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Biological Scoping Report
Poole Cannabis Cultivation

Prepared by
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For Mad River Properties, Inc.
And Hohman and Associates
Hydesville, CA

Signature: Kelsey McDonald **Date:** 11/14/18

Setting

The Poole Cannabis Cultivation Project is located in Section 25 and 30, Township 4 South, Range 4 East HB&M; Humboldt County, on the Garberville USGS 7.5' quadrangle. The project area is southeast of the town of Garberville, 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. The elevation ranges from approximately 600 to 1000 feet. Slopes on the property are moderate to steep, and the aspect is variable. The vegetation is primarily mixed coniferous forest dominated by Douglas fir (*Pseudotsuga menziesii*) and tanoak (*Notholithocarpus densiflorus*), with canyon live oak (*Quercus chrysolepis*), and madrone (*Arbutus menziesii*). Woodlands dominated by Oregon white oak (*Quercus garryana*) and open grasslands also occur in the project area. The property is approximately 398 acres.

Methods

The initial scoping for this project was conducted by Kelsey McDonald. Kelsey is a CNPS Certified Consulting Botanist, and she holds a M.S. in Natural Resources with a concentration in Environmental Science from Humboldt State University. Kelsey has taken relevant courses including conservation biology, ornithology, ecology, plant taxonomy, field botany, and plant biology. She has 5 years of botany and wildlife experience in Northern California.

The Biological Scoping report considers the potentially occurring species and communities that could be affected by the project based on available spatial data, habitat requirements, and observations during an initial site visit. The site was evaluated for potential habitat value to protected, endangered, threatened, rare, and sensitive species by walking around the project area to observe species, habitat types, and quality on 11/9/2018. Habitat and site photos can be found in Attachment A.

A list of special-status animal species to consider was downloaded from CNDDB BIOS for the Garberville 9-quad area. Animals on the CNDDB 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 CNDDB 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 the initial site visit and CALVEG vegetation mapping. Attachment B shows the vegetation map of showing the CALVEG (Classification and Assessment with LANDSAT of Visible Ecological Groupings) dominant vegetation alliances for the parcel and surrounding area (U.S. Forest Service 2000). Attachment C shows nearby occurrences of special status taxa as mapped in CNDDB. Northern Spotted Owl (NSO) surveys were also started in 2018, and NSO maps and data can be found in Attachment D. Additional surveys have been recommended to fully address potential biological impacts (See Table 6 p. 13).

Potentially Occurring Special-Status Animal Species for Garberville 9-Quad Area

Table 1. Birds

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential in BAA
Accipiter cooperii	Cooper's hawk	None	None	WL	G5	S4	Yes
Aquila chrysaetos	golden eagle	None	None	FP ; WL	G5	S3	Yes
Empidonax traillii brewsteri	little willow flycatcher	None	Endangered	-	G5T3T4	S1S2	Yes
Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	G4T4	S3S4	Yes
Haliaeetus leucocephalus	bald eagle	Delisted	Endangered	FP	G5	S3	Yes
Pandion haliaetus	osprey	None	None	WL	G5	S4	Yes
Pelecanus occidentalis californicus	California brown pelican	Delisted	Delisted	FP	G4T3	S3	No-coastal
Strix occidentalis caurina	Northern spotted owl	Threatened	Threatened	SSC	G4T3	S2S3	Yes

Table 2. Mammals

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential in BAA
Antrozous pallidus	pallid bat	None	None	SSC	G5	S3	Yes
Arborimus pomo	Sonoma tree vole	None	None	SSC	G3	S3	Yes
Martes caurina humboldtensis	Humboldt marten	None	Candidate Endangered	SSC	G5T1	S1	Added to list, see details
Pekania pennanti	fisher - West Coast DPS	Proposed Threatened	Threatened	SSC	G5T2T3Q	S2S3	Yes

Table 3. Amphibians and Reptiles

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential
Ascaphus truei	Pacific tailed frog	None	None	SSC	G4	S3S4	Yes
Rana boylii	foothill yellow-legged frog	None	Candidate Threatened	SSC	G3	S3	Yes
Rhyacotriton variegatus	Southern torrent salamander	None	None	SSC	G3G4	S2S3	Yes
Taricha rivularis	Red-bellied newt	None	None	SSC	G4	S2	Yes
Emys marmorata	Western pond turtle	None	None	SSC	G3G4	S3	Yes

Table 4. Fish

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential
Entosphenus tridentatus	Pacific lamprey	None	None	SSC	G4	S4	Yes
Oncorhynchus kisutch	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	-	G4T2Q	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 - California coastal ESU	Threatened	None	-	G5	S1	Yes

Table 5. Invertebrates

Scientific Name	Common Name	FESA	CESA	CDFW	GRank	SRank	Potential
Bombus caliginosus	obscure bumble bee	None	None	-	G4?	S1S2	Yes
Bombus occidentalis	western bumble bee	None	None	-	G2G3	S1	Yes

Potential Special-Status Animal Species Details

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: The area could provide habitat for the Cooper's hawk. The raptor is on the CDFW Watch List and protected under the Migratory Bird Treaty Act (MBTA). Two raptor scans and an intensive search for nesting birds are both recommended prior to any construction or vegetation removal during the breeding season (BIO-1, BIO-2).

2. **Golden eagle (*Aquila chrysaetos*)**
   Special Status: CDFW Fully Protected and Watch List; Protected under Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act; NatureServe Ranks: G5, S3
   Family: Accipitridae
   Habitat/Life-history Requirements: The golden eagle is an uncommon migrant and year-round resident (Zeiner et al. 1988). The golden eagle typically utilizes open habitats away from human environments (Sibley 2003). Small mammals are the primary prey for the golden eagle (Sibley 2003). One of the largest raptors in North America, the golden eagle builds massive nests, about 6 feet across (Cornell Lab). Nests are typically located on cliffs, but may also be found on trees, man-made structures, or on the ground (Cornell Lab).
   Potential Impact: Large open areas for hunting and forested areas with broad views that could be potential nesting habitat occur in the area. The nearest occurrence mapped in CNDDB is 8 miles from the project. Two raptor scans and an intensive search for nesting birds are both recommended prior to any construction or vegetation removal during the breeding season (BIO-1, BIO-2).

3. **Little willow flycatcher (*Empidonax traillii brewsteri*)**
   Special Status: California Endangered, Protected under Migratory Bird Treaty Act; NatureServe Ranks: G5T3T4, S1S2
   Family: Tyrannidae
   Habitat/Life-history Requirements: The little willow flycatch
   er is a rare to locally uncommon summer resident that breeds in the Cascades and the Sierra Nevada (Craig and Williams 1998). The little willow flycatcher breeds in wet meadows and riparian habitats (Craig and Williams 1998). The riparian songbird requires dense thickets of

willows or other riparian vegetation for nesting and roosting (Bombay et al. 2003, Zeiner et al. 1988). Destruction of riparian vegetation, modification of hydrology, and nest parasitism by brown headed cowbirds are the main threats to this species (Bombay et al. 2003).
Potential Impact: Although habitat might exist in the surrounding BAA, no willow thickets or other likely riparian habitat were observed in the project area. The nearest occurrence mapped in CNDDB is 12 miles from the project. An intensive search for nesting birds is recommended prior to any construction or vegetation removal during the breeding season (BIO-2).

4. **American peregrine falcon (*Falco peregrinus anatum*)**
Special Status: Federally Delisted, State Delisted, CDFW Fully Protected; Protected under Migratory Bird Treaty Act; NatureServe Ranks: G4T4, S3S4
Family: Falconidae
Habitat/Life-history Requirements: The formerly federally endangered American peregrine falcon was delisted in 1999 due to recovery (USFWS ECOS). The American peregrine falcon is an uncommon year-round resident and migrant in California (Zeiner et al. 1988). Peregrine falcons typically use cliffs and ledges near bodies of water for cover and nesting areas, but they may also nest on buildings or bridges in the city (Sibley 2003, Cornell Lab). Peregrine falcons may breed in woodland, forest, or coastal habitat (Zeiner et al. 1988). Riparian and wetland areas are important habitat yearlong (Zeiner et al. 1988).
Potential Impact: Peregrine falcons may breed in a wide variety of habitats, and they have the potential to occur in the area of impact. The nearest occurrence mapped in CNDDB is 2.3 miles from the project. Two raptor scans and an intensive search for nesting birds are both recommended prior to any construction or vegetation removal during the breeding season (BIO-1, BIO-2).

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: Potential habitat may exist in the area. The nearest occurrence has not yet been processed or mapped in CNDDB, but it is recorded in the 9-quad search as located in Garberville. Two raptor scans and an intensive search for nesting birds are both recommended prior to any construction or vegetation removal during the breeding season (BIO-1, BIO-2).

6. **Osprey (*Pandion haliaetus*)**
Special Status: CDFW Watch List; Protected under Migratory Bird Treaty Act; NatureServe Ranks: G5, S4

Family: Accipitridae
Habitat/Life-history Requirements: Osprey primarily prey on fish and they require large fish-bearing waters for hunting (Zeiner et al. 1988). Osprey are widespread along the Trinity, Klamath, Van Duzen, Eel, and South Fork Eel Rivers in Humboldt County (Harris 2005). Osprey typically make large nests in tall snags or trees high off the ground in open forest habitats (Zeiner et al.).
Potential Impact: Osprey have been documented within the BAA near the Eel River, approximately 0.8 miles to the southwest. Two raptor scans and an intensive search for nesting birds are both recommended prior to any construction or vegetation removal during the breeding season (BIO-1, BIO-2).

7. **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).
Potential Impact: UFWS protocol surveys are needed for any activity that may modify nesting, roosting, or foraging habitats for northern spotted owls (USFWS 2012). Potential habitat has been mapped on the property and surrounding 0.7 miles (See Attachment D). The nearest recorded Spotted Owl Activity Center is 2.7 miles away. Northern spotted owl surveys were initiated in 2018 and will continue in 2019 (BIO-3).

Mammals

1. **Pallid bat (*Antrozous pallidus*)**
Special Status: CDFW Species of Special Concern, NatureServe Ranks: G5, S3
Family: Vespertilionidae
Habitat/Life-history Requirements: The pallid bat may occupy a wide range of low-elevation habitats, and roost in a wide variety of structures (Zeiner et al. 1988). The bat prefers to roost in outcrops, cliffs, and crevices with access to open areas for foraging (Zeiner et al. 1988).
Potential Impact: The parcel may provide roosting habitat for the pallid bat and other crevice-roosting bat species. The nearest occurrence mapped in CNDDB is 4 miles from the project. The project should incorporate measures to reduce disturbance from generator noise and lights for bats and other sensitive wildlife.

2. **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 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: The arboreal rodent is more commonly found in old-growth coniferous forest, which does not occur in the project area. The nearest occurrence mapped in CNDDB is 7 miles from the project. The area is unlikely to support the Sonoma tree vole. No impacts are expected.

3. **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: The Humboldt marten is not likely extant in southern Humboldt County. No impacts to the Humboldt marten are expected.

4. **Fisher - West Coast DPS (*Pekania pennanti*)**
Special Status: Federally Proposed as Threatened, State Threatened, 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: The property is mostly open forest and woodlands with large grassland areas, and would not be prime habitat for the fisher. No significant impact is expected.

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). Additionally, invasive American bullfrogs may pose a threat to native amphibians through competition, predation, and spread of disease.

Potential Impact: Suitable habitat may be found in the surrounding area. The nearest occurrence mapped in CNDDB is approximately 8 miles to the southwest. Indirect impacts to native amphibians by using water storage ponds that provide potential American bullfrog habitat may be mitigated by surveying for, and removing any American bullfrogs or by seasonally dewatering ponds in consultation with CDFW (BIO-4).

2. **Foothill yellow-legged frog (*Rana boylii*)**
   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 primarily inhabits rocky streams or rivers with permanent water, and may be found 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). Breeding primarily occurs in low-velocity, shallow stream habitats with high habitat heterogeneity (Yarnell 2013). Foothill yellow-legged frogs may also travel substantial distances overland and use seasonally wet areas (Bourque 2008). The invasive American bullfrog and introduced fish species contribute to the reduction of foothill yellow legged frog populations (Zeiner et al. 1988).
   Potential Impact: Seasonal streams and other wet areas on the parcel may provide non-breeding habitat. Known breeding habitat occurs downstream within the BAA in the Eel River around Benbow. This occurrence is mapped in CNDDB 0.6 miles from the property. Surveys for the foothill yellow-legged frog and other sensitive amphibians are recommended prior to any road work on crossings or development within 200 feet of wet areas (BIO-5). Indirect impacts to native amphibians by using water storage ponds that provide potential American bullfrog habitat may be mitigated by surveying for, and removing any American bullfrogs or by seasonally dewatering ponds in consultation with CDFW (BIO-4).

3. **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: Suitable habitat may be found in the surrounding area. The nearest occurrence mapped in CNDDB is 9 miles west. Indirect impacts to native amphibians by using water storage ponds that provide potential American bullfrog habitat may be mitigated by surveying for, and removing any American bullfrogs or by seasonally dewatering ponds in consultation with CDFW (BIO-4).

4. **Red-bellied newt (*Taricha rivularis*)**
   Special Status: CDFW Species of Special Concern; NatureServe Ranks: G4, S2
   Family: Salamandridae

Habitat/Life-history Requirements: The red bellied newt primarily occupies redwood forest, but also found within mixed conifer, valley-foothill woodland, montane hardwood and hardwood-conifer habitats (Zeiner et al. 1988). Although adults are terrestrial, the poisonous newt requires rapid, rocky permanent streams for breeding and larval development (Zeiner et al. 1988).
Potential Impact: The property may provide non-breeding habitat for terrestrial adults, and breeding habitat may occur in permanent streams in the surrounding area. The nearest occurrence mapped in CNDDB is 8 miles to the west. The red-bellied newt will be included in surveys for the foothill yellow-legged frog and other sensitive amphibians prior to any road work on crossings or development within 200 feet of wet areas (BIO-5). Indirect impacts to native amphibians by using water storage ponds that provide potential American bullfrog habitat may be mitigated by surveying for, and removing any American bullfrogs or by seasonally dewatering ponds in consultation with CDFW (BIO-4).

5. **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 (Ziener et al. 1988). Invasive American bullfrogs prey upon hatchlings and juveniles (Zeiner et al. 1988).
Potential Impact: The surrounding BAA contains potential habitat for the western pond turtle. The nearest occurrence mapped in CNDDB is 3 miles south. Indirect impacts to native amphibians by using water storage ponds that provide potential American bullfrog habitat may be mitigated by surveying for, and removing any American bullfrogs or by seasonally dewatering ponds in consultation with CDFW (BIO-4).

Fish

1. **Pacific lamprey (*Entosphenus tridentatus*)**
Special Status: CDFW Species of Special Concern; NatureServe Ranks: G4, S4
Family: Petromyzontidae
Habitat/Life-history Requirements: Pacific lampreys require cool, permanent streams with a variety of substrates and structural complexity (CalFish). Lampreys are anadromous and must have unimpeded access to the ocean (CalFish).
Potential Impact: The Eel River and permanent steams within the surrounding area provide habitat for the Pacific Lamprey. The nearest occurrence, which has not been processed or mapped in CNDDB, was located within the Garberville Quad. No surveys are recommended, but the project should minimize impacts to the watershed.

2. **Coho salmon - southern Oregon / northern California ESU (*Oncorhynchus kisutch*)**
Special Status: Federally Threatened, State 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: The Eel River watershed provides habitat for the anadromous salmonid. An unprocessed occurrence is located within the Garberville Quad. No surveys are recommended, but the project should minimize impacts to the watershed.

3. **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: The Eel River watershed provides habitat for the anadromous salmonid. An unprocessed occurrence is located within the Garberville Quad. No surveys are recommended, but the project should minimize impacts to the watershed.

4. **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: The Eel River watershed provides habitat for the anadromous salmonid. No surveys are recommended, but the project should minimize impacts to the watershed.

5. **Chinook salmon - California coastal ESU (*Oncorhynchus tshawytscha*)**
Special Status: Federally Threatened; NatureServe Ranks: G5, S1
Family: Salmonidae
Habitat/Life-history Requirements: The Federally Threatened Chinook salmon is the largest Pacific salmonid (Moyle et al. 2008). The California Coast Evolutionary Significant Unit (ESU) is composed of Chinook spawning in watersheds ranging from Redwood Creek south to the Russian River (Moyle et al. 2008). The anadromous salmonids return to these watersheds in the fall to spawn, after the first major rains (Moyle et al. 2008). Chinook, like other salmonids, require cool, clear perennial streams and rivers with structural complexity

for cover and low suspended sediment (Moyle et al. 2008). Juvenile chinook may inhabit estuaries for an extended period (Moyle et al. 2008). Chinook are particularly sensitive to temperature and water quality, and require larger cobble and coarse gravel substrate for spawning compared to other salmonids (Moyle et al. 2008). Sedimentation is a major threat to salmonids in their early life stages.
Potential Impact: The Eel River watershed provides habitat for the anadromous salmonid. An unprocessed occurrence is located within the Garberville Quad. No surveys are recommended, but the project should minimize impacts to the watershed.

Invertebrates

1. **Obscure bumble bee (*Bombus caliginosus*)**
   Special Status: CDFW Special Animals List (2017); 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: The nearest occurrence mapped in CNDDB is 2.8 miles from the project. The property has the potential to support many native pollinators, and the project should take measures to minimize potential impacts.

2. **Western bumble bee (*Bombus occidentalis*)**
   Special Status: CDFW Special Animals List (2017); 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: An occurrence of the western bumblebee mapped in CNDDB overlaps the property. The property has the potential to support many native pollinators, and the project should take measures to minimize potential impacts.

Table 6. Recommended Biological Surveys

Number	Survey	Description	Timing
BIO-1	Raptor Scan	The area will be surveyed for nesting/roosting raptors by scanning the property and surrounding area from a prominent location.	Two three-hour surveys will occur during the early/peak breeding season, March-June. Surveys will occur prior to any additional construction or clearing native vegetation between Feb 1 and Aug 31.
BIO-2	Nesting Bird Survey	The footprint of the project will be searched for nesting birds prior to any vegetation removal.	Surveys will occur prior to any additional construction or clearing native vegetation between Feb 1 and Aug 31.
BIO-3	Northern Spotted Owl (NSO) Surveys	USFWS Northern Spotted Owl Protocol surveys (2012). See Attached NSO Maps and 2018 Data.	March-August, 6 visits/year 2018-2019.
BIO-4	American Bullfrog Survey	The applicant or other surveyor shall search for invasive American bullfrogs after dusk by listening for their distinctive deep calls and searching with a flashlight in any permanent ponds.	After dusk, two surveys annually, at least two weeks apart, May-July
BIO-5	Foothill Yellow Legged Frog (FYLF) Visual Encounter Survey	An individual qualified to identify FYLF adults, tadpoles, and eggs shall walk at least 100 feet upstream and downstream of any crossings while visually scanning for FYLF and other amphibians. Any amphibians encountered shall be identified to species level and documented.	Surveys shall occur within a week of work beginning on any stream crossings. If FYLF are encountered, CDFW will be consulted for further instructions.
BIO-6	Floristic Survey	Complete floristic surveys based on the Protocol for Surveying and Evaluating Impacts to Special Status native Plant Populations and Natural Communities (CDFW 2018).	Seasonally appropriate surveys will be completed in 2019.

References

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Attachment A. Site Photos

Figure 1. The main flat (Conversion Site I), where the majority of cultivation is concentrated.

Figure 2. Three hoop houses on the forested ridge (Conversion Site F).

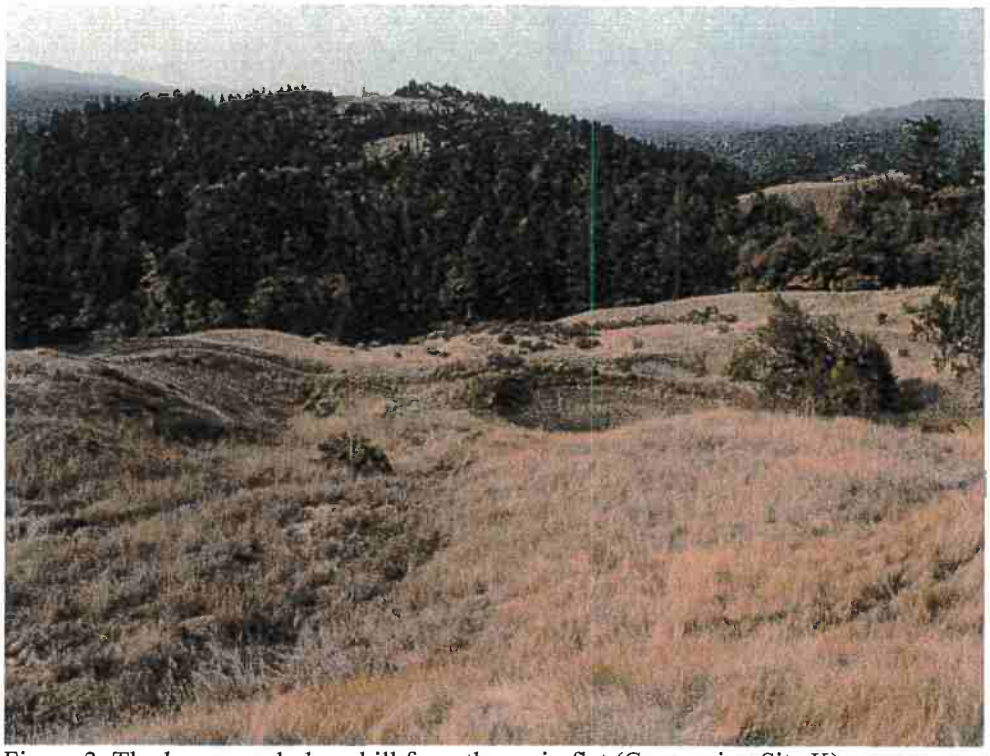


Figure 3. The large pond, downhill from the main flat (Conversion Site K).

Figure 4. The ridgeline near the main flat, which contained open grasslands with some rock outcrops, patches of Oregon oak woodland, and mixed coniferous forest in the surrounding area.

Figure 5. A class III intermittent watercourse on the property adjacent to a previous outdoor grow (Conversion Site O).

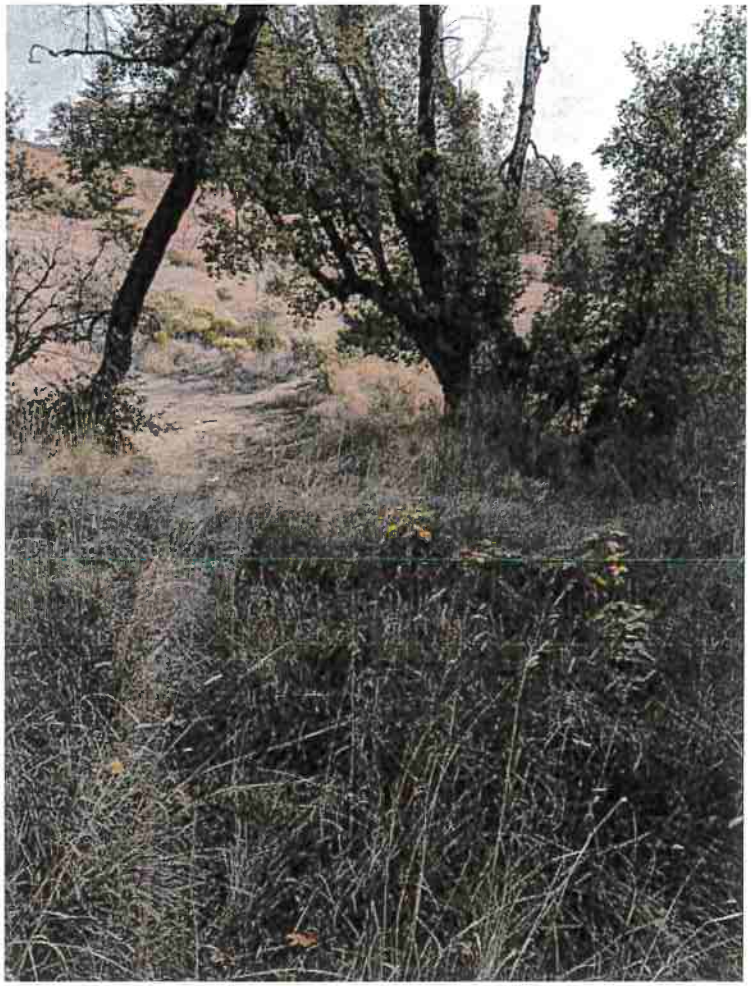
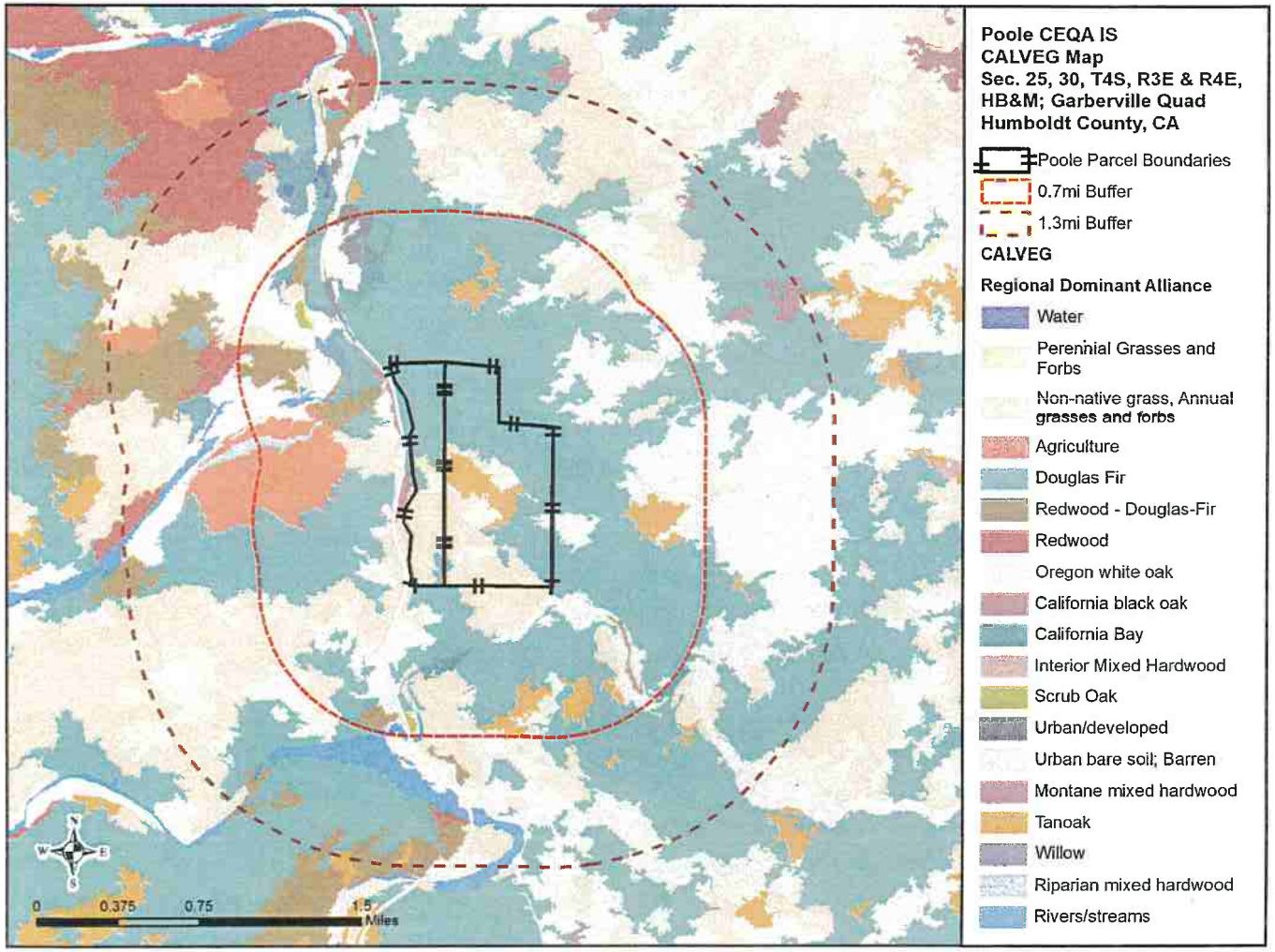
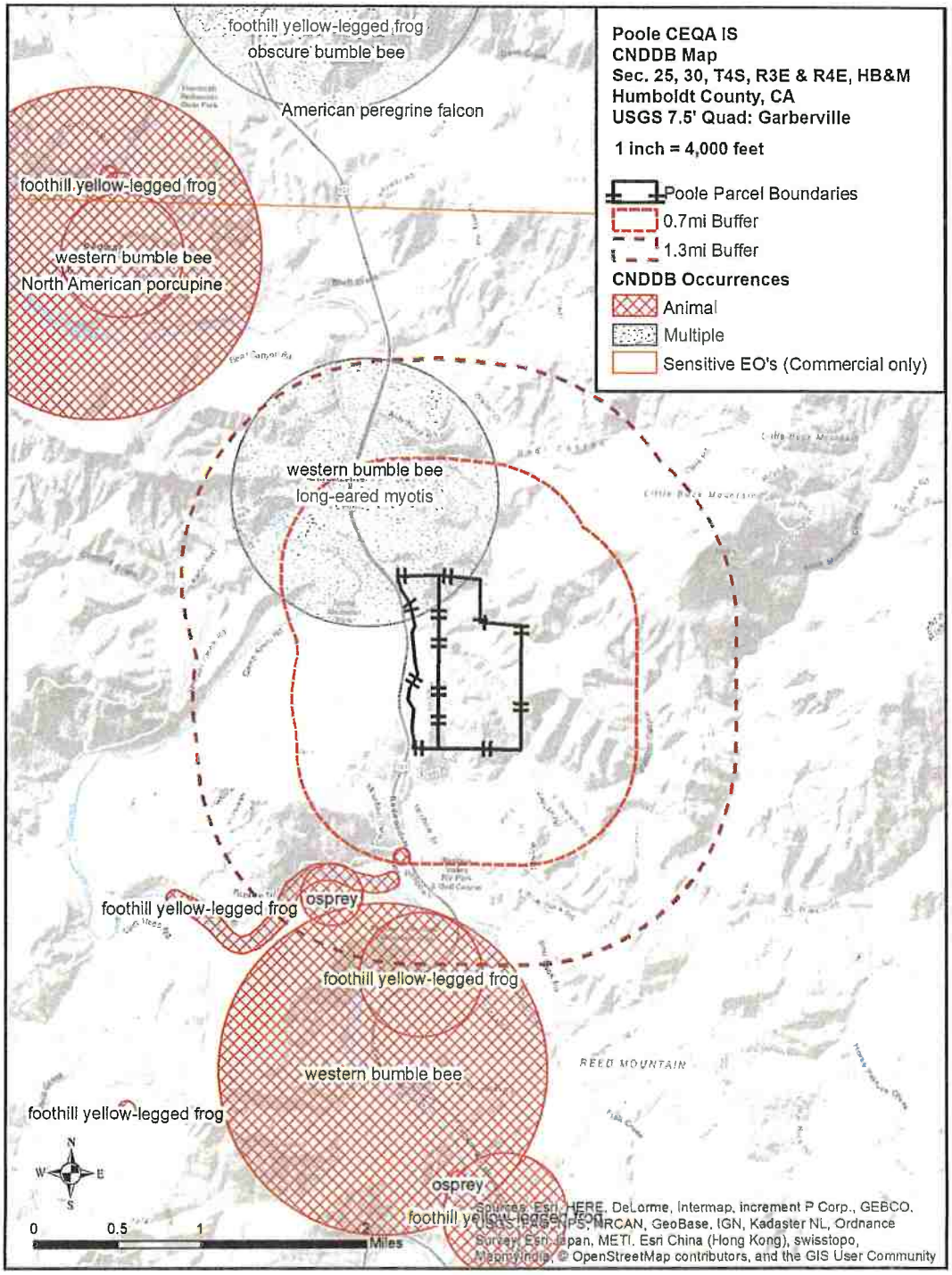


Figure 6. A seasonally wet area near a seasonally dry pond (Conversion Site N).

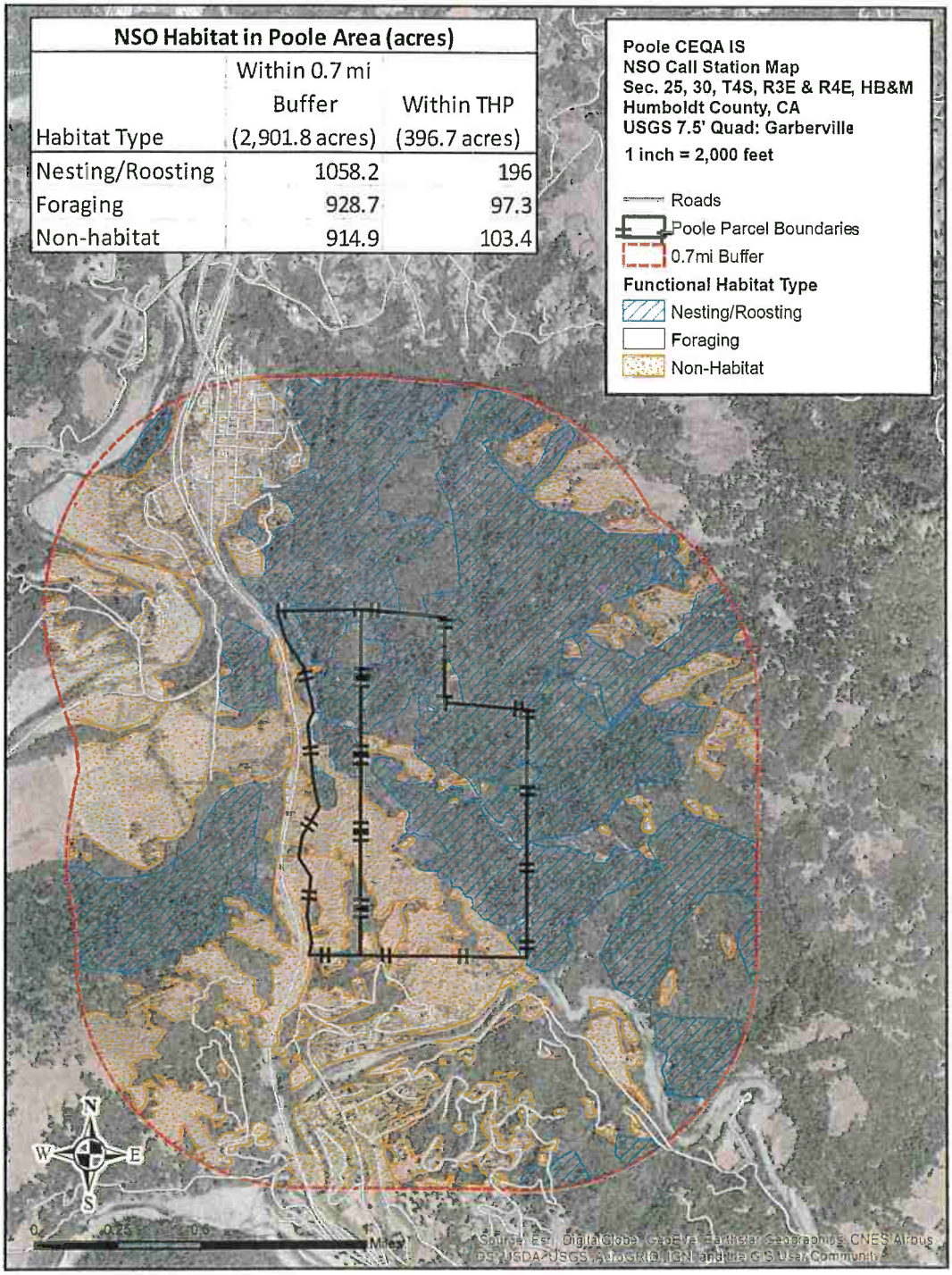
Attachment B. CALVEG Vegetation Alliance Map of Surrounding Area

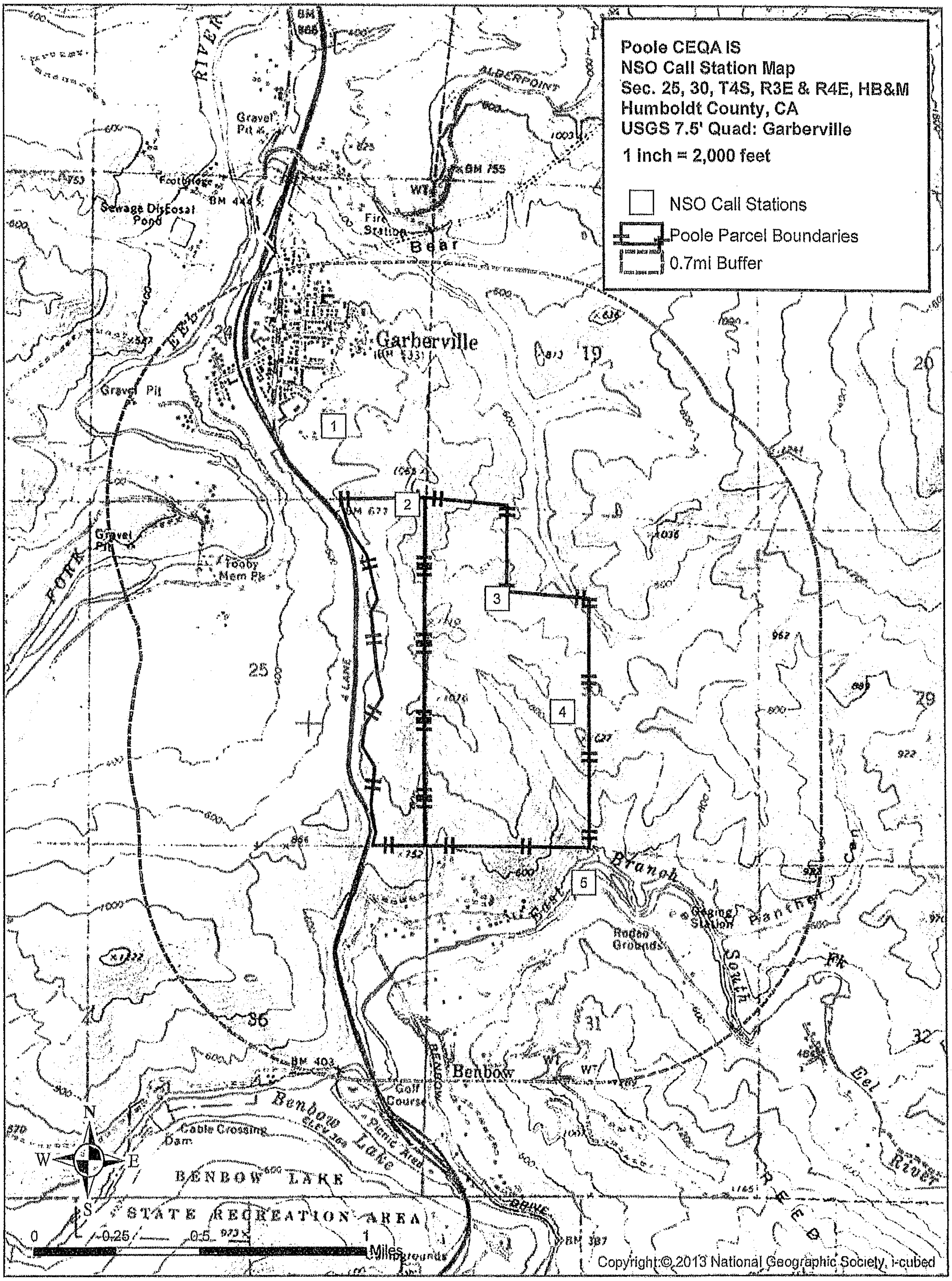


Attachment C. CNDDB Special-Status Species Search Map



Attachment D. NSO Maps and Data




Poole CEQA IS
NSO Call Station Map
Sec. 25, 30, T4S, R3E & R4E, HB&M
Humboldt County, CA
USGS 7.5' Quad: Garberville
1 inch = 2,000 feet
NSO Call Stations
Poole Parcel Boundaries
0.7mi Buffer
1
2
3
4
5
Garberville
Benbow
BENBOW LAKE
STATE RECREATION AREA
Benbow Lake
Gravel Pit
Sewage Disposal Pond
Fire Station
Golf Course
Cable Crossing
Dam
Rodeo Grounds
Gaging Station
N
S
E
W
0
0.25
0.5
1
Miles
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Visit # 1

Northern Spotted Owl Survey Sheet

Date: 25 May 16 Location: Garberville Harvest Plan: Poole CEQA-IS Surveyor: Travis Broadbent

Station #	Start Time	End Time	Response	Sex	Distance(ft)	Degrees	Precipitation	Wind	Notes
2	2035	2045	0				0	4	
3	2054	2104	0				0	3	
4	2108	2118	0				0	1	pigmy owl sighted in bush near rd
1	2159	2209	0				0	1	
5	2231	2241	0				0	1	

Response Index
0=No Response
1=Four Note Call
2=Monkey Call
3=Whistle Call
4= Aggitation Call

Precipitation
0=None
1=Fog
2=Mist
3=Light Rain
4=Heavy Rain
5=Snow

Wind:
0=Calm (0 mph, No wind)
1= Light Air (1-3 mph, light wind, can not feel wind on face)
2= Light Breeze (4-6 mph, leaves rustle, can feel wind on face)
3= Gentle Breeze (7-10 mph, leaves and twigs in constant motion)
4= Moderate Breeze (11-16 mph, wind raises dust, small branches move)

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Northern Spotted Owl Survey Sheet

Call #: 2

Date: 6/18/16 Location: Harris Ranch land & cattle June Poole Harvest Plan: June Poole Surveyor: EJC

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
3	9:28	9:39	0				0	1	
4	9:44	9:56	0				0	1	
2	10:16	10:28	0				0	1	
1	11:01	11:12	0				0	1	
5	11:23	11:33	0				0	1	

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)

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Northern Spotted Owl Survey Sheet

Call #: 3

Date: 6/30/18 Location: Garberville Harvest Plan: Poole CEQA Surveyor: Travis Broadbent

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
2	2040	2050	0				0	3	
4	2118	2128	0				0	1	
3	2142	2152	0				0	2	
1	2320	2330	0				0	1	
5	2358	0008	0				0	0	

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)

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Visit # 4

Northern Spotted Owl Survey Sheet

Date: 7/16/18 Location: Garberville Harvest Plan: Poole CEQA IS Surveyor: Travis Broadbent

Station #	Start Time	End Time	Response	Sex	Distance(ft)	Degrees	Precipitation	Wind	Notes
2	2033	2043	Ø				Ø	1	
3	2100	2110	Ø				Ø	Ø	
4	2118	2128	Ø				Ø	Ø	
1	2205	2215	Ø				Ø	Ø	
5	2224	2234	Ø				Ø	Ø	

Response Index
0=No Response
1=Four Note Call
2=Monkey Call
3=Whistle Call
4= Aggitation Call

Precipitation
0=None
1=Fog
2=Mist
3=Light Rain
4=Heavy Rain
5=Snow

Wind:
0=Calm (0 mph, No wind)
1= Light Air (1-3 mph, light wind, can not feel wind on face)
2= Light Breeze (4-6 mph, leaves rustle, can feel wind on face)
3= Gentle Breeze (7-10 mph, leaves and twigs in constant motion)
4= Moderate Breeze (11-16 mph, wind raises dust, small branches move)

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Northern Spotted Owl Survey Sheet

Call #: 5

Date: 7/30/18 Location: Garberville Harvest Plan: Poole Surveyor: Travis Broadbent

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
2	2021	2031	0				0	0	
3	2038	2048	0				0	0	called in 2 Barred owls
4	2052	2102	0				0	1	
1	2205	2215	0				0	1	
5	2226	2236	0				0	3	

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)

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Northern Spotted Owl Survey Sheet

Call #: 6

Date: 8 aug 18 Location: Garberville Harvest Plan: Poole CEQA Surveyor: Travis Bradbent

Station #	Start Time	End Time	Response	Sex	Distance (ft)	Azimuth	Precipitation	Wind	Notes
2	2034	2044	Ø				Ø	1	
3	2112	2122	Ø				Ø	1	
4	2129	2139	Ø				Ø	Ø	
1	2154	2204	Ø				Ø	Ø	
5	2214	2224	Ø				Ø	Ø	

Response Index
0=No response
1=Four note call
2=Monkey call
3=Whistle call
4=Agitation call

Precipitation
0=None
1=Fog
2=Mist
3=Light rain
4=Heavy rain
5=Snow

Wind
0=Calm (0mph, No wind)
1=Light air (1-3mph, cannot feel wind on face)
2=Light breeze (4-6mph, leaves rustle, can feel wind on face)
3=Gentle breeze (7-10mph, leaves and twigs in constant motion)
4=Moderate breeze (11-16mph, wind raises dust, small branches move)

Attachment E. 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 range (e.g. G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

Infraspecific Taxon Conservation Status Ranks

T# **Infraspecific Taxon** (trimonial) – The status of infraspecific 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 infraspecific 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.