Biological Assessment Report

Humboldt County APN 210-044-009

Bridgeville, California

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NRM
NATURAL RESOURCES MANAGEMENT
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VALLEY TOPS LLC - Appendix J

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The project at parcel APN 210-044-009, located approximately five air miles southeast of Bridgeville, in Humboldt County, California (Figure 1), involves cannabis cultivation and related infrastructure (Figure 2). Historically, the parcel has been the site of past cannabis cultivation in the same or similar locations on the parcel. The current landowner(s) are applying for a cultivation permit under the Humboldt County Commercial Cannabis Land Use Ordinance (HCCCLUO) 2.0 as an existing cultivator for 10,000 square feet.

This Biological Report reviews the projects at the above APN to determine to what extent wildlife species currently listed or proposed for listing would be affected (Table 3). A complete list of species, or their sign, observed during the survey are summarized in Table 4. No listed wildlife species were detected during the biological survey.

No habitat for listed or sensitive species was identified in the vicinity of the project. See Table 1 for a list of reviewed species. It has been determined that the project and operations are unlikely to have an effect on these species, particularly if management recommendations are followed.

Summary of Further Surveys Needed and Mitigation Recommendations

- No surveys are required at this time related to cannabis operations at the parcels.
- All hoophouses utilizing early-season, low impact lighting will require tarps to block all potential light pollution from one hour prior to sunset through one hour past sunrise.
- Discontinue use of monofilament netting, which is hazardous to all forms of wildlife; CDFW recommends using natural fiber products such as jute or hemp.
- All current and future storage tanks will require functioning float valves that automatically shut off flow.

II. Introduction, Background, and Project Understanding

The purpose of this Biological Report is to review the project (described below) in sufficient detail to determine existing or potential impacts to wildlife species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA), or designated as sensitive by the California Department of Fish and Wildlife (CDFW); these species are hereinafter referred to as *special status species* (Table 1). Species with potential habitat present, or whose presence was not confirmed but potentially occur in the general area are addressed in Table 3.

The project at parcel APN 210-044-009, located approximately 5 air miles southeast of Bridgeville, in Humboldt County, California (Figure 1), involves cannabis cultivation and related infrastructure (Figures 2 and 3). Historically, the parcel has been the site of past cannabis

cultivation in the same or similar locations on the parcel. The current long term landowner(s) are applying for a cultivation permit under the Humboldt County Commercial Cannabis Land Use Ordinance (HCCCLUO) 2.0 as an existing, low risk Tier 2 cultivator for 10,000 square feet within two hoophouses and full sun outdoor gardens (Figure 2, Site C), as well as a separate propagation hoophouse (Figure 2, Site A). Proposed for cultivation are the use of two hoophouses measuring 25 feet by 90 feet (totaling 4,500 square feet), with the remaining 5,500 square feet in full sun outdoors.

A biological assessment of the project area and the surrounding habitat was conducted to evaluate any potential habitat for special status animals, plants, or other environmental issues. In addition, these areas were surveyed to describe any terrestrial and aquatic animals, plants or wetlands occurring in and around the project areas.

Project Site

Located nearly equidistant between the communities of Bridgeville and Dinsmore and adjacent to Highway 36, the project on APN 210-044-009 involves cannabis cultivation and related infrastructure. The legal description for the parcels is T01N, R04E, NE ¼ of Section 22 and NW ¼ of Section 23, HB&M, within the USGS 7.5′ Larabee Valley quadrangle (Figure 1). The site address is 33220 Highway 36, Bridgeville, California 95526.

Cannabis cultivation occurred in the past in three separate areas of the parcel (Figure 2, Sites A, B, C) that were converted from timberland. One additional area was converted from timberland (Figure 2, Site D) to provide more sunlight to solar panels, and another area disturbed (Figure 2, Site E) to build a structure for drying cannabis; these five converted areas total 1.8 acres. Roads connecting to these sites are rocked and well-maintained. The landowner(s) are in the process of remediating these five areas through a conversion mitigation process with Humboldt County and CalFire (Conversion Mitigation Report, May 2019), and are proposing to consolidate the three previous cultivation areas to one 10,000 square foot cultivation area at Site C, and one propagation hoophouse at Site A (Figure 2).

Current structures on the parcel include two residential buildings (Photos 1-2) and a 10-foot by 12-foot storage shed at Site A, and a 16-foot by 40-foot agricultural / drying building (Photos 3-4) at Site E (Figure 2).

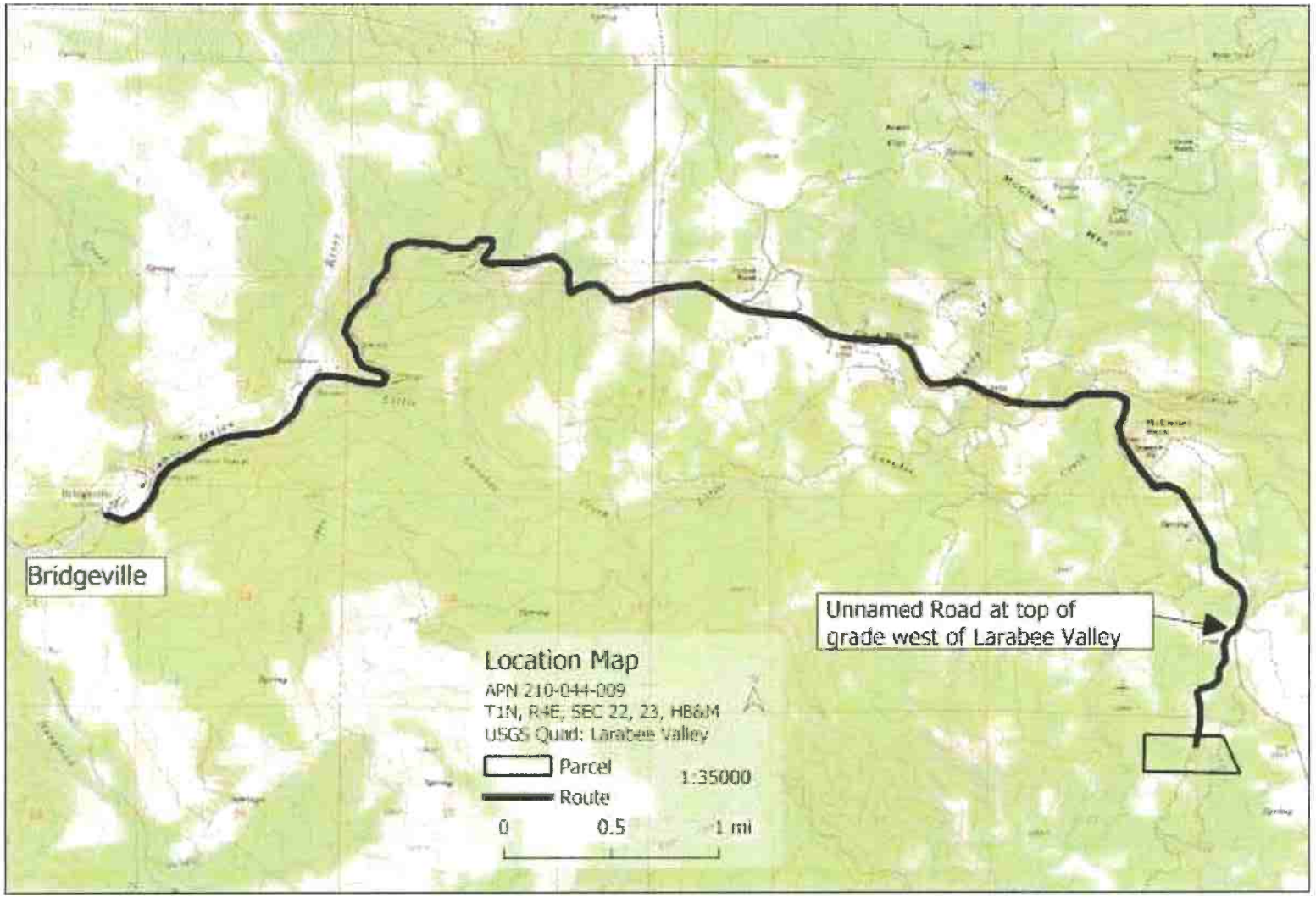

Figure 1. Vicinity map for APN 210-044-099

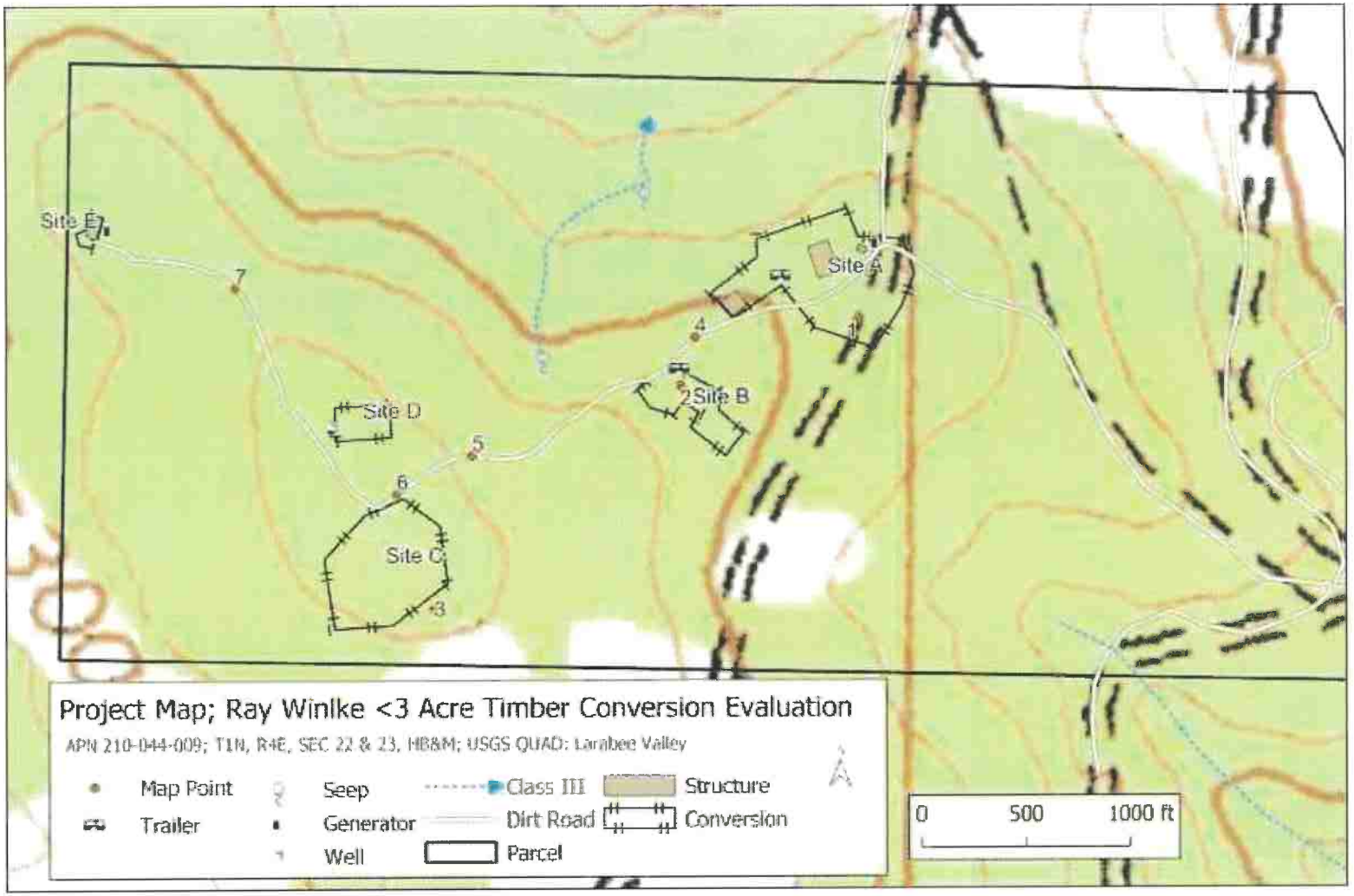

Figure 2. Project area map for APN 210-044-099 (Topographic)

Topography and Hydrology

This parcel is west of Highway 36 and the Larabee Valley; Larabee Buttes are approximately 1.8 air miles southwest. Elevation on this 45-acre parcel ranges from approximately 3,080 feet in the western portion to 2,800 feet at the southeast corner near Larabee Buttes Road, with an eastern aspect towards Larabee Valley (Figure 1). Occupying primarily forested ridgetop habitat with few naturally occurring flats, the two residential buildings and former cannabis cultivation area at Site A (Figure 2) occur on a former log landing site that was converted in 2010; the two previous cultivation areas at Sites B and C were also developed from former log landings.

This area is characterized by Douglas-fir dominant and oak mixed forest bounded to the north and east by Highway 36, to the south by Larabee Buttes, and to the west by the Hoagland Creek watershed. Beyond this forested patch the landscape becomes more interspersed with natural grassland openings, particularly near the ridge tops (Figure 3).

In 2015, a well and supporting solar pump were installed adjacent to Site C (Photos 5-6) for domestic and irrigation purposes (Appendix B, Well Report). A filing with the State Water Resources Control Board for Cannabis Small Irrigation Use Registration (#416825) was determined unnecessary, with the existing water source (well) approved for cultivation. There is currently 9,500 gallons of water storage in hard-sided plastic tanks located adjacent to the well shed, just uphill from the proposed cultivation at Site C (Photos 7-8).

There are no watercourses on the parcel. A natural swale located in the southeast portion of the parcel collects water during the rainy season and drains via a culvert (on the road maintained by the Bureau of Land Management) southeast into a spring-related channel just west of Highway 36. This swale is approximately 1,000 feet east of Site C and 750 feet southeast of Site A (Figure 2).

A small pond, formed around a seep (Photos 9-10) and located approximately 350 feet northeast of Site C and 450 feet southwest of Site A (Figure 2), flows in an undefined channel during the rainy season north to an ephemeral tributary, then enters into an unnamed Class II tributary (Figure 1). This Class II watercourse, located approximately 1,050 feet west of the proposed cultivation area at Site C (Figure 2), flows north approximately 1.3 air miles to the confluence with Little Larabee Creek. Little Larabee Creek flows west from this confluence approximately 3.5 air miles to join the mainstem Van Duzen River, just north of Bridgeville.

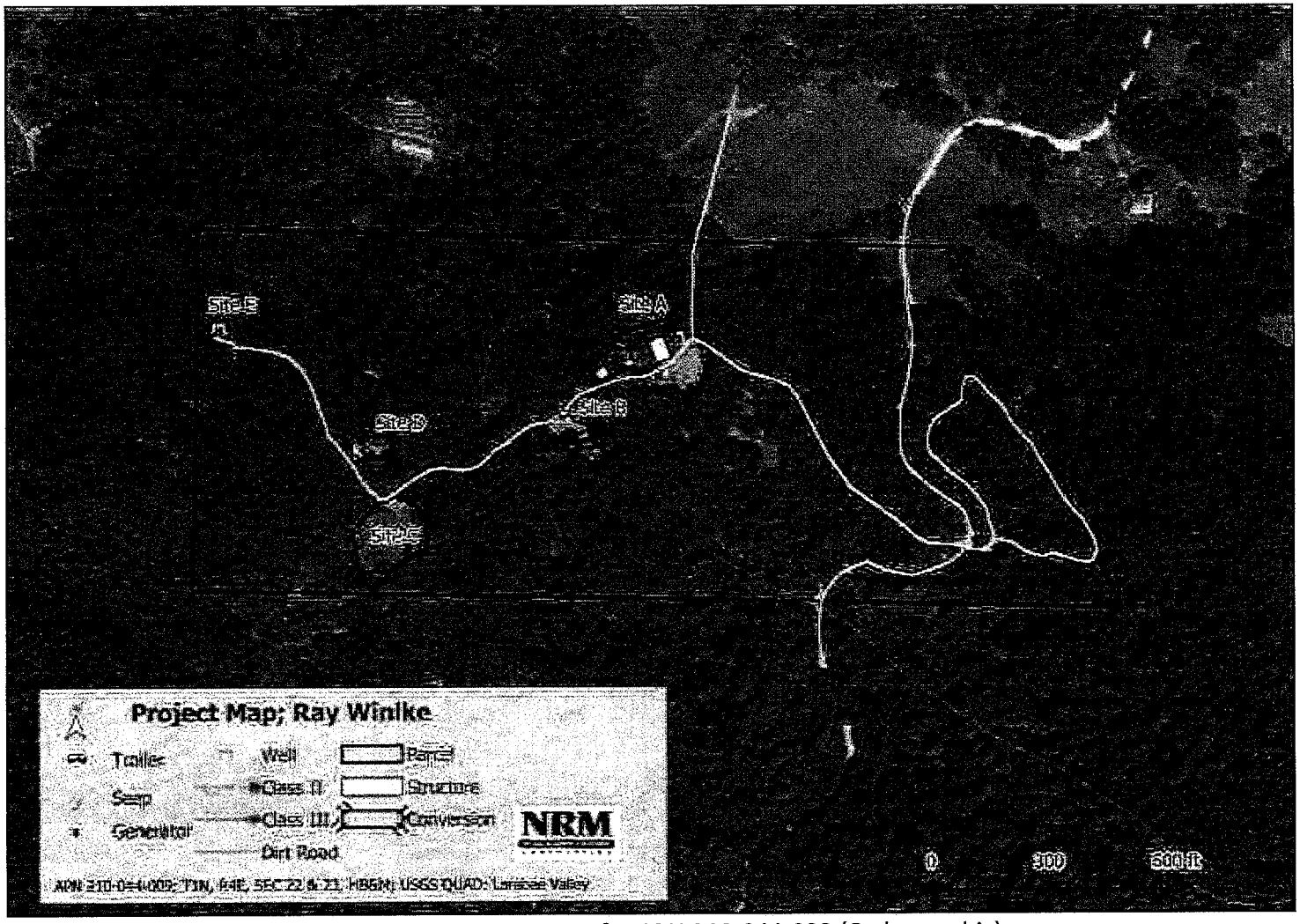

Figure 3. Project area map for APN 210-044-099 (Orthographic)

The mainstem Van Duzen River is a Class I, fish bearing watercourse that flows in a westerly direction to confluence with the Eel River approximately 3 miles south of the town of Fortuna; the Eel River then continues in a northwesterly direction for approximately 8.5 air miles to the Pacific Ocean. The Van Duzen River consists of about 73 stream miles, with headwaters in the Six Rivers National Forest; it joins the Eel River at about river mile 13, near the town of Alton.

Biological Description

This parcel is primarily ridgetop oriented with a high canopy cover of predominantly Douglas-fir forest. The project area lies within previously disturbed historic flats. The vegetation surrounding the parcel is composed of oak woodland and Douglas-fir forest; black oak and Oregon white oak constitute approximately 30 percent cover. The understory is fairly open with sapling tan oak dominating edge habitats.

The Van Duzen River watershed has been declared as impacted by low streamflows due to high concentrations of cannabis cultivation, and is critical to the recovery of salmonid fish species. The projects on the parcel are located approximately 3 miles west of the Little Van Duzen River and Van Duzen River confluence, which connects to the Pacific Ocean via the Eel River. Historically, these rivers supported multiple species of anadromous fish species, including steelhead, coho and chinook salmon, all special status species. Anadromous fish surveys in 1996 of Little Larabee Creek found only steelhead present.

The project site is within the USDA Ecoregion Section 78Q: Outer North Coast Ranges within the Klamath Mountain/California High North Coast Range Ecoregion Province, and the USFS CALVEG Mapping Zone 1: North Coast West (CALVEG 2004).

Project Description

The landowner(s) are applying for a permit to cultivate 10,000 square feet of cannabis within two hoophouses and full sun outdoor gardens, as well as a separate propagation hoophouse. Proposed are the use of 2 hoophouses measuring 25 feet by 90 feet (totaling 4,500 square feet), with the remaining 5,500 square feet in full sun outdoors at Site C (Photos 11-12). The propagation hoophouse will be located across from the residential buildings at Site A (Photos 13-14), and only used for a short period of time at the beginning of the cultivation season. In the early season, low wattage compact fluorescent lights will be used to keep young starts in a vegetative, non-flowering state. These bulbs project light only a short distance and will be used for approximately one to two hours before sunrise and after sunset, at which time the hoophouse will be tarped to avoid any light pollution and disruption to local wildlife. This is the only use of lights for cultivation purposes and there will be no use of generators on the parcel once the solar installation is complete.

The residence is currently run by generator, transitioning to solar for the 2020 (or 2021) growing season. The current landowner(s) are in the process of developing a solar panel system with a local contractor that would include 20 panels at the north edge of Site C, with a trenched line sending power north to the well/pump shed and continuing west to the drying building. An additional trenched line would connect to the current generator shed (Photo 15) in the residential area at Site A.

A third building, located near the northwest corner of the parcel (Figure 2, Site E), is used for drying cannabis and measures 16 feet by 40 feet.

The cultivation season is expected to run from May through October, with water provided by the onsite well. There is currently 9,500 gallons of water storage in hard-sided plastic tanks (3-2500; 1-1500; 1-500 gallon) located adjacent to the well.

III. Methods

Pre-Field Review

Prior to initiating field surveys, a query of the CDFW California Natural Diversity Data Base (CNDDB 2019) for wildlife species occurrences within a nine-quad topographical map area of the parcel was conducted. This provides a comprehensive target species list from which to determine habitat, presence, or sign of species, as well as any known locations for special status species in the general area (Table 1), including northern spotted owl (NSO) Activity Centers (ACs).

Table 1. CNDDB list of potential special status wildlife species in the Larabee Valley nine-quad area

Common Name	Scientific Name	Federal / State Listing
northern spotted owl	*Strix occidentalis caurina*	Federal Threatened, State Threatened
golden eagle	*Aquila chrysaetos*	Fully Protected, Watch List, USFWS Bird of Conservation Concern (BCC)
American peregrine falcon	*Falco peregrinus anatum*	Delisted, Fully Protected
northern goshawk	*Accipiter gentilis*	State Species of Special Concern (SSC)
Cooper's hawk	*Accipiter cooperii*	Watch List
osprey	*Pandion haliaetus*	Watch List
Humboldt marten	*Martes caurina humboldtensis*	Candidate State Endangered, SSC
fisher- west coast DPS	*Pekania pennanti*	State Threatened, SSC
Sonoma tree vole	*Arborimus pomo*	SSC
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC
western pond turtle	*Emys marmota*	SSC
Pacific tailed frog	*Ascaphus truei*	SSC
foothill yellow-legged frog	*Rana boylii*	Candidate State Threatened, SSC
northern red-legged frog	*Rana aurora*	SSC
southern torrent salamander	*Rhyacotriton variegatus*	SSC
summer-run steelhead	*O. Mykiss irideus pop. 36*	State Endangered

The survey protocol for NSO Activity Centers (USFWS Revised 2012) in non-redwood (interior) habitat (USFWS 2008) requires a 1.3-mile habitat analysis buffer for determining potential project effects. The nearest AC to the project area is greater than 1.3 miles (Figure 4). Recent NSO data for the nearest ACs are displayed in Table 2, below.

Table 2. NSO Activity Centers in the vicinity of APN 210-044-009

NSO Activity Center	CNDDB Reported Positive Data	CNDDB Reported Negative Data	Approximate Distance to Nearest Project Area (miles)
HUM0125	1985, 1987, 1991, 1992, 1994, 1995, 1996, 2008 **nesting pair with young** 1988, 1989, 1990, 1993, 1997, 1998, 1999, 2000, 2002, 2004, 2005, 2006, 2009, 2010, 2011, 2012, 2018 **non-nesting pair** 2001, 2003 **single adult**	2007	1.8
HUM0128	1984, 1985, 1988, 1991, 1992, 1994-1996, 200-2002, 2004, 2005 **nesting pair with young** 1986, 1987, 1989, 1990, 1993, 1997-1999, 2003, 2006, 2007, 2013-2017 **non-nesting pair** 2008, 2010 **single adult**	--	2.0

Due to potential habitat for NSOs occurring in the vicinity of the parcel, the landowner(s) contracted the services of NRM to conduct surveys for NSO in 2019 (see Results and Discussion) to determine presence/absence.

A CNDDB database query for all special status wildlife species within a 1-mile radius of the project parcels returned records for peregrine falcon (1995, 2017; specific location information suppressed, presumed extant) for the Larabee Valley quadrangle.

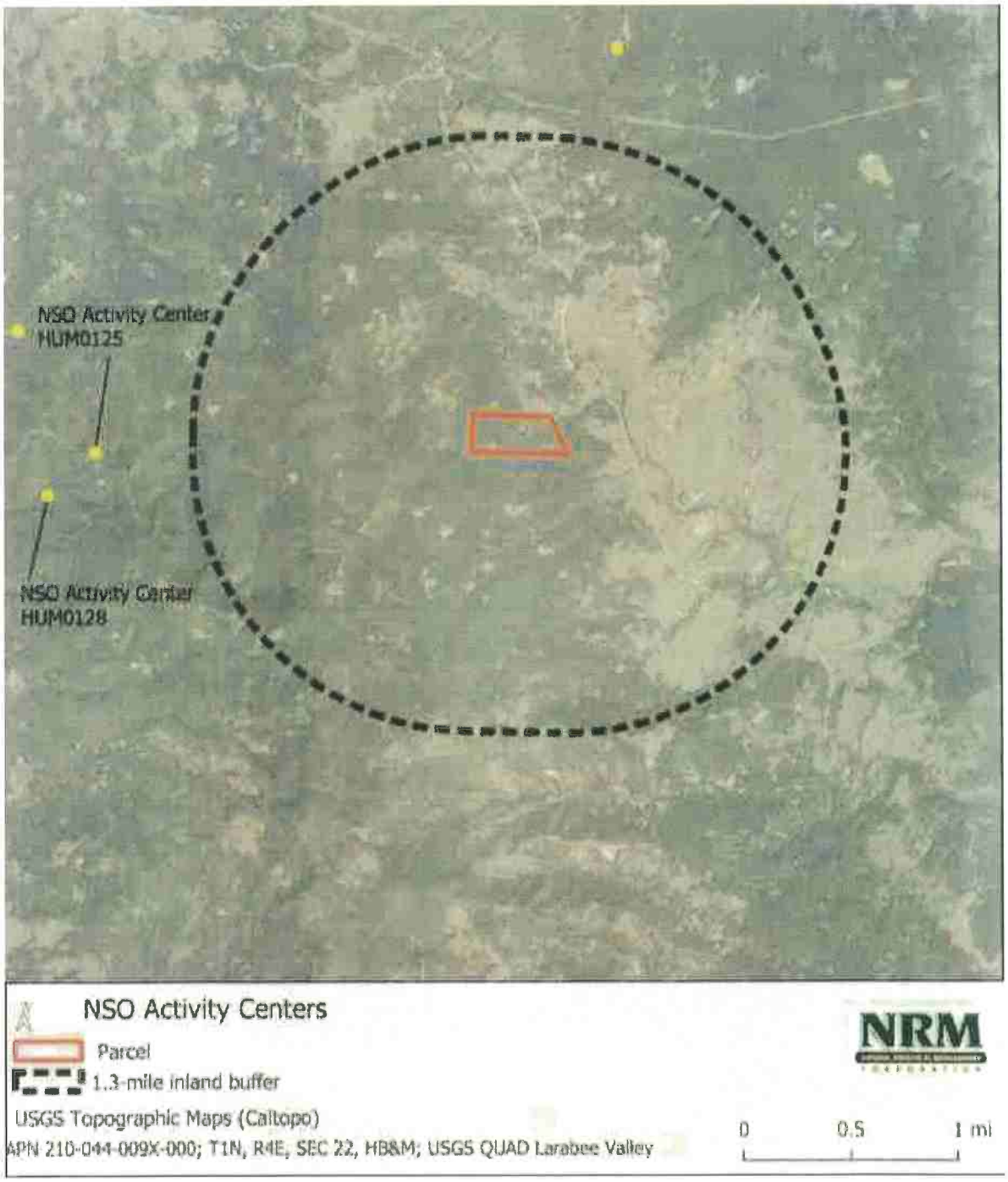

Figure 4. NSO Activity Centers in the vicinity of APN 210-044-009

Field Survey

On June 12th, 2019 NRM wildlife biologist Michelle McKenzie conducted a site visit to assess potential biological and botanical impacts of the project, habitat for sensitive animal and plant species, and to survey the project and surrounding area for all terrestrial and aquatic-related animal and plant species present. The survey was conducted for approximately 2.5 hours on a warm (78°F/25°C), sunny afternoon.

While walking the area, all audial and visual detections of bird and mammal species were noted and the parcel traversed for wildlife sign (tracks, burrows, scat). In addition, trees were inspected for activity or sign of use by wildlife (cavities, nests, scrapes, accumulated vegetation), and cover objects were inspected for potential amphibian species.

IV. Results and Discussion

Summary of Findings

For all species, direct effects are those which are caused by the action (project) and occur at the same time and place. Indirect effects are defined as those effects caused by the proposed action and are later in time, but still reasonably certain to occur. Each species was evaluated for potential direct and indirect effects by the proposed project.

No listed wildlife species or special status species were detected during the survey. Special status species and the potential for project impacts are presented in Table 3, below; all species detected during the survey are listed in Table 4. No spotted owl breeding habitat exists on the parcel; the nearest NSO habitat appears to be associated with known Activity Centers, the closest of which is approximately 1.8 miles west of the project area (Figure 4). It has been determined that the project and operations are unlikely to affect northern spotted owls if they are present in the project vicinity. Impacts to species from the proposed project, either direct or indirect, are expected to be minimal.

Survey Results and Discussion

Special status species and the potential for project impacts are presented in Table 3, below. Species are considered on a case-by-case basis as to the project's affect based on considerations such as home range, habitat and sensitivity to disturbance.

There are two NSO ACs in the general vicinity of the project area. Both are outside of the 1.3-mile analysis buffer, occurring west of the parcel in the Hoagland Creek watershed: HUM0128 AC is located in the headwaters area of Burr Creek; HUM0125 is located 0.3 miles further up slope.

All ACs are considered active as long as habitat is still present. It is unclear if habitat still exists in the area of these ACs but some is expected due to detections of non-nesting adult birds within the past two years. In general, the ACs appear to occupy the best remaining breeding habitat in the area; habitat for NSOs becomes sparse as the forested habitat gives way in all directions to naturally occurring open grasslands, interspersed with openings from timber harvesting. Forested habitat on the parcel may be appropriate foraging habitat.

Due to the potential for NSOs in the vicinity, surveys were conducted to protocol (USFWS 2008, 2012), with six surveys between June 1 and July 10, 2019 (Appendix C). A single male NSO was detected during the second survey in the vicinity of Kergerson Lake (Figure 5); there was no response during the follow-up survey. This detection is within one mile of HUM0125 and HUM0128, and is assumed to be associated with one of these ACs.

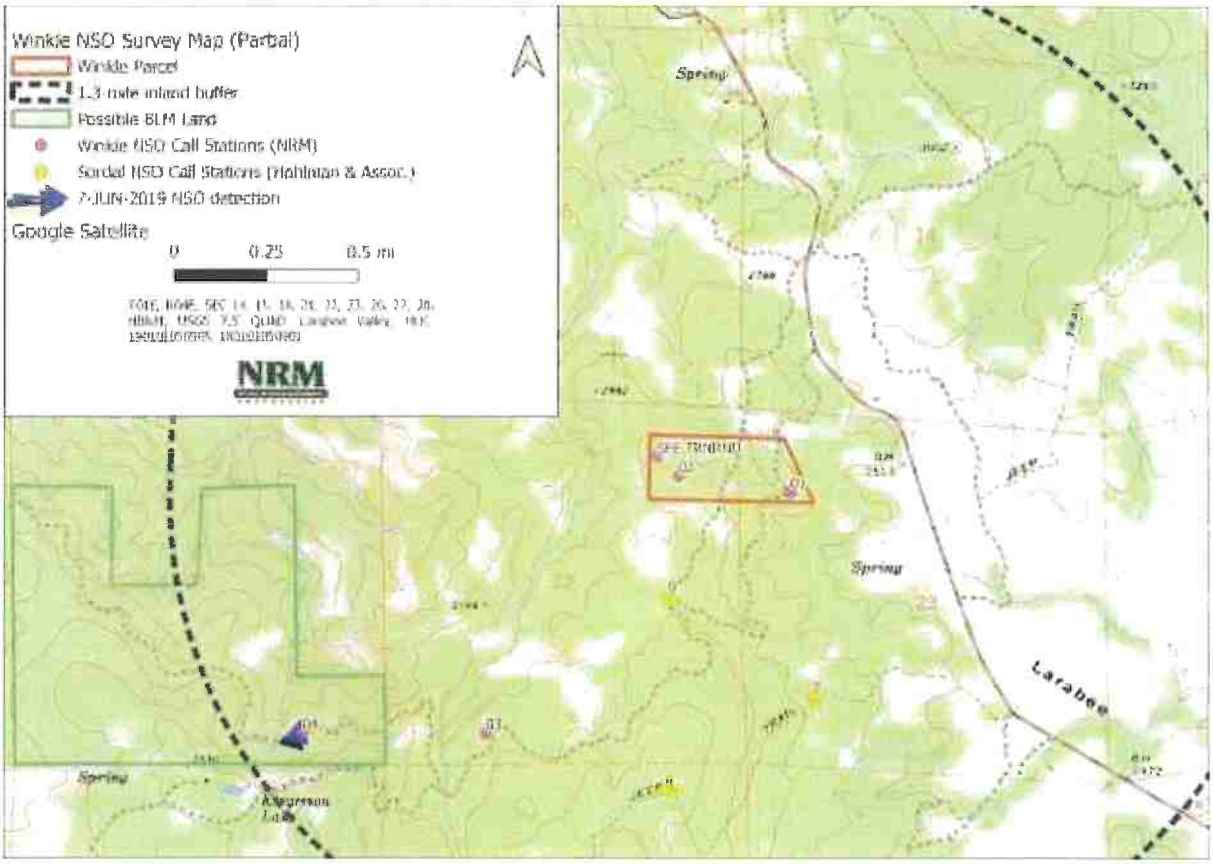

Figure 5. NSO detection in the vicinity of APN 210-044-009

Given the ambient noise related to the adjacent highway and the distance from the ACs to the parcel, disturbance to NSOs in the vicinity is expected to be minimal or at least not additive. In addition, no generators will be used on the parcel once the solar system is installed, and no lighting beyond early-season compact fluorescent bulbs will be utilized; this early season

lighting will be in the propagation hoophouse and it will be tarped. These measures will greatly reduce any potential for noise and light pollution disturbance to wildlife residing in the general area.

The parcel has no foraging habitat for golden eagle, although they would be expected to occur in the general area where ridgetops are dominated by grasslands (foraging habitat) or in the vicinity of major river corridors (nesting habitat) to the northeast: Van Duzen River is approximately 2.5 miles, Mad River is approximately 7 miles.

There is not sufficient forested habitat, shrub cover, large trees or rock outcrops on the parcel to support breeding populations of special status species from Table 1 (Cooper's hawk, northern goshawk, peregrine falcon, Humboldt marten, fisher) although habitat for these species exists in the area and foraging or moving through the parcel is expected.

Although a few larger Douglas-fir trees on the parcel could potentially support Sonoma tree vole, whose needles are the primary food source for this arboreal rodent, it is unclear if they occur this far inland with any frequency due to the dry summer conditions.

Structures were inspected that may provide roosting or breeding habitat for Townsend's big-eared bat; no sign of guano or use was detected, but foraging in the vicinity of watercourses and riparian habitats off parcel is expected. The few large Douglas-fir trees on the parcel were checked for potential cavities that could be utilized by bats, but none were seen from ground level. There are no flat, grassy areas on the parcel to support use by badger and no sign of this species was seen.

There are no permanent watercourses on the parcel to support amphibian species. Use of the Van Duzen River and Little Van Duzen River corridors is expected by the remaining special status terrestrial wildlife species, with optimal riparian habitat and corridors open enough to allow foraging and sunning for foothill yellow-legged frog, western pond turtle and osprey. These rivers likely support populations of northern red-legged frogs in slower reaches or backwater areas. Smaller, cooler tributaries to these Class I watercourses is where habitat for Pacific tailed frog and southern torrent salamander is expected.

Anadromous fish species (coho salmon, steelhead, summer-run steelhead trout, chinook salmon) utilize the mainstem Van Duzen River, particularly upstream of confluences with the Little Larabee Creek and the Little Van Duzen River. The deep pools of the mainstem Van Duzen River and Little Van Duzen River provide primary habitat for summer-run steelhead, recently updated to State Endangered.

Table 3. Special status species, suitable habitat in project area, and potential impacts

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Affected by Project?	Comments
BIRDS					
northern spotted owl	FT, ST	Old-growth forests or mixed stands of old-growth and mature trees; occasionally in younger forests with patches of big trees	No	No	No impacts; minimal to no disturbance expected due to the distance from the parcel to known NSO ACs, greater than 1.3 miles away
peregrine falcon	FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures	No	No	No impacts; CNDDB has this species occurring in the Larabee Valley area; no rock outcroppings or bluffs that would support nesting were observed
Cooper's hawk	WL	Hunts in broken woodland and habitat edges; highly maneuverable in dense cover; seldom found in areas without wooded patchy habitat or dense tree stands	Yes	No	No impacts; more optimal nesting and foraging habitat available in the general area, although likely to forage on parcel where forested habitat is optimal

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Affected by Project?	Comments
golden eagle	FP, WL, BCC	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas	No	No	No impacts; parcel adjacent to Highway 36; open grasslands and ridges where hunting (black-tailed jackrabbits) and nesting habitat (river corridors) is optimal available away from parcel in the general vicinity; potentially in Van Duzen watershed
northern goshawk	SSC	Within, and in vicinity of, coniferous forest with mixed age, some older trees for nest structures; uses old nests, and maintains alternate sites	No	No	No impacts; nearest potential habitat likely in areas of NSO ACs where large trees for nesting would be available; somewhat intolerant of humans, unlikely to nest in the near vicinity
osprey	WL	Ocean shore, bays, freshwater lakes, and larger streams	No	No	No impacts; likely uses Van Duzen River corridor for nesting, feeding, roosting

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Affected by Project?	Comments
MAMMALS					
Humboldt marten	SCE, SSC	Only in the coastal redwood zone from the Oregon border south to Sonoma County; requires resting/denning sites with high percent canopy cover; may hunt edge habitats	No	No	No impacts; lack of suitable habitat and adequate cover (no shrub component); optimal habitats may be in coastal forests further west
fisher	ST, SSC	Intermediate to large tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure for resting, denning; foraging can occur in areas of less cover and edge habitats	No	No	No impacts; the nearest potential habitat is likely associated with known NSO ACs where large denning structures may still persist; may be potential habitat remaining in the Van Duzen watershed
Sonoma tree vole	SSC	North coast fog belt from Oregon border to Sonoma County; in Douglas-fir, redwood and montane hardwood-conifer forests	No	No	No impacts; suboptimal habitat outside of fog belt; the nearest habitat likely exists in adjacent forested areas of the Van Duzen River or coastal forests to the west

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Affected by Project?	Comments
Townsend's big-eared bat	SSC	Throughout California in a wide variety of habitats; most common in mesic sites; typically found in caves, mines, manmade structures	No	No	No impacts; lack of optimal roosting habitat at structures and no large trees with cavities observed on parcel; foraging in the Van Duzen watershed and riparian corridors is expected
American badger	SSC	Open stages of most habitats with dry, friable soils	No	No	No impacts; lack of optimal grassland habitat; expected in open grasslands in general vicinity and Larabee Valley
HERPETOFAUNA					
western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation; requires basking substrates (rock, logs)	No	No	No impacts; the distance from the parcel to the Van Duzen River, the most likely nearest habitat, is too great for nesting turtles to travel

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Affected by Project?	Comments
Pacific tailed frog	SSC	Inhabits cold, clear, permanent rocky streams in wet forests; restricted to perennial montane streams. Suitable habitat likely exists in most flowing waterways within Humboldt County; known from Prairie Creek SP to King Range NCA	No	No	No impacts; lack of nearby suitable habitat; optimal habitat expected in cooler tributary streams in the Van Duzen watershed
foothill yellow-legged frog	SCT, SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis; rarely found in lotic waters	No	No	No impacts; too distant from parcel to the Van Duzen River watershed, the most likely nearest habitat for this species
northern red-legged frog	SSC	Humid forests, woodlands, grasslands, and stream sides in northwestern California, usually near dense riparian cover. Highly aquatic, little movement from streams or pond	No	No	No impacts; expected in the Van Duzen River watershed, where backwaters of this and the Little Van Duzen River likely provide the nearest habitat for this species

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Affected by Project?	Comments
southern torrent salamander	SSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Requires cold, well shaded permanent water; stays within splash zone	No	No	No impacts; lack of nearby suitable habitat; nearest potential habitat in cooler Class II and tributary watercourses in the Van Duzen River watershed
FISH					
summer-run steelhead trout (pop. 36)	SE	Cool, swift, shallow water with clean loose gravel for spawning, and suitably large pools in which to spend the summer	No	No	No impacts; preferred spawning habitat located in higher-gradient habitats and small tributaries; expected to occur in tributaries to the Van Duzen River; likely upstream in Little Van Duzen River

Federal:
FC Candidate
FE Endangered (legally protected)
FT Threatened (legally protected)

State:
FP Fully protected (legally protected)
SC Candidate: Threatened or Endangered
SE Endangered (legally protected)
SSC Species of special concern (no formal protection other than CEQA consideration)
ST Threatened (legally protected)

Species, or their sign, observed during the survey are summarized in Table 5. No listed wildlife species were detected during the site visit.

Table 4. Species detected at APN 210-044-009 on June 12, 2019

Common Name	Scientific Name	Federal or State Listing	Detection Method
red-shouldered hawk	*Buteo lineatus*	None	visual, auditory
turkey vulture	*Cathartes aura*	None	visual
northern flicker	*Colaptes auratus*	None	visual
hairy woodpecker	*Leuconotopicus villosus*	None	visual
common raven	*Corvus corax*	None	visual, auditory
Steller's jay	*Cyanocitta stelleri*	None	visual
American robin	*Turdus migratorius*	None	visual
Swainson's thrush	*Catharus ustulatus*	None	auditory
Oregon junco	*Junco hyemalis*	None	visual
chestnut-backed chickadee	*Poecile rufescens*	None	visual
red-breasted nuthatch	*Sitta canadensis*	None	visual, auditory
brown creeper	*Certhia americana*	None	visual
golden-crowned kinglet	*Regulus satrapa*	None	visual
hermit warbler	*Setophaga occidentalis*	None	auditory
Wilson's warbler	*Cardellina pusilla*	None	auditory, visual
black-throated gray warbler	*Setophaga nigrescens*	None	visual
warbling vireo	*Vireo gilvus*	None	auditory
Cassin's vireo	*Vireo cassinii*	None	auditory
western tanager	*Piranga ludoviciana*	None	auditory
Pacific slope flycatcher	*Empidonax difficilis*	None	auditory
western gray squirrel	*Sciurus griseus*	None	visual
black-tailed deer	*Odocoileus hemionus*	None	scat, tracks
northern alligator lizard	*Elgaria coerulea*	None	visual
Pacific tree frog	*Pseudacris regilla*	None	tadpoles in pond

Cumulative Impacts

When viewing historical imagery for the parcel and surrounding area (Google Earth Pro 2019), evidence of cannabis cultivation appears between 2006 and 2009 with hoophouses occurring in all directions within half a mile of the parcel. The number of parcels with cultivation appears to have remained constant through 2016, the last year satellite imagery is available. The Van Duzen and Little Van Duzen Rivers are impacted due to low streamflows from cannabis cultivation, and with increased activity from humans and vehicles in the surrounding mountains, all forest inhabitants are likely feeling impacts from additional noise pollution at some level.

V. Management Recommendations

- All hoophouses utilizing early-season, low impact lighting will require tarps to block all potential light pollution from one hour prior to sunset through one hour past sunrise. Further, all attempts to keep noise levels at a minimum during year-round operations will help maintain the quality of habitat for all wildlife species.

- Discontinue use of monofilament netting, which is hazardous to all forms of wildlife (Photo 16); CDFW recommends using natural fiber products such as jute or hemp.

- All current and future storage tanks will require functioning float valves that automatically shut off flow to avoid any sediment runoff to impacted waters.

VI. References Cited

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Unites States Fish and Wildlife Service (USFWS). 2008. Attachment B: Take and Avoidance Analysis-Interior. Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls.

Appendix A: Photos taken June 12, 2019

Photo 1. Site A, looking west at house from center of site

Photo 2. Site A, looking northwest at main residence (right of center) and second residence with attached storage (left)

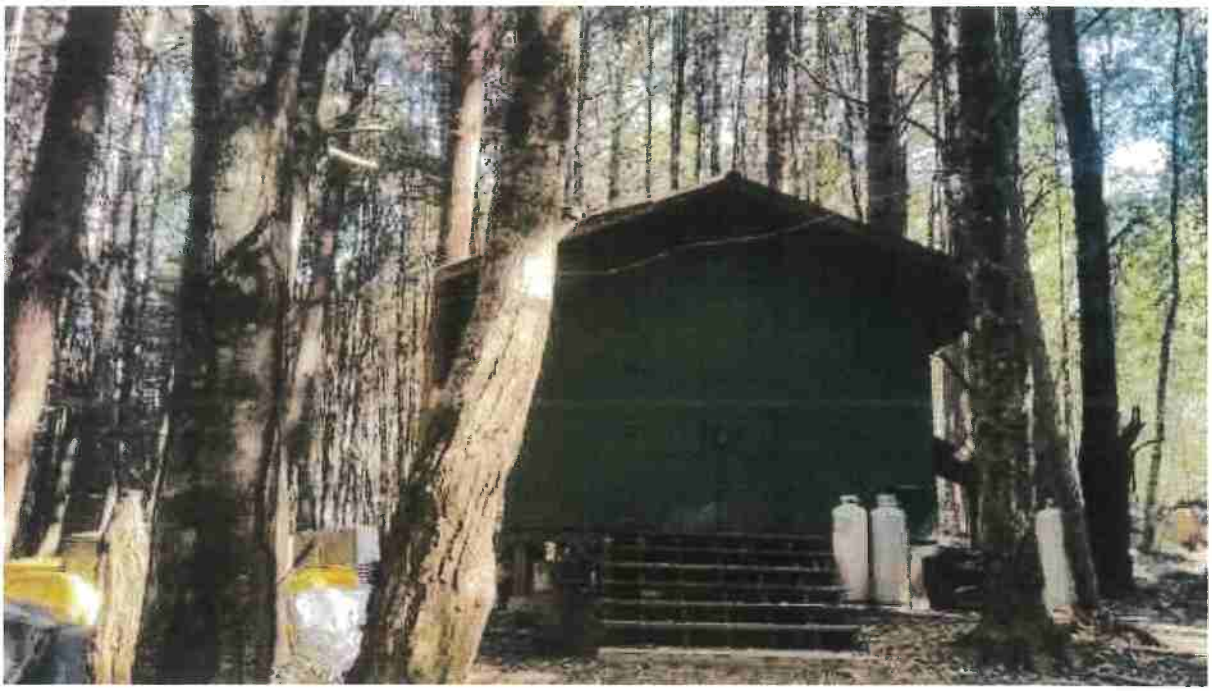

Photo 3. Site E, agricultural building used for drying cannabis

Photo 4. Site E, agricultural building and road to Site C to left

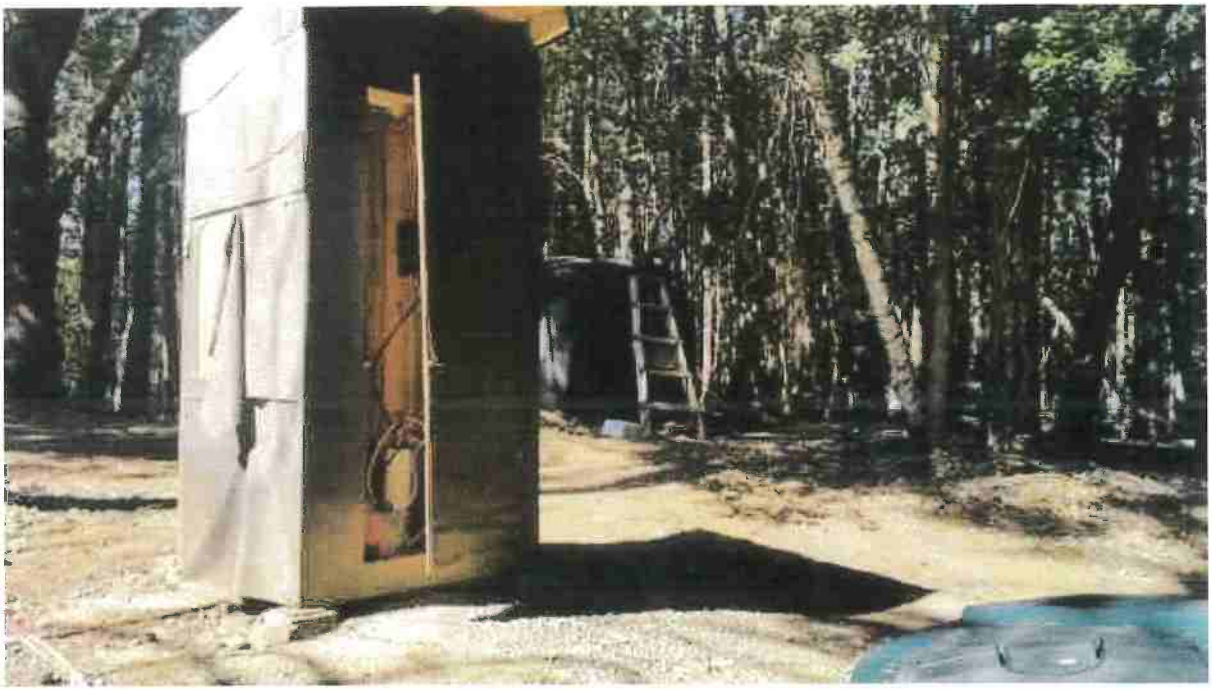

Photo 5. North of Site C, well shed (storage tanks visible across road; solar panel behind photographer)

Photo 6. View of well shed and solar panel to run well pump

Photo 7. Water storage located just above Site C and adjacent to well and infrastructure

Photo 8. View from tanks (above photo) down to proposed (and former) cultivation at Site C

Photo 9. Small pond formed around Class III seep, located north of Site C in a natural opening

Photo 10. The outflow from the pond is an undefined channel that flows during the rainy season (stick structure formerly used for drying cannabis)

Photo 11. The cultivation flat at Site C, looking southeast; 12 percent slope far right (see next photo)

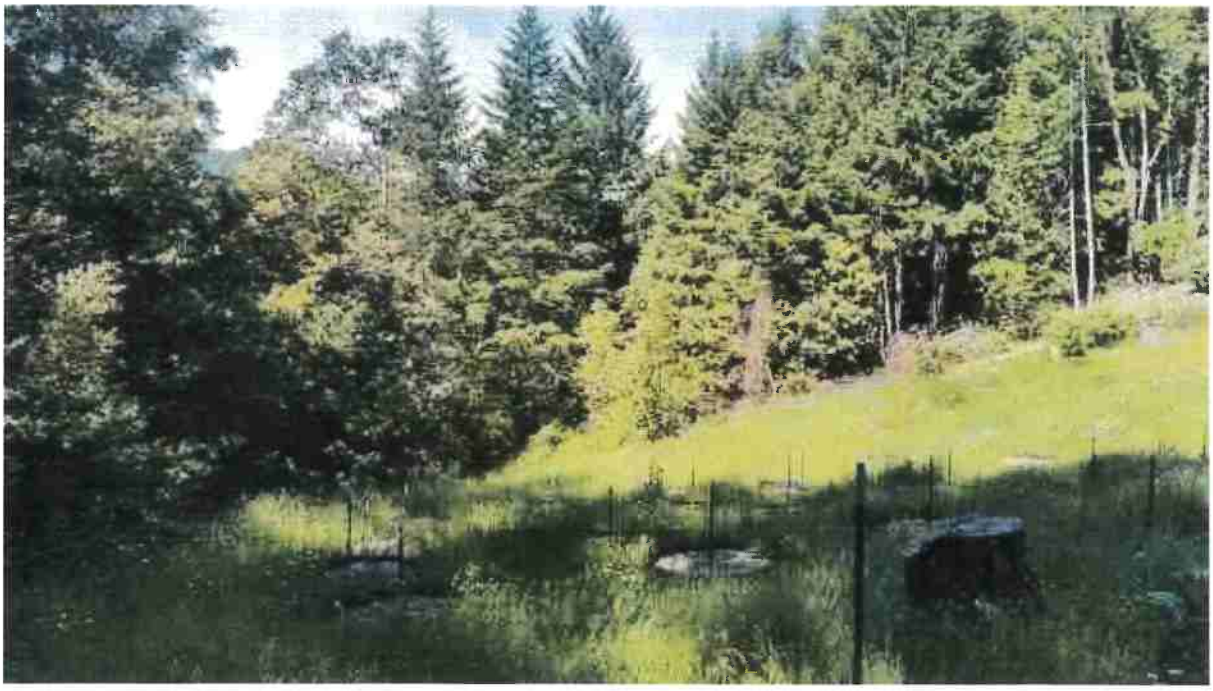

Photo 12. Site C, where flat drops off at a slope of 12 percent

Photo 13. Site A, proposed location of seasonal, propagation hoophouse (residential buildings to left)

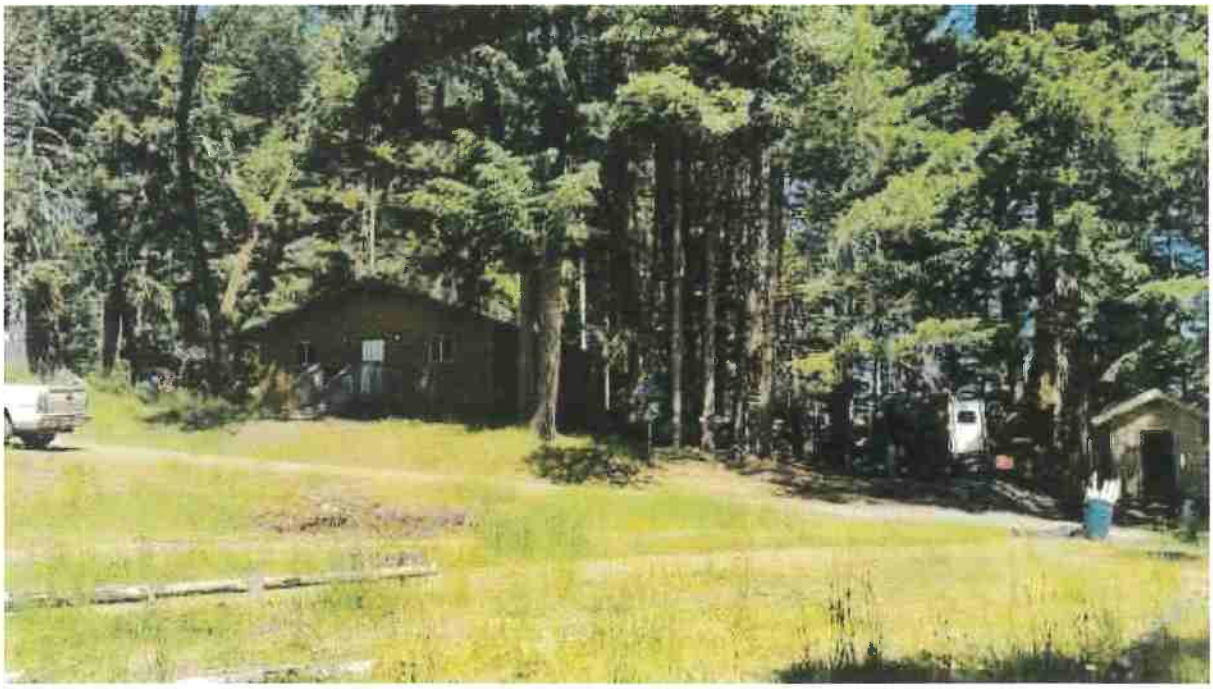

Photo 14. From Site A, looking towards the main residence (left) and generator shed (right)

Photo 15. Generator currently used to run residence, to be replaced by solar

Photo 16. Discontinue the use of monofilament netting, a proven hazard to all wildlife

Appendix B: Well report for APN 210-044-009

File Original with DWR

State of California

Well Completion Report

No. e0271328

Page 1 of 2

Owner's Well Number 1

Date Work Began 06/01/2015 Date Work Ended 6/4/2015

Local Permit Agency Humboldt County E.H.D.

Permit Number 14/15-0374 Permit Date 3/27/15

DWR Use Only

State Well Number/Site Number

Latitude Longitude

APN/TRS/Other

Geologic Log

Orientation: (x) Vertical ( ) Horizontal ( ) Angle Specify

Drilling Method Direct Rotary Drilling Fluid Air

Depth from Surface Feet	to Feet	Description
0	2	Top Soil
2	28	Silty Clay
28	37	Soft Shale
37	56	Soft Brown Sandstone
56	71	Blue/Brown Sandstone
71	110	Hard Shale Sandstone Mix
110	180	Shale

Total Depth of Boring 180 Feet

Total Depth of Completed Well 180 Feet

Well Owner

Name Raymond White

Mailing Address P.O. Box 315

City Alderpoint State CA Zip 95511

Well Location

Address 33220 Hwy 36

City Bridgeville County Humboldt

Latitude N Longitude W

Datum Dec. Lat. Dec. Long.

APN Book 210 Page 044 Parcel 09

Township Range Section

Location Sketch

North / West / East / South

Keep This Copy For Your Records

Activity

(x) New Well
( ) Modification/Repair
( ) Deepen
( ) Other
( ) Destroy

Planned Uses

(x) Water Supply
[x] Domestic [ ] Public
[ ] Irrigation [ ] Industrial
( ) Cathodic Protection
( ) Dewatering
( ) Heat Exchange
( ) Injection
( ) Monitoring
( ) Remediation
( ) Sparging
( ) Test Well
( ) Vapor Extraction
( ) Other

Water Level and Yield of Completed Well

Depth to first water 57 (Feet below surface)

Depth to Static Water Level 48 (Feet) Date Measured 06/01/2015

Estimated Yield* 5 (GPM) Test Type Air Lift

Test Length 4.0 (Hours) Total Drawdown 171 (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	180	10	Blank	PVC Sch. 40	CL200	5		
80	180	10	Screen	PVC Sch. 40	CL200	5	Milled Slots	0.032

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
0	20	Bentonite	Sanitary Seal
20	180	Filter Pack	3/8" Pea Gravel

Attachments

[ ] Geologic Log
[ ] Well Construction Diagram
[ ] Geophysical Log(s)
[ ] Soil/Water Chemical Analyses
[x] Other Location Map

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name FISCH DRILLING

5160 JOHNSON ROAD HYDESVILLE CA 95547

Signed 06/08/2015 883665

Date Signed C-57 License Number

DWR 188 REV. 1/2006 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

Appendix C: NSO Surveys for APN 210-044-009 (June 1 to July 10, 2019)

NRM

NSO Night Calling Survey Form

Date: 6/1/2019	**Surveyor:** Ivonne Romero	**Landowner:** Ray Winkle
Sunset: 2038 on 5/31/2019	**Visit No:** 1	**NSO AC No: HUM**
(24 hour)	Six Pass or Spot Surveys: Six Pass	(Note if survey associated with an AC)
Weather		
Temperature (F): 50	**Moon:** Waxing Crescent	**% Cloud Cover:** 0
	(full, half, quarter, new)	(increments of 10)
Wind: Calm	**Precipitation:** None	**NOTE:** inclement weather and/or wind >10 mph that inhibits surveyor's ability to hear responses will invalidate survey
(calm, light, moderate, strong)	(none, mist, fog, drizzle, rain)	

Station	Time Start	Time Stop	Total Time	No Response (write NR)	Owl Response and Notes				
					Species	Response time (24hr)	Sex/age	Distance (ft)	Bearing (0-360)
RW02	0015	0025	10	NR					
RW03	0040	0050	10	NR					
RW04	0107	0117	10	NR					
RW01	0149	0159	10	NR					

4-letter Code	Species
NSO or NSOW	northern spotted owl
BADO	barred owl
BANO	barn owl
FLOW	flammulated owl
GHOW	great horned owl
NOPO	northern pygmy owl
NSWO	northern saw whet owl
WESO	western screech owl

NSO Night Calling Survey Form

Date: 6/8/2019	**Surveyor:** Ivonne Romero	**Landowner:** Ray Winkle
Sunset: 2043 on 6/7/2019	**Visit No:** 2	**NSO AC No: HUM**
(24 hour)	Six Pass or Spot Surveys: Six Pass	(Note if survey associated with an AC)
Weather		
Temperature (F): 48	**Moon:** Waxing Crescent	**% Cloud Cover:** 0
	(full, half, quarter, new)	(increments of 10)
Wind: Calm	**Precipitation:** None	**NOTE:** inclement weather and/or wind >10 mph that inhibits surveyor's ability to hear responses will invalidate survey
(calm, light, moderate, strong)	(none, mist, fog, drizzle, rain)	

Station	Time Start	Time Stop	Total Time	No Response (write NR)	Owl Response and Notes				
					Species	Response time (24hr)	Sex/age	Distance (ft)	Bearing (0-360)
RW02	0044	0054	10	NR					
RW01	0100	0110	10	NR					
RW03	0118	0128	10	NR					
RW04	0133	0151	18	*	NSOW	0136	M/A	100	178°

*Male NSOW responded from drainage about 100 feet away at 178°. Responded again at 0138, then again at twice more at 0140 from same location. At 0141 he moved to just over my head at station RW04 and called again, then again at 0142 with an agitated call. He continued his agitated call for an additional 15 minutes until I ended survey at 0151.

4-letter Code	Species
NSO or NSOW	northern spotted owl
BADO	barred owl
BANO	barn owl
FLOW	flammulated owl
GHOW	great horned owl
NOPO	northern pygmy owl
NSWO	northern saw whet owl
WESO	western screech owl

NRM
CORPORATION

NSO AC and Follow Up (FO)
Survey Form

Date: 6/14/2019	**Surveyor:** Ivonne Romero	**Landowner/Property:** Ray Winkle
Survey Start: 1600	**Survey Finish:** 2035	**Total Survey Duration:** 3.75 hrs.
NSO AC No: HUM	**If FO, response from Station #:** RW04	**Sunset:** 2046
Weather		
Temperature (F): 58	**Moon:** Waxing Gibbous	**% Cloud Cover:** 0
	(full, half, quarter, new)	(increments of 10)
Wind: Calm	**Precipitation:** None	**NOTE:** inclement weather and/or wind >10 mph that inhibits surveyor's ability to hear responses will invalidate survey
(calm, light, moderate, strong)	(none, mist, fog, drizzle, rain)	

Detection and Location					
Species Code (NSO or BADO)	**Time Detected**	**How Detected** (Visual or Auditory)	**Sex** (M, F, U)	**Age Class** (Adult, Juv, Fledgling, Unknown)	**UTMs**

Mousing Report Record					
Mouse	**Outcome**	**Start Time**	**End Time**		**Notes**
M1					
M2					
M3					
M4					
M5					
M6					
M7					
M8					

Mousing Key	**Designate Male or Female**
E	Eats mouse
T	Takes mouse to other owl
H	Holds mouse until surveyor leaves
C	Caches mouse
I	Ignores mouse until surveyor leaves
X	Leaves with mouse and is not relocated
L	Leaves with mouse and is relocated without mouse

NSO STATUS: Unknown	**NEST TREE LOCATION:**
(Unknown, Non-nesting, Nesting behavior observed, Nesting)	(UTMs)

NOTES: Including accumulations of whitewash, feathers, pellets	NEST TREE INFERRED: (UTMs)

I began survey at station RW04 along Larabee Buttes Rd. I walked over to where I'd heard bird on 6/7/19, called south into stand for about 10 minutes. I walked over to bend in road with drainage met the road and called loudly to the north projecting down through drainage. Walked back to safe entry into stand south of the road and upon reaching level ground began calling at a moderate volume. Stand composition was made up of large tan oak and cedar (spp.). Continued south-southwest through stand calling every 3 minutes for about 5 minutes. Reached prominent point above road within southern stand and called loudly for about 6 minutes before continuing northeast back to road. I rode ATV further down road for safe access to other section of habitat as this area is extremely steep and rocky. Re-entered stand passed the drainage at 1715 and upon reaching level ground began calling again at a moderate volume. Stand composition made up of younger, mixed conifer-oak. Returned to road at approximately 1755 and continued northwest along road searching for another access point. Re-entered stand south of road at 1805. Stand composition was larger cedar-oak with moderate mid-story and ground cover made up of sword fern and broad-leafed shrubbery. Upon reaching level ground began calling again at a louder volume as there was moderate creek noise. Walked through stand and reached road again at 1908. Called loudly into stand north of road-from road-for approximately 10 minutes. Continued down Larabee Buttes Rd. until reach the end of it at a circular turn-around surrounded by dense, younger tan oak stands. I called loudly into this stand for about 5 minutes and listened for about 5 minutes before moving on. I rode ATV back to RW04 and re-entered stand just around bend east of station. Stand comprised on younger tan oak and doug fir, with dense understory of sword fern and broad-leafed shrubbery. Called within this stand while moving east at a moderate volume. Returned to ATV at 2035. No owls responded during this follow-up.

I searched stands south of Larabee Buttes Rd. as this area is located on very steep terrain comprised of exposed rock faces. I dedicated considerable time to calling into stands of appropriate habitat just north of Larabee Buttes Rd.

NSO Night Calling Survey Form

Date: 6/15/2019	**Surveyor:** Ivonne Romero	**Landowner:** Ray Winkle
Sunset: 2046 on 6/14/2019	**Visit No:** 3	**NSO AC No: HUM**
(24 hour)	Six Pass or Spot Surveys: Six Pass	(Note if survey associated with an AC)
Weather		
Temperature (F): 58	**Moon:** Waxing Gibbous	**% Cloud Cover:** 0
	(full, half, quarter, new)	(increments of 10)
Wind: Calm	**Precipitation:** None	**NOTE:** inclement weather and/or wind >10 mph that inhibits surveyor's ability to hear responses will invalidate survey
(calm, light, moderate, strong)	(none, mist, fog, drizzle, rain)	

Station	Time Start	Time Stop	Total Time	No Response (write NR)	Owl Response and Notes				
					Species	Response time (24hr)	Sex/ age	Distance (ft)	Bearing (0-360)
RW01	0029	0039	10	NR					
RW02	0050	0100	10	NR					
RW03	0106	0116	10	NR					
RW04	--	--	--	--	*Skipped due to stand search earlier in the day.				

4-letter Code	Species
NSO or NSOW	northern spotted owl
BADO	barred owl
BANO	barn owl
FLOW	flammulated owl
GHOW	great horned owl
NOPO	northern pygmy owl
NSWO	northern saw whet owl
WESO	western screech owl

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NSO Night Calling Survey Form

Date: 6/22/2019	**Surveyor: Ivonne Romero**	**Landowner:** Ray Winkle
Sunset: 2048 on 6/21/2019	**Visit No:** 4	**NSO AC No: HUM**
(24 hour)	Six Pass or Spot Surveys: Six Pass	(Note if survey associated with an AC)
Weather		
Temperature (F): 53	**Moon:** Waxing Gibbous	**% Cloud Cover:** 0
	(full, half, quarter, new)	(increments of 10)
Wind: Calm	**Precipitation:** None	**NOTE:** inclement weather and/or wind >10 mph that inhibits surveyor's ability to hear responses will invalidate survey
(calm, light, moderate, strong)	(none, mist, fog, drizzle, rain)	

Station	Time Start	Time Stop	Total Time	No Response (write NR)	Owl Response and Notes				
					Species	Response time (24hr)	Sex/age	Distance (ft)	Bearing (0-360)
RW02	0031	0041	10	NR					
RW03	0049	0059	10	NR					
RW04	0108	0118	10	NR					
RW01	0126	0136	10	NR					

4-letter Code	Species
NSO or NSOW	northern spotted owl
BADO	barred owl
BANO	barn owl
FLOW	flammulated owl
GHOW	great horned owl
NOPO	northern pygmy owl
NSWO	northern saw whet owl
WESO	western screech owl

NRM
NATURAL RESOURCES MANAGEMENT CORPORATION

NSO Night Calling Survey Form

Date: 6/28/2019	**Surveyor:** Ivonne Romero	**Landowner:** Ray Winkle
Sunset: 2049	**Visit No:** 5	**NSO AC No: HUM**
(24 hour)	Six Pass or Spot Surveys: Six Pass	(Note if survey associated with an AC)
Weather		
Temperature (F): 73	**Moon:** Waning Crescent	**% Cloud Cover:** 0
	(full, half, quarter, new)	(increments of 10)
Wind: Calm	**Precipitation:** None	**NOTE:** inclement weather and/or wind >10 mph that inhibits surveyor's ability to hear responses will invalidate survey
(calm, light, moderate, strong)	(none, mist, fog, drizzle, rain)	

Station	Time Start	Time Stop	Total Time	No Response (write NR)	Owl Response and Notes				
					Species	Response time (24hr)	Sex/age	Distance (ft)	Bearing (0-360)
RW04	2053	2103	10	NR					
RW03	2110	2120	10	NR					
RW01	2132	2142	10	NR					
RW02	2148	2158	10	NR					

4-letter Code	Species
NSO or NSOW	northern spotted owl
BADO	barred owl
BANO	barn owl
FLOW	flammulated owl
GHOW	great horned owl
NOPO	northern pygmy owl
NSWO	northern saw whet owl
WESO	western screech owl

NRM
NATURAL RESOURCES MANAGEMENT CORPORATION

NSO Night Calling Survey Form

Date: 07/16/2019	**Surveyor:** Ivonne Romero	**Landowner:** Ray Winkle
Sunset: 2042	**Visit No:** 06/06	**NSO AC No: HUM**
(24 hour)	Six Pass or Spot Surveys:	(Note if survey associated with an AC)
Weather		
Temperature (F): 62°	**Moon:** Full	**% Cloud Cover:** 00
	(full, half, quarter, new)	(increments of 10)
Wind: Calm	**Precipitation:** None	**NOTE:** inclement weather and/or wind >10 mph that inhibits surveyor's ability to hear responses will invalidate survey
(calm, light, moderate, strong)	(none, mist, fog, drizzle, rain)	

Station	Time Start	Time Stop	Total Time (min.)	No Response (write NR)	Owl Response and Notes				
					Species	Response time (24hr)	Sex/age	Distance (ft)	Bearing (0-360)
RW04	2052	2102	10	NR					
RW03	2111	2121	10	NR					
RW01	2137	2148	11	NR					
RW02	2159	2210	11	NR					

4-letter Code	Species
NSO or NSOW	northern spotted owl
BADO	barred owl
BANO	barn owl
FLOW	flammulated owl
GHOW	great horned owl
NOPO	northern pygmy owl
NSWO	northern saw whet owl
WESO	western screech owl