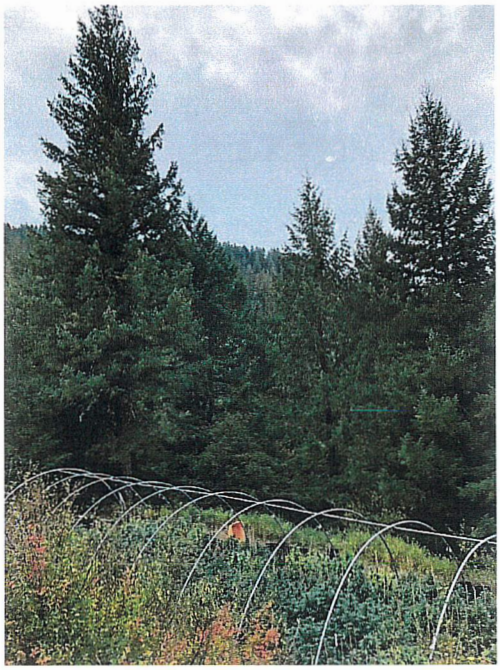
# A Biological Assessment for Commercial Cannabis Cultivation

*For*
Seth Adams Property
640 River Road
Mad River CA 95526
Humboldt County APN# 208-231-004



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## Table of Contents

**List of Appendices**.....3
**1.0 Introduction**.....4
1.1 Purpose and Need.....4
1.2 Biological Assessment Area and Project Sites.....4
**2.0 Regulatory Background**.....4
2.1 Cannabis Cultivation.....4
2.2 Sensitive Biological Communities.....4
2.2.1 Aquatic Habitats.....4
2.2.2 Sensitive Biological Communities.....5
2.2.3 Sensitive and Protected Species.....5
**3.0 Methods**.....6
3.1 Field Observations.....6
3.2 Review of Scientific Literature.....6
3.3 Agency Consultation.....6
3.4 Sensitive Biological Communities.....6
3.5 Sensitive and Protected Species.....7
**4.0 Results and Discussion**.....8
4.1 BAA Description.....8
4.2 Site Description.....8
4.3 Commercial Cannabis Cultivation.....8
4.4 Sensitive Biological Communities.....8
4.4.1 Aquatic Habitats.....8
4.4.2 Sensitive Biological Communities.....9
4.4.3 Sensitive Natural Communities.....9
4.5 Sensitive and Protected Species.....9
4.5.1 Bird Species of Special Concern.....9
4.5.2 Animal Species of Special Concern.....11
4.5.3 Fish Species of Special Concern.....13
4.5.4 Plant Species of Special Concern.....14
4.6 Potential Impacts.....20
4.6.1 Northern Spotted Owl.....20
4.6.2 Sensitive Birds/Nesting Birds.....21
4.6.3 Sensitive Fish/Amphibian Species.....21
4.6.4 Rare Plants.....21
**5.0 Recommendations**.....21
**6.0 References**.....23

## List of Appendices

### Figures

1) Parcel Map.....

2) NSO Critical Habitat.....

3) Aquatic Habitats.....

4) Plot Map.....

5) Web Soil Survey (5 pages).....

6) NSO Occurrence.....

# 1.0 Introduction

## 1.1 Purpose and Need

This biological assessment has been prepared for the Seth Adams property at 640 River Road, Mad River; CA, 95526. Humboldt County regulates commercial cannabis 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 commercial cannabis cultivation operations. Cannabis cultivation permits are required by both the State of California and Humboldt County for all cultivation activities.

## 1.2 Biological Assessment Area and Project Sites

The project sites are defined as the cultivation areas within the 35.2 acre parcel under ownership of Seth Adams (APN 208-231-004, figure 1). The Biological Assessment Area (BAA) is defined as the entire parcel.

# 2.0 Regulatory Background

## 2.1 Cannabis Cultivation

With the passage of Proposition 64 in November 2016 (Medical Cannabis Regulation and Safety Act) cannabis was determined to be a commercial agricultural crop and was legalized for recreational use as well. Cannabis production is regulated by the California Department of Food and Agriculture (CDFA) which administers the CalCannabis program regulating cannabis licensing from the state. In addition, Humboldt County regulates commercial cannabis through the Commercial Medical Marijuana Land Use Ordinance (CMMLUO). 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 Natural 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 NatureServe 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 will 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 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. Nests, eggs, and young are fully protected by this treaty.

# 3.0 Methods

## 3.1 Field Observations

All field data was recorded by Wildlife Biologist Brit O'Brien on October 3rd, 2018, 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 project area were assessed.

## 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 Consultations

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 an October 2018 query of the California Natural Diversity Database (CNDDB) for any sensitive species detections within 9 quadrangles, of which the Blake Mountain quad is at the center. These quadrangles include Sportshaven, Sims Mountain, Board Camp Mountain, Larrabee Valley, Dinsmore, Hyampom, Hyampon Mountain, Showers Mountain, and Blake Mountain. 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 (August 2018), Special Animals List (August 2018), Special Vascular Plants Bryophytes and Lichens List (August 2018), and the California Native Plant Society (CNPS) Endangered and Rare Plants. The above lists were obtained from https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals. The Interactive Distribution Mapv2.02 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 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 1A 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 Biological Assessment Area consists of the 35.2 acres under Seth Adams ownership. The climate is described as having high intensity rain/snowfall in winter, and warm, dry summers. Annual mean rainfall is 64" (https://wrcc.dri.edu/summary/climsmnca.html), and elevation ranges from 2,500 to 3,000 feet above sea level. Terrestrial habitat on the property is dominated by early to mid-seral forest of the Douglas-Fir series (Mayer and Laudenslayer 1988). Measured slopes in the BAA vary from 10% to 30%. The BAA contains aquatic habitats in the form of riverine habitat (Mad River (Class 1 perennial) and unnamed tributary (Class 2 intermittent)). Smaller portions of habitat present on the site include grasslands and oak woodlands and developed non-habitat.

The BAA contains 3 different soil types: Hoagland-Chalkmountain-Pasturerock complex, 30-50% slopes; Chalkmountain-Hoagland complex, 50-75% slopes; Pasturerock-Coyoterock-Maneze complex, 15-50% slopes, dry (see soil descriptions attached with document, Figure 5).

Land use on the BAA is currently restricted to cannabis cultivation. The county zoning for the BAA is for Timberland Production (TPZ).

## 4.2 Site Description

The property is situated on the north side on the Mad River near Dinsmore in eastern Humboldt County California (Figure 1). The project parcel consists of the west ¼ of the southeast ¼ of Section 35, Township 2 North, Range 5 East (Humboldt Meridian) as made known on the 7.5' USGS Topographic Quadrangle Map, Blake Mountain, California. The property is 35.2 acres, and existing development is limited to a seasonal road network, the cannabis cultivation sites, and three structures, which consist of one single family residence and two storage outbuildings.

## 4.3 Commercial Cannabis Cultivation

The cannabis cultivation will take place in existing and proposed facilities located in the central part of the parcel (Figure 2). Two cultivation areas currently in use (labeled "A" in Figure 1) are graded terraces adjacent to existing access roads, which contain a total cultivation area of 7,179 square feet. A proposed cultivation area located downhill to the southeast will be relocated on a terrace on the hillside, on and adjacent to abandoned logging roads (labeled "B" in Figure 4). Water for irrigation is supplied from a small spring, and stored in an existing 500-gallon water storage tank.

## 4.4 Sensitive Biological Communities

### 4.4.1 Aquatic Habitats

The BAA includes both intermittent and perennial riverine aquatic habitats; an unnamed intermittent (Class II) tributary to the Mad River runs north/south along the eastern portion of the project area, and the Mad River (Class I) runs east/west along the southern portion of the project

area (Figure 3). The intermittent stream provides flowing water and pools as habitat for aquatic vegetation and wildlife for at least a portion of the year. The stream has a coarse sediment bed with moderate slope gradients and moderate to high canopy cover over much of its run. This stream system may provide habitat for wildlife such as Southern Torrent Salamander (*Rhyacotriton variegatus*), Coastal Tailed Frog (*Ascaphus truei*), and Coastal Giant Salamander (*Dicamptodon tenebrosus*). The Mad River provides habitat for Summer-run Steelhead (*onchorhynchus mykiss irideus,* Klamath Mountains Province DPS), Coho Salmon (*Onchorhynchus kisutch*), Chinook Salmon (*Onchorhynchus tshawytscha*, California coastal ESU) and Western Pond Turtle (*Emys marmoratus*). Plant species associated with these riverine systems include Red alder (*Alnus rubra*), Sword fern (*Polystichum munitum*), Willow spp. (*Salix*), *Dogwood* (*Cornus servicea*) Leopard lily (*Lilium pardalinum*) and other vegetation associated with the Douglas-fir vegetation series.

### 4.4.2 Wetlands

The project 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 be absent at sites with present wetland vegetation species.

A formal Wetland Delineation was not conducted as part of this assessment, but the site visit did not reveal any hydrophytic vegetation near any cultivation sites.

### 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 state-ranked S4 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:** Federal-none State-none CDFW-SSC

**Habitat:** Rolling foothills, forested mountain areas, sage-juniper flats, and desert. Broad leaved upland forest. Cismontane woodland, Coastal prairie. Great Basin grassland. Mature, old-growth forest is preferred nesting habitat in much of range as well as large trees in open areas.

**Status within BAA:** No occurrences were reported within the BAA. There were three occurrences within the 9-quad CNDDB report. The individuals are presumed extant. The current forest habitat in the BAA is unsuitable for nesting.

**Golden Eagle** *(Aquila chrysaetos)*

**Status:** CDFW Fully Protected (FP), Watch List (WL), State Rank S3

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

**Status within BAA:** No occurrences were reported within the BAA. There was one occurrence within the 9-quad CNDDB report. The current BAA forested habitat is not suitable for nesting.

**Bald Eagle** *(Haliaeetus leucocephalus)*

**Status:** Federally protected under the Bald and Golden Eagle Act, CESA-endangered. G5, S3, CDFW fully protected.

**Habitat:** Lower montane coniferous mature forest. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water (Polite and Pratt, 1990). Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter (Clark and Wheeler, 1987).

**Status within BAA:** No occurrences were reported within the BAA. There were three occurrences within the 9-quad CNDDB report. The current forest habitat is not suitable for nesting, although the Mad River provides good foraging habitat.

**Mountain Plover** *(Charadrius montanus)*

**Status:** Federal-none State-none State rank: S2, S3 CDFW-SSC

**Habitat:** Valley & foothill grassland. Short grasslands, freshly plowed fields, newly sprouting grain fields, & sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.

**Status within BAA:** No occurrences were reported within the BAA. There was one occurrence within the 9-quad CNDDB report. Most of the BAA is forested and provides minimal habitat.

**American Peregrine Falcon** *(Falco peregrinus anatum)*

**Status:** Delisted federal and state rank: S3, S4

**Habitat:** Nests on cliffs at elevations up to nearly 12,000 feet, as well as along rivers and coastlines or on buildings in cities, where the local Rock Pigeon populations offer a reliable food supply. In migration and winter you can find Peregrine Falcons in nearly any open habitat, but with a greater likelihood along barrier islands, mudflats, coastlines, lake edges, and mountain chains

**Status within BAA:** No occurrences were reported within the BAA. There is one occurrence within the 9-quad CNDDB report. There is no appropriate nesting habitat within the BAA.

**Northern Spotted Owl** *(Strix occidentalis caurina)*

**Status:** Federal-threatened State-threatened. State rank: S2, S3. CDFW-SSC

**Habitat:** Mature coniferous forest stands with 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 larger trees and will use abandoned nests of other species (Harris 2005). Spotted owls form long-term pair bonds and often remain in the same geographical areas year after year (USFWS 2011).

**Status within BAA:** There are no known occurrences within the BAA. The nearest occurrence is reported through CNDDB as 0.254 miles to the west of the cultivation area A in the southern portion of the parcel (Figure 5). Two occurrences are reported by CNDDB from across the Mad River, 0.4 miles to the south and 0.5 miles to the southwest. Designated Critical Habitat is approximately 750 feet to the south, across the Mad River. The habitat of the BAA does not provide older forest preferred by Spotted owls for breeding..

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

**Status:** Federal-none State-endangered State rank: S1, S2.

**Habitat:** Meadow & seep, Riparian scrub, Riparian woodland, Wetland. Inhabits extensive thickets of low, dense willows on edges of wet meadows, ponds, or backwaters.. Requires dense willow thickets for nesting/roosting (Hunter et al, 2005). Low, exposed branches are used for singing posts/hunting perches

**Status within BAA:** No occurrences were reported within the BAA. There was one occurrence from the 9-quad CNDDB report. Suitable nesting habitat exists within the BAA along riparian corridor of the Mad River.

### 4.5.2 Animal Species of Special Concern

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

**Status:** Federal and State-none, CDFW-SSC

**Habitat:** Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats. Restricted to perennial swift-moving montane streams. Tadpoles require water below 15 degrees C.

**Status within BAA:** No occurrences were reported within the BAA. There were six occurrences within the 9-quad CNDDB report. Suitable habitat may not exist within the BAA, as the unnamed creek is ranked as Intermittent, class 2; the Mad River is not suitable habitat

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

**Status:** Federal and State-none, State rank S3 CDFW-SSC

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

**Status within BAA:** No occurrences were reported within the BAA. There was one occurrence within the 9 quad CNDDB report. Suitable habitat may exist within the BAA.

**Foothill Yellow-Legged Frog** *(Rana boylii)*

**Status:** Federal-none State candidate for threatened, State rank S3 CDFW-SSC

**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. Requires at least 15 weeks to attain metamorphosis (Thompson et al 2016).

**Status within BAA:** No occurrences were reported within the BAA. There were six occurrences within the 9-quad CNDDB report. Suitable habitat may exist within the BAA.

**Pacific Fisher** *(Pekania pennant)* West coast DPS

**Status:** Federal-none State-threatened CDFW-SSC

**Habitat:** Low to mid elevation mature conifer to mixed conifer/hardwood forests, with a complex and mostly closed canopy, with downed logs, hollow trees and rock crevices for den sites (USFWS 2016).

**Status within BAA:** No occurrences were reported within the BA. There were six occurrences within the 9-quad CNDDB report. Suitable habitat may exist within the BAA.

**Southern Torrent Salamander** *(Rhyacotriton variegatus)*

**Status:** Federal-none State-none, State rank S2, S3 CDFW-SSC

**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 occurrences were reported within the BAA. There are three occurrences within the 9-quad CNDDB report. Suitable habitat may exist within the BAA.

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

**Status:** Federal and state-none, State rank S3 CDFW-SSC

**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.

**Status within BAA:** No occurrences were reported within the BAA. There are three occurrences within the 9-quad CNDDB report. Suitable habitat exists within the BAA.

**Townsend's Big Eared Bat** (Corynorhinus townsendii)

**Status:** Federal and state-none, State rank S2 CDFW-SSC

**Habitat:** Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in caves or cavern-like structures, large hollows in Redwood trees, empty buildings. Roosting sites are limiting. Extremely sensitive to human disturbance.

**Status within BAA:** No occurrences were reported within the BAA. There were three occurrences within the 9-quad CNDDB report. Suitable habitat may exist within the BAA, in rarely used buildings and tree hollows.

**Trinity Bristle Snail** *(Monadenia setosa)*

**Status:** Federal-none, State threatened CDFW-SSC

**Habitat:** Found in northwestern Trinity County, along the Trinity River, up some of its tributaries and into the Corral Bottom area. It has a healthy population within its territory. It likes cool, wet, shady riparian zones, and prefers areas with a deciduous understory.

**Status within BAA:** No occurrences were reported within the BAA. There were five occurrences within the 9-quad DNDDB report. Suitable habitat exists within the BAA.

**Western Pond Turtle** *(Emys marmorata)*

**Status:** Federal and state-none, State rank S3 CDFW-SSC

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

**Status within BAA:** No occurrences were reported within the BAA. There were 5 occurrences within the 9-quad CNDDB report. Suitable habitat exists within the BAA.

### 4.5.3 Fish Species of Special Concern

**Coho Salmon** (*Oncorhynchus kisutch)* Pop 2

**Status:** Federal and state-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.

**Status within BAA:** No listed occurrence within the BAA. There were three occurrences within the 9-quad CNDDB report. Suitable habitat exists within the BAA in the Mad River.

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

**Status:** Federal and state-none, State rank S2 CDFW-SSC

**Habitat:** Northern California coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & Northern California DPS. Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.

**Status within BAA:** Listed occurrence within the BAA, in the Mad River. There were 8 occurrences with the 9-quad CNDDB report. Suitable habitat exists within the BAA in the Mad River.

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

**Status:** Federal and state-none, State rank S3 CDFW-SSC

**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.

**Status within BAA:** No occurrences were reported within the BAA. There were five occurrences within within the 9-quad CNDDB report. Suitable habitat may exist within the BAA, in the Mad River.

### 4.5.4 Plant Species of Special Concern

The cannabis cultivation sites are not located in sensitive riparian or wetland habitats. Any proposed additional development or ground disturbance should be preceded by seasonally appropriate floristic surveys to ensure no sensitive plant species are harmed. The following tables are a list of rare and threatened plants occurring in the 9-quad BIOS report.

| *Buxbaumia viridis* | | Buxbaumia moss |
|---|---|---|
| Fed status – none | State status – none | CA rare plant rank – 2B.2 |
| USGS 7.5' Quad -Board Camp Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Disturbed habitats or as a pioneer species. The plants grow on decaying wood, rock outcrops, or directly on the soil. | | |

| *Calycadenia micrantha* | | Small-flowered calycadenia |
|---|---|---|
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Board Camp Mtn., Dinsmore, | | |

| | | |
|---|---|---|
| Showers Mtn., Blake Mtn.<br>Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Dry, mountainous areas, roadsides, and grasslands. | | |

| | | |
|---|---|---|
| *Erigeron maniopotamicus* | | Mad River fleabane daisy |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Board Camp Mtn., Dinsmore,<br>Showers Mtn., Blake Mtn.<br>Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Dry, mountainous, disturbed areas and grasslands. | | |

| | | |
|---|---|---|
| *Harmonia doris-nilesiae* | | Niles' harmonia |
| Fed status – none | State status – none | CA rare plant rank – 1B.1 |
| USGS 7.5' Quad – Hyampom<br>Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Rocky or gravely slopes, sometimes in serpentine soil. | | |

| | | |
|---|---|---|
| *Silene serpentinicola* | | Serpentine catchfly |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Sportshaven<br>Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Chaparral and coniferous forest habitat among other serpentine endemics. | | |

| | | |
|---|---|---|
| *Carex arcta* | | Northern clustered sedge |
| Fed status – none | State status – none | CA rare plant rank – 2B.2 |
| USGS 7.5' Quad – Board Camp Mountain | | |

| | | |
|---|---|---|
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Wet bogs, fens, in coniferous forest. | | |

| | | |
|---|---|---|
| *Arctostaphylos manzanita ssp. Elegans* | | 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 - Yes |
| Habitat – Coastal mountain ranges of northern California where serpentine soils are predominate | | |

| | | |
|---|---|---|
| *Astragalus umbraticus* | | Bald mountain milk-vetch |
| Fed status – none | State status – none | CA rare plant rank – 2B.3 |
| USGS 7.5' Quad – Showers Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Coastal mountain ranges of northern California; openings in coniferous forest and roadsides. | | |

| | | |
|---|---|---|
| *Hosackia yollabolliensis* | | Yolla Bolly Mtns. bird's-foot trefoil |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Blake mountain, Hyampom, Sportshaven, Dinsmore, Sims mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - No |
| Habitat – Higher elevations in mountain ranges of northern California; openings in coniferous forest, gravelly slopes. | | |

| | | |
|---|---|---|
| *Lathyrus biflorus* | | 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 - No |

| |
|---|
| Habitat –Red Mountain in Lassics of northern California where serpentine soils predominate. |

| | | |
|---|---|---|
| *Lupinus elmeri* | | South Fork Mountain lupine |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Sportshaven, Hyampom, Blake Mountain, Sims Mountain | | |
| Documented in BAA - Yes | | Potential Habitat in BAA - Yes |
| Habitat – North slopes of coastal ranges of northern California. | | |

| | | |
|---|---|---|
| *Thermopsis robusta* | | Robust false lupine |
| 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 - Yes |
| Habitat – Coast ranges of northern California; broadleaf and coniferous forests | | |

| | | |
|---|---|---|
| *Erythronium revolutum* | | Coast fawn lily |
| Fed status – none | State status – none | CA rare plant rank – 2B.2 |
| USGS 7.5' Quad – Dinsmore, Board Camp Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Streambanks, bogs, and wet redwood and mixed evergreen forest understory. | | |

| | | |
|---|---|---|
| *Iliamna latibracteata* | | California globe mallow |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Blake Mountain, Sims Mountain, Board Camp Mountain, Sportshaven | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |

| |
|---|
| Habitat – Northern California coniferous forest understory, riparian scrub areas post-fire. |

| | | |
|---|---|---|
| *Sidalcea malviflora ssp. patula* | | Siskiyou checkerbloom |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Board Camp Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Northern Californiaconiferous forest understory; often on roadcuts. | | |

| | | |
|---|---|---|
| *Sidalcea oregana ssp. eximia* | | Coast checkerbloom |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Board Camp Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Rare northern California coniferous forest understory; meadows and seeps. | | |

| | | |
|---|---|---|
| *Montia howellii* | | Howell's montia |
| Fed status – none | State status – none | CA rare plant rank – 2B.2 |
| USGS 7.5' Quad – Larabee Valley | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Moist to wet conifer habitat, including vernal pools and meadows.<br>It sometimes grows in shallow standing water such as puddles. | | |

| | | |
|---|---|---|
| *Epilobium oreganum* | | Oregon fireweed |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Hyampom Mountain, Sims Mountain, Board Camp Mountain | | |

| | |
|---|---|
| Documented in BAA - No | Potential Habitat in BAA - Yes |
| Habitat – Southern Oregon to northern California in boggy serpentine soils, meadows. | |

| | | |
|---|---|---|
| *Piperia candida* | | White-flowered rein orchid |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Larabee Valley, Sims Mountain, Hyampom, Board Camp Mountain, Blake Mountain, Showers Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Northern California Coniferous forest; occasionally serpentine soils. | | |

| | | |
|---|---|---|
| *Kopsiopsis hookeri* | | Small groundcone |
| Fed status – none | State status – none | CA rare plant rank – 2B.3 |
| USGS 7.5' Quad – Hyampom, Blake Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Coniferous forest understory. | | |

| | | |
|---|---|---|
| *Erythranthe trinitiensis* | | Pink-margined monkeyflower |
| Fed status – none | State status – none | CA rare plant rank – 1B.3 |
| USGS 7.5' Quad – Hyampom, Hyampom Mountain, | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Wet areas, such as shady forest meadows and seeps. | | |

| | | |
|---|---|---|
| *Gilia capitata ssp. pacifica* | | Pacific gilia |
| Fed status – none | State status – none | CA rare plant rank – 1B.2 |
| USGS 7.5' Quad – Larabee Valley, Board Camp Mountain | | |

| | |
|---|---|
| Documented in BAA - No | Potential Habitat in BAA - Yes |
| Habitat – Northwestern California coniferous forest in sandy or rocky soils and grasslands. | |

| | | |
|---|---|---|
| *Bensoniella oregona* | | Bensoniella |
| Fed status – none | State status – none | CA rare plant rank – 1B.1 |
| USGS 7.5' Quad – Board Camp Mountain | | |
| Documented in BAA - No | | Potential Habitat in BAA - Yes |
| Habitat – Wet forest understory, meadows, and seeps | | |

## 4.6 Potential Impacts

### 4.6.1 Northern Spotted Owl

The cannabis cultivation process at the Adams property will likely be restricted to pre-existing logging roads and cleared adjacent landings. No new clearing of vegetation or ground disturbance is proposed under the current interim permit. Potential impacts 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 specific equipment, and visual line-of-sight distance to nests. A review of the document suggests that scenario 4 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 low to very low levels of sound associated with human activities, and is typified by small power tools, light vehicular traffic moving at slow speeds, recreational activities, and many urban and rural residential activities." The typical action-generated sounds from cultivation under this scenario could include "larger gas-powered engines, large generators, amplified music, ATV's, and small trucks at moderate speed on improved trails, and large chainsaws." 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 30 meters, with either low or moderate 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.

Critical habitat for the Spotted Owl borders the southern boundary of the property, approximately 230 meters from the nearest cultivation site (Figure 2). The nearest plotted Spotted Owl location is approximately .254 miles from the nearest cultivation site (Figure 6). As the BAA does not have the appropriate habitat to support Spotted Owl nesting/roosting, the nearest potential nesting habitat is at least 230 meters from the cultivation sites. Based on the estimated auditory disturbance distance of 30 meters, and the visual disturbance distance of ≤100 meters, there is a strong likelihood of no direct impact to Spotted Owl nesting habitat. As there is abundant foraging habitat on nearby public and private properties, cultivation activities also will not likely impact roosting or foraging Spotted Owls.

### 4.6.2 Sensitive Birds/Nesting Birds

No removal of trees or other potential nesting, roosting, or foraging habitat is proposed under the operations plan. The 9-quad CNDDB report indicates that sensitive bird species are unlikely to use habitats near the cultivation sites for nesting. As no habitat disturbance is currently proposed, foraging and nesting opportunities for bird species will likely be unaffected by current cultivation operations within the BAA.

### 4.6.3 Sensitive Fish/Amphibian Species

The cultivation sites are at least 300 feet from the Mad River and at least 100 feet from the intermittent Class 2 tributary within the BAA. The land use regulations in the CCLUO, along with the use of Best Management Practices to minimize impacts to water resources, should protect sensitive fish and amphibian species from potential impacts of cultivation within the BAA.

### 4.6.4 Rare Plants

Although the potential presence of sensitive plants on the property is possible, only ground disturbance or habitat removal are likely to affect plant abundance or distribution. There are likely no impacts to sensitive plant species from current operations at the site. A seasonally appropriate rare plant survey was not conducted as part of this assessment.

## 5.0 Recommendations

All cultivation activities should remain 100 feet from the Mad River and 100 feet from the unnamed tributary to the Mad River.

All fertilizers and other cultivation-related products should be properly stored to prevent exposure to precipitation events.

House generators 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 edge of habitat).

Conduct nesting bird surveys if any vegetation removal or habitat alteration is planned within the nesting bird season (generally March 1 – August 31).

Conduct seasonally appropriate botanical surveys for rare plants if ground disturbance is planned.

Any proposed construction or maintenance of roads should occur outside of the critical nesting period for Spotted owls, Feb 1st-July 8th. If any operations with the potential to disturb Spotted owls are proposed for the critical nesting period, Spotted owl surveys should be conducted per specifications outlined in the Protocol For Surveying Proposed Management Activities That May May Impact Northern Spotted Owls. Surveys should be conducted per Section 9.0, Surveys For Disturbance-Only projects.

## 6.0 References


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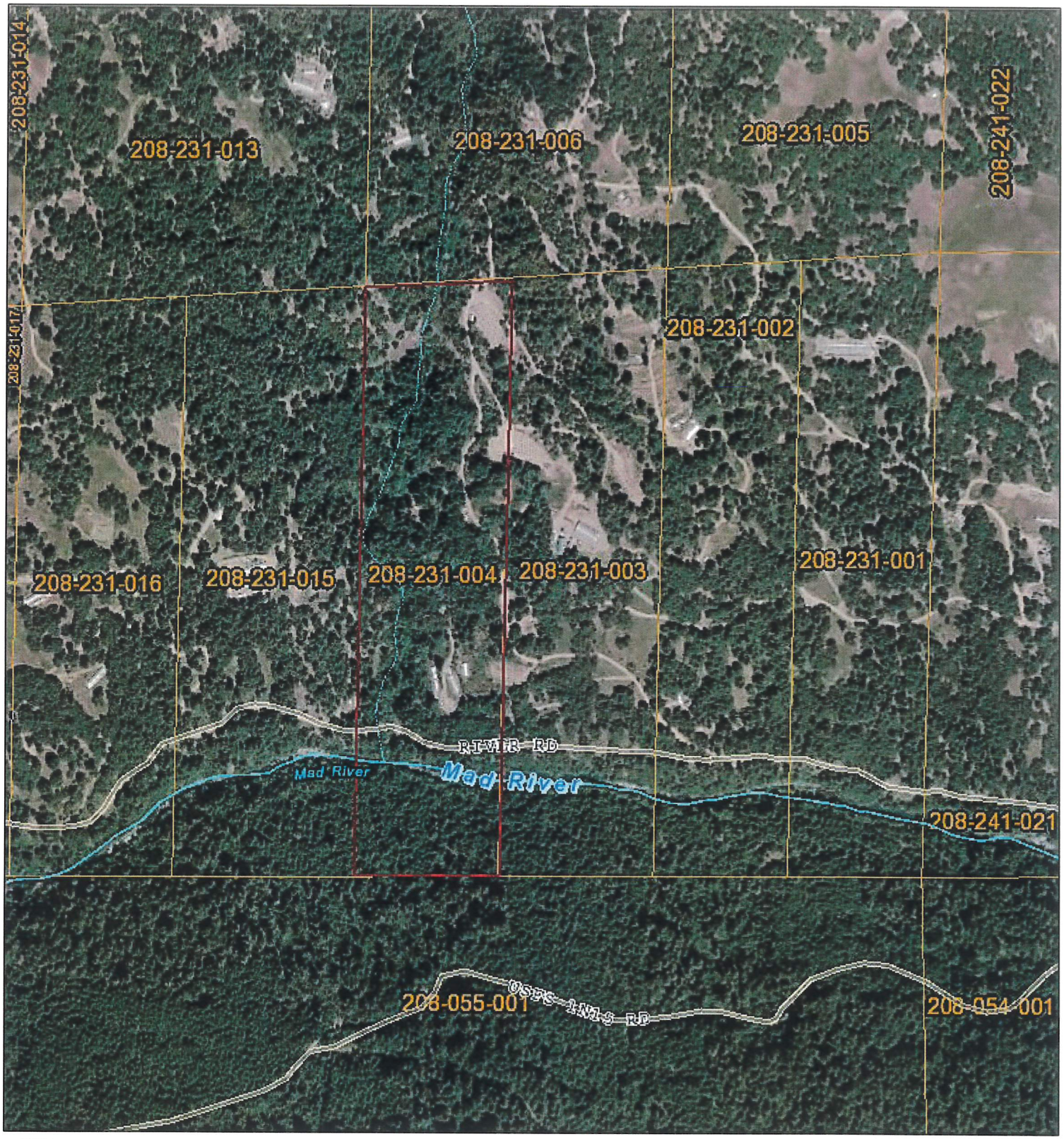
# Appendix




# Figure 1 - Seth Adams Property

Humboldt County Planning and Building Department

0 350 700 1,400 Feet

0 0.05 0.1 0.2 Miles

RF= 1:9,028 1 in = 752 ft

N W E S

**Highways and Roads**

Principal Arterials

Minor Arterials

Major Collectors

Minor Collectors

Local Roads

Private or Unclassified

Major River or Stream

**Blue Line Streams**

Perennial 1-3

Perennial >4

Intermittent

Subsurface

City Boundary

Counties

Parcels

Parcels (no APN labels)

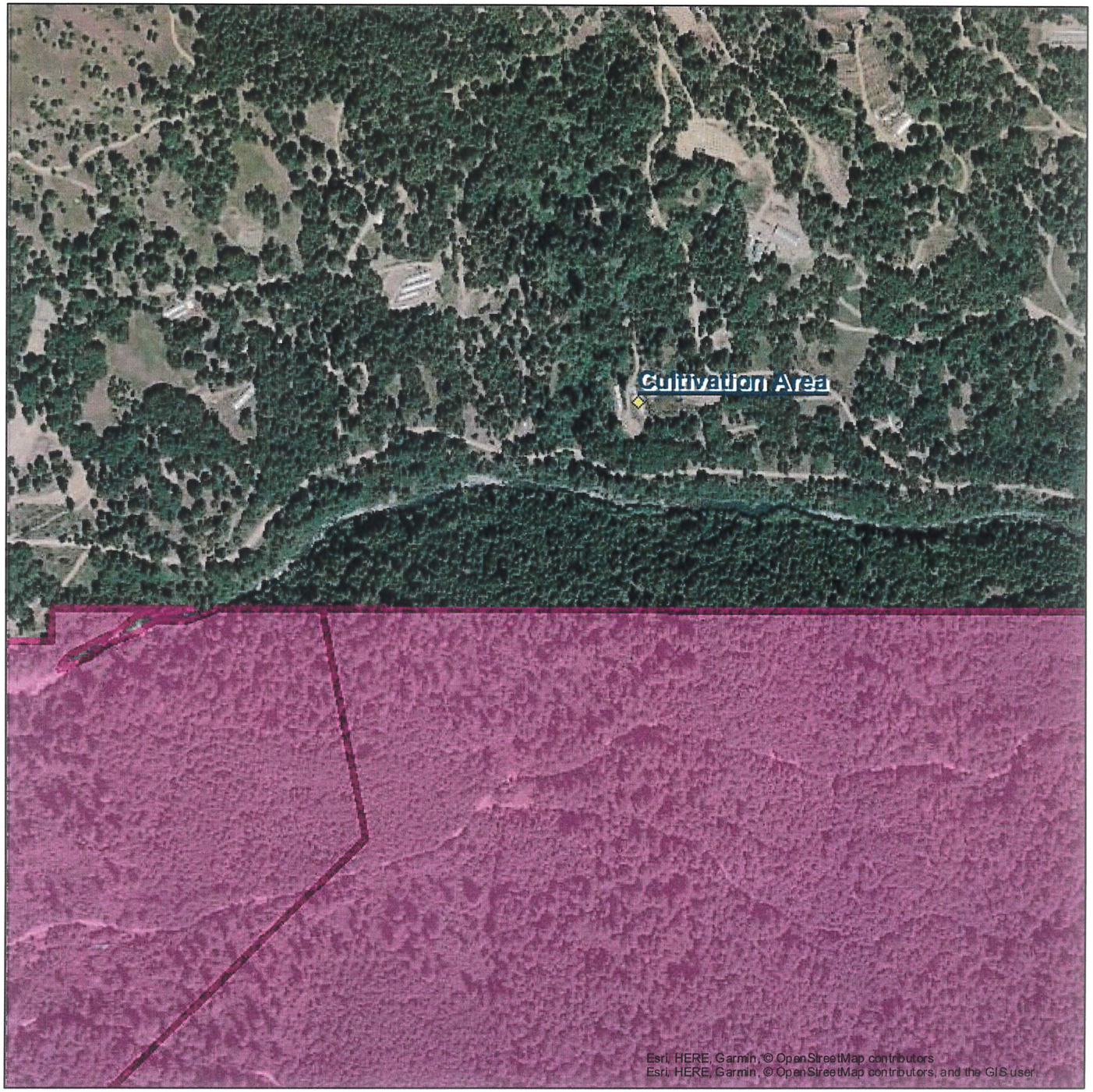
Printed: October 19, 2018 Web AppBuilder 2.0 for ArcGIS

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: NRCS, Humboldt County GIS, Esri, HERE, Garmin, © 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, FRAP, FEMA, USGS

# Figure 2. NSO critical habitat within vicinity of cultivation site

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




N

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

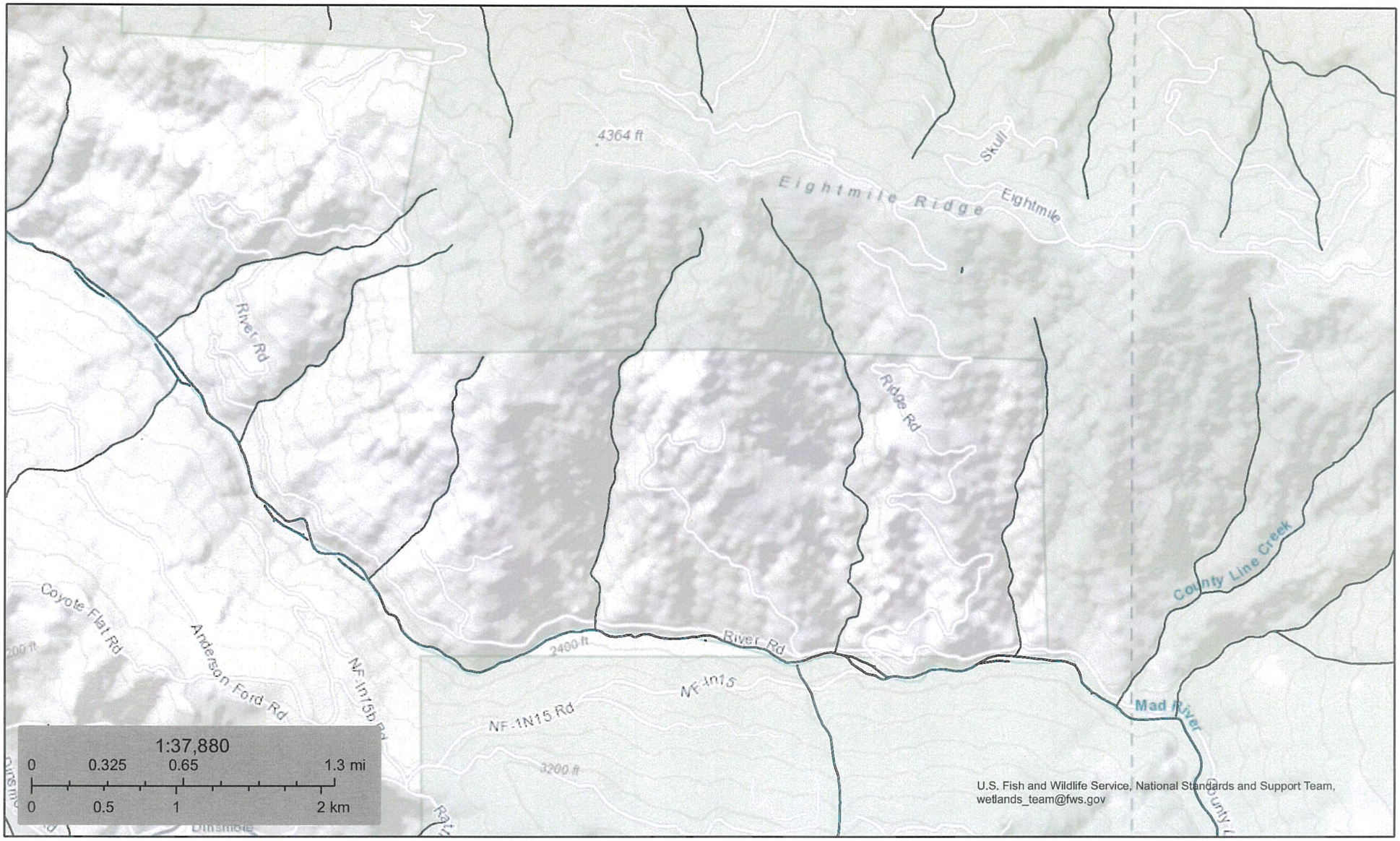
October 19, 2018

Author: cnddb_com
Printed from http://bios.dfg.ca.gov

U.S. Fish and Wildlife Service

# National Wetlands Inventory

## Figure 3. Aquatic habitats



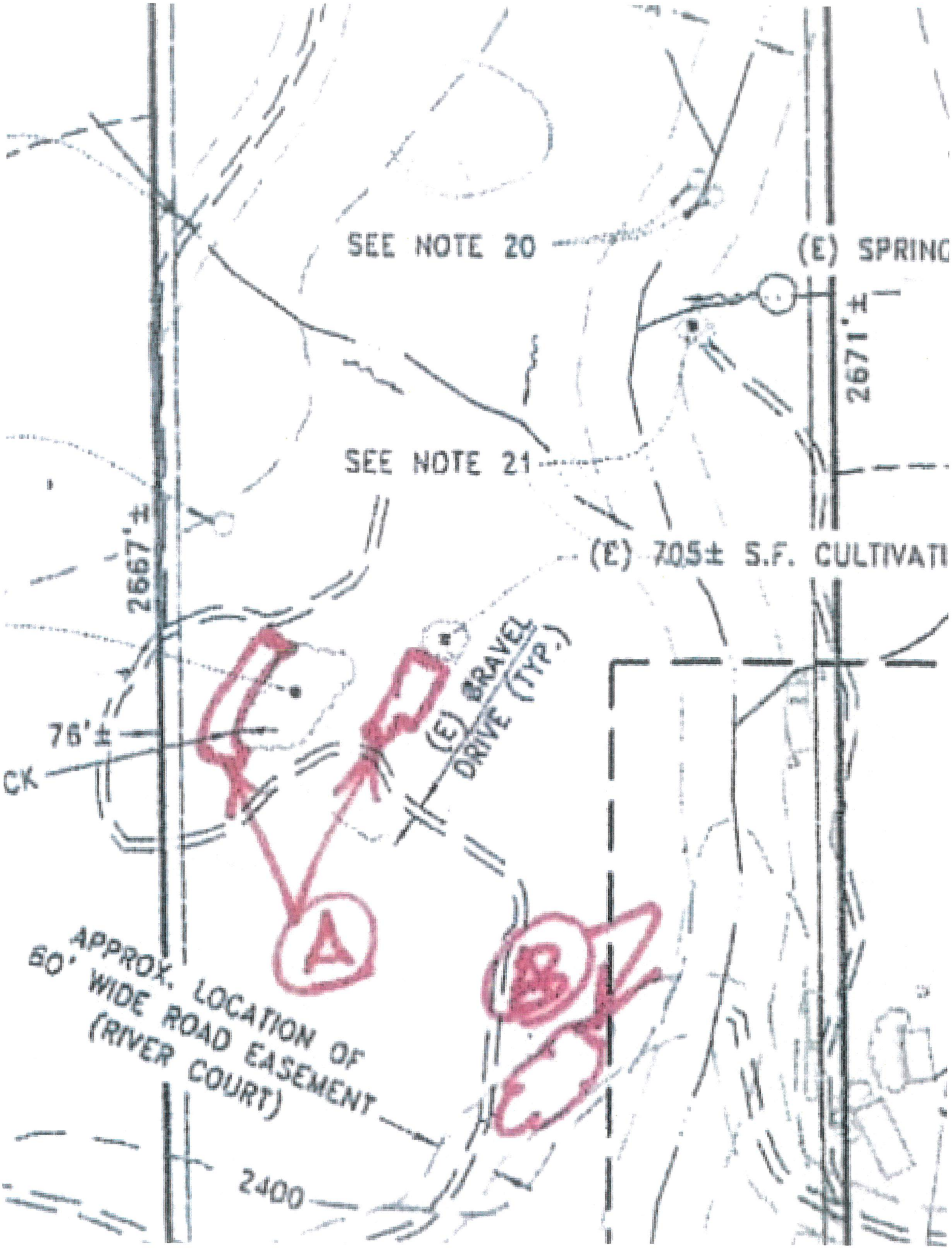

October 19, 2018

**Wetlands**

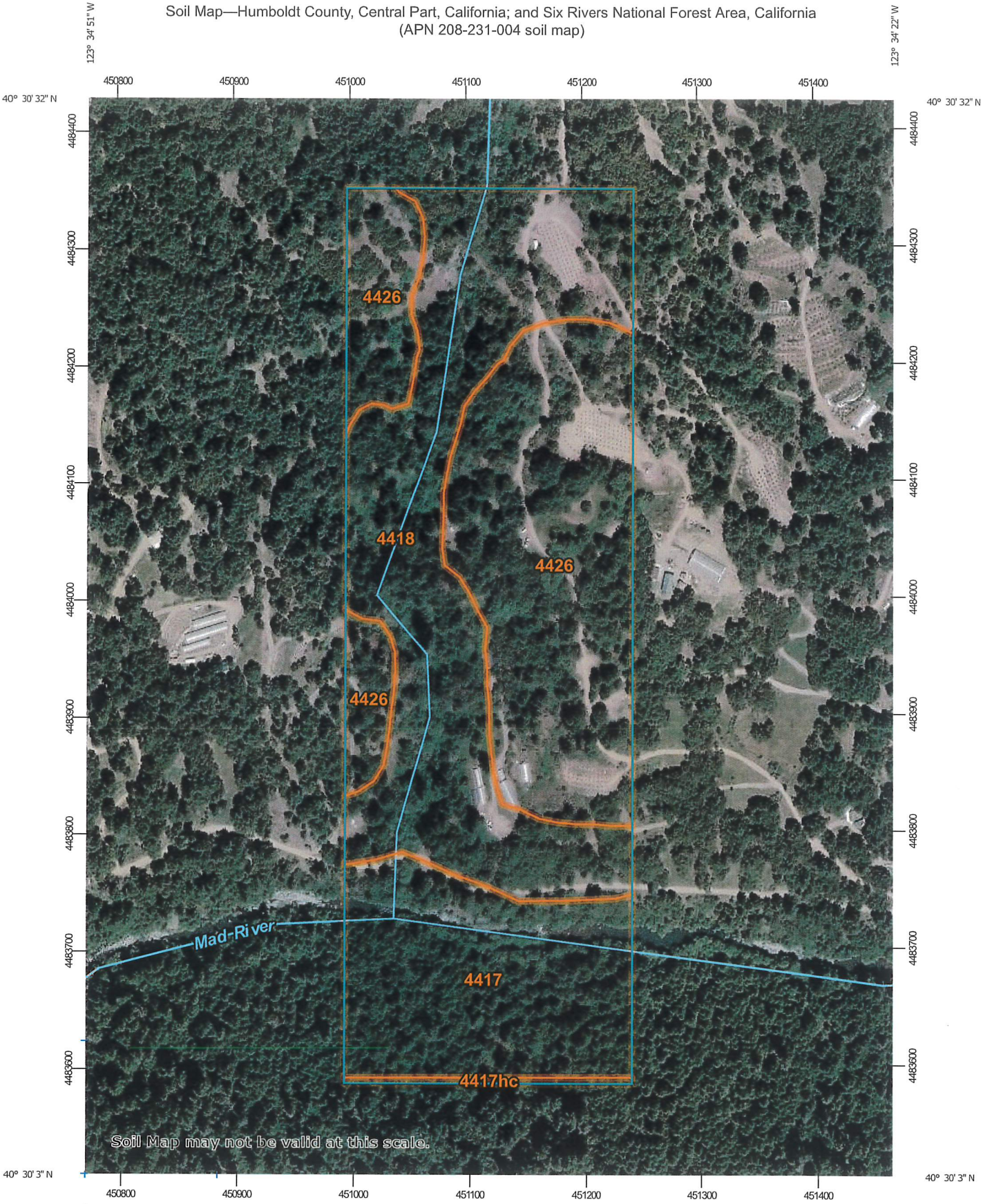
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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.

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


SEE NOTE 20
(E) SPRING
2671'±
SEE NOTE 21
2667'±
(E) 705± S.F. CULTIVATI
(E) GRAVEL DRIVE (TYP.)
76'±
CK
A
B
APPROX. LOCATION OF 60' WIDE ROAD EASEMENT (RIVER COURT)
2400

Soil Map—Humboldt County, Central Part, California; and Six Rivers National Forest Area, California
(APN 208-231-004 soil map)




Map Scale: 1:4,480 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

## MAP LEGEND

**Area of Interest (AOI)**

- Area of Interest (AOI)

**Soils**

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**

- 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
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**

- Streams and Canals

**Transportation**

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**

- Aerial Photography

## 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, Central Part, California
Survey Area Data: Version 4, Sep 13, 2018

Soil Survey Area: Six Rivers National Forest Area, California
Survey Area Data: Version 12, Sep 13, 2018

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Jun 18, 2015—Oct 24, 2017

## MAP LEGEND

## MAP INFORMATION

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.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| 4417 | Hoagland-Chalkmountain-Pasturerock complex, 30 to 50 percent slopes | 10.2 | 21.8% |
| 4418 | Chalkmountain-Hoagland complex, 50 to 75 percent slopes | 18.0 | 38.2% |
| 4426 | Pasturerock-Coyoterock-Maneze complex, 15 to 50 percent slopes, dry | 18.5 | 39.3% |
| **Subtotals for Soil Survey Area** | | **46.7** | **99.3%** |
| **Totals for Area of Interest** | | **47.0** | **100.0%** |

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| 4417hc | Hoagland-Chalkmountain-Pasturerock complex, 30 to 50 percent slopes | 0.3 | 0.7% |
| **Subtotals for Soil Survey Area** | | **0.3** | **0.7%** |
| **Totals for Area of Interest** | | **47.0** | **100.0%** |

# Nearest NSO occurrence to cultivation - 0.254 miles

**Spotted Owl Observations [ds704]**

- Positive Observation
- Negative Observation
- Activity Center
- Not Valid Activity Center
- Abandoned

N

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

October 22, 2018

Author: cnddb_com
Printed from http://bios.dfg.ca.gov