

**Biological Scoping Report  
for  
Proposed Expansion  
Of  
Cannabis Cultivation**

**20 June 2022**

**Prepared for:  
Hooven Productions, LLC.**

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Date: 20 June 2022

## ENVIRONMENTAL SETTING

**Project Location and Description**—The project is located on the ECD Holdings Inc. parcel, APN: 511-141-015, located at 2260 Hooven Road in McKinleyville. The parcel is located approximately 0.9 miles southeast of the Arcata/Eureka airport in west central Humboldt County (Figure 1). The proposed project consists of new development of approximately 15,000 to 30,000 ft<sup>2</sup> for Cannabis cultivation in 1 area (Figures 2). The project parcels lies on a slightly south facing slope and is dominated primarily by grassland bordered by remnant patches of Sitka spruce (*Picea sitchensis*) and Red alder (*Alnus rubra*) dominated forest.

**Existing Permitted Development**—An area currently permitted for 10,000 ft<sup>2</sup> of outdoor and indoor cannabis cultivation (Approved applications 15536, 10568, and 10566) occurs on the southern end of the parcel (Figure 2). The layout of the existing cultivation site includes 5 greenhouses and an indoor grow structure and other supporting structures (Figure 2). There were no additional details available on the irrigation source or other development associated for this currently permitted cultivation.

**Proposed New Development**—The new area proposed for cultivation includes from 15,000 to 30,000 ft<sup>2</sup> of mixed light cultivation adhering to the dark sky standards (Figure 2). The proposed expansion will be powered by the existing utility connection with PG&E. The proposed expansion area is located adjacent to the existing cultivation area on the open grassland to the northwest. The expansion area is composed of mowed grassland habitat and conifer-hardwood forest edges with oak woodland and riparian associated small patches of hardwood conifer forest (Figure 2).

## METHODS FOR BIOLOGICAL SCOPING

Species addressed in this assessment include all animal and plant species legally protected pursuant to the California and Federal Endangered Species Acts (CESA and FESA, respectively), California's "Fully Protected Species" statutes (California Department of Fish and Game (CDFG) codes 3503.5, 3505, 3511, 4700, 5050 and 5515), and the California Environmental Quality Act (CEQA). This assessment is utilizes three elements: 1) queries of state and federal agency databases for species occurrence in the biological assessment area for the proposed project 2) an assessment of current habitat conditions to support species of conservation concern in the biological assessment area for the proposed project and 3) a site visit to the existing project area to evaluate habitat conditions and detect species present during the site visit. The California Natural Diversity Database (CNDDB), the Biogeographic Information Observation System (BIOS), and the northern spotted owl database (Gould 1997) for the project region were queried for the occurrence of species of conservation concern in the proposed project region. The proposed project region is defined as the 9-quadrangle area centered on the Arcata north quadrangle and also includes: Trinidad, Crannell, Panther Creek, Tyee City, Blue Lake, Eureka,

Arcata south and Korbel. The CNDDDB and BIOS were queried in March of 2021, and a current official list of federally threatened, endangered, or candidate species for the proposed project region was obtained in January of 2021. Finally, this assessment also considered any other species listed on the California Department of Wildlife's (CDFW) special animals list (CDFW 2019) that are known to occur in the project region, based on additional literature and/or habitat conditions, that were not identified by during the database queries. All species of conservation concern identified in these queries, habitat assessments, and during site visits are included in Appendix 1. On the 6<sup>th</sup> of February, 2021 I visited the existing project site and evaluated the habitat conditions for terrestrial and aquatic wildlife species across the entire parcel and at the proposed project area (Figure 2).

The author of this report, K. Slauson, has a B.S. in Wildlife from Humboldt State, a M.S. in Forest Ecology from Oregon State University, and a PhD. in Wildlife Biology from the University of Montana. Keith has > 20 years of experience with studying wildlife in northwestern California and has experience with the survey methods and habitat associations of most species of conservation concern in the region. Keith contributed >1,000 records to the Humboldt County Breeding Bird Atlas (Hunter et al. 2005) and has published multiple studies of the habitat associations of multiple mammal species of conservation concern (e.g., Slauson et al. 2007).

## RESULTS

**CNDDDB Database Query**—A total of 45 species of conservation concern, including 34 animals were identified in the CNDDDB database query. The animal species included 5 species of amphibian, 16 species of birds, 5 species of insects, 8 mammals, 1 mollusk, 9 species/runs of fish, and 1 reptile (Table 1). Seven additional bird species were considered based on their known occurrence in the existing project area (Table 1; Hunter et al. 2005). Nine animal species of conservation concern were considered to have the potential for negative effects from the existing project activities (Table 1). The spotted owl is potentially at risk of loss of foraging habitat, especially because there are two activity centers in close proximity (< 1.3 miles). Two species of bats have the potential to be impacted by project activities that include nocturnal light pollution that may impact their ability foraging in close proximity to the project area (Table 1). Suitable foraging and nesting habitat for 4 hawk species and 1 additional owl species occurs in and adjacent to the proposed cultivation area (Table 1). Two bumblebee species have the potential to be impacted by the loss and further fragmentation of habitat capable of supporting nectar, nesting, and over wintering habitat.

**Northern Spotted Owl Detections**—There have been 2 positive detections of spotted owl activity centers within a 1.3 mile radius around the project site in recent decades. The known activity centers are 1.2 miles to the northeast in Strawberry Creek (HM-0836) and 1.0 mile to the east in Prichard Creek (HM-0403; Figure 3). While the grassland habitat where the project is proposed is not suitable for spotted owls there is some potentially suitable habitat adjacent to the project area to the south in Norton Creek (Figure 4).

A Northern spotted owl habitat assessment was conducted for the adjacent landowner (Kilgore), along the western edge of the project parcel, in 2021 by Hohman and associates (Attachment 1) and will be used to evaluate potential effects to spotted owl habitat. Northern spotted owl habitat was determined by following guidelines provided in Take Avoidance Analysis of the USFWS Northern Spotted Owl Survey Protocol (2012; see Attachment 1). While suitable nesting, roosting, foraging habitat occurs adjacent to the proposed project area on the Kilgore property (Attachment 1), no suitable habitat occurs in the proposed project area as it is currently non-forested grassland habitat. Therefore, the proposed project will not result in the loss of Northern spotted owl nesting, roosting, or foraging habitat. In addition, given the adjacent suitable Northern spotted owl habitat on the Kilgore and other properties (Figure 5) are not occupied based on the recent surveys, there is no potential for noise disturbance from the proposed project to affect any known occupied spotted owl habitat during the nesting season (15 March to 15 August).

### **Recommended Biological Surveys Conditional for Project Approval**

1. Two-year protocol level surveys for Northern spotted owl to determine current occupancy status and presence of any activity centers within 1.3 miles of project site.
2. Conduct a minimum of 2 diurnal raptor surveys during the early nesting season (April-May) to determine if any hawks are actively nesting within 300 feet of the proposed project area.
3. Search potential nesting habitat for owl nests, other than Northern spotted owls which are covered elsewhere, within 300 feet of the proposed project area. These include cavity-nesting species such as Western screech, Northern pygmy, and Northern saw-whet owls and platform nesting species such as Great horned and Barn owls.

### **Pre-approval Biological Survey Results**

From 2020-2021, Hohman and Associates conducted 12 protocol surveys (6 per year) for Northern spotted owls on an immediately property that provided survey coverage for this proposed project. No Northern spotted owls were detected during any of the 12 surveys from 2020-2021. See attachment 1 for further survey details. These surveys should provide sufficient coverage to conclude that no Northern spotted owls occur within 0.7 miles of the proposed project.

Six diurnal raptor surveys were conducted in March (2), April (2), and June (2) of both 2020 and 2021 by Hohman and Associates also associated with the adjacent property. A pair of red-tailed hawks were detected throughout the nesting period and there is likely a nest somewhere in the area, however these surveys were unable to identify the potential nest location with the exception of concluding that it did not occur on the adjacent property. See attachment 2 for further survey details. The observation location on the adjacent property was not in line-of-sight to the proposed project and therefore it cannot be used to conclude that the red-tailed hawks are not actively nesting within 300 ft of the proposed project. Additional pre-construction surveys for this and other potential raptor species will be needed if any proposed project construction activities are planned to occur during the nesting season (15 March to 15 August). These surveys will also include a nest searching component to satisfy pre-approval recommendation #3 listed above.

### **Recommended Avoidance, Minimization and Mitigations Measures Conditional for Project Approval**

1. Avoid use of lights or utilize appropriate greenhouse technology (e.g., Dark Sky™) to reduce potential foraging impacts to bat species during the breeding and migration seasons.
2. Avoid chronic use of noise generating equipment, including generators to reduce noise to below the db threshold acceptable to CDFW to reduce potential impacts to foraging bats and owls. Connection to the PG&E power grid should preclude the need for any generators to be used in any phase of the proposed project.
3. Mitigate for the loss and fragmentation of habitat for the Western and Obscure bumblebees by developing and maintaining areas of native plant species providing nectar resources, nesting and overwintering sites, along the edges of the proposed project in order to provide habitat connectivity across the proposed project site for bumblebees. The area of mitigation should be equivalent to 10% of the proposed project footprint and be designed to provide habitat that allows bumblebees to move around or through the proposed project area. Plant species should include a mix of native perennial (e.g., rhododendron) and annual (e.g., sweet pea) species known to be important nectar plants. Providing nesting and overwintering habitat features should follow the guidelines in Hatfield et al. (2012).

The preferred location for the habitat enhancement area would be along the eastern edge of the proposed project footprint, providing a corridor on continuous habitat across the proposed project area. Bumblebee require three resources: flowers

producing nectar for food, somewhere to nest, and someplace to overwinter. Flowering plants should provide nectar from late winter (Feb), when queens emerge, until the fall (Oct) when the new queens emerge and seek overwintering sites. Early season (Feb-April) candidate species include twinberry, rhododendron, while mid season (May-July) plant species include evergreen and California red huckleberry, blue blossom, vine maple, California poppy, native purple lupines, and finally late season (Aug-Oct) species include goldenrod and California poppy. A qualified plant restoration professional (e.g., Samara Restoration) should be consulted to design the specific species mix and planting locations for the candidate restoration area to maximize success for plant establishment.

Bumblebees nest in a variety of structures, usually underground. However, they do readily use manmade structures such as unused bird boxes. Providing 4-6 bird boxes, such as those designed for swallows, spaced throughout the habitat enhancement area may provide such structures. Bumblebees queens over winter in small cavities just below or on the surface of the ground. Small wood piles or thick layers of woody mulch can provide such micro-habitat features. Small woodpiles and thick woody mulch should be included in design features for the habitat enhancement areas. Thick woody mulch can be useful features associated with shrub species listed above in the restoration design. Monitoring and success criteria include: 1) establishing nectar plants that flower throughout the season for bumblebees (Feb-Oct) 2) provide these flower resources throughout the entire restoration area 3) include habitat features to promote nesting 4) provide habitat features capable of supporting overwintering 5) no maintenance activities (e.g., mowing soil compaction, application of herbicides) will be conducted in the habitat enhancement area that may degrade conditions for bumblebees consistent with the recommendations of (Hatfield et al. 2012).

4. Reduce the potential for sediment run off into Norton Creek from on-site erosion by implementing or improving best management practices for all road, cut and fill features created, or any ongoing maintenance to support the proposed project operations.
5. No pesticides, herbicides, or rodenticides can be used at any time during the development of or during ongoing operations of the proposed project.
6. Eradicate all invasive non-native plant species from existing or proposed new sites that are developed for Cannabis cultivation.
7. Conduct pre-construction diurnal raptor surveys on the proposed project parcel during the early nesting season (March-April-May) to determine if there are any active raptors

nests within 300 ft of the proposed project if any proposed construction activities are to occur during the nesting season (15 March to 15 August). This includes actively searching for nesting structures within 300 ft of all proposed construction activity locations. If any active raptor nests are found within 300 ft of any proposed project activities, those activities will have to be conducted outside the nesting season (15 March to 15 August) or until the nest(s) can be confirmed to have successfully fledged the young or failed.

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Figure 1. Location of the proposed project site in ~0.9 miles southeast of the Arcata/Eureka airport in McKinleyville, Humboldt County, California.

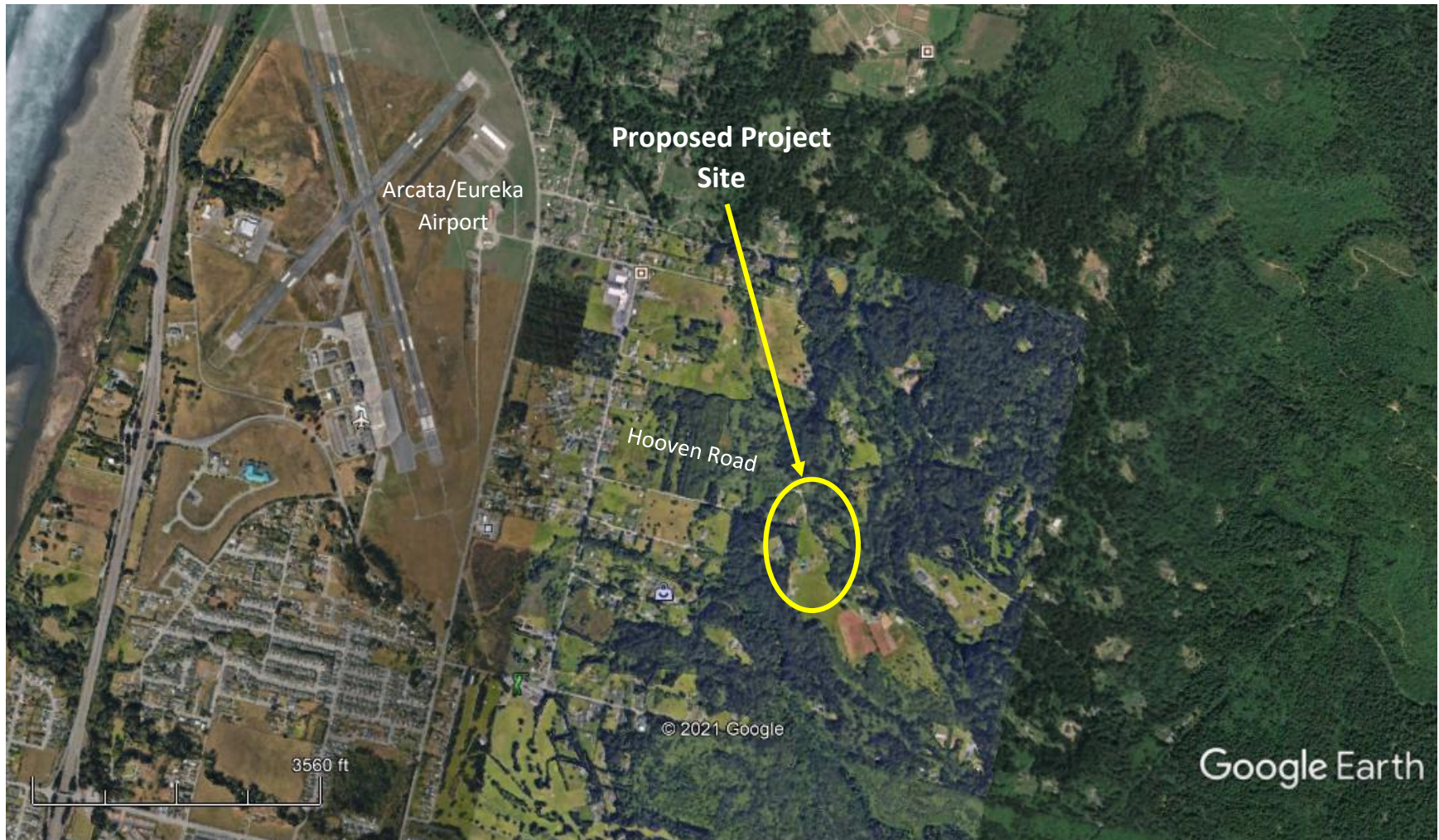


Figure 2. Existing permitted cultivation area at the proposed project site and the proposed cultivation expansion area.



Figure 3. Existing project location (red star) and two Northern spotted owl (*Strix occidentalis caurina*) activity center locations within 1.3 miles.

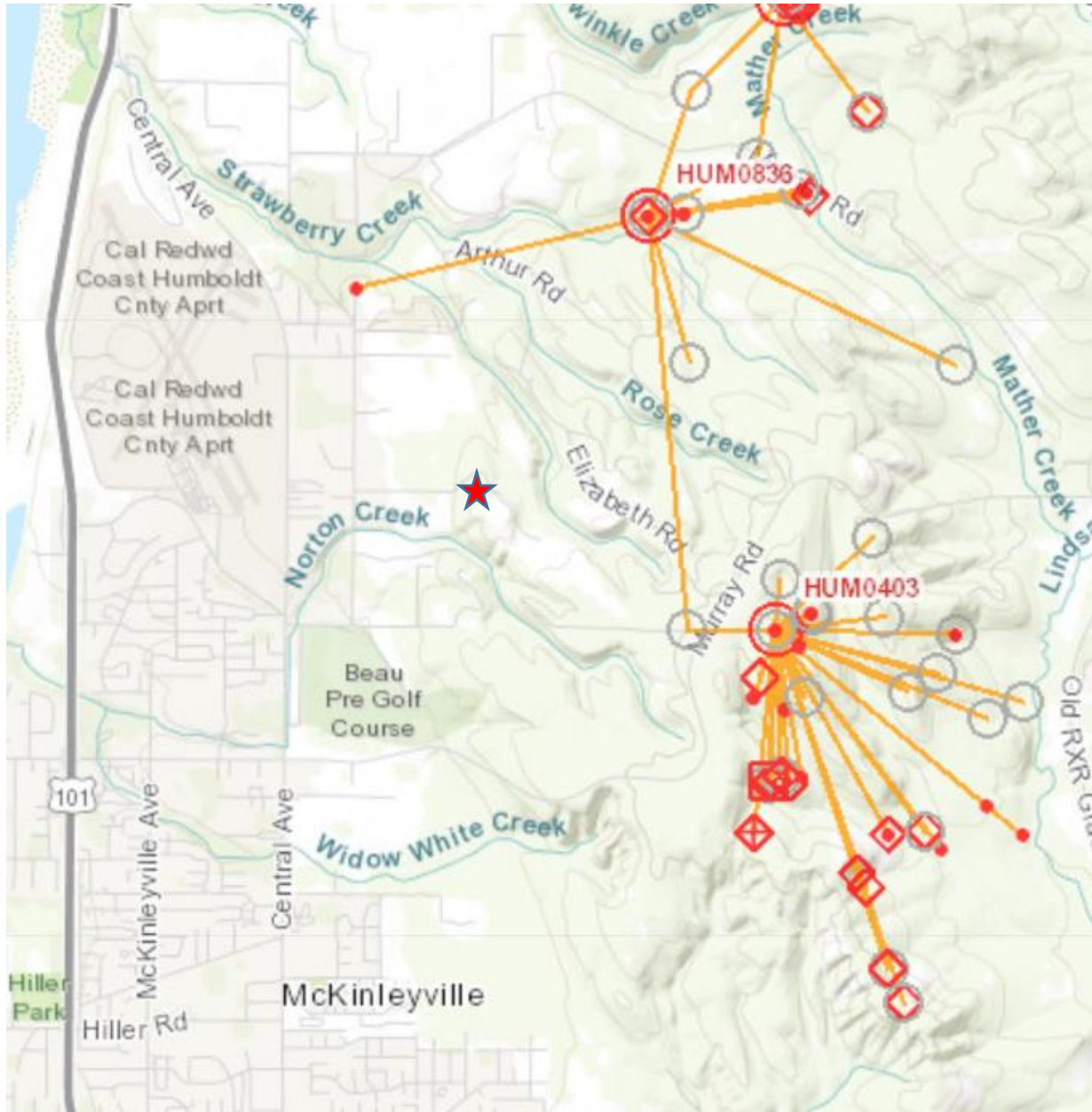


Figure 4. Location of the 2 known Northern spotted owl activity centers (yellow stars) and the habitat composition adjacent to the proposed project area (red circle).

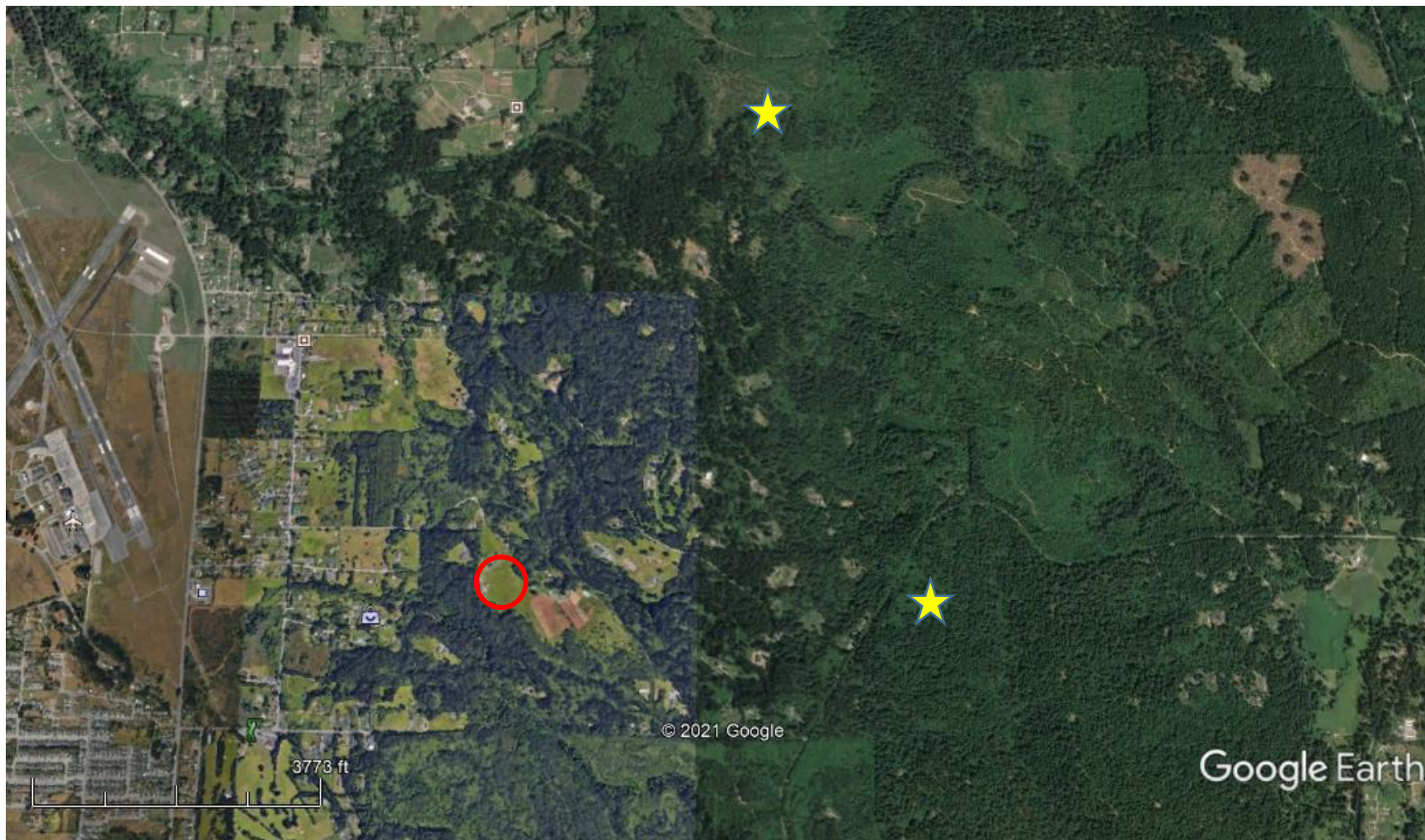
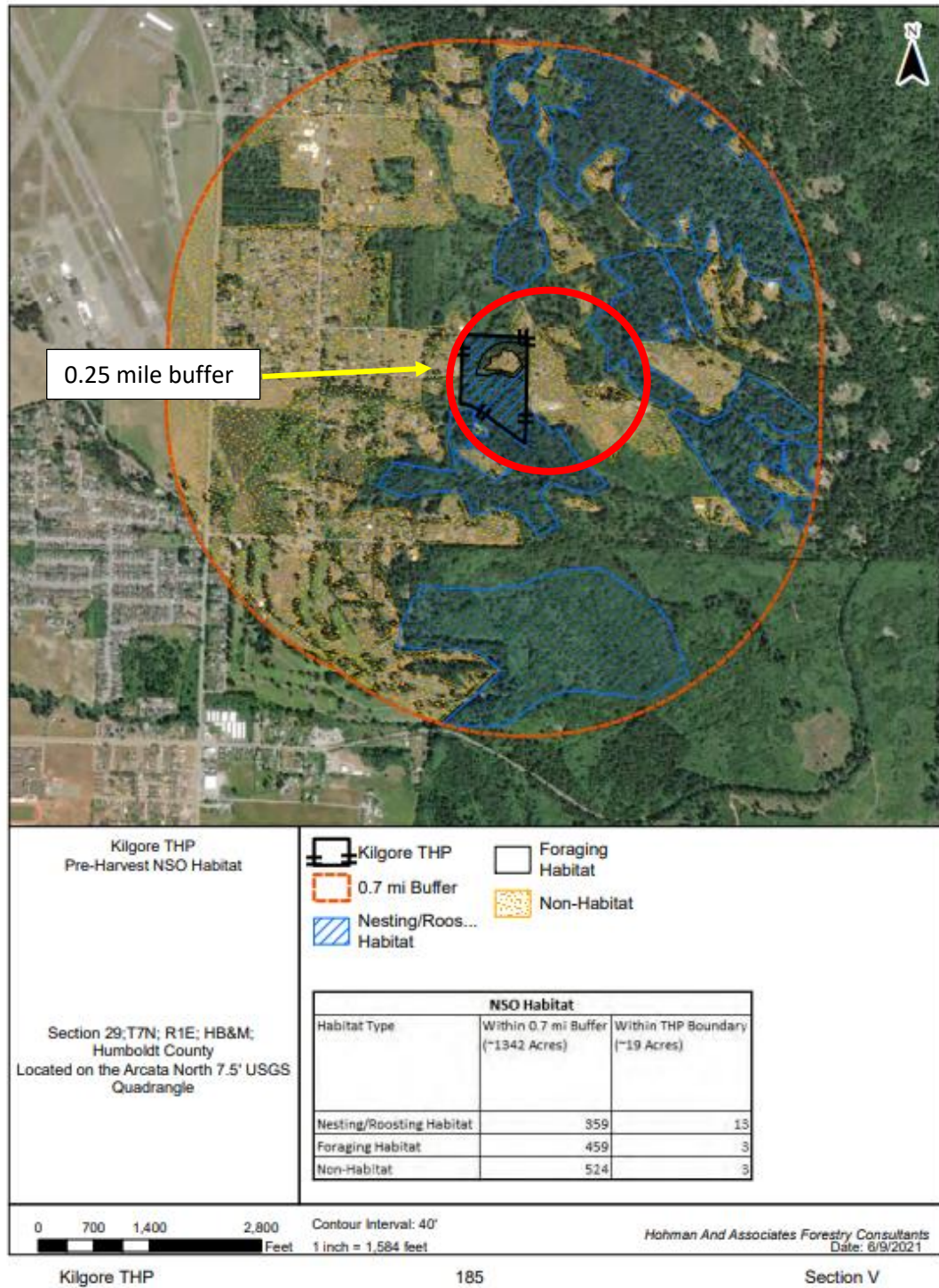


Figure 5. Location of suitable nesting, roosting, foraging habitat (see Attachment 1 for source) for the Northern spotted owl (*Strix occidentalis caurina*) within a 0.25 mile noise disturbance radius from the proposed project location.



**Table 1.** List of species of conservation concern. Conservation status codes: F-E (Federally endangered), F-T (Federally threatened), F-CE (Federally candidate endangered), F-CT (Federally candidate threatened), C-E (State endangered), C-T (State threatened), C-CE (State candidate endangered), C-CT (State candidate threatened), C-SC (State species of special concern), C-FP (State fully protected), C-WL (State watch list), WBWG-X (Western bat working group H = High, M = Moderate, LM = Low-moderate), S-# (State conservation ranking highest to lowest 1-5, respectively).

Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Amphibians</b>					
Pacific tailed-frog ( <i>Ascaphus truei</i> )	CA-SC	Occurs locally in montane hardwood-conifer, redwood and Douglas-fir habitats. Restricted to perennial streams. Tadpoles require water below 15 degrees C (CNDDDB 2017).	Late fall, summer (Bebler and King 1979). Larvae require 2-3 years to metamorphose (Morey 2000).	Low: Species is unlikely to occur in the project area due to lack of suitable habitat.	Not likely to be adversely affected.
Northern red-legged frog ( <i>Rana aurora</i> )	CA-SC	Occurs in humid forests, woodlands, grasslands and stream sides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water in damp woods and meadows during the non-breeding season (CNDDDB 2017).	January to March (Bebler and King 1979). Metamorphosis is attained in June through July (Storm 1960).	Moderate: Species is unlikely to occur adjacent to the project area in suitable forest habitat.	Not likely to be adversely affected.

Foothill yellow-legged frog ( <i>Rana boylei</i> )	CA-CT	Occupies partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Requires at least some cobble-sized substrates for egg-laying. Need at least 15 weeks to attain metamorphosis (CNDDDB 2017).	March to May (Bebler and King 1979). Metamorphosis is attained 3-4 months after hatching (June-September) (Ashton et al. 1998).	Low: Species is unlikely to occur in the project area due to lack of suitable habitat.	Not likely to be adversely affected.
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Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Amphibians</b>					
Southern torrent salamander ( <i>Rhyacotriton variegatus</i> )	CA-SC	Inhabits coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Associated with old-growth forest and cold, well-shaded, permanent streams and seepages, or areas within the splash zone or on moss-covered rock within trickling water (CNDDDB 2017).	February through October. Prolonged larval period lasts 2-2.5 years (Tait and Diller 2006).	Low: Species is unlikely to occur in the project area due to lack of suitable habitat.	Not likely to be adversely affected.
Del Norte salamander ( <i>Plethadon elongatus</i> )	CA-SC	Del Norte salamanders are found in closed-canopy coastal forests with mixed hardwood/conifer. Generally associated with moist talus and rocky substrates, often among moss covered rock rubble, or under bark or logs on the forest floor (Hammerson and Welsh 2004).	Late winter through summer.	Low: Species is unlikely to occur in the project area due to lack of suitable habitat.	Not likely to be adversely affected.
<b>Reptiles</b>					



Western pond turtle ( <i>Emys marmorata</i> )	CA-SC	Associated with permanent or nearly permanent water in a variety of habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water. Known to burrow in soil and fallen log debris (CNDDDB 2017).	April to August (Bebler and King).	Low: Species is unlikely to occur in the project area due to lack of suitable habitat.	Not likely to be adversely affected.
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**Birds**

Double-crested cormorant ( <i>Phalacrocorax auritus</i> )	CA-WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along the coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins (CNDDDB 2017).	April through August (Hatch and Weseloh 1999).	Low: Species is unlikely to occur in the project area due to lack of suitable habitat.	Not likely to be adversely affected.
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Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Birds</b>					
Great egret ( <i>Ardea alba</i> ) *Rookery Sites	CA-FP	Colonial nesting species, nesting in larger trees. Rookery sites located near marshes, tide flats, irrigated pastures and margins of rivers and lakes (CNDDDB 2017).	March through July (McCrimmon et al. 2001).	Low: Species is known to occur near the project area. No known nesting colonies occur near the project site.	Not likely to be adversely affected.
Great blue heron ( <i>Ardea herodias</i> ) *Rookery Sites	CA-FP	Colonial nesting species in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas. Marshes, Lake margins, tide flats, rivers, streams, and wet meadows (CNDDDB 2017).	March through August (Butler 1992).	Low: Species is known to occur near the project area. No known nesting colonies occur near the project site.	Not likely to be adversely affected.

Black-crowned night-heron ( <i>Nycticorax nycticorax</i> )	CA-FP	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots (CNDDDB 2017).	Mid-late November through August (Davis, Jr. 1993).	Low: The project area is unlikely to be used as foraging or nesting habitat.	Not likely to be adversely affected.
Cooper's hawk ( <i>Accipiter cooperii</i> )	CA-WL	Occurs in woodlands, primarily of the open, interrupted or marginal type. Nest sites are mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood plains and in live oaks (CNDDDB 2017).	Late March through July (Curtis et al. 2006).	Moderate: suitable habitat for foraging and nesting present.	Not likely to adversely affect with the incorporation of mitigation measures.
Sharp-shinned hawk ( <i>Accipiter striatus</i> )	CA-WL	Prefers coniferous or mixed forests for nesting. Prefers riparian areas. Require north-facing slopes with plucking perches. Nesting typically occurs within 275 feet of water (CNDDDB 2017).	April through August (Bildstein and Meyer 2000).	Moderate: suitable habitat for foraging and nesting present.	Not likely to adversely affect with incorporation of mitigation measures.

Common Name (Scientific Name)	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Birds</b>					
Red-shouldered hawk ( <i>buteo lineatus</i> )	CA-FP	Nests primarily in riparian oak woodland. During migration it is still associated with woodlands although often occurs in smaller woodland patches or more fragmented landscapes. It winters in lowland areas near water such as swamps, marshes and river valleys (Dykstra et al. 2008).	Late March through July (Dykstra and Hays 2008).	High: Species observed near the project area during site visit. Suitable nesting and foraging habitat present.	Not likely to adversely affect with the incorporation of mitigation measures.

Bald eagle ( <i>Haliaeetus leucocephalus</i> )	F-Delisted CA-FP	Nests in large trees near rivers, lakes, marshes, etc. Winter near open water, which can attract sufficient food and evening roost sites (CNDDDB 2017).	Late March through September (Buehler 2000).	Low: Species breeds in the project region, but no foraging habitat occurs nearby.	Not likely to be adversely affected.
Osprey ( <i>Pandion haliaetus</i> ) *Nesting	CA-WL	Primarily along rivers, lakes, bays, and seacoasts. Nests in dead snags, living trees, utility poles, etc. usually near or above water (CNDDDB 2017).	April through early September (Poole et al. 2002).	Low: Species breeds in the project region, but no foraging habitat occurs nearby.	Not likely to be adversely affected.
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	CA-FP	Inhabits dry, open terrain. Breeding sites are located on cliffs. Forages far afield, even to marshland and ocean shores (CNDDDB 2017).	February through August (White et al. 2002).	Low: Peregrines are resident in the project region but are unlikely to use the project site for foraging or nesting habitat.	Not likely to be adversely affected.
Yellow rail ( <i>Coturnicops noveboracensis</i> )	CA-SC	In winter, Yellow Rails appear to prefer drier portions of Spartina stands in coastal marshes (Anderson 1977a). In Texas, wintering birds were primarily associated with dense, low undergrowth dominated by <i>Distichlis stricta</i> and <i>Spartina spartina</i> (Grace et al. 2005).	Species does not breed in Humboldt County.	Low: Suitable habitat is not present in the proposed project site.	Not likely to be adversely affected.

Common Name (Scientific Name)	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Birds</b>					
Mountain plover ( <i>Charadrius montanus</i> )	CA-SC	Winter habitat: Most birds winter in California, where they spend about 75% of their time on tilled fields, but prefer heavily grazed annual grasslands or burned fields (Knopf and Rupert 1995). Little current use of California coastal plains (Wunder et al. 2003).	Species does not breed in Humboldt County.	Low: Species rarely winters in Humboldt County and is not likely to occur in the proposed project site.	Not likely to be adversely affected.

Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	F-T CA-E	Feeds near-shore and nests inland along the coast from Eureka, Humboldt County to the Oregon border and from Half Moon Bay, San Francisco County to Santa Cruz, Santa Cruz County. It nests in old-growth redwood-dominated forests, typically not more than 6 miles inland, often in Douglas-fir (CNDDDB 2017).	March through October (Nelson 1997).	Low: Species breeds in the old growth forest and there is no known breeding locations in or adjacent to the proposed project site.	Not likely to be adversely affected.
Great horned owl ( <i>Bubo virginianus</i> )	CA-FP	Occurs in a variety of forest habitats with meadows and other openings including mixed coniferous forest. Commonly forages and breeds in riparian and coniferous habitats (Zeiner et al. 1988-1990).	May through September (Houston et al. 1998).	High: Species breeds in the project region and roosting, and foraging habitat present.	Not likely to adversely affect with the incorporation of mitigation measures.

Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Birds</b>					

Little willow flycatcher ( <i>Empidonax traillii brewsteri</i> ) (Nesting)	CA-E	Nesting habitat is deciduous thickets, especially willows and often near water. In Humboldt County nesting locations have occurred on the Eel, Elk, and Mad Rivers, and rarely in upland young regenerating forest (Hunter et al. 2005). Nesting habitat appears to be riparian habitat adjacent to slow moving or stagnant water sources, such as off-channel pools (Eel and Mad Rivers) or human-created analogs such as stagnant ponds (Blue Lake Waste Water Treatment Plant) or channels (Mad River Fisher Hatchery)	Begins early to mid-June in Oregon and Colorado, mid- to late May farther south (s. California, s. Arizona; ).	Low: Suitable nesting habitat does not occur in the proposed project site	Not likely to be adversely affected.
Bank swallow ( <i>Riparia riparia</i> ) (Nesting)	CA-T	Bank swallows establish colonies along eroded, vertical banks within river systems with friable alluvial soils (Garrison et al. 1987). Dynamic river processes create these conditions as rivers meander and expose fresh soil most typically on the outside bends of meanders. The three known colonies along the lower Van Duzen and Eel rivers all occur in these types of locations where recent high-flow winter events have caused maintained vertical banks and exposed new soil via erosion. In coastal areas wave or wind action can erode banks or bluffs and create suitable colony locations. The Mad River overlook colony occurs in such a wind-eroded coastal bluff. Burrows are often destroyed by erosional processes from year to year, exposing fresh soil that the swallows will use to construct new burrows (BANS-TAC 2013).	The nesting season for Bank swallows in California is from 1 April through 31 August and includes the time of first arrival of individuals at colony sites, completion of egg laying and fledging of young, and ending with dispersal of juveniles from the nesting colony site (Garrison 1998)	Low: This species has been recently expanding its breeding range on the Eel River and Mad Rivers (Slauson 2017), however suitable nesting habitat is not present in the proposed project site.	Not likely to be adversely affected.
Fork-tailed Storm-petrel ( <i>Oceanodroma furcata</i> )	CA-SC	Highly pelagic species nesting in burrows on rocky islands and sea cliffs. Nearest known nesting location is at sea stacks along Luftenthal beach.	March-June	Low: There is no suitable foraging or habitat capable of supporting nesting colonies present in the project area.	Not likely to be adversely affected.

Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Mammals</b>					
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	CA-SC	Species occurs throughout California, but complete details of its distribution are unclear, and it occurs in both forested and non-forested habitats (Hayes 2003). Appears to use bridges for night roosts less often than more common bat species in the Oregon coast range (Adam and Hayes 2000) and elsewhere (Sherwin et al. 2000).	April-August. Fertilization from stored sperm occurs in the spring. Gestation lasts from 50 to 60 days. As with other bat species, pups are born without the ability to fly.	Low: Suitable habitat is not present in the proposed project site but foraging may occur in or around the proposed project site.	Potential to be adversely affected but this can be minimized with incorporation of light minimization measures.
North American Porcupine ( <i>Erethizon dorsatum</i> )	G5 S3	Throughout it's range this species is commonly found in coniferous and mixed forested areas, however in Humboldt county the few contemporary records occur in shore pine and serpentine habitats (K. Slauson pers. Obs.)	Females give birth to a single young in spring and mating occurs in fall.	Low: Suitable habitat is not present in the proposed project site.	Not likely to be adversely affected.
Sonoma tree vole ( <i>Arborimus pomo</i> )	CA-SC	The species' habitat consists of mixed evergreen forests; optimum habitat appears to be wet and mesic old-growth Douglas-fir forest, but this species also occurs in younger forests (e.g., Douglas-fir 47 years old).	Nests in trees, 2-50 m above ground; it may use old nests of birds, squirrels, or woodrats. Nests usually are in Douglas-fir trees but sometimes may be in other conifers or in Pacific madrone (Meiselman, 1996, Vrieze, 1998).	Low: Few suitable conifers area present in or near the proposed project site.	Not likely to be adversely affected.
Pacific fisher ( <i>Pekania pennanti pacifica</i> )	F-CT CA-CT	Forages in a variety of seral stages near the coast, but rests and dens in large-diameter live and dead woody structures (Lofroth et al. 2010).	March-October (Powell 1993, Green 2017)	Low: Species is known to occur in the project watershed but is not likely to utilize habitat imbedded in a developed matrix of human habitations.	Not likely to be adversely affected.

Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Birds</b>					
Steller's sea lion ( <i>Eumetopias jubatus</i> )	CA-SC G3-S2	Coastal waters of northern California. Come to shore to haul out and pup.	Mid-spring.	Low: Suitable habitat is not present in the proposed project site.	Not likely to be adversely affected.
White-footed vole ( <i>Arborimus albipes</i> )	CA-SC G3G4- S2	Found in mature, coastal forests, preferring the vicinity of small, clear streams, with dense alder and other deciduous trees and shrubs. Occupies the habitat from ground surface to canopy, feeding in all layers, and nesting on the ground. White-footed voles often are found near logs and in brush when on the ground.	April-July.	Low: Suitable habitat may occur adjacent to the proposed project site.	Not likely to be adversely affected.
<b>Insects</b>					
Western bumblebee ( <i>Bombus occidentalis</i> )	CA-WL	Western bumblebees are generalist foragers. Because they do not depend on any one flower type, they are considered to be excellent pollinators.	A new colony typically starts in the early spring by a solitary queen.	High: Species likely occurs in the project area and the grassland where the proposed project has the potential to support nectar plants and therefore potentially provides foraging and nesting habitat.	Potential to be adversely affected without mitigation measures.

Obscure bumblebee ( <i>Bombus caliginosus</i> )	CA-WL	The workers are most often seen on Fabaceae, the legume family, while queens are most often seen on Ericaceae, the heath family, and males have been noted most often on Asteraceae, the aster family. Common plants visited by the workers in a sample included ceanothus, thistles, sweet peas, lupines, rhododendrons, <i>Rubus</i> , willows, and clovers.	A new colony typically starts in the early spring by a solitary queen.	High: Species likely occurs in the project area and the grassland where the proposed project has the potential to support nectar plants and therefore potentially provides foraging and nesting habitat.	Potential to be adversely affected without mitigation measures.
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Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
<b>Insects</b>					
Crotch bumblebee ( <i>Bombus crotchii</i> )	CA-CE	There is only one record from Humboldt county. The specimen was collected at Mad River beach in dune habitat. Crotch's bumblebee inhabits grassland and scrub areas, requiring a hotter and drier environment than other bumblebee species, and can only tolerate a very narrow range of climatic conditions.	Workers of this species are active from April to August and queen bees are active for only two months from March until May	Low: Suitable habitat does not likely occur in the project area.	Not likely to be adversely affected.
Behren's snail-eating beetle ( <i>Scaphinotus behrensi</i> )	G2G4-S2S4	A collection of this species was made in the Arcata community forest.	Unknown	Low: Species is unlikely to occur in the project area.	Not likely to be adversely affected.
Sandy beach tiger beetle ( <i>Cicindela hirticollis gravida</i> )	G2T2-S2	Found in moist sand near the ocean, for example in swales behind dunes or upper beaches beyond normal high tides.	Summer	Low: Suitable habitat does not occur in the project area.	Not likely to be adversely affected.
<b>Mollusks</b>					
Western pearlshell ( <i>Margaritifera falcata</i> )	C-WL	Preferentially inhabits boulder and gravel substrates; commonly occupied stable bank edges (Westover 2010).	Unknown	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.



Fish					
Coast Cutthroat trout ( <i>Oncorhynchus clarkii clarkii</i> )	S3	Aquatic, Klamath/North coast flowing waters	Fall-winter.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.
Summer-run steelhead trout ( <i>Oncorhynchus mykiss irideus</i> ; pop. 36)	C-SC	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters	Summer.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.
Steelhead - northern California DPS ( <i>Oncorhynchus mykiss irideus</i> pop. 16)	F-T	Aquatic, riverine, north coast flowing rivers and streams.	Fall-winter.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.

Common Name ( <i>Scientific Name</i> )	Status	Habitat	Breeding Period	Potential to Occur	Potential Effect
Fish					
Green sturgeon ( <i>Acipenser medirostris</i> )	C-SC	Aquatic, estuarine and riverine. Sturgeon enter Humboldt Bay from April to June and reside until Sep-Oct. Adults enter larger rivers (Klamath/Trinity/Smith) to spawn in the fall.	Fall-winter.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.
Eulachon ( <i>Thaleichthys pacificus</i> )	G5-S2	Anadromous, spend most of their adult lives in the ocean but return to their natal freshwater streams and rivers to spawn and die	The spawning migration usually occurs between December and June.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.

Pacific lamprey ( <i>Entosphenus tridentatus</i> )	C-SC	Pacific lampreys share many habitat requirements with Pacific salmonids ( <i>Oncorhynchus</i> spp; Close et al. 2002, Stone 2006), particularly cold, clear water (Moyle 2002) for spawning and incubation.	Adult spawning migrations usually occur from Mar-Jun, but also in Jan, Feb (ENTRIX 1996, Trihey and Associates 1996b), as well as in July, Aug, and Sept in northern streams.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.
Western brook lamprey ( <i>Lampetra richardsoni</i> )	C-SC	Western brook lampreys have habitat requirements similar to those of salmonid species, with which they co-occur. They need clear, cold, water in little disturbed watersheds, as well as clean gravel near cover (boulders, riparian vegetation, logs, etc.) for spawning.	Adult spawning migrations usually occur from Mar-Jun.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.
Longfin smelt ( <i>Spirinchus thaleichthys</i> )	G5-S1	Found in Humboldt Bay and the estuaries of the Eel River and Klamath River— and uses a variety of habitats from nearshore waters, to estuaries and lower portions of freshwater streams (Garwood 2017).	Spawning occurs from November through May, with a peak from February through April.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.
Tidewater goby ( <i>Eucyclogobius newberryi</i> )	F-E	The species is benthic in nature, living at the bottom of shallow bodies of water. Its habitat is characterized by brackish (somewhat salty) water in shallow lagoons and in lower stream reaches where the water is fairly still but not stagnant.	Peak breeding activities commence in late April through early May.	Low: Suitable habitat not likely present in project area.	Not likely to be adversely affected.

**Common Name  
(Scientific Name)**

**Status**

**Habitat**

**Breeding Period**

**Potential to Occur**

**Potential Effect**

**Mammals**

Long-eared myotis ( <i>Myotis evotis</i> )	WBWG- M	Species known to occur in semiarid shrub lands, shortgrass prairie, and subalpine forests, with habitats ranging from sea level to 2,830 meters (Solick et al. 2006). They roost in a variety of places, including tree cavities, rock crevices, caves, and even abandoned buildings. They seem to prefer rock crevices	Likely June-August. Reproducing females generally roost in small, 2-centimeter wide crevices that are typically vertically oriented.	Moderate: Suitable habitat may occur the project region, but suitable roosting and colony sites are not likely present in the proposed project site.	Potential to be adversely affected but this can be minimized with incorporation of light minimization measures.
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## Northern Spotted Owl Summary

June 6, 2021

Hohman & Associates is preparing a THP consisting of 19 acres for Brett J. Kilgore. The THP is located approximately 1.1 air miles northeast of the community of McKinleyville in portion of Section 29, T7N, R1E, HB&M, in Humboldt County. Northern spotted owl (NSO) findings are summarized in this document.

No CNDDDB NSO Activity Center sites occur within 0.7 miles of the plan area. See attached database search map showing the nearby activity centers downloaded from CNDDDB.

Six surveys have been completed in both 2020 and 2021. In 2020, surveys began on 3/16/21 and were completed on 6/21/20. In 2021, NSO calls began on 3/3/21 and were completed on 6/3/21. No NSO were detected during the two years of surveys. All surveys were timed appropriately to hit the three survey periods for the Coastal region (3/15-4/14; 4/15-5/14; 5/15-6/15).

The THP encompasses approximately 19 acres of Group Selection and no harvest. The elevation ranges from approximately 252 ft. to 485 ft. above sea level. The timberland is zoned for Agricultural Production (AG). The current stand consists of an un-even aged stand of 20-80 year old second growth Douglas-fir, Sitka spruce and western hemlock, intermixed with a minor amount of similar age hardwoods. Canopy cover within the THP ranges from 0% to 95%. In 2020 a Less Than Three Acre Conversion was completed which converted 2.99 acres of Nesting/Roosting habitat to Foraging Habitat. The currently THP consists of approximately 13 acres of Nesting/Roosting Habitat, 3 acres of Foraging Habitat, and 3 acres of Non-habitat. The proposed timber operations would reduce approximately 13 acres of Nesting/Roosting Habitat to Foraging Habitat. Foraging Habitat will increase to approximately 16 acres, and Non-habitat will remain at approximately 3 acres.

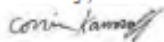
NSO Habitat was determined by following guidelines provided in "Attachment A: Take Avoidance Analysis" of the USFWS *Northern Spotted Owl Survey Protocol* (2012).

Please see attachments as follows:

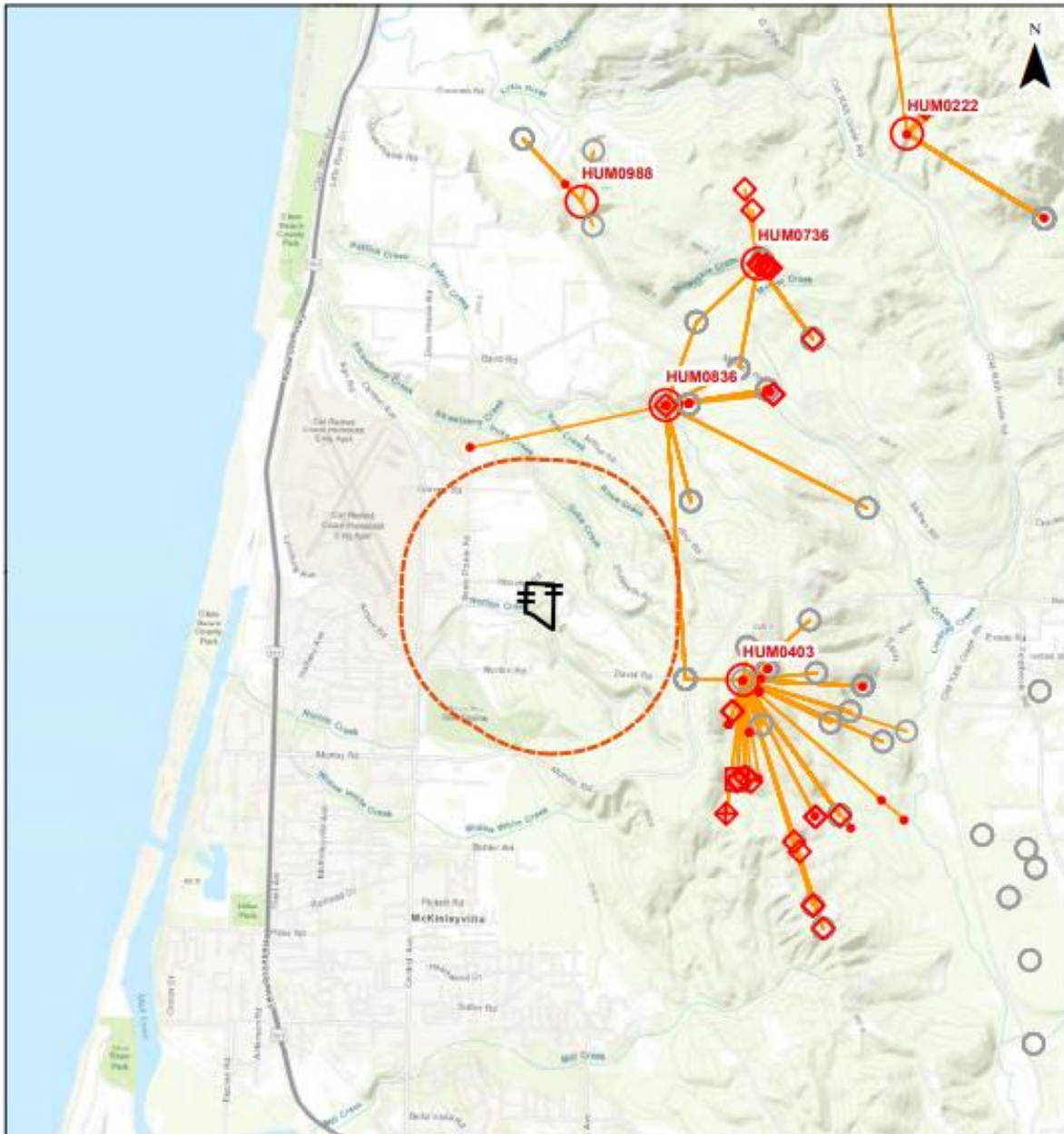
- NSO Database Check Map (CNDDDB)
- NSO Call Station Location Map
- 2021 NSO Surveys (6)
- 2020 NSO Surveys (6)
- Pre-Harvest functional NSO Habitat within 0.7 mi
- Post-Harvest function NSO Habitat within 0.7 mi
- Current NSO Database Check (Reports 1 and 2)
- Definitions of Habitat typing From Attachment A: Take Avoidance Analysis

Please contact us by phone or email if you have any further questions.

Sincerely,

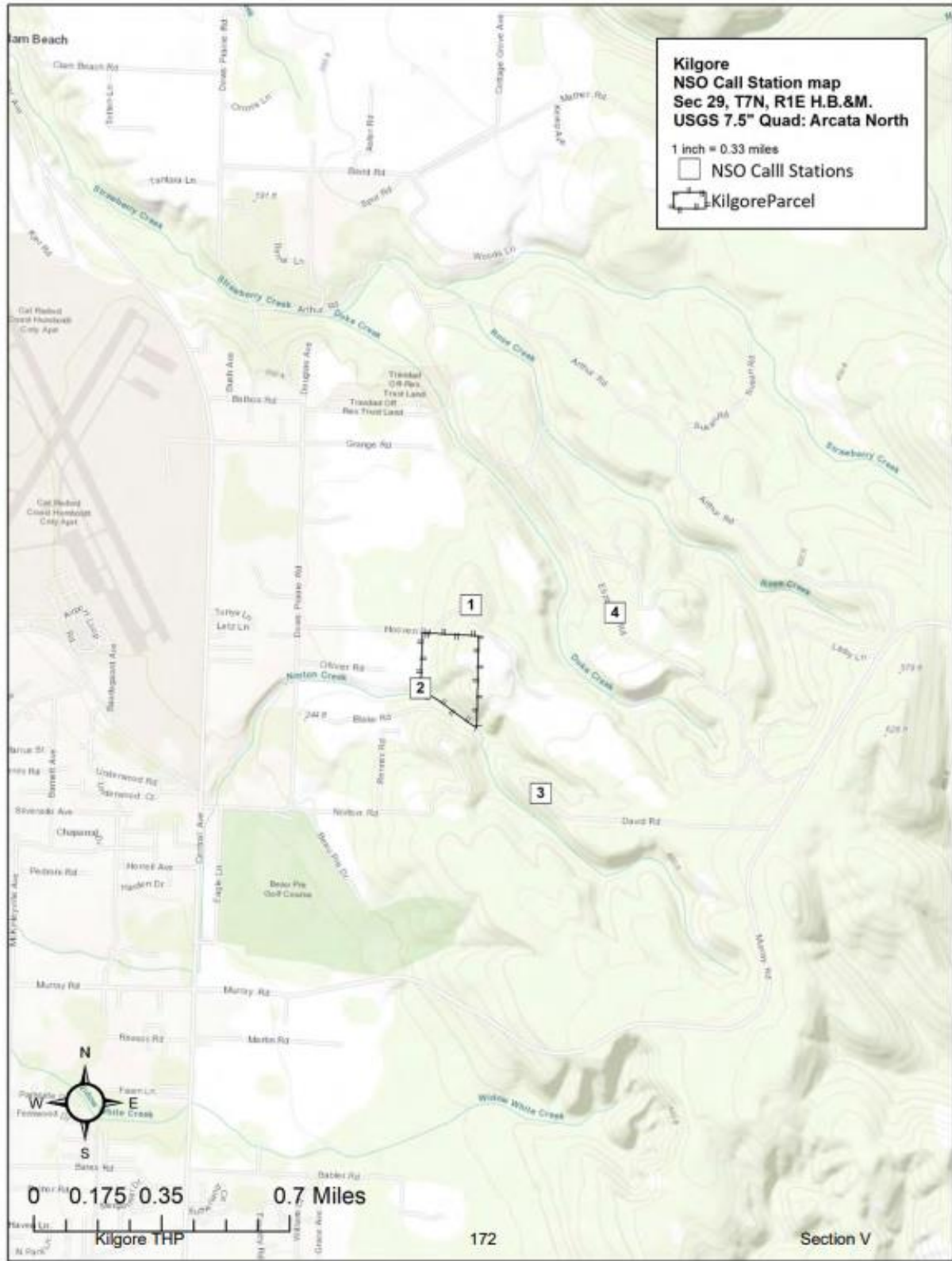


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<p>Kilgore THP NSO Database Check Map</p> <p>Section 29; T7N; R1E; HB&amp;M; Humboldt County Located on the Arcata North 7.5' USGS Quadrangle</p>	Kilgore THP	Young	Activity Center
	0.7 mi Buffer	Pair	Other Positive Observation
<p><b>Spotted Owl Observations</b></p> Nest		Negative Observation	

0 1,950 3,900 7,800 Feet Contour Interval: 40' 1 inch = 4,265 feet Hohman And Associates Forestry Consultants Date: 6/8/2021





Kilgore THP  
Pre-Harvest NSO Habitat

Section 29; T7N; R1E; HB&M;  
Humboldt County  
Located on the Arcata North 7.5' USGS  
Quadrangle

Kilgore THP  
 0.7 mi Buffer  
 Nesting/Roos... Habitat  
 Foraging Habitat  
 Non-Habitat

NSO Habitat		
Habitat Type	Within 0.7 mi Buffer (~1342 Acres)	Within THP Boundary (~19 Acres)
Nesting/Roosting Habitat	359	13
Foraging Habitat	459	3
Non-Habitat	524	3

0 700 1,400 2,800 Feet Contour Interval: 40' 1 inch = 1,584 feet Hohman And Associates Forestry Consultants Date: 6/9/2021

Kilgore THP



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Section V

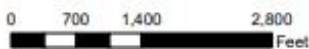


Kilgore THP  
Post-Harvest NSO Habitat

Section 29; T7N; R1E; HB&M;  
Humboldt County  
Located on the Arcata North 7.5' USGS  
Quadrangle

-  Kilgore THP
-  0.7 mi Buffer
-  Nesting/Roos...  
Habitat
-  Foraging  
Habitat
-  Non-Habitat

NSO Habitat		
Habitat Type	Within 0.7 mi Buffer (~1342 Acres)	Within THP Boundary (~19 Acres)
Nesting/Roosting Habitat	346	0
Foraging Habitat	472	16
Non-Habitat	524	3



Contour Interval: 40'  
1 inch = 1,584 feet

Hohman And Associates Forestry Consultants  
Date: 8/9/2021

Kilgore THP

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Section V



## II. Definitions

This section defines several terms used in the analysis of take avoidance of the NSO within the coast redwood ecotype of the Coast District (additional terms are defined within the protocol guidance documents, referenced above):

**Activity Center (AC):** Area of concentrated activity of either a pair of NSO or a single territorial NSO, represented by a mapped location (e.g., usually a nest tree) that occurs within, but not necessarily in the exact center of, the "Core Area," defined below.<sup>2</sup>

**Core Area:** 100 acres of the 200 acres of Nesting/Roosting habitat retained within a 0.7 mile radius contiguous with the Activity Center. If 100 acres of contiguous Nesting/Roosting is not available, then the highest quality habitat available shall be included.

**Foraging Habitat:** Habitat that contains  $\geq 40\%$  canopy cover of trees that are  $\geq 11"$  DBH (diameter at breast height), and have a basal area  $\geq 75$  square feet per acre of trees  $\geq 11"$  DBH. Trees may be conifer or hardwood.

**Nesting/Roosting Habitat:** Forested habitat that supports successful nesting and associated roosting behavior by NSO. Habitat with  $\geq 60\%$  canopy cover of trees that are  $\geq 11"$  DBH, and have a basal area  $\geq 100$  square feet per acre of trees  $\geq 11"$  DBH. Trees may be conifer or hardwood.

**Nesting/Roosting Polygon:** All Nesting/Roosting habitat which is contiguous with an NSO Activity Center.

**NSO Breeding Season:** Defined as February 1 to July 31 within the coast redwood ecotype found in the Coast District of California.

**NSO Home Range:** Defined as a 0.7 mile radius circle centered on the Activity Center for the coast redwood ecotype found in the Coast District.

**Suitable or Functional Habitat:** Habitat that meets either Nesting/Roosting or Foraging definitions, or a combination of Nesting/Roosting and Foraging habitat.

**Survey Area:** All Suitable/Functional NSO habitat within 0.7 mile from the project boundaries; or for disturbance only activities, a 0.25 mile area outside the edge of the project should be surveyed.

**Survey-Start Date:** In the coast redwood ecotype, Coast District, NSO Surveys should start on or after March 1.

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<sup>2</sup> NSOs have been characterized as central-place foragers, where individuals forage over a wide area and subsequently return to a nest or roost location that is often centrally-located within the home range (Rosenberg and McKelvey 1999).