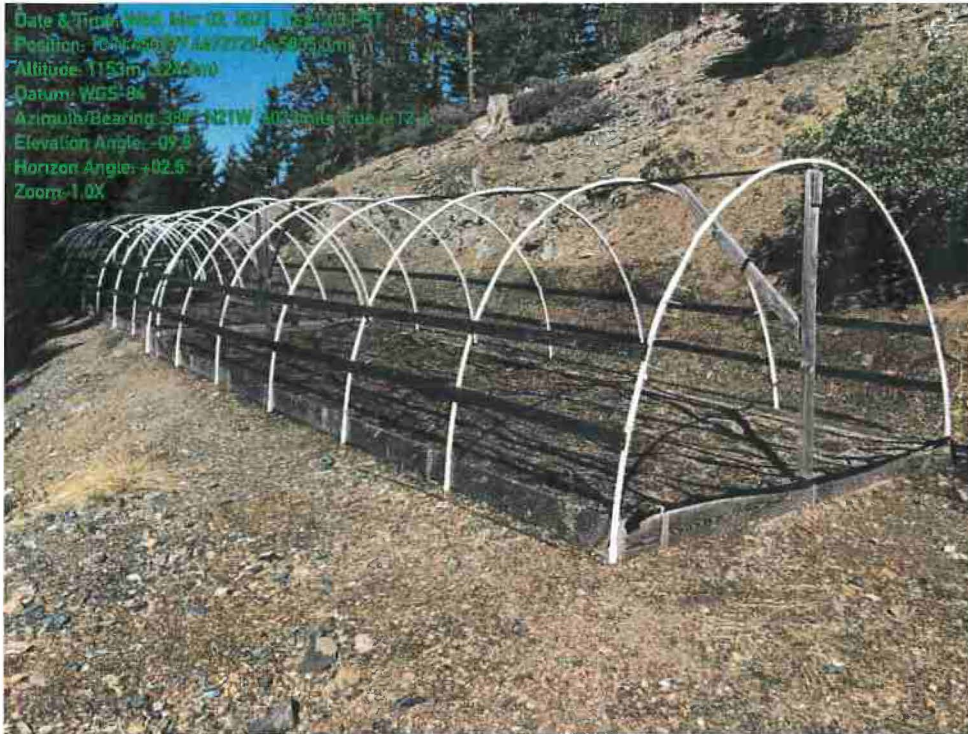


Figure 7. Nearest Marbled Murrelet Critical Habitat to Tatum Property (~15.5 miles)

Figure 8. Photos of the BAA



1.0 Cultivation Site A



2.0 Cultivation Site A





3.0 Cultivation Site B



4.0 Cultivation Site B



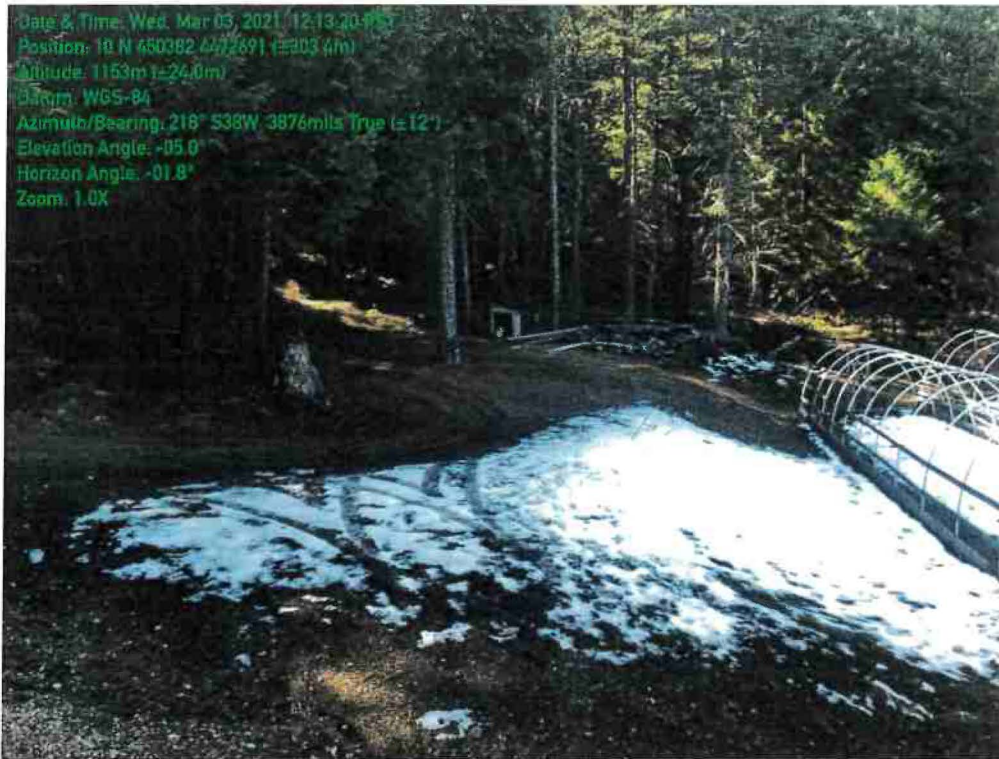


5.0 Cultivation Site B



6.0 Cultivation Site C





7.0 Cultivation Site C

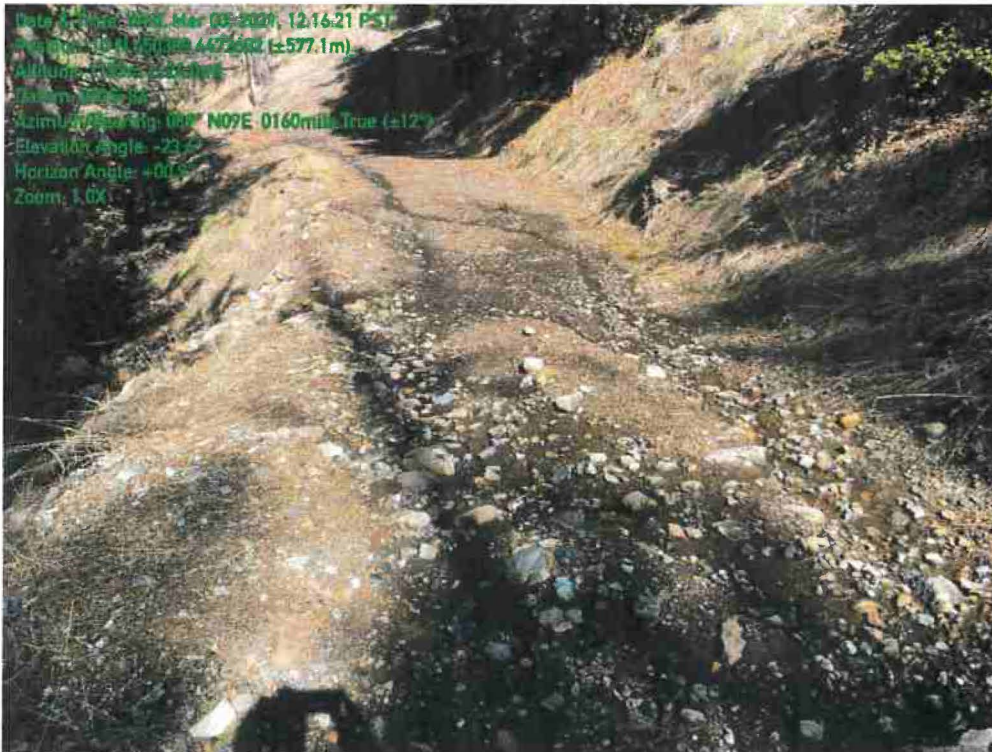


8.0 Spring Between Access Road and Cultivation Site C





9.0 Erosion from Spring Across Road at Cultivation Site C

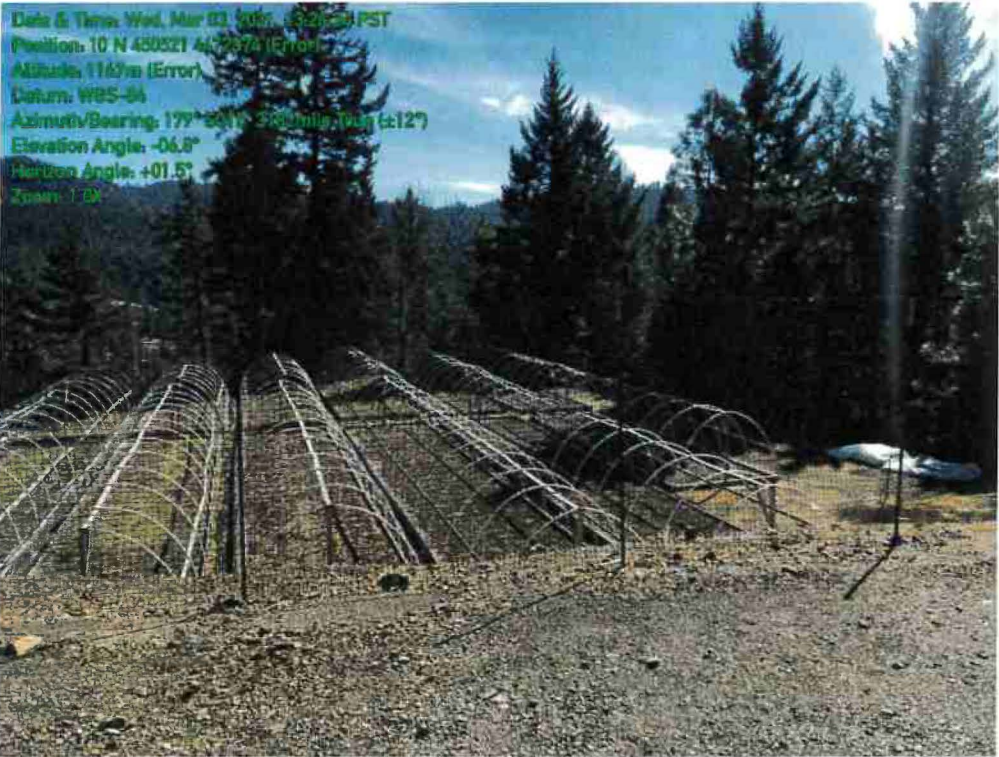


10.0 Erosion on Access Road to Cultivation Sites A and B



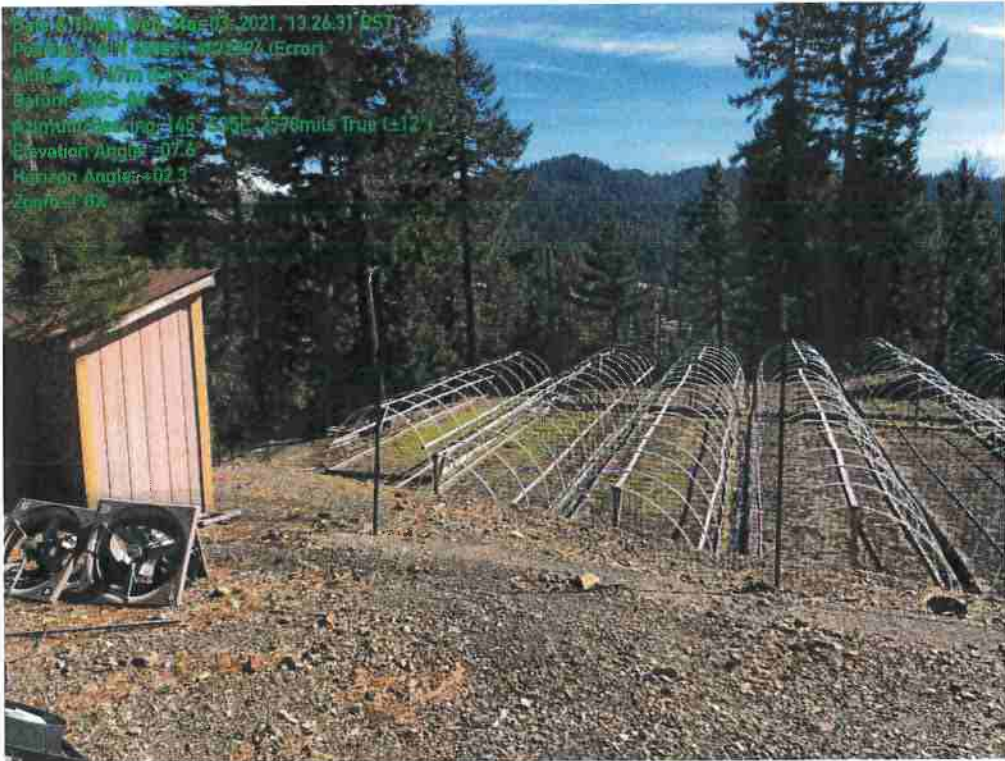


11.0 Intermittent Watercourse at Corner of Cultivation Site F



12.0 Cultivation Site D





13.0 Cultivation Site D



14.0 Cultivation Site E





15.0 Cultivation Site E

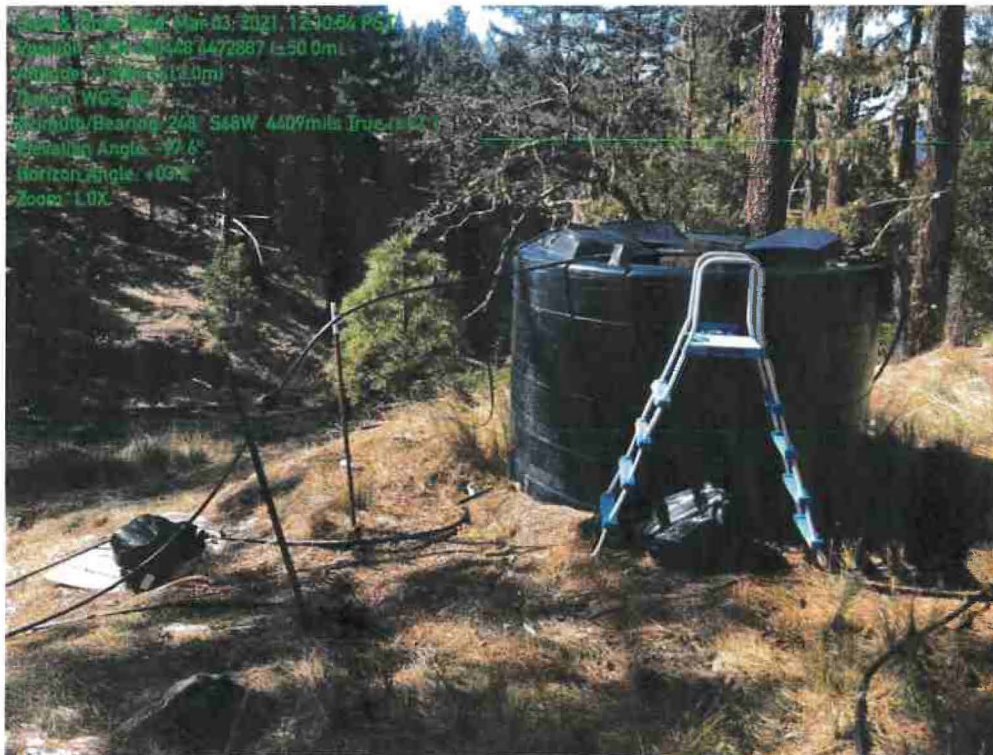


16.0 Cultivation Site F





17.0 Cultivation Site F



18.0 Water Storage Above Cultivation Site A





19.0 Water Storage at Cultivation Site E



20.0 Water Storage at Cultivation Site E





21.0 Water Storage at Cultivation Site B



22.0 Intermittent Watercourse



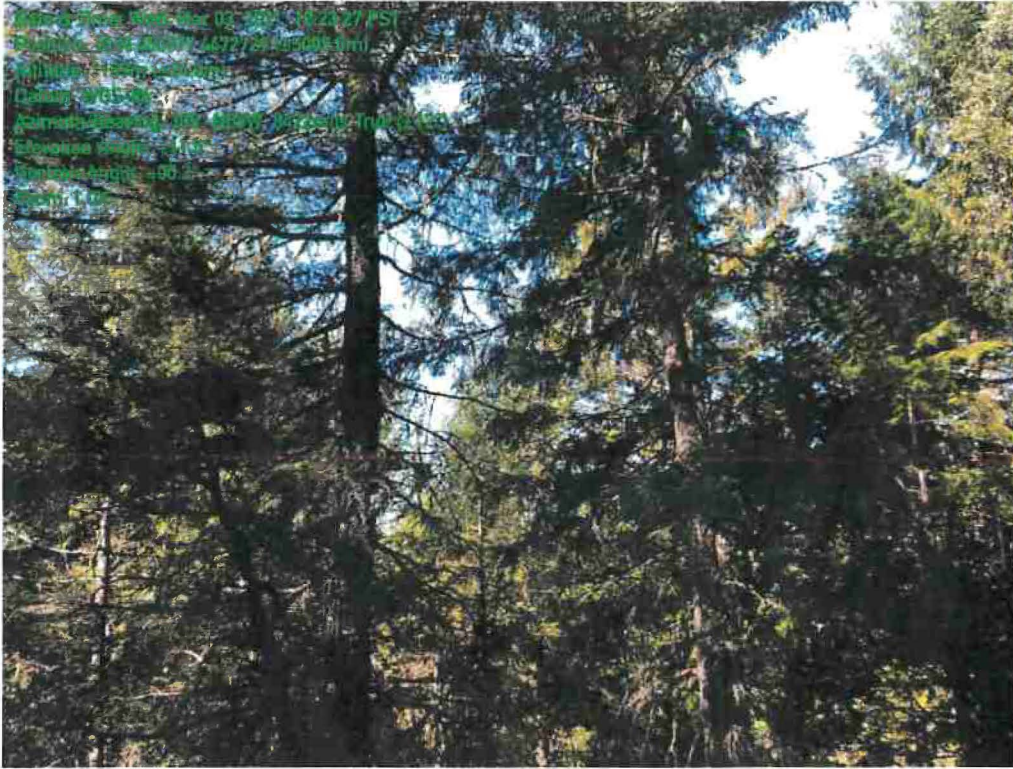


23.0 Small Creek from Springs

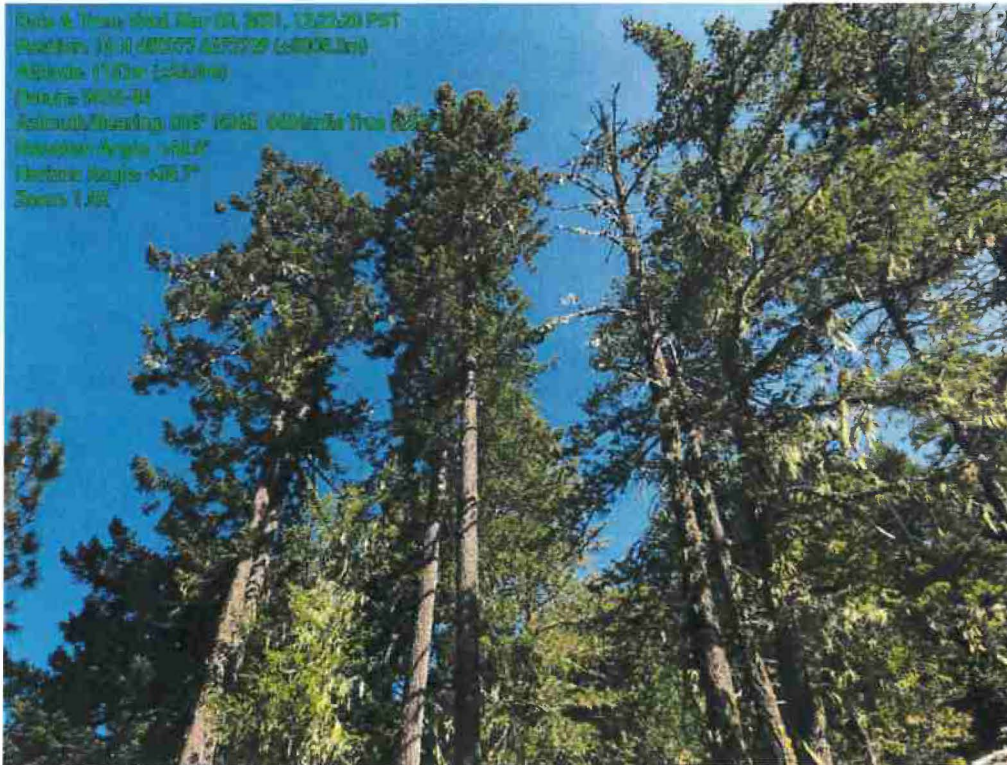


24.0 Spring Located Adjacent to Site C





25.0 Canopy on Tatum

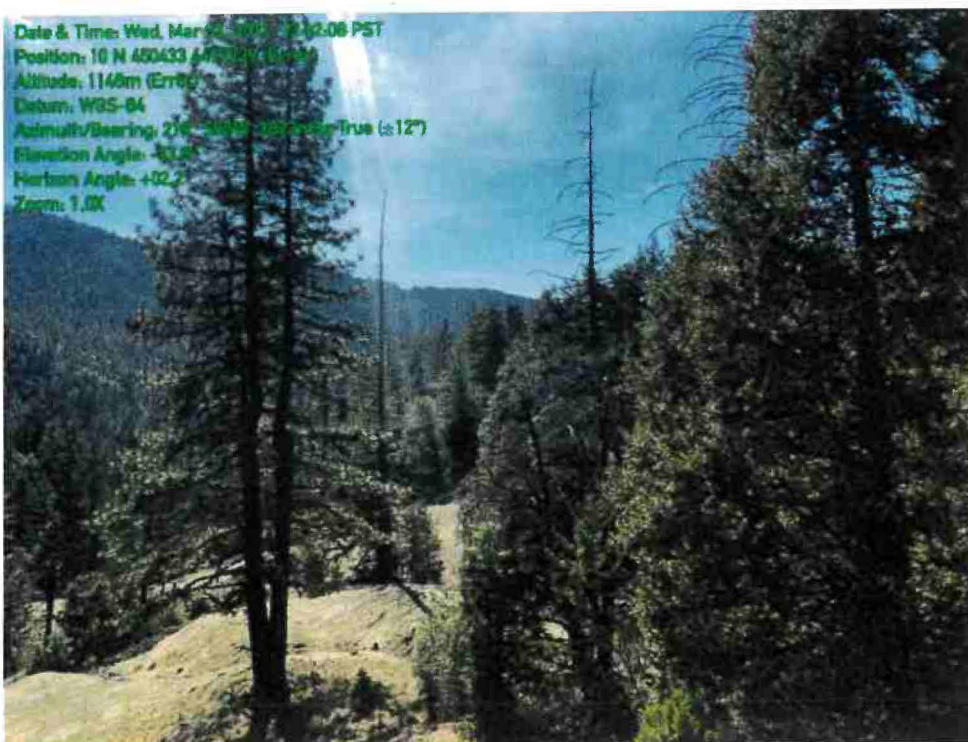


26.0 Example of Forest Canopy on Tatum





27.0 Young Forest on the Tatum Property



28.0 Open Habitat on Tatum Property





29.0 Open Forest Upslope from Cultivation Site A

Aerial Imagery of Tatum Maui/'84 Property



30.0 Cultivation Site A





31.0 Cultivation Site B



32.0 Cultivation Site C





33.0 Cultivation Site D



34.0 Cultivation Site E





35.0 Cultivation Site E - Uphill



36.0 Cultivation Site E – Erosion Along Road, Storage Tank Within Watercourse





37.0 Cultivation Site F



38.0 Habitat Surrounding Cultivation Sites C and B





39.0 Habitat Surrounding Cultivation Sites C and B



40.0 Habitat Surrounding Cultivation Sites C and B





41.0 Habitat Surrounding Cultivation Sites C and B



42.0 Habitat Surrounding Cultivation Sites C and B





43.0 Habitat Surrounding Cultivation Sites C and B



44.0 Habitat Surrounding Cultivation Sites D-F





45.0 Habitat Surrounding Cultivation Sites D-F



46.0 Habitat Surrounding Cultivation Sites D-F



47.0 Habitat Surrounding Cultivation Sites D-F



48.0 Habitat Surrounding Cultivation Sites D-F



