



Biological Report

APN 317-055-001 and 317-055-009
Humboldt County, California



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I. Summary of Findings and Conclusions

The projects at parcel APNs 317-055-001 and 317-055-009, located approximately 6.5 miles northwest of the community of Hyampom, Humboldt County, California (Figure 1), includes cannabis cultivation on the parcels by the landowner. The landowner is applying for a Tier 1 cultivation permit under the Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO) as an existing cultivator for the maximum square footage of full sun outdoor cannabis cultivation allowable (in process of obtaining Cultivation Area Verification). A Cultivation, Operations, and Security Plan (COPS) was provided for APN 317-055-001 (APN 001) and proposes to permit for 9,000 square feet of existing outdoor cultivation within hoopouses or, depending on the timing of permitting which may delay assembly of structures, planted in full sun. The landowner stated that the COPS Plan will be similar for APN 317-055-009 (APN 009) with permitting proposed for 30,000 square feet.

The project areas and surroundings were surveyed in order to describe the terrestrial and aquatic plants and animals occurring in and around cultivation areas and watercourses, as well as determine whether habitat exists for special status species.

This Biological Report reviews the project at the above APNs to determine to what extent wildlife species currently listed or proposed for listing (Table 1), including northern spotted owl (Table 2) would be affected (Table 3). Habitat for listed or sensitive wildlife species, collectively referred to as special status species, was identified in the vicinity of the project areas for Cooper's hawk (*Accipiter cooperii*). No northern spotted owl (NSO) nesting habitat exists on the parcel. The nearest NSO nesting habitat appears to be in the vicinity of historic Activity Center (AC), approximately 1-mile northeast. No special status wildlife species were detected during the biological survey (Table 4). It has been determined that the project and operations will have no significant impacts on wildlife species in the vicinity of the project areas if mitigation recommendations are adhered to.

Summary of Further Surveys Needed and Mitigation Recommendations

- All generators in use will require noise-reducing containment with ventilation
- Strict adherence to Riparian Setback Requirements for Humboldt County and State Water Board are required to maintain quality habitat for amphibians and anadromous fish.
- Propagation (nursery) hoopouses utilizing early-season, low impact lighting will require tarps to block all potential light pollution from at least one hour prior to sunset through at least one hour past sunrise.
- No use of plastic support netting. This plastic netting is a hazard to all forms of wildlife and is not to be used. CDFW recommends using netting of natural materials such as jute or hemp, with no welded seams.

- No rodenticides shall be used.
- Seasonally appropriate plant surveys may be required for South Fork Mountain Lupine in the vicinity of proposed project sites on APN 009.

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 or State Endangered Species Act (ESA), or designated as protected or 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 parcel is located within the South Fork Trinity River watershed approximately 6.5 miles northwest of Hyampom, in Humboldt County, California (Figure 1), and includes previous cannabis cultivation (Figures 2, 3). Note that mileages are estimates from satellite and topographic imagery and distances are given in approximate air miles.

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

Project Site

The project parcels are located within an inholding in Six Rivers National Forest (SRNF). According to the Humboldt County Web GIS Portal, the parcels are 176 acres (APN 001) and 160 acres (APN 009) in size, with a legal description of T03N, R05E, Sections 11 and 12, HB&M, within the USGS 7.5' Sims Mountain quadrangle (Figure 1). The current landowner purchased the parcels in 2013 (APN 009) and 2015 (APN 001).

The parcels are accessed from USFS Route 1 (Titlow Hill Road), a paved forest road that connects State Highway 299 at Berry Summit to State Highway 36 in the vicinity of Ruth Reservoir, approximately 5 miles east of the community of Mad River. The access road to the parcels enters APN 001 in the vicinity of Black Fox Rock (Cover Photo; Figure 2), in the southeast. This enhanced logging road (visible in Figure 3) continues onto APN 009 to 9 pre-existing cultivation sites, essentially following the ridge between the two Big Creek tributaries from cultivation site #1 to #7, before heading north, crossing the watercourse, exiting then entering the parcel to access cultivation sites #8 and #9.

When viewing the general area in Google Earth imagery (1998-2019, Google Earth Pro 2019), most of the 9 cannabis cultivation sites on APN 009 appears to occur at landings or openings associated with previous timber harvesting activities; on APN 001 cultivation occurs after the 2016 imagery, and before the next available imagery of 2019.

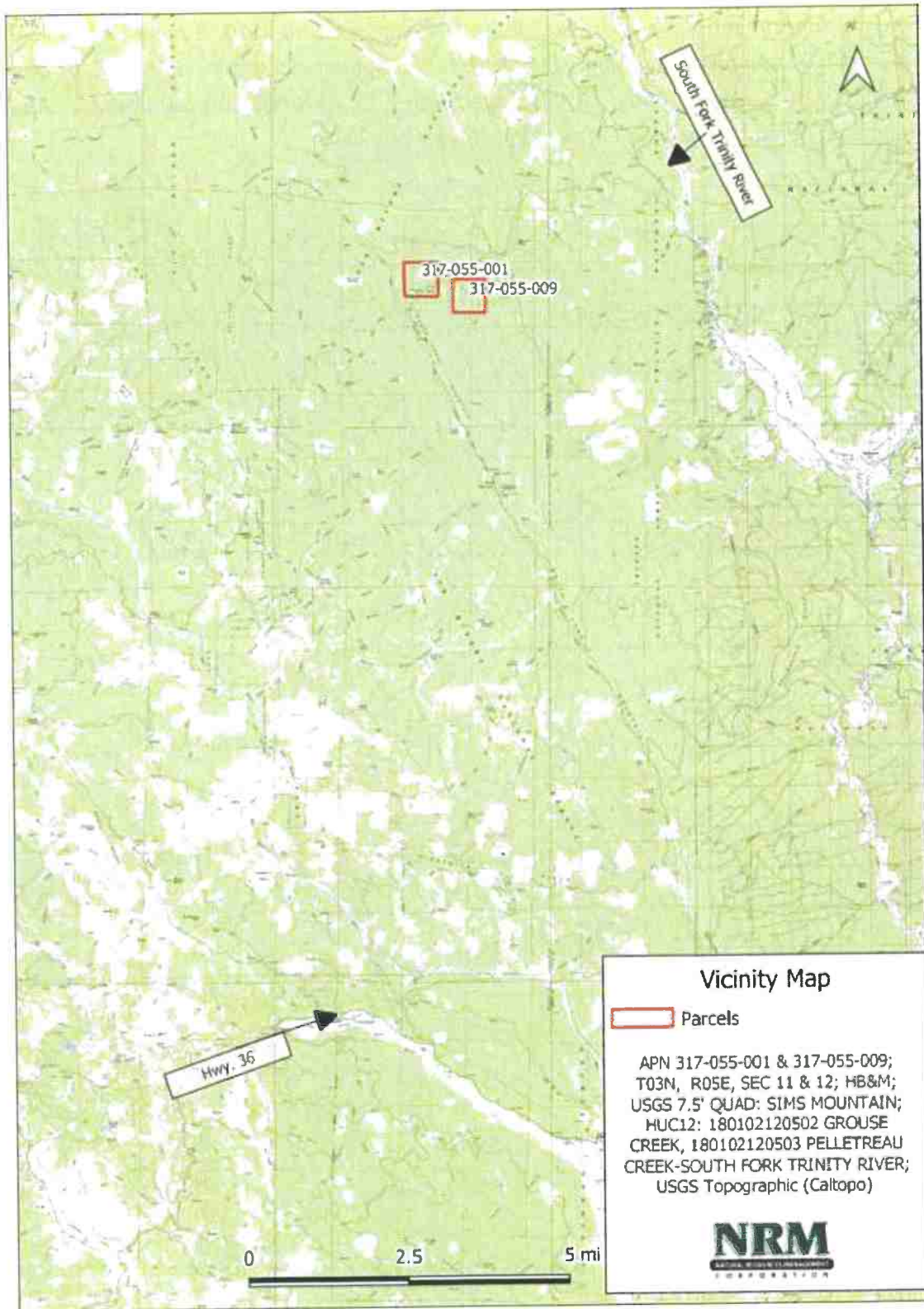


Figure 1. Vicinity map for APNs 317-055-001, 317-055-009

Topography and Hydrology

The project parcel is located within the headwaters' region of Big Creek in the South Fork Trinity River watershed. These headwater tributaries emerge from South Fork Mountain, a prominent ridge that originates in the vicinity immediately south of APN 001, with spring emanating from near Black Fox Rock in the southern portion of this APN. These tributaries converge approximately one-half mile east of the APN 009 boundary, at an approximate elevation of 3,200 feet, flowing approximately 3.5 miles to confluence with the South Fork Trinity River, at an approximate elevation of 1,200 feet, near the community of Hyampom (Figure 1). There is a general northeast aspect to the parcel towards the South Fork Trinity River watershed.

The South Fork Trinity River originates in the Yolla Bolly Middle Eel Wilderness near the Mendocino county line, and flows north from the Hyampom region approximately 20 miles to the mainstem Trinity River, approximately 4 miles south of the town of Willow Creek. The Trinity River continues north approximately 18 miles to the community of Weitchpec, where the Trinity River confluences with the Klamath River. From here the Klamath River flows approximately 32 miles to the Pacific Ocean at the community of Requa.

There are primarily 3 unnamed watercourses (Figure 2) on the western parcel (APN 001). The spring originating from base of Black Fox Rock flows east onto APN 009 and is a tributary to Big Creek; this is greater than 400 feet south of the Black Fox Rock Cultivation Site #1. The two northernmost watercourses are tributary to Bear Creek, and are greater than 200 feet from the cultivation area; a third watercourse to the west is buffered in Figure 2. None of these tributaries were flowing during the time of the site visit.

There are 3 unnamed watercourses (Figure 2) on the eastern parcel (APN 009). The spring from APN 001 flows east onto the northwest portion of APN 009, joining a middle tributary to Big Creek; after this point, water was flowing in the channel during the site visit. The southern watercourse on this parcel is also tributary to Big Creek, which flows south over 1,000 feet from the nearest proposed Cultivation Site #4. Cultivation Sites #1 and #2 were physically measured due to the appearance of the footprint occurring within the 200-foot watercourse setback when measured in GIS (Figure 2). A 100-foot measuring tape was used to verify distances on the ground; the 200-foot mark was photo documented (Appendix A, Photos 2a, b; 3a, b)

The parcels are located off the east slope of South Fork Mountain, surrounded by Six Rivers National Forest. The Humboldt-Trinity county line is approximately 1 mile east of the APN 009 boundary, where forestlands become Shasta-Trinity National Forest. The South Fork Mountain ridge originates in the vicinity of the parcels and continues south for approximately 35 miles to near Ruth Reservoir on the Mad River. This ridge is one of the longest contiguous ridgelines in North America, starting at 5,752 feet in elevation in the north to 1,662 feet, southeast of Ruth Reservoir approximately 7 miles.

Elevations on APN 001 range from approximately 5,500 feet in the southwest corner, to 4,600 feet in the northeast corner; the only cultivation area on this parcel, Black Fox Cultivation Site, is at approximately 5,000 feet. Elevations on APN 009 range from approximately 4,800 feet in the southwest corner, to 4,000 feet in the northeast; the 9 pre-existing cultivation areas span this elevational range.

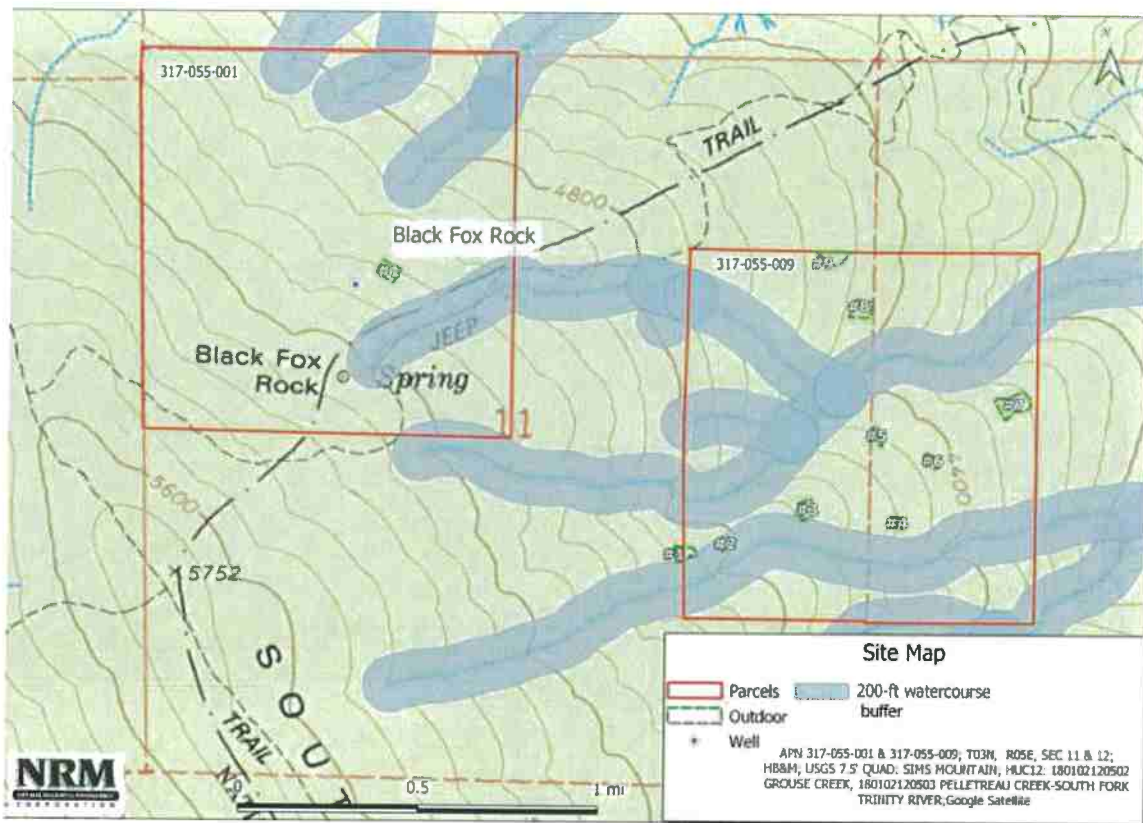


Figure 2. Site map for APNs 317-055-001, 317-055-009, with 200-ft buffers on watercourses

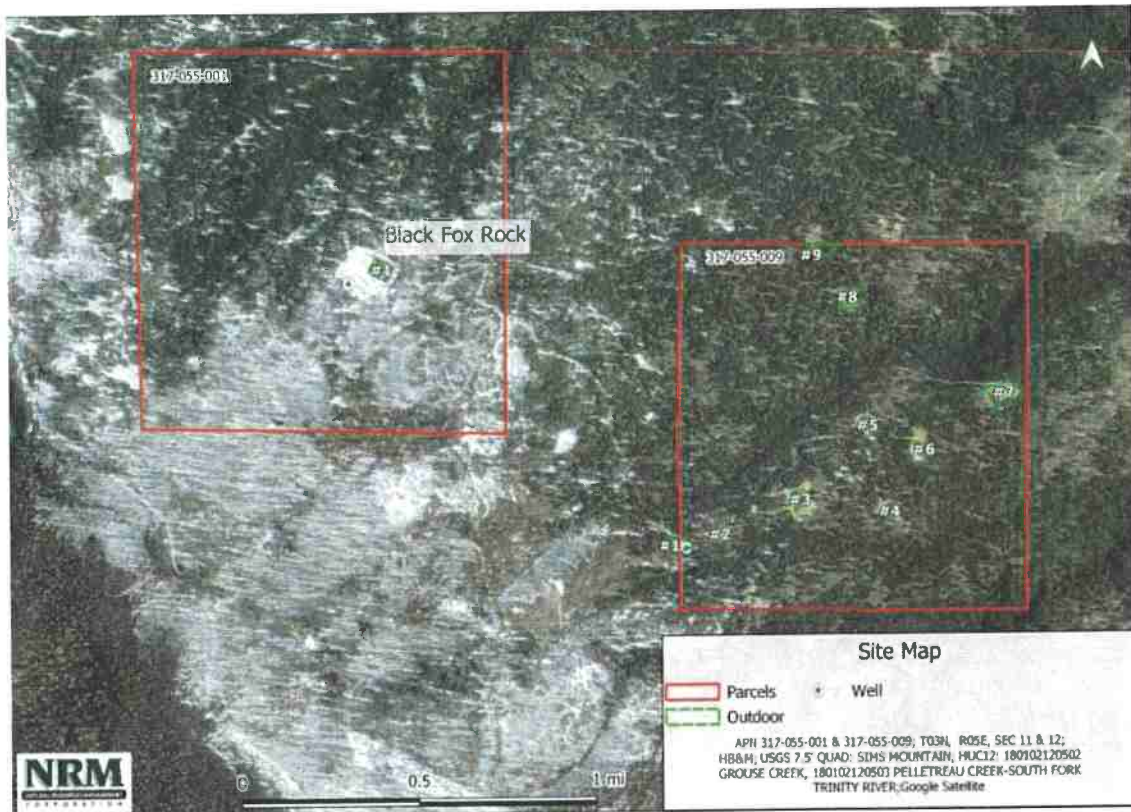


Figure 3. Site map for APNs 317-055-001, 317-055-009 (Satellite)

Biological Description

The project parcels are located within the South Fork Trinity River watershed, a designated Wild and Scenic River that is a tributary to the Trinity River, which is tributary to the Klamath River. In 2015, a large forest fire burned across tens of square miles (Figure 3, covered in snow) from the general area of the parcels, south along the South Fork Mountain ridge road (USFS Route 1).

The South Fork Trinity River, east of South Fork Mountain approximately 5 miles, is one of the largest undammed river systems in California, covering approximately 82 miles from the headwaters to the mainstem Trinity River. Historically, this river supported critical habitat for spring run chinook, summer and winter-run steelhead; populations of these species are still present but declining.

This coastal mountain area in central Humboldt County is characterized by Douglas-fir dominated forests with lesser components of tan oak, madrone, and other conifer species.

Project Description

The projects at parcel APN 001 and APN 009, located approximately 6.5 miles northwest of the community of Hyampom, Humboldt County, California (Figure 1), includes cannabis cultivation on the parcels by the landowner. The landowner is applying for a Tier 1 cultivation permit under the Humboldt County CMMLUO as an existing cultivator. A Cultivation, Operations, and Security Plan (COPS) was provided for APN 001 (APPS #13340) and proposes to permit for 9,000 square feet of existing outdoor cultivation within hoopouses or, depending on the timing of permitting which may delay assembly of structures, plant in full sun. The landowner stated that the COPS Plan will be similar for APN 009 (APPS #13349) with permitting proposed for 30,000 square feet. Past cannabis cultivation sites are at landings or openings along the access road associated with previous timber harvesting activities, resulting in flat cultivation areas with little visible runoff. (Figures 4, 5).

Cultivation at APN 001 will occur at one location, the Black Fox Cultivation Site (Cultivation Site #1, Photo 1) in the vicinity of the well and adjacent to the access road (Figures 2, 3, 4). There is a single watercourse crossing on the access road to the cultivation site with an undersized culvert to be replaced in 2020. Cultivation at APN 009 will occur at 9 locations (Figures 2, 3, 5; Photos 2-11). There are additional watercourse crossings on the access road to these proposed cultivation locations, and some culvert work may be required (per pending LSAA with CDFW).

The primary source of irrigation water will be from the wells (Figures 2, 3) located on each parcel (Well Completion Reports, Appendix B). These groundwater wells will be verified by CDFW as disconnected from jurisdictional waters prior to use. There are currently two 2,500-gallon hard sided plastic water tanks for water storage on APN 001. The landowner will increase storage capacity for drawing water during the forbearance period to meet all irrigation needs should the wells be determined jurisdictional.

Plants will be cultivated in raised beds and watered by drip irrigation system and by hand every other day during the growing season. Water will be applied at agronomic rates to eliminate runoff and soils will be amended and mulched to increase moisture retention. Estimated water use for APN 001 is 117,000 gallons; estimates for APN 009 are approximately 350,000 gallons. Flow meters will be installed prior to any cultivation operations on the outgoing lines for the wells and storage tanks for accurate annual usage rates.

Fertilizers and soil amendments proposed for use are non-toxic and natural-based. These products, along with a sample schedule of use and on-site storage amounts are listed in the COPS Plan. Due to the proximity to NSO Activity Centers, no rodenticides or herbicides will be used.

Dependent on permit timing, some early season lighting (low-watt compact fluorescent) may be used to keep young starts in a vegetative, non-flowering state. These bulbs project light only a short distance but hoopouses will nonetheless be covered with tarps to avoid any potential light pollution and disruption to local wildlife. This is the only use of lights for cultivation purposes, and will be powered by generators. Generators will need to be housed within noise containment structures with proper ventilation.

For Tier 1 applicants, Humboldt County requires a setback (buffer) of 50 feet from Class II watercourse top of bank or riparian drip-line, whichever is greater; State Water Board Orders require this buffer to be 200 feet. These Stream Management Areas (SMAs) are necessary for natural filtration and sediment control; all cultivation sites are well outside required buffers (Figures 4, 5). Because the parcels receive most precipitation as snow, sediment transport potential is greatly reduced.

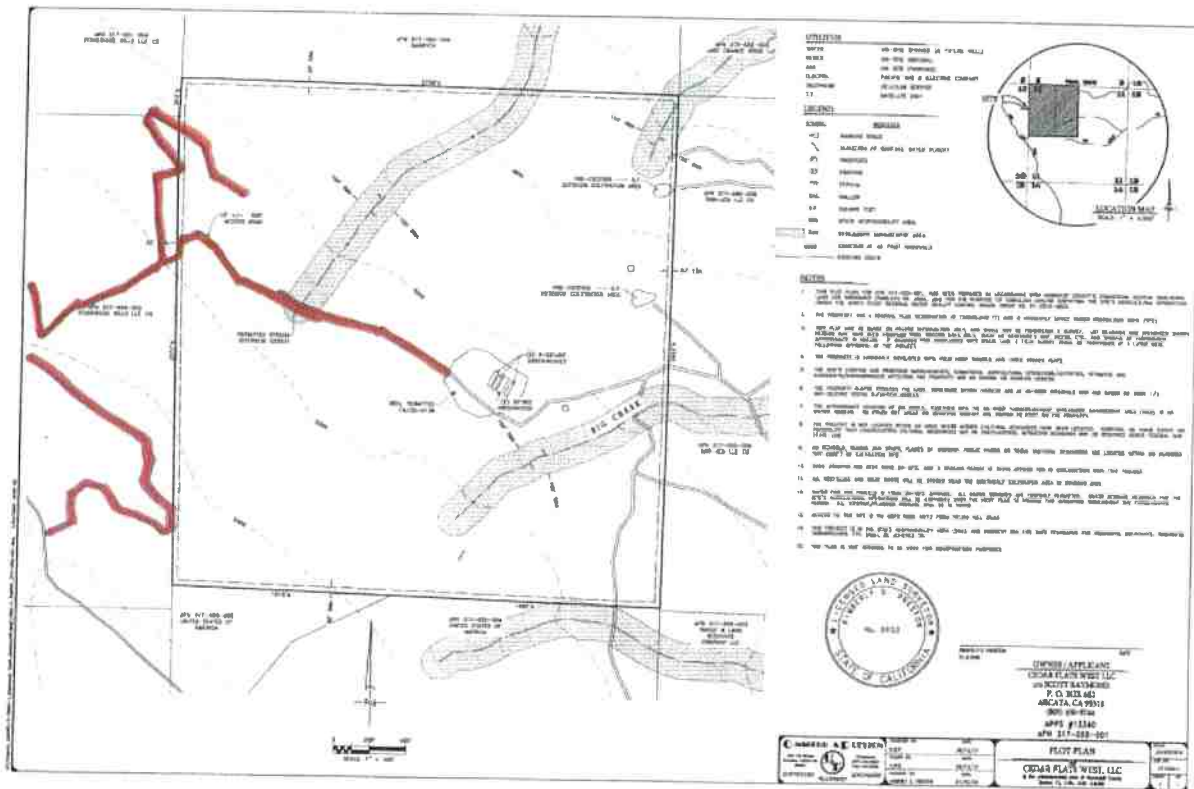


Figure 4. Plot plan for APN 317-055-001

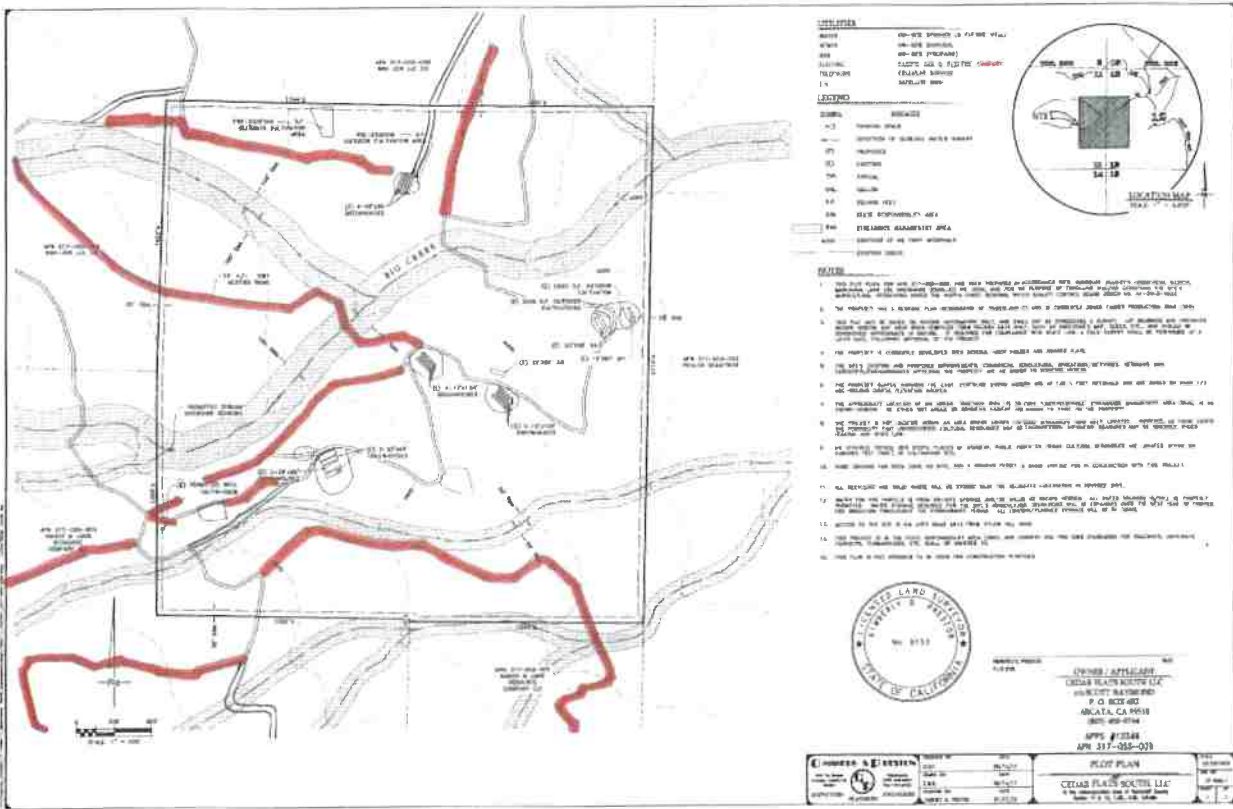


Figure 5. Plot plan for APN 317-055-009

III. Methods

Pre-Field Review

Prior to initiating field surveys, a query of the CDFW California Natural Diversity Data Base (CNDDDB 2020) for wildlife species occurrences within a nine-quad topographical map area of the parcels 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. CNDDDB list of special status wildlife species in the Sims Mountain nine-quad area.

Common Name	Scientific Name	Federal / State Listing
northern spotted owl	<i>Strix occidentalis caurina</i>	Federal and State Threatened
flammulated owl	<i>Psiloscoops flammeolus</i>	None
bald eagle	<i>Haliaeetus leucocephalus</i>	State Endangered, Fully Protected
northern goshawk	<i>Accipiter gentilis</i>	Species of Special Concern (SSC)
osprey	<i>Pandion haliaetus</i>	Watch List
Cooper's hawk	<i>Accipiter cooperii</i>	Watch List
mountain plover	<i>Charadrius montanus</i>	SSC
yellow-breasted chat	<i>Icteria virens</i>	SSC
ruffed grouse	<i>Bonasa umbellus</i>	Watch List
red-breasted sapsucker	<i>Sphyrapicus ruber</i>	None
fisher- west coast DPS	<i>Pekania pennanti</i>	Federal Endangered, State Threatened, SSC
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SSC
pallid bat	<i>Antrozous pallidus</i>	SSC
silver-haired bat	<i>Lasionycteris noctivagans</i>	None
hoary bat	<i>Lasiurus cinereus</i>	None
long-eared myotis	<i>Myotis evotis</i>	None
little brown bat	<i>Myotis lucifugus</i>	None
fringed myotis	<i>Myotis thysanodes</i>	None
long-legged myotis	<i>Myotis volans</i>	None
Yuma myotis	<i>Myotis yumanensis</i>	None
Sonoma tree vole	<i>Arborimus pomo</i>	SSC
North American porcupine	<i>Erethizon dorsatum</i>	None
Pacific tailed frog	<i>Ascaphus truei</i>	SSC
foothill yellow-legged frog	<i>Rana boylei</i>	SSC, State Endangered
Del Norte salamander	<i>Plethodon elongatus</i>	Watch List
southern torrent salamander	<i>Rhyacotriton variegatus</i>	SSC
western pond turtle	<i>Emys marmorata</i>	SSC
summer-run steelhead trout	<i>Oncorhynchus mykiss irideus pop.36</i>	Federal Threatened, State Candidate Endangered
Chinook salmon	<i>O. tshawytscha pop. 30</i>	State Candidate Endangered
coho salmon	<i>O. kisutch pop. 2</i>	Federal and State Threatened
western bumble bee	<i>Bombus occidentalis</i>	Candidate 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 any of the project sites is approximately one mile to the northeast (Figures 6, 7). Recent NSO data for the nearest ACs are displayed in Table 2.

Table 2. NSO Activity Center in the vicinity of APNs 317-055-001, 317-055-009

NSO Activity Center	CNDDDB Reported Positive Data	CNDDDB Reported Negative Data	Approximate Distance to Nearest Project Site (miles)
HUM0275	1998-2001, 2004, 2010 Nesting Pair 1990, 1997, 2002, 2003, 2005, 2008, 2011-2013, 2015, 2016 Non-nesting Pair 1985, 2009 Single NSO	1996, 2006, 2007	1.0
TRIO500	1984, 1993, 1997, 2000, 2002, 2003, 2005, 2018 Nesting Pair 1994-1996, 1998 1999, 2001, 2004, 2006 Non-nesting Pair 1990, 2008, 2009 Single NSO	2010	1.3

A CNDDDB database search for all special status species within a 1-mile radius of the project included a single record for northern goshawk (*Accipiter gentilis*) from Bennett Peak, approximately 0.7 miles northeast of the parcel boundary (1982; presumed extant). In addition, there were 5 plant species identified, with South Fork Mountain lupine (*Lupinus elmeri*) occurring in the vicinity of cultivation sites #3-6 and #8-9 (Figures 6, 7).

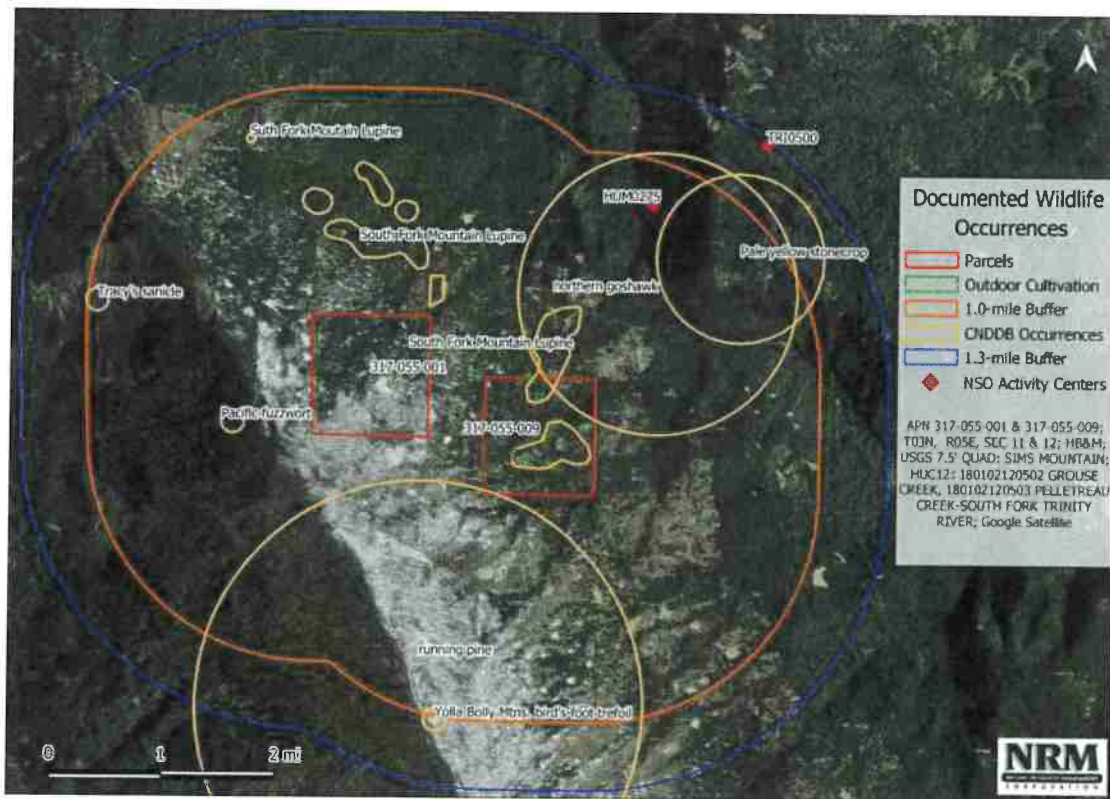


Figure 6. NSO Activity Centers and CNDDB species records in the vicinity of APNs 317-055-001, 317-055-009 (Satellite)

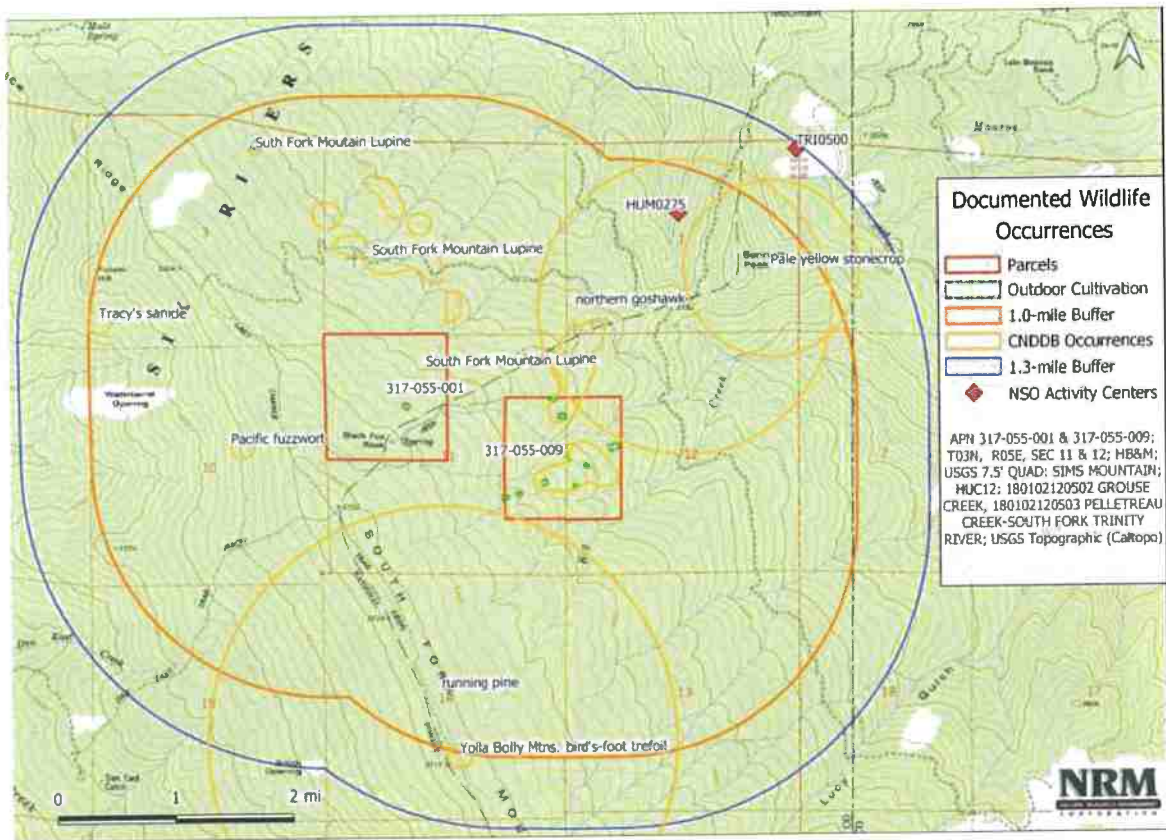


Figure 7. NSO Activity Centers and CNDDB species records in the vicinity of APNs 317-055-001, 317-055-009 (Topographic)

Field Survey

On November 29th, 2019, NRM wildlife biologist Michelle McKenzie conducted a site visit to survey existing cultivation areas, watercourses, and habitats where special status species (see Table 1) may occur. This survey was conducted for approximately 4 hours on a cool (45°F/7°C), mostly sunny, windy afternoon.

While walking the area all auidial detections of bird and mammal species were noted and the entire area traversed (an approximate 100-foot buffer around the project areas due to steep terrain) was scanned for wildlife sign (tracks and 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 impacts are those which are caused by the action (project) and occur at the same time and place. Indirect impacts are defined as those effects caused by the proposed action and are later in time, but still reasonably certain to occur.

Special status species and the potential for project impacts are presented in Table 3. Species are considered on a case-by-case basis as to the project's impact based on considerations such as home range, habitat, and sensitivity to disturbance. No habitat for listed or sensitive wildlife species was identified in the vicinity of the project areas. The nearest NSO habitat appears to be in the vicinity of historic Activity Center (AC), approximately 1-mile northeast. No special status wildlife species were detected during the biological survey (Table 4). It has been determined that the project and operations will have no significant impact on wildlife species in the vicinity of the project areas.

Survey Results and Discussion

The area surveyed included the project sites and watercourses on the parcel, and any areas that may have wetlands or other sensitive habitats based on presurvey satellite imagery.

The parcels are located immediately adjacent to the ridgeline road, USFS Route 1, and surrounded by Six Rivers National Forest, where extensive timber harvest operations have been occurring for decades. There are two NSO ACs in the vicinity of the project parcels; the nearest is approximately 1-mile northeast of proposed cultivation site #7 (Figures 6, 7). This AC (HUM0275) was reported as a non-nesting pair in 2016, after having nested from 2011-2013. It is assumed that the habitat still exists, therefore, the AC is considered active. Because there is no nesting habitat present in the immediate vicinity of the project sites and no impacts are expected from this outdoor operation, no NSO surveys are recommended despite an AC within the 1.3-mile analysis buffer. Historic logging in the area removed the majority of nesting habitat for NSO,

however, habitat appears to remain in the vicinity of historic ACs. Although some foraging habitat may exist on the parcel NSOs are unlikely to utilize this ridgetop habitat due to low canopy cover. Some impacts to NSOs could occur if generators are not housed in noise-reducing containment, and are operated during nesting season.

There is no habitat on the parcel to support bald eagle or osprey, which are expected to occur in the South Fork Trinity River watershed, due east approximately 3.5 miles from APN 009 where ample food and nesting habitat exists.

There are no large tracts of mature trees on the parcel to support special status species requiring such habitat, including northern goshawk and fisher. Although some large trees with nesting or denning opportunities are likely present on the landscape, proximate forest patches are limited in size for these species. The CNDDDB record for goshawk in the Bennett Peak area is dated (1982) and the area appears to have experienced some fire (lightning strike), but the habitat appears intact. This peak, on the eastern ridge of Bear Creek, is located near the headwaters and the AC for HUM0275. Foraging in the general area is expected from fisher, a wide-ranging species, particularly in the vicinity of watercourses with sufficient canopy cover.

Most of the Douglas-fir on the parcel is small to moderate in size, but potentially adequate to support Sonoma tree vole, typically a fog belt species but with several inland records. Suitable habitat likely exists across the parcel where Douglas-fir dominates, this species' preferred food source, but is not expected to occur near the ridgetop.

Structures on the parcel that could provide roosting or breeding habitat for Townsend's big-eared bat were inspected. No sign of guano or use was detected at the buildings on site. Foraging in the vicinity of watercourses, where insect abundance is greatest, is presumed.

Optimal habitat for southern torrent salamander and Pacific tailed frog is expected in Big Creek and tributaries where headwater creeks, fast flowing water and rocky substrates are more likely available. Foothill yellow-legged frogs, a stream-dwelling species, likely occurs in the lower reaches of Big Creek and within the South Fork Trinity River basin. Del Norte salamanders require damp terrestrial environments with talus, typically in older forests; no habitat for this species occurs on the parcels.

Western pond turtles would be expected in the South Fork Trinity River in areas with available banks for sunning and basking substrates (rocks and logs).

Additional species expected in the South Fork Trinity River would include anadromous fish species. Summer-run steelhead trout, coastal cutthroat trout and Chinook salmon have historic runs reported for tributaries to the South Fork Trinity River (Calfish 2004).

Special status species and the potential for impacts to species from the proposed projects, either directly or indirectly, are summarized in Table 3, below. Species are considered on a case-by-case basis as to the project's impacts based on considerations such as home range, habitat, and sensitivity to disturbance.

Table 3. Special status species, suitable habitat in project site(s), and potential impacts

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted 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	Yes	Yes	Less than significant impacts, due to no nesting habitat in the project vicinity, suboptimal foraging; nearest habitat likely associated with existing Activity Center, approximately 1-mile northeast of nearest project location; light and noise pollution mitigation required
flammulated owl	None	Frequents montane forests, especially Ponderosa pine; favors small openings, edges, clearings with snags for nesting and roosting; migratory	Yes	No	No impacts; primarily Douglas fir habitat, but likely forages in general vicinity
bald eagle	SE	Requires large bodies of water or free flowing rivers with abundant fish and adjacent perches; nests near water in large dominant trees	No	No	No impacts; this species expected to occur in the SF Trinity River corridor, approximately 3.5 air miles east of nearest parcel boundary
northern goshawk	SSC	Prefers middle and higher elevations with mature, dense conifer forests; usually nests near water on north facing slopes; riparian and open areas required	No	No	No impact; although parcel elevations within range of this species, no mature conifer forest on parcel and no riparian vegetation associated with watercourses; expected in vicinity of historic CNDDDB record at Bennett Peak, east approximately 1 mile

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
Cooper's hawk	WL	Frequents landscapes with patchy woodland habitat, dense tree stands; nesting and foraging usually near open water or riparian vegetation	Yes	Yes	Less than significant impacts; no riparian vegetation or other optimal nesting habitat, but foraging expected on parcels
osprey	WL	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water	No	No	No impacts; this species expected to occur in the SF Trinity River corridor, approximately 3.5 air miles east of nearest parcel boundary
mountain plover	SSC	Short grasslands, freshly plowed fields, newly sprouting grain fields. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	No	No	No impacts; no habitat on parcels
ruffed grouse	WL	Valley foothill riparian and surrounding coniferous forests at low to mid elevations; requires habitat mosaic	Yes	No	No impacts; likely some optimal habitat on parcels, none in vicinity of project areas

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
red-breasted sapsucker	None	Found in riparian, deciduous hardwood or mixed conifer habitats; sparse to moderate canopy cover with snags; some open habitat; typically nests near water	No	No	No impact; likely to forage in the area, no optimal nesting habitat in vicinity of projects
yellow-breasted chat	SSC	Requires riparian thickets of willow and other brushy tangles near watercourse	No	No	No impacts; no suitable habitat in the vicinity of the projects
MAMMALS					
fisher	FC, SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure	No	No	No impact; the nearest potential denning habitat is vicinity of Bear Creek watercourse; foraging on the parcels or transiting through is expected
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 impact; possible roosting sites on parcel in forested areas if any large trees with cavities exist, otherwise foraging expected in riparian areas and SF Trinity River corridor, approximately 3.5 miles east of nearest parcel boundary. All building perimeters inspected, no sign of bat use. No trees will be removed and no cavities observed in trees adjacent to project areas

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
Sonoma tree vole	SSC	North coast fog belt from Oregon border to Sonoma County; in Douglas-fir, redwood, and montane hardwood-conifer forests	Yes	No	No impact; cultivation area within 200 feet of Douglas fir habitat, but best habitat potentially in drainages where microclimate may remain cooler and moister
North American porcupine	None	Requires forest with understory of herbs, grasses, shrubs; prefers open stands of conifers	Yes	No	No impact; likely occurs in the general vicinity due to quality foraging habitat
pallid bat	SSC	Prefers rocky outcrops, cliffs, crevices with access to open habitats for foraging; day roosts in caves, mines, hollow trees, buildings	No	No	No impact; no suitable habitat
silver-haired bat	None	Forest dwelling species, feeding over streams and open brushy areas; roosts in trees, snags, crevices	Yes	No	No impact; likely forages in forested areas of parcel
hoary bat	None	Prefers open habitats or habitat mosaics with open areas or edges for feeding	Yes	No	No impact; this species may utilize roads for foraging or movement
long-eared myotis	None	Prefers habitat edges, open habitats for foraging; roosts in buildings, under bark, snags	Yes	No	No impact; likely forages at forest edges

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
little brown bat	None	Prefers habitat edges, open habitats for foraging; roosts in buildings, under bark, snags	Yes	No	No impact; likely forages at forest edges, along roads
fringed myotis	None	Uses open habitats, open forests for foraging; roosts in caves, mines, buildings, crevices	Yes	No	No impact; likely forages along roads, at forest edges
long-legged myotis	None	Uses open habitats for foraging, utilizing denser woodlands and forests for cover	Yes	No	No impact; likely forages along roads, at forest edges
Yuma myotis	None	Utilizes open forests and woodlands for foraging, close to water	No	No	No impact; likely forages along watercourses, forest edge
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	No	No	No impact; there is no habitat for this species on the parcel; the nearest habitat expected in SF Trinity River, approximately 3.5 miles east
Pacific tailed frog	SSC	Inhabits cold, clear, permanent rocky streams in wet forests; restricted to perennial streams. Suitable habitat in most waterways; known from Prairie Creek SP to King Range NCA	No	No	No impact; there is no habitat for this species in the project areas; the nearest potential habitat likely to be in the headwater region or portions of Big Creek and tributary watercourses

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
foothill yellow-legged frog	SC	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	No	No	No impact; there is no habitat for this species, which requires permanent watercourse with rocky substrate; the nearest habitat likely in Big Creek and tributaries, as well SF Trinity River
Del Norte salamander	WL	Terrestrial, moist habitats with talus present; eggs laid underground	No	No	No impact; there is no habitat on the parcels; nearest habitat likely in vicinity of talus slopes

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
southern torrent salamander	SSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats; Old growth forests. Cold, well-shaded, permanent streams seepages/springs, splash zone or on moss-covered rocks within trickling water. Known to occur within rivers and creeks from Prairie Creek SP to the Mattole River; suitable habitat is likely present within most flowing streams and seeps within Humboldt County	No	No	No impact; there is no habitat for this species in the project areas; the nearest potential habitat likely to be in the headwater region or portions of Big Creek and tributary watercourses
FISH					
summer-run steelhead trout	SC (E)	Cool, swift, shallow water & clean loose gravel for spawning, and suitably large pools in which to spend the summer. Enter Mattole River between March and June	No	No	No impacts; expected in SF Trinity River

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
coast cutthroat trout	SSC	Prefer coastal estuaries, lagoons, and small low-gradient coastal streams; at southern edge of range	No	No	No impacts; this species expected closer to coast and mainstem Trinity River, also SF Trinity River
Chinook salmon	SC (E)	Native anadromous fish in decline on west coast. Spawn in streams and rivers then move to ocean as adults; status applies to rivers and streams south of Klamath River to Russian River	No	No	No impacts; expected in SF Trinity River
INSECTS					
western bumble bee	SC (E)	Open grasslands, meadows	No	No	No impacts; expected in extensive grasslands

State:

FP Fully protected (legally protected)

SC Candidate: (T)hreatened or (E)ndangered

SE Endangered (legally protected)

SSC Species of special concern (no formal protection other than CEQA consideration)

ST Threatened (legally protected)

Federal:

FE Endangered (legally protected)

FT Threatened (legally protected)

FP Proposed: (T)hreatened or (E)ndangered

Species, or their sign, observed during the survey are summarized below. There were no special status species detected. Due to the late season site visit no migratory birds were present.

Table 4. Species detected at APNs 317-055-001 and 317-055-009 on November 25th, 2019

Common Name	Scientific Name	Federal/ State Listing	Detection Method
red-tailed hawk	<i>Buteo jamaicensis</i>	None	visual
northern flicker	<i>Colaptes auratus</i>	None	auditory
hairy woodpecker	<i>Leuconotopicus villosus</i>	None	visual
red-breasted sapsucker	<i>Sphyrapicus ruber</i>	None	visual
common raven	<i>Corvus corax</i>	None	visual
red-breasted nuthatch	<i>Sitta canadensis</i>	None	visual
Steller's jay	<i>Cyanocitta stelleri</i>	None	visual
chestnut-backed chickadee	<i>Poecile rufescens</i>	None	visual
Oregon junco	<i>Junco hyemalis</i>	None	visual
yellow rumped warbler	<i>Setophaga coronata</i>	None	visual
Douglas squirrel	<i>Tamiasciurus douglasii</i>	None	visual
western gray squirrel	<i>Sciurus griseus</i>	None	visual

Wildlife Species Accounts - Potential Impacts or Effects

The following species were noted either by CNDDDB as having historically occurred in the area or have the potential to occur due to habitat.

Northern spotted owl

Regulatory Status: The northern spotted owl is a Federal and State Threatened species.

Habitat Requirements and Natural History: This species is an uncommon, permanent resident that resides in dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats. Breeding occurs in early March through June, with young independent and dispersing by September/October.

Potential for Occurrence within the Project Area: There is an NSO ACs within the 1.3-mile analysis buffer of the proposed project (Figures 6, 7), the nearest available nesting habitat. However, due to the existence of habitat (ACs) within the required analysis buffer, and the recent activity, preconstruction surveys may be required CDFW.

Short Term Project Impacts - Construction

The construction of hoopouses is a short-term disturbance; no other construction will be occurring on the parcels.

Direct Effects: No direct impacts.

Indirect Effects: No indirect impacts.

Determination: No impacts.

Ongoing Activity Impacts - Cannabis

Northern spotted owls appear to be nesting approximately one-mile northeast of the nearest proposed project site, foraging expected in vicinity of AC, the nearest potential nesting habitat.

Direct Effects: If NSO are present in the area for either foraging or nesting, noise and light pollution would have the most potential to impact this species. The project as described eliminated the potential for light pollution. The only lights will be in the nursery and these would be equipped with blackout tarps. Noise would come from human activity and generators housed in noise-reducing containment. The project most likely meets the Humboldt County threshold of being under 50 dBs at the edge of NSO habitat.

Indirect Effects: No indirect impacts as project will not use any rodenticides.

Determination: The project as described will have less than significant impacts on northern spotted owl. The project will not impact any NSO habitat. No light pollution is expected, and project noise is expected to be less than 50 dBs at the edge of foraging habitat.

V. Management Recommendations

- All generators in use will require noise-reducing containment with ventilation
- Strict adherence to Riparian Setback Requirements for Humboldt County and State Water Board are required to maintain quality habitat for amphibians and anadromous fish.
- Propagation (nursery) hoopouses utilizing early-season, low impact lighting will require tarps to block all potential light pollution from at least one hour prior to sunset through at least one hour past sunrise.
- No use of plastic support netting. This plastic netting is a hazard to all forms of wildlife and is not to be used. CDFW recommends using netting of natural materials such as jute or hemp, with no welded seams.
- No rodenticides shall be used.
- Human waste disposal needs addressed on the parcels.

VI. References Cited

- California Natural Diversity Database (CNDDDB). 2020. Rare Find 5 [Internet]. California Department of Fish and Wildlife [Version 5.2.14]. Accessed January 2020.
- California Wildlife Habitat Relationships (CWHR). 2020. California Department of Fish and Wildlife [Internet] <https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range>
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- Google Earth Pro. 2020. Aerial historical imagery 1993-2019. Website <https://www.google.com/earth/>. Accessed December 2019.
- Humboldt County. 2018. Final Environmental Impact Report for the Amendments to Humboldt County Code Regulating Commercial Cannabis Activities. Humboldt County Planning and Building Department. Eureka, CA.
- United States Fish and Wildlife Service (USFWS). (Revised) 2012. Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls.
- United 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 November 25, 2019

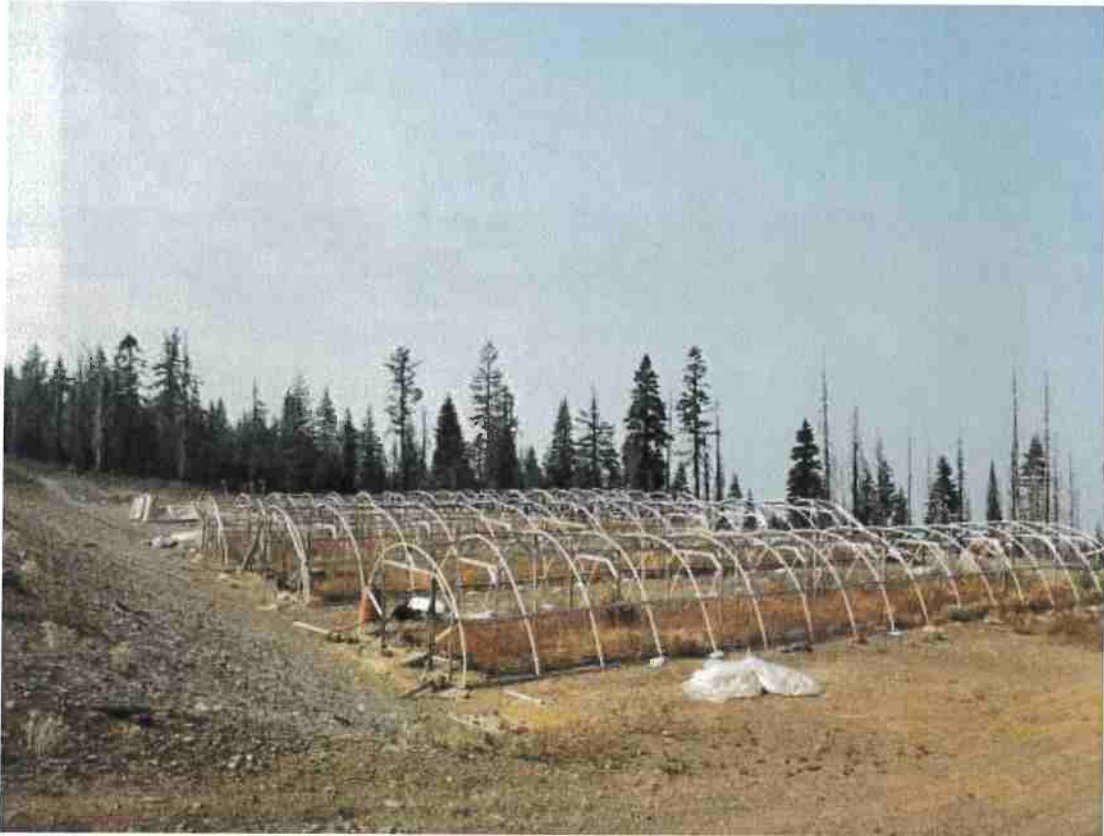


Photo 1. Cultivation Site #1 (APN 001) "Black Fox Cultivation Site"



Photo 2. Cultivation Site #1 (APN 009)



Photo 2a. Measurement to watercourse, origin



Photo 2b. Measurement terminus (>200 ft)



Photo 3. Cultivation Site #2 (APN 009)

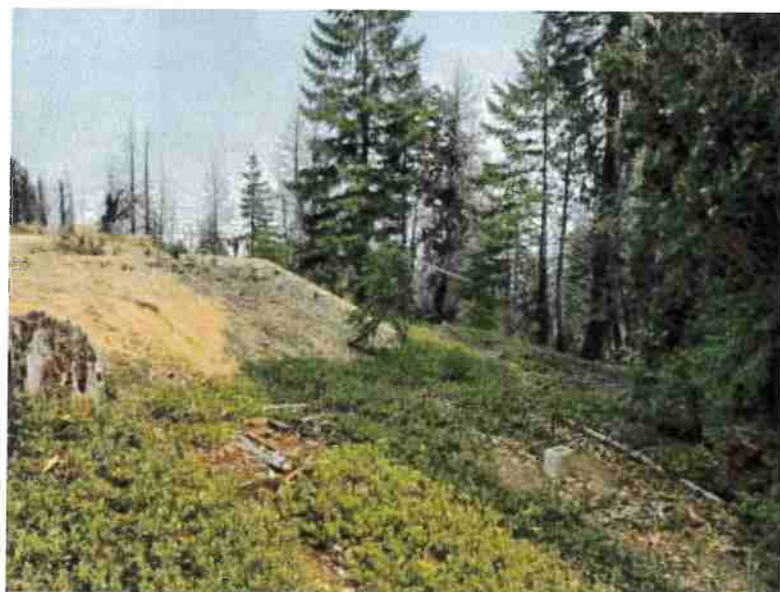


Photo 3a. Measurement to watercourse, origin (in tree, center)



Photo 3b. Measurement terminus (>200 ft)



Photo 4. Cultivation Site #3 (APN 009)

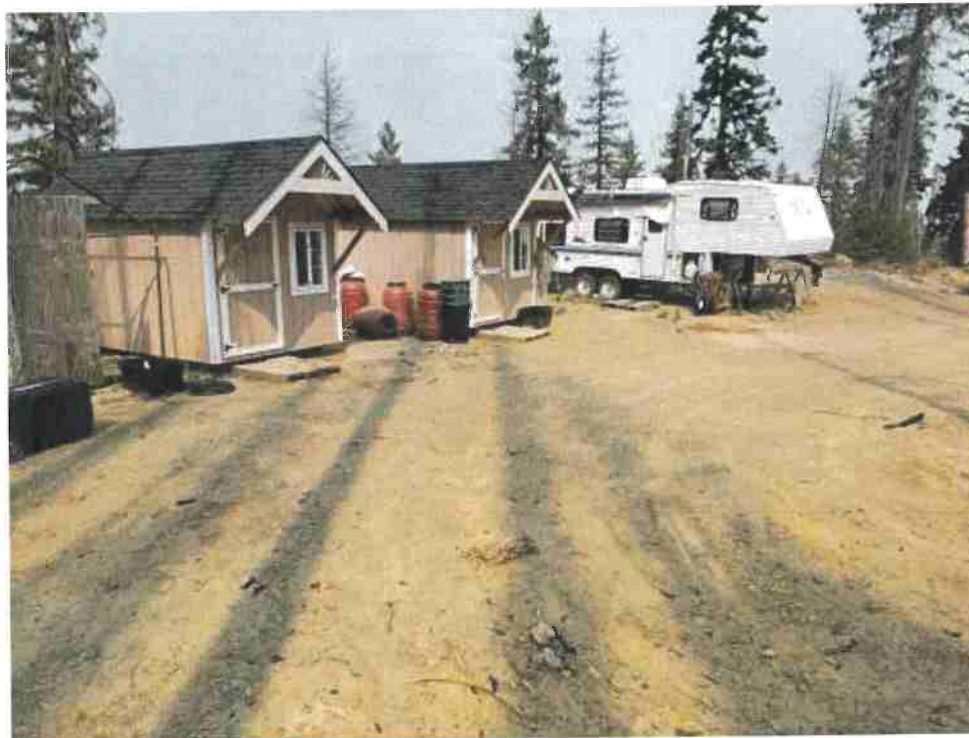


Photo 5. Infrastructure in vicinity of Cultivation Site #3 (APN 009)



Photo 6. Cultivation Site #4 (APN 009)



Photo 6a-c. Straw wattle on edge of cultivation flat, to be replaced where no longer functioning



Photo 7. Cultivation Site #5 (APN 009)



Photo 8. Cultivation Site #6 (APN 009) Upper and Lower



Photo 9. Cultivation Site #7 (APN 009) Upper and Lower



Photo 10. Cultivation Site #8 (APN 009)



Photo 11. Cultivation Site #9 (APN 009)

Appendix B: Well Completion Report – APN 317-055-001

RECEIVED

OCT 21 2019

State of California
Well Completion Report
 Form DWR 188 Submitted 10/18/2019
 WCR2019-014838

HUMBOLDT CO. DIVISION
 OF ENVIRONMENTAL HEALTH

Owner's Well Number 1 Date Work Began 10/01/2019 Date Work Ended 10/01/2019
 Local Permit Agency Humboldt County Department of Health & Human Services - Land Use Program
 Secondary Permit Agency _____ Permit Number 18/20-0138 Permit Date 05/20/2019

Well Owner (must remain confidential pursuant to Water Code 13752)		Planned Use and Activity	
Name _____	Activity <u>New Well</u>	Planned Use <u>Water Supply Irrigation - Agriculture</u>	
Mailing Address _____			
City _____ State _____ Zip _____			

Well Location					
Address _____			APN <u>317-055-001</u>		
City _____	Zip _____	County <u>Humboldt</u>	Township <u>03 N</u>		
Latitude <u>40 39 28.2802 N</u>	Longitude <u>-123 34 52.5432 W</u>	Range <u>06 E</u>		Section <u>11</u>	
Deg. Min. Sec.	Deg. Min. Sec.	Baseline Meridian <u>Humboldt</u>			
Dec. Lat. <u>40.657297</u>	Dec. Long. <u>-123.581262</u>	Ground Surface Elevation _____		Elevation Accuracy _____	
Vertical Datum _____	Horizontal Datum <u>NAD83</u>	Elevation Determination Method _____			
Location Accuracy _____	Location Determination Method _____				

Borehole Information		Water Level and Yield of Completed Well	
Orientation <u>Vertical</u>	Specify _____	Depth to first water <u>160</u>	(Foot below surface)
Drilling Method <u>Direct Rotary</u>	Drilling Fluid <u>Air</u>	Depth to Static _____	
Total Depth of Boring <u>200</u>	Feet	Water Level <u>160</u>	(Feet) Date Measured <u>10/01/2019</u>
Total Depth of Completed Well <u>200</u>	Feet	Estimated Yield* <u>10</u>	(GPM) Test Type <u>Air Lift</u>
		Test Length <u>1</u>	(Hours) Total Drawdown <u>10</u>
		*May not be representative of a well's long term yield.	

Geologic Log - Free Form		
Depth from Surface Feet to Foot		Description
0	10	Brown top soil
10	40	Red Clay
40	80	Brown Rock
80	200	Blue rock with streaks of quartz

Casings									
Casing #	Depth from Surface Feet to Foot	Casing Type	Material	Casings Specifications	Well Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if any (Inches)	Description
1	0	200	Blank	PVC	OD: 5.563 in. I Thickness: 0.375 in.	0.375	5.563	Milled Slots	0-180 Blank pvc 180-200 .032perl

Annular Material				
Depth from Surface Feet to Feet	Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Non Hydrated Bentonite	3/8
20	200	Filter Pack	Other Gravel Pack	3/8 pea gravel

ENTERED
 10-21-19/DWA

Other Observations:

Borehole Specifications		
Depth from Surface Feet to Feet	Borehole Diameter (Inches)	
0	200	9

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.			
Name	BUSHNELL ENTERPRISES		
Person, Firm or Corporation			
649 BEAR CREEK ROAD	GARBERVILLE	CA	95542
Address	City	State	Zip
Signed	<i>electronic signature received</i>	10/13/2019	403706
C-57 Licensed Water Well Contractor	Date Signed	C-57 License Number	

DWR Use Only			
CSG #	State Well Number	Site Code	Local Well Number
		N	W
Latitude Deg/Min/Sec		Longitude Deg/Min/Sec	
TRIS:			
APN:			

Well Completion Report – APN 317-055-009

State of California
Well Completion Report
 Form DWR 188 Submitted 10/16/2019
 WCR2019-014536

Owner's Well Number 1 Date Work Began 10/03/2019 Date Work Ended 10/04/2019
 Local Permit Agency Humboldt County Department of Health & Human Services - Land Use Program
 Secondary Permit Agency _____ Permit Number 18/19-0328 Permit Date 10/16/2018

Well Owner (must remain confidential pursuant to Water Code 13752)			Planned Use and Activity	
Name _____			Activity	<u>New Well</u>
Mailing Address _____			Planned Use	<u>Water Supply Irrigation - Agriculture</u>
City _____	State _____	Zip _____		

Well Location					
Address _____			APN <u>317-055-009</u>		
City _____	Zip _____	County <u>Humboldt</u>	Township <u>03 N</u>		
Latitude <u>40</u> <u>39</u> <u>6.5610</u> <u>N</u>	Longitude <u>-123</u> <u>34</u> <u>19.9559</u> <u>W</u>	Range <u>05 E</u>	Section <u>11</u>		
Deg. Min. Sec.	Deg. Min. Sec.	Baseline Meridian <u>Humboldt</u>			
Dec. Lat. <u>40.65182</u>	Dec. Long. <u>-123.57221</u>	Ground Surface Elevation _____			
Vertical Datum _____	Horizontal Datum <u>WGS84</u>	Elevation Accuracy _____			
Location Accuracy _____	Location Determination Method _____	Elevation Determination Method _____			

Borehole Information			Water Level and Yield of Completed Well		
Orientation <u>Vertical</u>	Specify _____		Depth to first water <u>80</u>	(Feet below surface)	
Drilling Method <u>Direct Rotary</u>	Drilling Fluid <u>Air</u>		Depth to Static _____		
Total Depth of Boring <u>200</u>	Feet		Water Level <u>60</u>	(Feet)	Date Measured _____
Total Depth of Completed Well <u>200</u>	Feet		Estimated Yield* <u>25</u>	(GPM)	Test Type <u>Air Lift</u>
			Test Length <u>2</u>	(Hours)	Total Drawdown <u>10</u> (feet)
*May not be representative of a well's long term yield.					

Geologic Log - Free Form		
Depth from Surface Feet to Feet	Description	
0 - 20	Top soil	
20 - 40	Greenish silty Clay	
40 - 80	Broken Shale W/ Quartz	
80 - 120	Brown Shale W/ Quartz And Water	
120 - 160	Blue Shale	
160 - 200	Broken Blue Shale And Quartz W/ More Water	

RECEIVED
 DEC 19 2019
 HUMBOLDT CO. DIVISION
 OF ENVIRONMENTAL HEALTH

Casings										
Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specifications	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	180	Blank	PVC	OD: 5.563 in. SDR: 17 Thickness: 0.327 in.	0.327	5.563			
1	180	200	Screen	PVC	OD: 5.563 in. SDR: 17 Thickness: 0.327 in.	0.327	5.563	Milled Slots	0.032	

Annular Material					
Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Non Hydrated Bentonite		3/8 Hole plug
20	200	Filter Pack	Other Gravel Pack	3/8	Pea Gravel

Other Observations:

Borehole Specifications		
Depth from Surface Feet to Feet	Borehole Diameter (inches)	
0	200	10

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.			
Name	RICH WELL DRILLING & PUMP SERVICE INC		
	Person, Firm or Corporation		
1251 RAILROAD DRIVE	MC	CA	95519
Address	City	State	Zip
Signed	electronic signature received	10/15/2019	902702
	C-37 Licensed Water Well Contractor	Date Signed	C-37 License Number

DWR Use Only			
CSG #	State Well Number	Site Code	Local Well Number
		N	W
Latitude Deg/Min/Sec		Longitude Deg/Min/Sec	
TRS:			
APN:			