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**Initial Biological Scoping Report for:  
Sean O'Connor**

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## **Setting**

Sean O'Connor is seeking Cannabis Cultivation Permitting on the parcel (APN 522-026-007) located in Section 19 and 20, Township 7 North, Range 4 East HB&M; Humboldt County, on the Lord-Ellis Summit USGS 7.5' quadrangle. The parcel is accessed off Three Creeks Road and Highway 299 (mm27.74) and is approximately 3.25 airmiles northeast of Circle Point or 6.5 airmiles west of Willow Creek, CA. The biogeographic region can be described using a three-tiered hierarchy of province, region and sub-region. This site lies within the California Floristic Province, Northwestern California region, and North Coast sub-region. Elevation ranges from approximately 3,280 to 4,080 feet. The parcel and adjacent ownerships contain diverse habitats and vegetative ecotones, with most of the forested area dominated by Douglas fir. Slopes on the property are moderate to steep, and the aspect is variable. Humboldt County Web GIS acreage for the parcel is 212 acres.

A 90 acre Forest Fire Prevention Exemption 1-21EX-00742-HUM was completed in June 2022 on the O'Connor parcel. Postharvest the exemption area is stated to meet a QMD of 18" DBH and 60% canopy closure. The biological resources assessed for the adjacent Dayton Prairie THP# 1-22-00010-HUM was reviewed. The common theme for listed species was the plan area is within the range and habitat exists within the biological assessment area but there was a lack of observations within and adjacent to the plan area.

## **Methods**

The initial scoping for this project was conducted by Mark Pera. Mark holds a B.S. in Forestry with a concentration in Environmental Resources from Humboldt State University with relevant courses ranging from dendrology and botany to silviculture. He has many years of botany and wildlife field experience in Northern California associated with projects ranging from timber harvest plans (CAL FIRE), Streambed Alteration Agreements (CDFW) and 401/404 Water Quality Certification (WaterBoard). The development of project reports required Mark to assess and identify habitat and presence of listed species and conduct stand search and protocol level surveys (plants, amphibians/reptiles and birds).

This Biological Scoping report considers the potentially occurring species and communities that could be affected by the project based on available spatial data and habitat requirements. A site visit should be conducted to further evaluate potential habitat value to protected, endangered, threatened, rare, and sensitive species and finalize survey recommendations. A list of special-status animal species to consider was downloaded from CNDDDB BIOS for the Lord-Ellis Summit 9-quad area. Animals on the CNDDDB list were primarily included based on state or federal listing status or CDFW designation. Native pollinators found in the area were also included based on state rarity and their potential to be affected by cannabis cultivation. Additional species were added to the CNDDDB list for consideration based on potential habitat or high levels of conservation concern. Habitats within the 1.3-mile Biological Assessment Area (BAA) for potentially occurring species were evaluated based on CALVEG vegetation mapping and aerial photos.

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**Lists of Potentially Occurring Special-Status Animal Species for Willow Creek 9-Quad Area Table 1. Birds**

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential in BAA
<i>Accipiter cooperii</i>	Cooper's hawk	None	None	WL	G5	S4	Yes
<i>Accipiter gentilis</i>	Northern goshawk	None	None	SSC	G5	S3	Yes
<i>Ardea herodias</i>	great blue heron	None	None	-	G5	S4	No?
<i>Contopus cooperi</i>	Olive-sided flycatcher	None	None	SSC	G4	S4	Yes
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	Endangered	FP	G5	S3	Yes
<i>Icteria virens</i>	Yellow-breasted chat	None	None	SSC	G5	S3	Yes
<i>Pandion haliaetus</i>	osprey	None	None	WL	G5	S4	Yes
<i>Strix occidentalis caurina</i>	Northern spotted owl	Threatened	Threatened	SSC	G4T3	S2S3	Yes

**Table 2. Mammals**

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential in BAA
<i>Arborimus albipes</i>	white-footed vole	None	None	SSC	G3G4	S2	Yes
<i>Arborimus pomo</i>	Sonoma tree vole	None	None	SSC	G3	S3	Yes
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	G3G4	S2	Yes
<i>Erethizon dorsatum</i>	North American porcupine	None	None	-	G5	S3	Yes
<i>Gulo gulo</i>	California wolverine	Proposed Threatened	Threatened	FP	G4	S1	No?
<i>Lasionycteris noctivagans</i>	Silver-haired bat	None	None	-	G5	S3S4	Yes
<i>Lasiurus cinereus</i>	Hoary bat	None	None	-	G5	S4	No
<i>Martes caurina humboldtensis</i>	Humboldt marten	None	Candidate Endangered	SCC	G5T1	S1	Yes?
<i>Myotis evotis</i>	Long-eared myotis	None	None	-	G5	S3	Yes
<i>Myotis thysanodes</i>	Fringed myotis	None	None	-	G4	S3	No?
<i>Myotis Volans</i>	Long-legged myotis	None	None	-	G5	S3	No?
<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	G5	S4	No?
<i>Pekania pennanti</i>	fisher - West Coast DPS	None	None	SSC	G5T2T3Q	S2S3	Yes

**Table 3. Amphibians and Reptiles**

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential
<i>Ascaphus truei</i>	Pacific tailed frog	None	None	SSC	G4	S3S4	Yes

Plethodon elongates	Del Norte salamander	None	None	WL	G4	S3	Yes
Rana aurora	Northern red-legged frog	None	None	SSC	G4	S3	Yes
Rana boylei	foothill yellow-legged frog- north coast DPS	None	None	SSC	G3	S3	Yes
Rhyacotriton variegatus	Southern torrent salamander	None	None	SSC	G3G4	S2S3	Yes
Emys marmorata	Western pond turtle	None	None	SSC	G3G4	S3	Yes

**Table 4. Fishes**

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential
Oncorhynchus clarkii clarkii	Coast cutthroat trout	None	None	SSC	G4T4	S3	Yes
Oncorhynchus kisutch	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	-	G5T2Q	S2	Yes?
Oncorhynchus mykiss irideus	steelhead - Klamath Mountains Province DPS	None	None	SSC	G5T3Q	S2	Yes
Oncorhynchus mykiss irideus	steelhead - northern California DPS	Threatened	None	-	G5T2T3Q	S2S3	Yes
Oncorhynchus mykiss irideus	summer-run steelhead trout	None	None	SSC	G5T4Q	S2	Yes
Oncorhynchus tshawytscha	Chinook salmon – upper Klamath and Trinity Rivers ESU	None	None	SSC	G5	S1S2	Yes

**Table 5. Invertebrates**

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential
Bombus caliginosus	obscure bumble bee	None	None	-	G2G3	S1S2	Yes
Bombus occidentalis	western bumble bee	None	Candidate Endangered	-	G3	S1	Yes

## Potential Special-Status Animal Species Details

### I. Potentially Occurring Special Status Birds

#### 1. Cooper's hawk (*Accipiter cooperii*)

**Special Status:** CDFW Watch List; Protected under Migratory Bird Treaty Act; NatureServe Ranks: G5, S4.

**Family:** Accipitridae

**Habitat/Life-history Requirements:** Cooper's hawks are common year-round residents in wooded areas of California, and they can be found in urban and suburban areas as well (Cornell Lab). The raptor commonly nests in riparian and lowland habitats throughout much of Humboldt County (Hunter et al. 2005). The medium-sized hawk builds nests made of piles of sticks over two feet wide in tall trees, typically 25-50 feet off the ground (Cornell Lab). Nesting trees include pines, oaks and Douglas firs (Cornell Lab). Dense stands are typically used for nesting and patchy open areas are commonly used for hunting (Zeiner et al. 1988).

**Potential Impact/Mitigation:** If natural vegetation will be removed during the nesting season for construction, pre-construction surveys for nesting birds are recommended. A low-intensity walking survey of the timber stands on the parcel will scan for signs of raptors. The immediate area of impact will be intensively surveyed for signs of nesting birds prior to operations to avoid impacts. Surveys will occur prior to any additional construction or clearing native vegetation between Feb 1 and Aug 31.

#### 2. Northern goshawk (*Accipiter gentilis*)

**Special Status:** CDFW Species of Special Concern; Protected under Migratory Bird Treaty Act; NatureServe Ranks: G5, S3.

**Family:** Accipitridae

**Habitat/Life-history Requirements:** The northern goshawk inhabits mature coniferous and mixed-coniferous forests that provide suitable nesting structures and adequate prey for this large hawk (Shuford and Gardali 2008). The northern goshawk builds nests that are 3-4 feet long (Cornell Lab) in stands of large trees with high canopy closure and an open understory (Shuford and Gardali 2008). Northern goshawks are known to breed in the Klamath and Inner North Coast Ranges (Hunter et al. 2005). They have also been spotted in the southwestern area of the county (Hunter et al. 2005). The northern goshawk is sensitive to disturbance, and aggressive toward intruders near their nest. They typically nest in wild forested areas, away from human-caused disturbances (Cornell Lab).

**Potential Impact/Mitigation:** If natural vegetation will be removed during the nesting season for construction, pre-construction surveys for nesting birds are recommended. A low-intensity walking survey of the timber stands on the parcel will scan for signs of raptors. The immediate area of impact will be intensively surveyed for signs of nesting birds prior to operations to avoid impacts. Surveys will occur prior to any additional construction or clearing native vegetation between Feb 1 and Aug 31.

#### 3. Great blue heron (*Ardea herodias*)

**Special Status:** California Department of Forestry and Fire Protection classified as *Sensitive* to timber operations; protected under the California Forest Practice Rules; Protected under Migratory Bird Treaty Act; NatureServe Ranks: G5, S4.

**Family:** Ardeidae

**Habitat/Life-history Requirements:** Great blue herons are fairly common in estuaries and emergent wetlands throughout California, and are occasionally observed in a variety of other habitats as well (Zeiner et al. 1988). These waterbirds are highly sensitive to disturbance of nesting colonies, which may cause desertion (Zeiner et al. 1988). Great blue herons typically nest in conspicuous colonies known as rookeries, but may build solitary nests as well (Zeiner et al. 1988). Although they prefer to nest in large trees adjacent to wetland feeding areas, nests may be up to 10 miles from feeding grounds (Zeiner et al. 1988). In Humboldt County, breeding areas are typically limited to the coastal slope and waterways in more inland areas (Hunter et al. 2005).

**Potential Impact/Mitigation:** Although the project is within the species range, preferred habitat likely does not exist within the project area or biological assessment area. No occurrences have been recorded in the CNDDDB. Surveys are not recommended for this species.

**4. Olive-sided flycatcher (*Contopus cooperi*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G4, S4

**Family:** Tyrannidae

**Habitat/Life-history Requirements:** The olive-sided flycatcher is a CDFW Species of Special Concern. The songbird occurs in a variety of forest habitats, preferring to nest in mixed conifer, montane hardwood-conifer, Douglas-fir, and redwood stands (Zeiner et al. 1988). The songbird forages near canyons, meadows, lakes, clearings, and other open terrains (Zeiner et al. 1988).

**Potential Impact/Mitigation:** If natural vegetation will be removed during the nesting season for construction, pre-construction surveys for nesting birds are recommended. A low-intensity walking survey of the timber stands on the parcel will scan for signs of nesting birds. The immediate area of impact will be intensively surveyed for signs of nesting birds prior to operations to avoid impacts. Surveys will occur prior to any additional construction or clearing native vegetation between Feb 1 and Aug 31.

**5. Bald eagle (*Haliaeetus leucocephalus*)**

**Special Status:** Federally Delisted, California Endangered, CDFW Fully Protected; Protected under Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act; NatureServe Ranks: G5, S3.

**Family:** Accipitridae

**Habitat/Life-history Requirements:** Federally delisted, but still considered Endangered in California, bald eagles occur along rivers, large creeks, and coastlines throughout Northwestern California (Harris 2005). Fish are a primary source of prey, and bald eagles are typically found in forested areas near large fish-bearing waters (Cornell Lab). Bald eagles build large nests about 6 feet wide. Nests are typically found in large trees, but may be built on other available vegetation or structures (Cornell Lab).

**Potential Impact:** A low-intensity walking survey of the timber stands on the parcel will scan for signs of raptors. The immediate area of impact will be intensively surveyed for signs of nesting birds prior to operations, and impacts will be avoided. The bald eagle will be included in nesting bird surveys, which will follow eagle protocols to avoid nest disturbance.



If any bald eagle nests occur in the area, a protective buffer zone of at least 10 acres will be established in consultation with CDFW.

**6. Yellow-breasted chat (*Icteria virens*)**

**Special Status:** CDFW Species of Special Concern; Protected under Migratory Bird Treaty Act; NatureServe Ranks: G5, S3.

**Family:** Parulidae

**Habitat/Life-history Requirements:** The yellow-breasted chat is a CDFW Species of Special Concern. This songbird nests in dense riparian brush. The distribution of the yellow-breasted chat in Humboldt County largely follows the riparian habitat surrounding the major rivers, especially the Eel, Trinity, Klamath, and Mad Rivers (Hunter et al. 2005). The yellow breasted chat is relatively numerous in Humboldt County, whereas much of California has seen a decline in population (Shuford and Gardali 2008). Protecting riparian areas, including shrub layers, is important for the conservation of this species.

**Potential Impact/Mitigation:** If natural vegetation will be removed during the nesting season for construction, pre-construction surveys for nesting birds are recommended. A low-intensity walking survey of the timber stands on the parcel will scan for signs of nesting birds. The immediate area of impact will be intensively surveyed for signs of nesting birds prior to operations to avoid impacts. Surveys will occur prior to any additional construction or clearing native vegetation between Feb 1 and Aug 31.

**7. Osprey (*Pandion haliaetus*)**

**Special Status:** CDFW Watch List; Protected under Migratory Bird Treaty Act; NatureServe Ranks: G5, S4.

**Family:** Accipitridae

**Habitat/Life-history Requirements:** Ospreys primarily prey on fish and they require large fish-bearing waters for hunting (Zeiner et al. 1988). Ospreys are widespread along the Trinity, Klamath, Van Duzen, Eel, and South Fork Eel Rivers in Humboldt County (Harris 2005). Ospreys typically make large nests in tall snags or trees high off the ground in open forest habitats (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The parcel could provide potential habitat for the raptor. A low-intensity walking survey of the timber stands on the parcel will scan for signs of raptors. The immediate area of impact will be intensively surveyed for signs of nesting birds prior to operations. If any osprey nests occur in the area, a protective buffer zone of at least 5 acres will be established in consultation with CDFW, and impacts will be avoided.

**8. Northern spotted owl (*Strix occidentalis caurina*)**

**Special Status:** Federally Threatened, California Threatened, CDFW Species of Special Concern, Protected under Migratory Bird Treaty Act; NatureServe Ranks: G3T3, S2S3.

**Family:** Strigidae

**Habitat/Life-history Requirements:** Northern spotted owls typically nest or roost in multi-layered, mature coniferous forest with high canopy closure, large overstory trees, and broken-topped trees or other nesting platforms (USFWS 2012). Confirmed breeding areas are widespread throughout Humboldt County (Hunter et al. 2005). Northern spotted owls may use a broad range of habitats for foraging. Their favored prey, the dusky-footed woodrat (*Neotoma fuscipes*), typically inhabits the forest edge (Harris 2005). USFWS protocol

surveys are needed for any activity that may modify nesting, roosting, or foraging habitats for northern spotted owls (USFWS 2012).

**Potential Impact/Mitigation:** The immediate area of impact will be intensively surveyed for signs of nesting birds prior to operations. A protective buffer, seasonal restrictions, and habitat retention according to USFWS guidelines will be established if any NSO activity sites are detected or recorded in CNDDDB. The project will incorporate measures to reduce noise and light disturbance to NSO habitat.

## II. Mammals

### 1. Sonoma tree vole (*Arborimus pomo*)

**Special Status:** CDFW Species of Special Concern, NatureServe Ranks: G3, S3

**Family:** Muridae

**Habitat/Life-history Requirements:** The Sonoma tree vole occurs along the North Coast in old-growth and other forests, mainly Douglas-fir, redwood, and montane hardwood-conifer habitats (Zeiner et al. 1988). The small rodent specializes in feeding on Douglas-fir and grand fir needles, and typically constructs nests in Douglas-fir trees (Zeiner et al. 1988).

**Potential Impact/Mitigation:** Second-growth Douglas fir dominates most of the parcel. The arboreal rodent is more commonly found in old-growth coniferous forest. The area is unlikely to support the Sonoma tree vole. No impacts are expected.

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

**Special Status:** CDFW Species of Special Concern, NatureServe Ranks: G3G4, S2.

**Family:** Vespertilionidae

**Habitat/Life-history Requirements:** Although it can be found in a wide range of habitats, the bat requires caves, mines, tunnels, buildings, or other human-made structures for roosting (Zeiner et al. 1988). Townsend's big-eared bat is highly sensitive to disturbance of roosting sites (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The parcel could provide potential habitat. The project should incorporate measures to reduce disturbance from noise and lights to potential bat roosting habitat in the area.

### 3. North American porcupine (*Erethizon dorsatum*)

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks: G5, S3

**Family:** Erethizontidae

**Habitat/Life-history Requirements:** The American porcupine is most commonly found in montane conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats (Zeiner et al. 1988). The herbivore feeds on a wide variety of aquatic and terrestrial herbs, shrubs, fruits, leaves, and buds in the summer (Zeiner et al. 1988). During the winter, the porcupine diet includes evergreen leaves, twigs, bark, and cambium of trees, particularly conifers (Zeiner et al. 1988).

**Potential Impact/Mitigation:** Although widely distributed throughout North America and occurring in many habitats, the North American porcupine is considered vulnerable in California. The area should be considered potential habitat for the large rodent. The project should incorporate measures to reduce noise and light disturbance to wildlife, and it is not expected to significantly impact the North American porcupine.

4. **California wolverine (*Gulo gulo*)**

**Special Status:** Federally proposed Threatened; California Threatened; CDFW Fully Protected; NatureServe Ranks: G4, S1.

**Family:** Mustelidae

**Habitat/Life-history Requirements:** The wolverine primarily uses Douglas-fir and mixed conifer habitats (Zeiner et al. 1988). The scavenger requires open areas for hunting and denser forest stands for resting (Zeiner et al. 1988). Wolverines prey on rodents, vertebrates, berries, insects, and carrion (Zeiner et al. 1988). They prefer areas with caves, cliffs, logs, cavities, rock outcrops, and low human disturbance (Zeiner et al. 1988).

**Potential Impact/Mitigation:** Although the project is within the species range, preferred habitat likely does not exist within the project area or biological assessment area. No occurrences have been recorded in the CNDDDB. Surveys are not recommended for this species.

5. **Silver-haired bat (*Lasionycteris noctivagans*)**

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks: G5, S3S4.

**Family:** Vespertilionidae

**Habitat/Life-history Requirements:** The silver-haired bat is primarily a forest-dweller. The insectivore roosts in a wide variety of locations including hollow trees, snags, rock crevices, caves, under bark, and in man-made structures (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The parcel could provide potential habitat. The project will incorporate measures to reduce disturbance from noise and lights to potential bat roosting habitat in the area.

6. **Hoary bat (*Lasiurus cinereus*)**

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks: G5, S4.

**Family:** Vespertilionidae

**Habitat/Life-history Requirements:** The most widespread North American bat, the hoary bat can be found in a wide variety of habitats throughout California (Zeiner et al. 1988). The insectivore typically roosts in medium to large trees with nearby openings for foraging (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The parcel could provide potential habitat. The project will incorporate measures to reduce disturbance from noise and lights to potential bat roosting habitat in the area.

7. **Humboldt marten (*Martes caurina humboldtensis*)**

**Special Status:** California Candidate Endangered; CDFW Species of Special Concern; NatureServe Ranks: G5T1, S1.

**Family:** Mustelidae

**Habitat/Life-history Requirements:** Martens use structurally complex conifer forest with large trees and low human disturbance (Zeiner et al. 1988). Martens require old-growth conifers and snags with cavities for denning and nesting (Zeiner et al. 1988). Martens are currently known to inhabit the northern part of Humboldt County near Prairie Creek Redwood State Park and the Klamath Mountains. Historically, martens occupied a great deal of Humboldt and Mendocino Counties.

**Potential Impact/Mitigation:** The proposed project is not expected to have a significant negative impact on the Humboldt Marten. However, if denning activity is observed or potential den sites are located, mitigation measures should be put in place.

**8. Long-eared myotis (*Myotis evotis*)**

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks: G5, S3

**Family:** Vespertilionidae

**Habitat/Life-history Requirements:** The long-eared myotis is widespread in California's brush, woodland, and forest habitats, but uncommon. The insectivore nests in cavities, under bark, in snags, or in buildings (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The parcel could provide potential habitat. The project will incorporate measures to reduce disturbance from noise and lights to potential bat roosting habitat in the area.

**9. Fringed myotis (*Myotis thysanodes*)**

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks

**Family:** Vespertilionidae

**Habitat/Life-history Requirements:** The fringed myotis uses a wide variety of open habitats, especially pinyon-juniper, valley foothill hardwood and hardwood-conifer habitats. The insectivore requires water, and typically forages over lakes, streams, and ponds (Zeiner et al. 1988). The bat roosts in caves, mines, buildings, and crevices (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The area is unlikely to support the fringed myotis. The project will incorporate measures to reduce disturbance from noise and lights to potential bat roosting habitat in the area.

**10. Long-legged myotis (*Myotis volans*)**

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks

**Family:** Vespertilionidae

**Habitat/Life-history Requirements:** Although most commonly found in high elevation woodland and forest habitats, this small bat can be found in a wide variety of habitats (Zeiner et al. 1988). The long-legged myotis uses denser woodlands and forests for cover and reproduction, and feeds over water or open habitats (Zeiner et al. 1988). The species may roost in rock crevices, buildings, snags, mines, caves, or under tree bark (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The parcel could provide potential habitat. The project will incorporate measures to reduce disturbance from noise and lights to potential bat roosting habitat in the area.

**11. Yuma myotis (*Myotis yumanensis*)**

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks

**Family:** Vespertilionidae

**Habitat/Life-history Requirements:** The Yuma myotis is common and widespread in low-elevation habitats of California (Zeiner et al. 1988). The bat requires water for drinking and foraging habitat, and roosting structures such as buildings, mines, caves, or crevices (Zeiner et al. 1988). Open woodlands and forests provide optimal habitat (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The area is unlikely to support the Yuma myotis. The project will incorporate measures to reduce disturbance from noise and lights to potential bat roosting habitat in the area.

## 12. Fisher - West Coast DPS (*Pekania pennanti*)

**Special Status:** Federally Proposed as Threatened, California Threatened, CDFW Species of Special Concern; NatureServe Ranks: G5T2T3Q, S2S3.

**Family:** Mustelidae

**Habitat/Life-history Requirements:** The fisher uses large expanses of forest with moderate to high canopy closure, and will avoid open forest, grasslands, and wetlands (USFWS 2014). Fishers use cavities in live trees, snags and down logs for reproductive dens (USFWS 2014). Structural complexity is a critical element of fisher habitat, necessary to provide cover for resting and denning, and habitat for prey (USFWS 2014).

**Potential Impact/Mitigation:** The property contains many openings, and would not be prime habitat for the fisher. Potential habitat may occur offsite within the BAA, but no significant impact is expected.

### III. Amphibians and Reptiles

#### 1. Pacific tailed frog (*Ascaphus truei*)

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G4, S3S4

**Family:** Ascaphidae

**Habitat/Life-history Requirements:** The Pacific tailed frog requires permanent, cool streams in conifer-dominated habitats including redwood, Douglas fir, mixed-conifer, and ponderosa pine habitats (Zeiner et al. 1988). They prefer turbulent waters with rocky substrates in steep-walled valleys with dense vegetation, where the water temperature remains low (Zeiner et al. 1988). Increased water temperature and siltation from logging pose threats to the amphibian (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The project will avoid impacts to the Pacific tailed frog by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion.

#### 2. Del Norte salamander (*Plethodon elongates*)

**Special Status:** CDFW Watch List; NatureServe Ranks: G4, S3.

**Family:** Plethodontidae

**Habitat/Life-history Requirements:** The Del Norte salamander can be found in moist forested habitats, including riparian, Douglas-fir, redwood, and montane hardwood-conifer forests at low to middle elevations (up to ~3,600ft) (Zeiner et al. 1988). The lungless terrestrial salamander takes cover under rotting logs, stabilized talus, or other elements that provide moist microhabitats (Zeiner et al. 1988). Breeding occurs on moist soil, and standing water is not a habitat requirement (Zeiner et al. 1988).

**Potential Impact/Mitigation:** The project will avoid impacts to the Del Norte salamander by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion.

3. **Northern red-legged frog (*Rana aurora*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G4, S3

**Family:** Ranidae

**Habitat/Life-history Requirements:** The northern red-legged frog inhabits low-elevation wetlands of the North Coast Ranges from Del Norte to Mendocino Counties (Zeiner et al. 1988). The northern red-legged frog requires permanent pools in streams, marshes, or ponds (Zeiner et al. 1988).

**Potential Impact/Mitigation:** Permanent streams on the parcel and in the surrounding area could provide habitat for the Northern red-legged frog. The project will avoid impacts to the Northern red-legged frog by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion.

4. **Foothill yellow-legged frog (*Rana boylei*)**

**Special Status:** State Candidate for listing as Threatened; CDFW Species of Special Concern; NatureServe Ranks: G3, S3

**Family:** Ranidae

**Habitat/Life-history Requirements:** The foothill yellow legged frog inhabits rocky streams with permanent water in many habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadows (Zeiner et al. 1988).

**Potential Impact/Mitigation:** Permanent streams on the parcel and in the surrounding area could provide habitat for the foothill yellow-legged frog. The project will avoid impacts to the riparian species by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion.

5. **Southern torrent salamander (*Rhyacotriton variegatus*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G3G4, S2S3

**Family:** Rhyacotritonidae

**Habitat/Life-history Requirements:** The southern torrent salamander primarily occupies cold, shaded permanent streams and seeps in redwood, Douglas fir, mixed conifer, montane riparian and montane hardwood-conifer habitats in Sonoma, Mendocino, Humboldt and Lake Counties (Zeiner et al. 1988). The newt requires rapid, permanent streams with rocky substrate for breeding and larval development (Zeiner et al. 1988).

**Potential Impact/Mitigation:** Permanent, rocky streams on the parcel and in the surrounding area could provide habitat for the southern torrent salamander. The project will avoid impacts to the riparian species by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion).

6. **Western pond turtle (*Emys marmorata*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G3G4, S3

**Family:** Emydidae

**Habitat/Life-history Requirements:** The western pond turtle is associated with permanent or nearly permanent water in ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams (Zeiner et al. 1988). Invasive American bullfrogs prey upon hatchlings and juveniles (Zeiner et al. 1988).

**Potential Impact/Mitigation:** Areas with permanent water should be considered potential habitat, including water storage ponds. Water storage ponds may also provide American bullfrog habitat, and providing habitat for this invasive predator could pose an impact to western pond turtles. This potential impact will be mitigated by surveying for, and removing any American bullfrogs. The project will also avoid impacts to natural wetland habitats by maintaining suitable buffer zones and using best management practices to minimize erosion.

#### IV. Fishes

##### 1. **Coast cutthroat trout (*Oncorhynchus clarkii clarkii*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G4T4, S3.

**Family:** Salmonidae

**Habitat/Life-history Requirements:** The coastal cutthroat trout is a small salmonid that may be anadromous or resident to watersheds of the Pacific coast from the Eel River of Humboldt County north to Alaska (Moyle et al. 2008). Much like steelhead and other salmonids, coastal cutthroat require cool streams with deep pools and cover (Moyle et al. 2008). Coastal cutthroat prefer small, low gradient coastal streams, and they may be outcompeted by steelhead in larger streams and rivers where they co-occur (Moyle et al. 2008). Spawning occurs in gravel-bottom riffles and pools (Moyle et al. 2008). The Smith and Klamath River drainages support nearly half of the coastal cutthroat populations in California (Gerstung 1997 cited in Moyle et al. 2008).

**Potential Impact/Mitigation:** Streams on the parcel and in the surrounding area are not likely to provide habitat for the anadromous salmonid, which uses watersheds farther north. The project will avoid impacts to fish by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion and runoff.

##### 2. **Coho salmon - southern Oregon / northern California ESU (*Oncorhynchus kisutch*)**

**Special Status:** Federally Threatened, California Threatened; NatureServe Ranks: G4T2Q, S2?

**Family:** Salmonidae

**Habitat/Life-history Requirements:** Coho salmon are a federally and state-listed anadromous fish that occupy low gradient rivers and coastal streams (CDFW). The anadromous salmonids return to these watersheds in the fall and early winter to spawn in gravel substrate, after the first major rains (Moyle et al. 2008). Coho require cool, clear perennial streams and rivers with structural complexity for cover and low suspended sediment (Moyle et al. 2008). Juveniles are most abundant in well-shaded, deep pools with many structural elements that provide cover (Moyle et al. 2008). Sedimentation is a major threat to salmonids in their early life stages.

**Potential Impact/Mitigation:** Streams on the parcel and in the surrounding area are not likely to provide habitat for the anadromous salmonid, which uses watersheds farther north. The project will avoid impacts to fish by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion and runoff.

##### 3. **Steelhead - Klamath Mountains Province DPS (*Oncorhynchus mykiss irideus*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G5T3Q, S2

**Family:** Salmonidae

**Habitat/Life-history Requirements:** Steelhead are anadromous rainbow trout that migrate to the ocean as juveniles and return to freshwater habitats to spawn. The Klamath Mountains Distinct Population Segment (DPS) ranges from Klamath and Trinity basins and streams north to the Smith, Rogue and Elk Rivers in Oregon (Moyle et al. 2008). Salmonids, including steelhead, require cool, clear perennial streams and rivers with structural complexity for cover and low suspended sediment. Steelhead may swim upstream in during the winter to spawn in stream segments that are not accessible to other salmonids during low flows (Moyle et al. 2008). Sedimentation is a major threat to salmonids in their early life stages.

**Potential Impact/Mitigation:** Streams on the parcel and in the surrounding area are not likely to provide habitat for the anadromous salmonid, which uses watersheds farther north. The project will avoid impacts to fish by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion and runoff.

**4. Steelhead - northern California DPS (*Oncorhynchus mykiss irideus*)**

**Special Status:** Federally Threatened; NatureServe Ranks: G5T2T3Q, S2S3

**Family:** Salmonidae

**Habitat/Life-history Requirements:** Steelhead are anadromous rainbow trout that migrate to the ocean as juveniles and return to freshwater habitats to spawn. The Northern California Distinct Population Segment (DPS) ranges from Redwood Creek to just south of the Gualala River, and includes the Eel River watershed (Moyle et al. 2008). Salmonids, including steelhead, require cool, clear perennial streams and rivers with structural complexity for cover and low suspended sediment. Steelhead may swim upstream in during the winter to spawn in stream segments that are not accessible to other salmonids during low flows (Moyle et al. 2008). Sedimentation is a major threat to salmonids in their early life stages.

**Potential Impact/Mitigation:** Streams on the parcel and in the surrounding area are not likely to provide habitat for the anadromous salmonid, which uses watersheds farther north. The project will avoid impacts to fish by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion and runoff.

**5. Summer-run steelhead trout (*Oncorhynchus mykiss irideus*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G5T4Q, S2

**Family:** Salmonidae

**Habitat/Life-history Requirements:** Summer-run steelhead trout remain in freshwater habitats until they reach maturity (Moyle et al. 2008). These steelhead have similar requirements during their juvenile stages, with an additional need for freshwater habitats to remain suitable throughout the summer (Moyle et al. 2008). Summer steelhead are sensitive to human disturbance and typically are only found in the most remote areas of the watersheds (Moyle et al. 2008). Sedimentation is a major threat to salmonids in their early life stages.

**Potential Impact/Mitigation:** Streams on the parcel and in the surrounding area are not likely to provide habitat for the anadromous salmonid, which uses watersheds farther north. The project will avoid impacts to fish by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion and runoff.

**6. Chinook salmon – upper Klamath and Trinity Rivers ESU (*Oncorhynchus tshawytscha*)**

**Special Status:** CDFW Species of Special Concern; NatureServe Ranks: G5, S1S2.



**Family:** Salmonidae

**Habitat/Life-history Requirements:** The Upper Klamath and Trinity Rivers ESU includes both spring and fall-run chinook spawning upstream of the confluence of the Klamath and Trinity Rivers (Moyle et al. 2008). While fall-run chinook re-enter freshwater habitat for spawning as sexually mature adults, spring-run chinook will re-enter freshwater prior to reaching maturity and inhabit cold-water refugia for 2-4 months before spawning (Moyle et al. 2008). The anadromous salmonids may emigrate to the ocean in the summer after emergence, or they may rear in freshwater habitats for an extended period through the fall or winter (Moyle et al. 2008). A small number remain in fresh water for a year and emigrate as yearlings (Moyle et al. 2008). Chinook are the largest Pacific salmon, and preservation of cool water habitats in the upper Klamath and Trinity Rivers is essential to the conservation of the ESU (Moyle et al. 2008). Like other salmonids, chinook are also threatened by flow reduction, sedimentation, and reduced water quality.

**Potential Impact/Mitigation:** Streams on the parcel and in the surrounding area are not likely to provide habitat for the anadromous salmonid, which uses watersheds farther north. The project will avoid impacts to fish by maintaining suitable buffer zones around riparian areas and using best management practices to minimize erosion and runoff.

## V. Invertebrates

### 1. Obscure bumble bee (*Bombus caliginosus*)

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks: G4?, S1S2

**Family:** Apidae

**Habitat/Life-history Requirements:** The obscure bumble bee occupies open grassy coastal prairies and Coast Range meadows (IUCN). This long-tongued species may pollinate flowers with elongated corollas, such as *Keckiella* spp. (IUCN). The obscure bumblebee does not fare well in agricultural or urban/suburban environments, where it is often outcompeted by more common bumblebees (NatureServe 2017). The obscure bumblebee has declined in the San Francisco Bay area, and may be threatened by habitat loss from development (NatureServe 2017).

**Potential Impact/Mitigation:** The property has the potential to support many native pollinators. Adhering to restrictions and regulations of pesticide use in cannabis cultivation areas, including preventing drift to native vegetation, is expected to minimize the potential impact of agricultural activities.

### 2. Western bumble bee (*Bombus occidentalis*)

**Special Status:** CDFW Special Animals List (2018); NatureServe Ranks: G2G3, S1

**Family:** Apidae

**Habitat/Life-history Requirements:** The western bumble bee is a generalist short-tongued forager that may be found in open habitats such as grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows (IUCN). Like many bumble bees, the western bumble bee nests underground in abandoned rodent holes (IUCN). The western bumble bee is threatened by disease, habitat loss and degradation, and insecticides.

**Potential Impact/Mitigation:** The property has the potential to support many native pollinators. Adhering to restrictions and regulations of pesticide use in cannabis cultivation

areas, including preventing drift to native vegetation, is expected to minimize the potential impact of agricultural activities.

## **Conclusion**

The O'Connor Cannabis Cultivation Project is set in a Douglas-fir stand type. Floristic surveys for protected plant species is recommended. The area does provide the high canopy-closure forest habitat that supports northern spotted owls, and surveys for northern spotted owls is recommended. Permanent stream through the property could provide habitat for the foothill yellow legged frog. Foothill yellow legged frog surveys are recommended for any road work in stream crossings and if any cultivation areas encroach on SMAs. Any ponds present on the property will need to be drawn down annually to prevent invasion by the American bullfrog. In the event construction or vegetation removal is planned, pre-construction surveys will be needed. The applicant may avoid indirect impacts to special-status fish, amphibians, and reptiles by adhering to state and regional waterboard guidelines to minimize runoff from cultivation and observing SMA buffer distances. Minimizing light pollution and adhering to International Dark Sky Association standards will minimize potential impacts on birds, bats and other light-sensitive species. Minimizing noise pollution from generators is also important for sensitive birds, bats, and other wildlife. A site visit to evaluate potential habitat and impacts of operations is needed to finalize a list of recommended surveys. If likely habitat or wetlands are observed in the area of impact, additional biological surveys or a wetland delineation might be necessary.

## Rank Definitions

### Global Conservation Status Definition

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

- G1**     **Critically Imperiled** – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2**     **Imperiled** – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
- G3**     **Vulnerable** – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
- G4**     **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5**     **Secure** – Common; widespread and abundant.
- G#G#**   **Range Rank** – A numeric range rank (e.g. G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

### Intraspecific Taxon Conservation Status Ranks

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

### Subnational (S) Conservation Status Ranks

- S1**     **Critically Imperiled** – Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.
- S2**     **Imperiled** – Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.
- S3**     **Vulnerable** – Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4**     **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5**     **Secure** – Common, widespread, and abundant in the jurisdiction.
- S#S#**   **Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).


### Rank Qualifiers

- ?**     **Inexact Numeric Rank** – Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status
- Q**     **Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The “Q” modifier is only used at a global level and not at a national or subnational level.

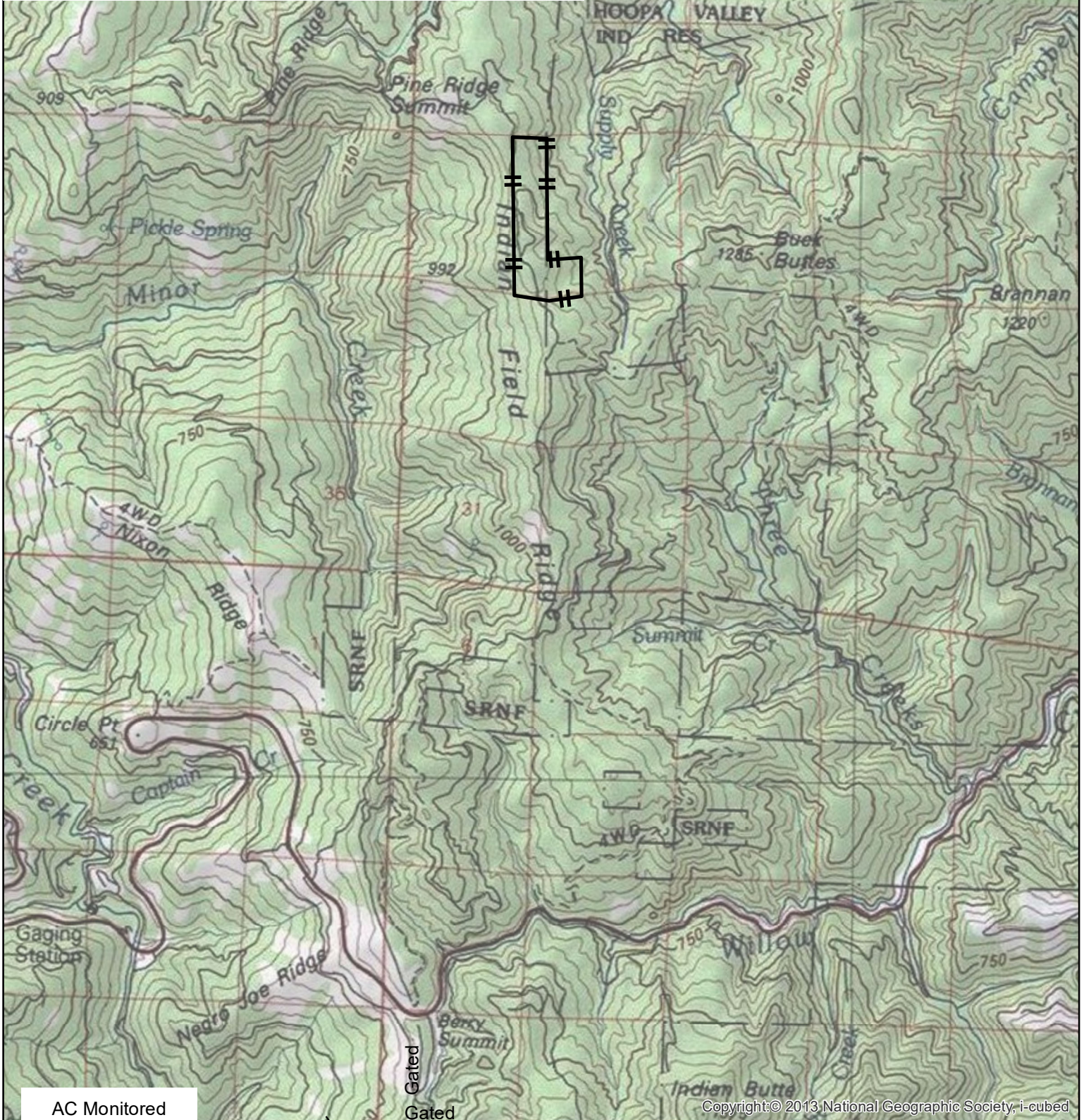


Sean O'Connor  
General Location Map  
Sec. 19 & 20, T7N, R4E, HB&M  
Humboldt County, CA  
USGS 7.5' Quad: Lord-Ellis Summit

1 inch = 5,000 feet

 Parcel Boundary (APN 522-026-007)

0 5,000 10,000 20,000 Feet

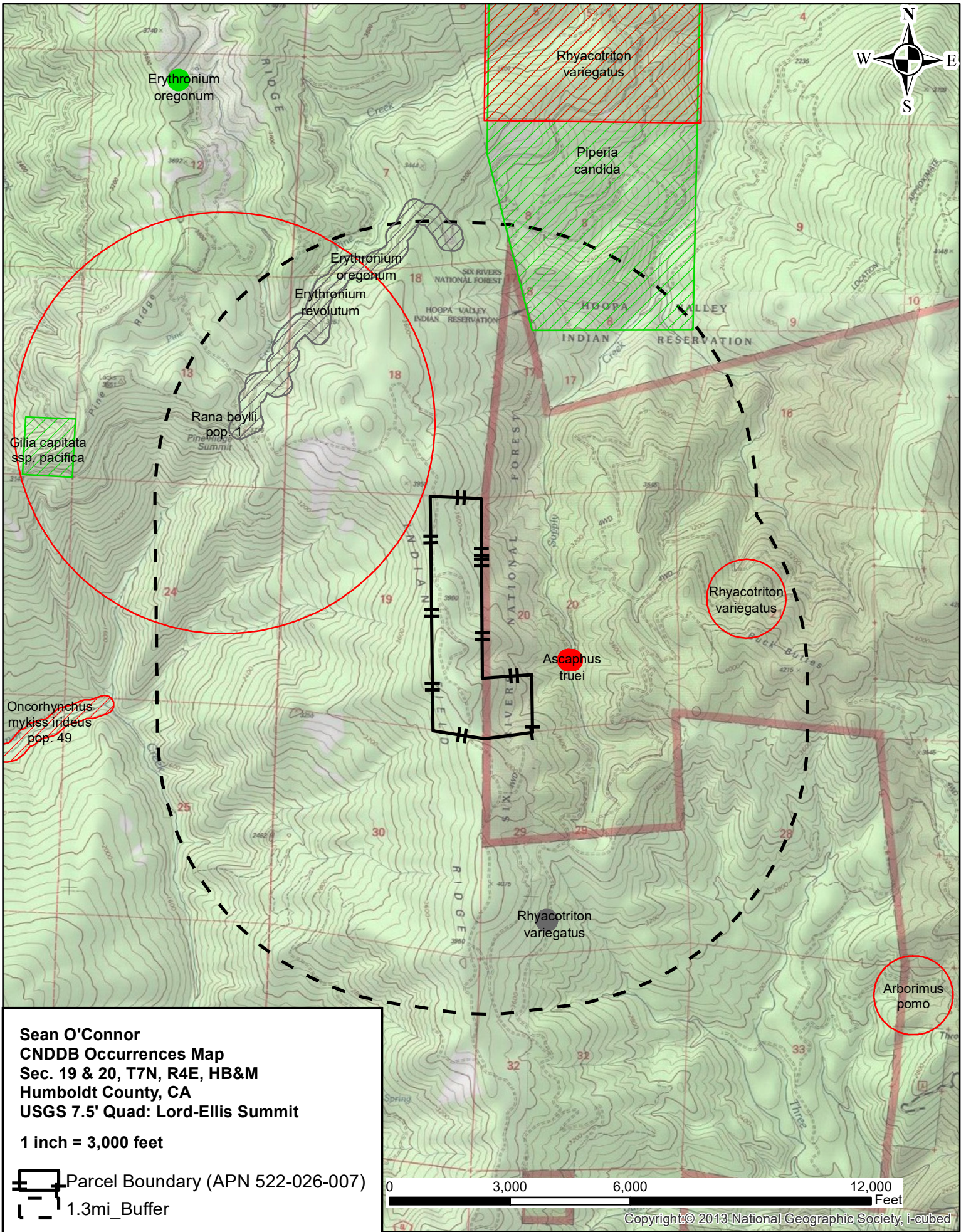


AC Monitored

Gated

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Erythronium oregonum

Rhyacotriton variegatus

Piperia candida

Erythronium oregonum  
 Erythronium revolutum

Rana boylei pop. 1

Gilia capitata ssp. pacifica

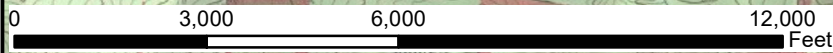
Rhyacotriton variegatus

Ascaphus truei

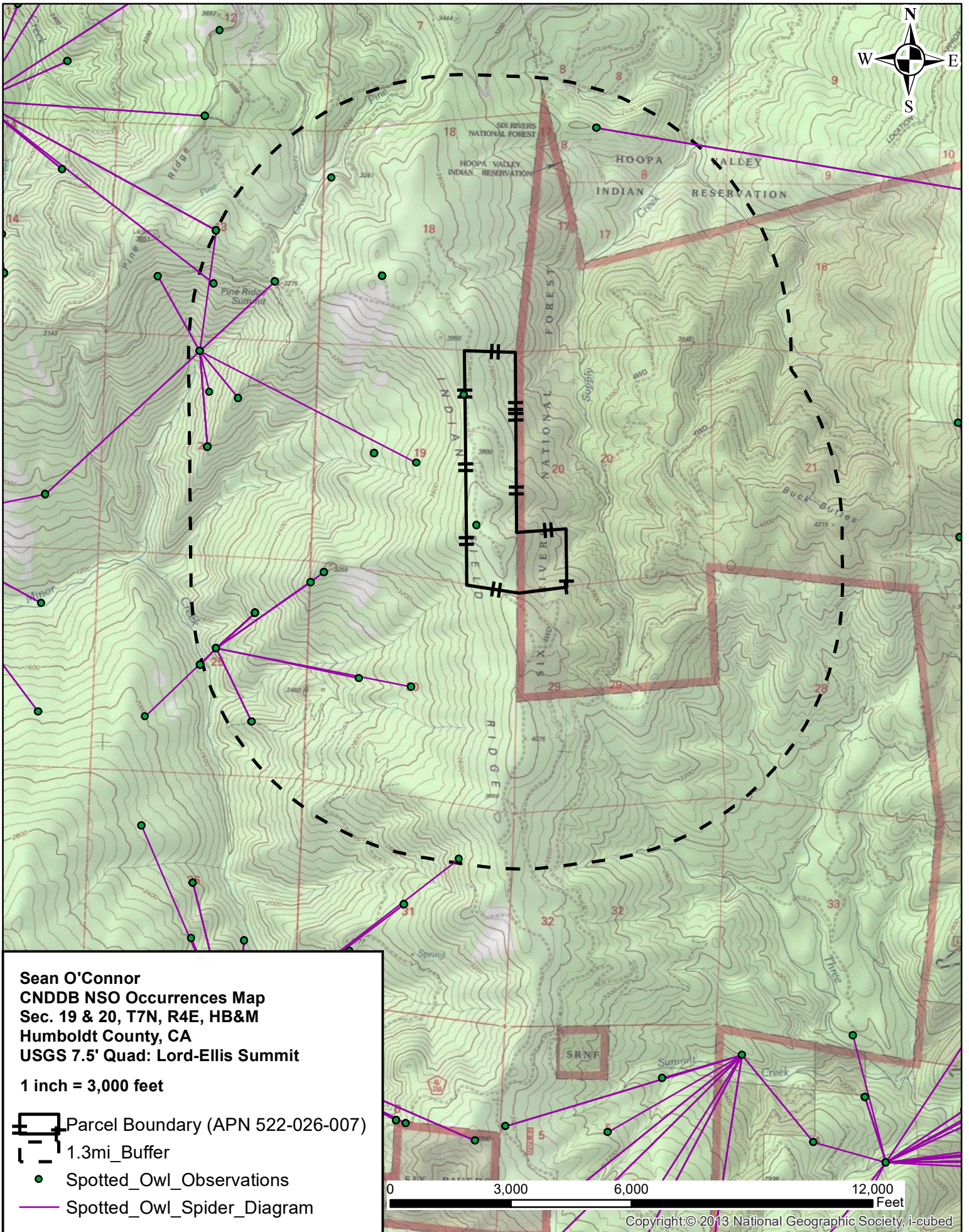
Oncorhynchus mykiss irideus pop. 49

Rhyacotriton variegatus

Arborimus pomo











Sean O'Connor  
CalVeg Habitat Map  
Sec. 19, 20 T7N, R4E, HB&M  
Humboldt County, CA  
USGS 7.5' Quad: Lord-Ellis Summit

 OConnor Property Boundary  
 1.3 mile buffer

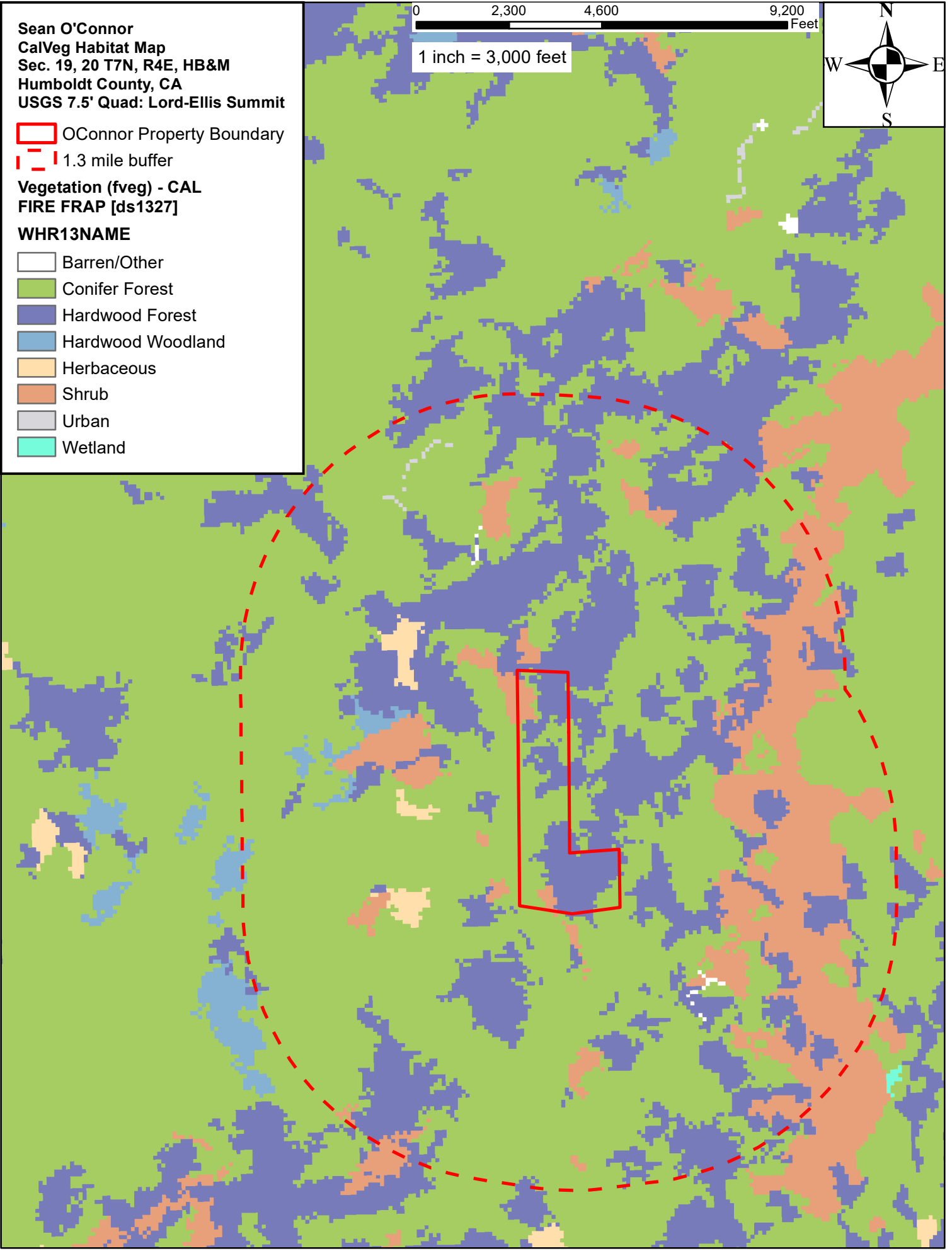
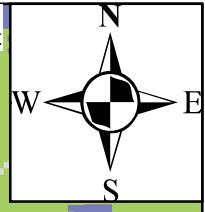
Vegetation (fveg) - CAL  
FIRE FRAP [ds1327]

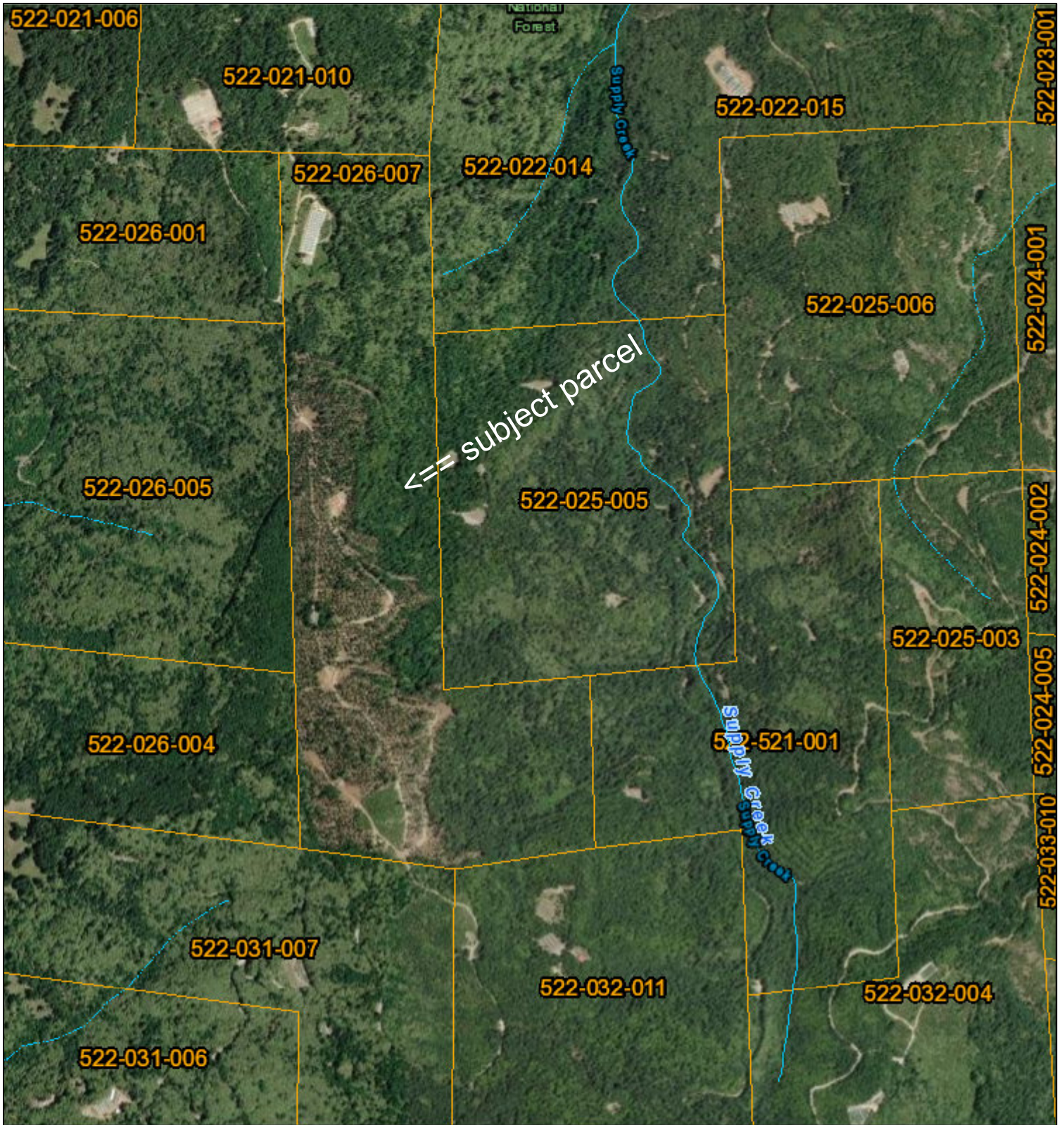
**WHR13NAME**

-  Barren/Other
-  Conifer Forest
-  Hardwood Forest
-  Hardwood Woodland
-  Herbaceous
-  Shrub
-  Urban
-  Wetland

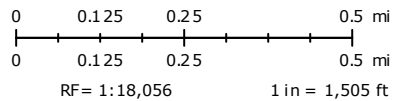
0 2,300 4,600 9,200 Feet

1 inch = 3,000 feet





**Humboldt County WebGIS**  
 Humboldt County Planning and Building Department



9/19/2023, 1:28:07 PM Web AppBuilder 2.0 for ArcGIS

- Major River or Stream
- Perennial >4
- Perennial 1-3
- - - Intermittent
- - - Subsurface
- City Boundary (750K)
- Counties
- Parcels
- City Boundary
- Parcels (no APN labels)

Map Disclaimer:  
 While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.  
 Source: Humboldt County GIS, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



O'Connor parcel

GoogleEarth  
imagery date: 05/19/2023

Legend

FFPE 1-21EX-00742-HUM ==>

THP 1-22-00010-HUM ==>

THP 1-22-00010-HUM ==>

Google Earth

© 2023 Airbus







# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad IS (Lord-Ellis Summit (4012387) OR Panther Creek (4112318) OR Hupa Mountain (4112317) OR Blue Lake (4012388) OR Hoopa (4112316) OR Willow Creek (4012386) OR Korbrel (4012378) OR Maple Creek (4012377) OR Grouse Mtn. (4012376))

Sean O'Connor  
 APN 522-026-007  
 Lord-Ellis Summit 9-Quad

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Accipiter cooperii</i> Cooper's hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	880 880	118 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Accipiter gentilis</i> northern goshawk	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	2,000 2,000	433 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Ancotrema voyanum</i> hooded lancetooth	G1G2 S1S2	None None		1,465 4,824	173 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Aplodontia rufa humboldtiana</i> Humboldt mountain beaver	G5TNR SNR	None None		80 1,700	28 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Arborimus albipes</i> white-footed vole	G3G4 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	800 800	3 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Arborimus pomo</i> Sonoma tree vole	G3 S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	400 3,100	222 S:27	0	0	0	0	0	27	27	0	27	0	0
<i>Ascaphus truei</i> Pacific tailed frog	G4 S3S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	150 4,100	491 S:62	1	6	0	0	0	55	15	47	62	0	0
<i>Astragalus umbraticus</i> Bald Mountain milk-vetch	G4 S2	None None	Rare Plant Rank - 2B.2	2,600 4,000	36 S:9	2	3	2	0	0	2	3	6	9	0	0
<i>Atractelmis wawona</i> Wawona riffle beetle	G3 S1S2	None None		921 921	80 S:1	0	0	0	0	0	1	1	0	1	0	0



## Summary Table Report

### California Department of Fish and Wildlife California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Benisoniella oregona</i> benisoniella	G3 S2	None Rare	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz USFS_S-Sensitive	3,026 4,560	12 S:9	0	5	1	1	0	2	2	7	9	0	0
<i>Bombus caliginosus</i> obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	540 2,100	181 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Bombus occidentalis</i> western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	350 5,300	306 S:5	0	0	0	0	0	5	2	3	5	0	0
<i>Carex arcta</i> northern clustered sedge	G5 S1	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern	1,890 3,450	13 S:4	1	0	2	0	0	1	0	4	4	0	0
<i>Carex praticola</i> northern meadow sedge	G5 S2	None None	Rare Plant Rank - 2B.2	4,540 4,540	14 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Cleptes humboldti</i> Humboldt cuckoo wasp	G1G2 S1S2	None None		721 721	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Coptis laciniata</i> Oregon goldthread	G4? S3?	None None	Rare Plant Rank - 4.2	698 3,000	122 S:16	0	6	6	3	0	1	1	15	16	0	0
<i>Cornus unalaschkensis</i> bunchberry	G5 S2	None None	Rare Plant Rank - 2B.2	3,500 4,100	11 S:3	0	1	0	0	0	2	2	1	3	0	0
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	250 770	635 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	700 1,640	1518 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Epilobium oreganum</i> Oregon fireweed	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	4,000 5,000	61 S:4	0	1	0	0	0	3	3	1	4	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Erethizon dorsatum</i> North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	517 5,000	523 S:9	0	0	0	0	0	9	9	0	9	0	0
<i>Erythranthe trinitiensis</i> pink-margined monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,600 4,940	15 S:7	0	2	0	0	0	5	0	7	7	0	0
<i>Erythronium oregonum</i> giant fawn lily	G5 S2	None None	Rare Plant Rank - 2B.2 SB_UCSC-UC Santa Cruz	1,200 4,640	37 S:17	1	3	4	0	0	9	9	8	17	0	0
<i>Erythronium revolutum</i> coast fawn lily	G4G5 S3	None None	Rare Plant Rank - 2B.2 SB_UCSC-UC Santa Cruz	330 4,500	172 S:39	2	18	13	1	0	5	2	37	39	0	0
<i>Gilia capitata ssp. pacifica</i> Pacific gilia	G5T3 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	2,900 5,300	91 S:6	1	5	0	0	0	0	0	6	6	0	0
<i>Glyceria grandis</i> American manna grass	G5 S3	None None	Rare Plant Rank - 2B.3	2,800 2,800	10 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Gonidea angulata</i> western ridged mussel	G3 S2	None None	IUCN_VU-Vulnerable	374 374	158 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Haliaeetus leucocephalus</i> bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive	160 160	332 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Helminthoglypta talmadgei</i> Trinity shoulderband	G2 S2	None None		350 600	21 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Iliamna latibracteata</i> California globe mallow	G2G3 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	2,861 5,185	40 S:7	0	0	0	1	0	6	3	4	7	0	0
<i>Lanx alta</i> highcap lanx	G2G3 S3	None None		540 540	13 S:1	0	0	0	0	0	1	1	0	1	0	0



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<i>Lasionycteris noctivagans</i> silver-haired bat	G3G4 S3S4	None None	IUCN_LC-Least Concern		139 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lycopodium clavatum</i> running-pine	G5 S3	None None	Rare Plant Rank - 4.1	480 4,020	120 S:36	0	5	15	1	0	15	36	0	36	0	0
<i>Margaritifera falcata</i> western pearlshell	G4G5 S1S2	None None	IUCN_NT-Near Threatened	317 317	78 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Microseris borealis</i> northern microseris	G5 S1	None None	Rare Plant Rank - 2B.1 IUCN_LC-Least Concern	3,500 3,500	3 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Mitellastris caulescens</i> leafy-stemmed mitrewort	G5 S4	None None	Rare Plant Rank - 4.2	1,100 3,500	21 S:3	0	1	0	0	0	2	3	0	3	0	0
<i>Montia howellii</i> Howell's montia	G3G4 S2	None None	Rare Plant Rank - 2B.2	135 3,500	123 S:12	2	5	3	2	0	0	1	11	12	0	0
<i>Myotis evotis</i> long-eared myotis	G5 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern	540 540	139 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Nycticorax nycticorax</i> black-crowned night heron	G5 S4	None None	IUCN_LC-Least Concern	100 100	37 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Oenothera wolfii</i> Wolf's evening-primrose	G2 S1	None None	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank		29 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Oncorhynchus clarkii clarkii</i> coast cutthroat trout	G5T4 S3	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern USFS_S-Sensitive	20 317	45 S:5	0	0	0	0	0	5	4	1	5	0	0
<i>Oncorhynchus kisutch pop. 2</i> coho salmon - southern Oregon / northern California ESU	G5T2Q S2	Threatened Threatened	AFS_TH-Threatened	117 117	10 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Oncorhynchus mykiss irideus pop. 48</i> steelhead - northern California DPS summer-run	G5T2Q S2	Threatened Endangered	AFS_TH-Threatened	500 700	10 S:2	0	0	1	1	0	0	0	2	2	0	0
<i>Oncorhynchus mykiss irideus pop. 49</i> steelhead - northern California DPS winter-run	G5T3Q S3	Threatened None	AFS_TH-Threatened	78 1,993	96 S:6	0	0	5	1	0	0	0	6	6	0	0



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<i>Oncorhynchus tshawytscha</i> pop. 30 chinook salmon - upper Klamath and Trinity Rivers ESU	G5T2Q S2	Candidate Threatened	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	385 385	6 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Packera bolanderi</i> var. <i>bolanderi</i> seacoast ragwort	G4T4 S2S3	None None	Rare Plant Rank - 2B.2	400 400	72 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Pandion haliaetus</i> osprey	G5 S4	None None	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	400 1,240	504 S:4	0	2	2	0	0	0	4	0	4	0	0
<i>Pekania pennanti</i> Fisher	G5 S2S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	540 5,000	555 S:34	2	2	0	0	0	30	28	6	34	0	0
<i>Piperia candida</i> white-flowered rein orchid	G3? S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	975 2,300	222 S:7	0	1	2	1	1	2	3	4	6	1	0
<i>Plethodon elongatus</i> Del Norte salamander	G4 S3	None None	CDFW_WL-Watch List IUCN_NT-Near Threatened	400 2,400	151 S:15	0	0	0	0	0	15	14	1	15	0	0
<i>Ptilidium californicum</i> Pacific fuzzwort	G4G5 S3S4	None None	Rare Plant Rank - 4.3 BLM_S-Sensitive	3,500 5,200	177 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Ramalina thrausta</i> angel's hair lichen	G5? S2S3	None None	Rare Plant Rank - 2B.1	4,550 4,550	21 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Rana aurora</i> northern red-legged frog	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	80 2,000	292 S:32	0	1	0	0	0	31	13	19	32	0	0
<i>Rana boylei</i> pop. 1 foothill yellow-legged frog - north coast DPS	G3T4 S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	61 3,282	1608 S:40	2	1	0	0	0	37	18	22	40	0	0
<i>Rhyacotriton variegatus</i> southern torrent salamander	G3? S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	200 4,100	416 S:95	3	13	2	0	0	77	40	55	95	0	0



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<i>Riparia riparia</i> bank swallow	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	100 100	299 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Rosa gymnocarpa var. serpentina</i> Gasquet rose	G5T3T4 S2	None None	Rare Plant Rank - 1B.3 SB_BerrySB-Berry Seed Bank SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,425 5,475	7 S:3	0	0	0	0	0	3	0	3	3	0	0
<i>Sanguisorba officinalis</i> great burnet	G5? S2	None None	Rare Plant Rank - 2B.2	2,305 3,750	22 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Sanicula tracyi</i> Tracy's sanicle	G4 S4	None None	Rare Plant Rank - 4.2 USFS_S-Sensitive	2,880 2,880	80 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Sedum flavidum</i> pale yellow stonecrop	G3 S3	None None	Rare Plant Rank - 4.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	3,850 5,000	47 S:5	0	0	1	0	0	4	5	0	5	0	0
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	G3 S3	None None	Rare Plant Rank - 4.2	700 2,500	136 S:12	0	2	5	0	0	5	12	0	12	0	0
<i>Sidalcea malviflora ssp. patula</i> Siskiyou checkerbloom	G4G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz	1,100 2,558	60 S:6	0	1	3	0	0	2	2	4	6	0	0
<i>Sidalcea oregana ssp. eximia</i> coast checkerbloom	G5T1 S1	None None	Rare Plant Rank - 1B.2	3,500 5,100	19 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Thaleichthys pacificus</i> eulachon	G5 S1	Threatened None	IUCN_LC-Least Concern		10 S:2	0	0	0	0	1	1	2	0	1	1	0
<i>Thermopsis robusta</i> robust false lupine	G2 S2	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz USFS_S-Sensitive	1,850 2,800	104 S:6	0	1	3	1	0	1	0	6	6	0	0
<i>Upland Douglas Fir Forest</i> Upland Douglas Fir Forest	G4 S3.1	None None		2,000 3,600	15 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Usnea longissima</i> Methuselah's beard lichen	G4 S4	None None	Rare Plant Rank - 4.2 BLM_S-Sensitive	1,460 1,460	206 S:1	0	0	0	0	0	1	1	0	1	0	0