Attachment 4.B

Biological Assessment Report

APN: 215-172-044

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APN: 215-172-044

Date Prepared:
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Section I Summary of Findings and Conclusions

The project applicant seeks a Zoning Clearance Certificate (ZCC) under Humboldt County Commercial Cannabis Land Use Ordinance (CCLUO) Application #15820 to cultivate a 13,500 ft^2 mixed-light grow (with no supplementing light in the cultivation site) utilizing greenhouses in the place of an existing field with historic, or current, disturbance. The project site is located approximately 1.85 air miles south to southeast of Thorn Junction, and approximately 0.15 air miles off of Briceland (Bricethron) Road. This project occurs entirely within the boundaries of the preexisting field and no vegetation, including trees, will be removed within the project site or in the adjacent area for this project. No special statues plant or animal species were observed during the site visit and the ecological habitat and preexisting use of the site makes it unlikely that special status plant and animal species are present within the proposed site location, or would be negatively impacted by the project.

Section II Introduction, Background, and Project Understanding

A. Purpose and Need

This Biological Assessment Report has been prepared for the applicant with the application #15820 to assess biological impacts of the proposed cannabis cultivation. The report also highlights the reasons the new proposed project site is environmentally superior to the prior cultivation sites located on the parcel.

B. Biologist's Qualifications

The biological assessment for this report was conducted by Mason London. Mason holds a M.S. in Biology with a concentration in aquatic ecology from Humboldt State University. Mason also has 9 collective years of experience working professionally as a botanist, wildlife biologist, and aquatic ecological research scientist.

C. Parcel and Project Site Description

This Biological Assessment Report considers the potentially occurring species and communities that could be affected by the project based on available spatial data, habitat requirements, and observations made during a site visit. The project site was evaluated for potential habitat value

to protect endangered, threatened, rare, and sensitive species by walking around the project area to observe species, habitat types and quality (see Biological Survey Path in Appendix B: Map 1). Other project related aspects, such as water storage, site location and cultivation methods were assessed in terms of ecological and biological impact. Previous cultivation sites were also investigated to determine if the current location is environmentally superior for cultivation.

On May 3th, 2019 a biological resource and habitat survey, with regards to special status species, was conducted for the area of potential effects for the cultivation of 13,500 ft^2 mixed-light cannabis within approximately 0.75 acres of an existing field. The 80.94 acre parcel has an Assessors' Parcel Number (APN) of 215-172-044. The project site within this parcel is located approximately 1.85 air miles south to southeast of Thorn Junction within the Briceland 7.5 minute quadrangle (Quad code: 4012318) in the Mattole River Watershed (CDFW Region: 1). The project site is located approximately 0.15 air miles off of Briceland Thorn Road. The center location of this parcel is 40° 02' 27.18"N, 123° 57' 15.93"W. The elevation of the center of the proposed project site is approximately 1000 feet (~304.8 meters) above sea level (Google Earth Pro, 2019). This parcel is zoned as Unclassified (U) with the Current General Plan of Residential Agriculture (RA). This parcels RA is specially an RA5-20 which "... are rural residential designations for lands with slopes generally less than 30% and served by individual water and wastewater systems and good road access" (2017 Humboldt County General Plan, 2017).

The project occurs entirely within a heavily disturbed field, which historically and currently is utilized for grazing livestock. There are no trees located within the project site.

D. Cultivation

The 13,500 ft^2 mixed-light cannabis will be cultivated within greenhouses. Nursery greenhouse facilities will supplement light, but these greenhouses will be fully covered when light supplementation is occurring to eliminate any light pollution. The cannabis will be transplanted into the greenhouses in the cultivation site after the light supplementation is not required. Because of this cultivation method, no light pollution will impact the surrounding area.

Furthermore, the nursery greenhouses will not require the use of generator power since there is a PG&E grid power hookup approximately 100 ft from the project site (Figure 1). Because grid power will be utilized the occurrence of generator related noise pollution is fully eliminated.

E. Water Collection and Storage

Water for cultivation will be derived from rainwater catch/storage tanks and cistern. There is currently storage for 30,000 gallons of water in poly tanks (Figure 2). The applicant has engineered plans for a cement in ground cistern that is capable of storing over 100,000 gallons of rain catch water. This cistern will be fully lined and have a roof which will be utilized for rainwater catchment. The cistern is designed to be completely sealed eliminating any potential for the recruitment of the invasive American bullfrog (*Lithobates catesbeianus*). The proposed location of the cistern is to exist in a previously grated flat approximately 300-350 feet uphill of the project site (Figure 3).

According to the National Weather Service, the annual average precipitation (averaged between 1961 and 1990), shows this region receiving, on average, between 75 and 100 inches of rain per year. This amount of rain is adequate to fill the rain catch/storage tanks and cistern use during for the farming/forbearance season.

Section III Methods

A. Pre-Site Visit Data Compilation and Preparation

A list of special-status plant and animal species to consider to be potentially present within the parcel was downloaded from the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB, CDFW, 2019) BIOS, the United State Fish and Wildlife Service Information for Planning and Conservation (IPaC, USFWS 2019), Calflora Project (Calflora, 2019) for the Briceland Mtn. 9-quad area. Animals on the CNDDB list were primarily included based on state or federal listing status or CDFW designation. Native pollinators found in the area were also included based on the state rarity and their potential to be affected by cannabis cultivation.

The special status species in the 7.5 minute USGS Briceland Mtn. quadrangle, and the 8 adjacent quadrangles, resulted in 37 special status animal species (4 amphibians, 10 birds, 1 crustacean, 7 fishes, 2 insects, 8 mammals, 4 mollusks, 1 reptile) (Appendix C -Table 1) and 32 special status plant (1 lichen, 31 Vascular) (Appendix C - Table 2).

B. Biological Resource and Habitat Investigation

A biological resource and habitat investigation was conducted at the project site between 9:00 and 10:30 on May 3rd, 2019 (Appendix B: Map 1). The weather was sunny with clear skies. The goal of the investigation was to determine suitable habitat for potential species within the project area. Habitat characteristic on the majority of the 89.94 acre parcel were investigated. Dominate species in surrounded habitats, adjacent wetland locations, project related features, such as water storage locations and methods, and project site setbacks from wetland habitat were also observed and recorded. A TruPulse 200X laser rangefinder was used to make all of the distance measurements and for determining adequate setbacks. An area of approximately 3 acres, which included the project site as well as the surrounding field and the adjacent wooded and vegetated areas was more thoroughly surveyed for sensitive species and potential project related impacts. The previous cultivation locations were also investigated to determine if the current cultivation site is environmentally superior.

1. Project Site Location

The project site is located within a field that has a history of disturbance including livestock grazing (both cattle and sheep) and other agricultural uses. The site which the proposed cultivation is to occur is still currently being used for cattle grazing. The project site is buffered on all sides by more of the disturbed field habitat. Surrounding the field, including the field on the adjacent parcels, is mixed second growth hardwood and coniferous forest, typical to that of Southern Humboldt.

2. Sensitive Species

Of the 37 special status animal species, 6 had a moderate potential of occurring at or within the project site with additional species having potential to occur adjacent to the project site. Of the

32 special status plant species, 3 had a moderate potential of occurring at or within the project site with additional species having potential to occur adjacent to the project site.

Section IV Results and Discussion

A. Habitat Area and Existing Site Conditions

The habitat within the 80.94 acre parcel is approximately half dominated by mixed hardwood and coniferous forest and half dominated by the large disturbed open field. There was one small wetland habitat identified within the field approximately 305 ft from the proposed project site location. The project site is to exist entirely within the open field habitat (Figure 4).

1. Terrestrial

The mixed second growth hardwood and coniferous forest habitat is typical of southern Humboldt, dominated by Douglas fir (*Pseudotsuga menziesii*), tanoak (*Notholithocarpus densiflorus*), California bay laurel (*Umbellularia californica*), and Canyon live oak (*Quercus chrysolepis*)(Figure 5). This habitat type boarders the northern and eastern parcel. This project is not anticipated to impact this mixed hardwood and coniferous forest in anyway.

The open field is dominated by a mixture non-natives grass and small forbs (Figure 6). The grass species observed are typical of those found in common pasture mixes for grazing lives stock, as well as the nonnative broadleaf plantain (*Plantago major*). The small forb species observed in isolated clusters were also nonnative species including the nonnative flatweed, or false dandelion, (*Hypochaeris radicata*) and the nonnative Carolina Gernium (*Geranium carolinianum*). There were Coastal wood fern (*Dryopteris argute*) growing on the sloped open hillsides around the field, but none of them were found within the flat field nor in the proposed project site (Figure 7). This field has a historical record of land disturbance including agriculture, and sheep and cattle grazing. Currently cattle still utilize this open field, and proposed project site, for grazing. The history of disturbance within the field, including the introduction of nonnative species, heavy grazing and compacting, renders this habitat not very suitable for native species.

2. Hydrologic

The U.S. Army Corps of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3(b), U.S. Army Corps of Engineers).

There was a wetland identified within the open field with standing water, saturated soils, and presences of common rush (*Juncus effusus*) and other small sedge species (*Carex spp*) (Figure 6). This wetland habitat appears to exist primarily within the neighboring parcel to the south, but a substantial proportion does occur with the parcel proposing the project. The soil of the wetland habitat was saturated at the time of survey and was identified to be a perennial wetland, requiring a 100 ft buffer from the project site. A setback was measured to be approximately 305 ft to the nearest edge of the proposed project site, therefore the location of this habitat will not be an issue for the proposed project site location (Figure 8 & 9). This project is not anticipated to impact wetland habitat in anyway.

3. Previous Cultivation Sites

Three previous cultivation site locations were investigated in order to assess whether or not the current cultivation site is in fact environmentally superior. **Site 1** was an outdoor full season cultivation operation, however it existed within a Class III ephemeral drainage (Figure 10; Appendix B: Map 2). **Site 2** was the best of the three previous cultivation sites, but it was located in a part of the open field that is closer to the road than the proposed project. This site was also closer to the identified wetland habitat. The applicant has decommissioned this site (Appendix B: Map 3). **Site 3** was located in a flat opening but was within extremely close to the edge of the mixed second growth hardwood and coniferous forest, rendering it more likely to disturbed forest dwelling species (Figure 11; Appendix B: Map 2). Because of these factors, it was determined that due to location within a drainage, setback from public roadway, and distance from the edge of forest, the current cultivation location is environmentally, and socially, superior compare to the three previously cultivated sites (Appendix B: Map 2).

4. Sensitive Species or Habitats

Each species derived from the previously mentioned databases were evaluated for their potential of occurrence within the project site by the following criteria:

1. "***None***." Species listed as having "none" potential of occurrence are those species for which there is no suitable habitat within the project area (elevation, hydrology, plant community, disturbance regime, etc.)

2. "***Low***." Species listed as having a "low" potential of occurrence are those species for which there is no known occurrence of the species within the project area and there is limited or marginal suitable habitat present at the project area.

3. "***Moderate***." Species listed as having "moderate" potential of occurrence within the project area are those species for which there is a known record of occurrence within or in the vicinity of the project area and/or there is suitable habitat present within the project area.

4. "***High***." Species listed as having "high" potential of occurrence within the project area are those species for which there is a known record of occurrence within or in the vicinity of the project area and/or there is highly suitable habitat present within the project area.

5. "***Present***." Species listed as having "present" potential of occurrence within the project area are those species for which the species was observed during the field survey.

Species with a 'low' potential of occurrence were not further investigated for likelihood to exist within or utilize the project site habitat. A rank of low was given to species that most likely will not occur, or are highly unlikely for them to occur, based on their habitat requirements. However, there are always exceptions to natural rules and so these species were not given the rank of 'none' because it is not entirely impossible for them to occur, just extremely unlikely.

B. Special Status Plant Species

Potential habitat for 3 special-status species exist within the project area. These species include Tracy's tarplant (*Hemizonia congesta ssp. Tracyi*), maple-leaved checkerbloom (*Sidalcea malachroides*),

Tracy's tarplant (*Hemizonia congesta ssp. tracyi*) is an annual herb found between 120 and 1200 meters in coastal prairies, lower montane coniferous forests, and North Coast coniferous forests. This species is found in openings and sometimes in serpentinite areas. The habitat of the project sites makes it moderately likely that *Hemizonia congesta ssp. tracyi* could exist. However, given the historical and current regime of disturbance it is unlikely that this species has colonized the grazed field. The timing of the site investigation was within the blooming period of this species, and none were observed. There are no recorded observations of *Hemizonia congesta ssp. Tracyi* within the surrounding area, and even though it is endemic to Northwestern California, it has a CA Rare Plant Rank of 4.3, which means that the species has a "...limited distribution, [but is] not very threatened in California" (CNDDB Metadata, 2019). If it was exist in the surrounding area, due to the moderate potential habitat in the areas surrounding the project site, no activates from the proposed project will disturb or impact the species.

Maple-leaved checkerbloom (*Sidalcea malachroides*) has a moderate potential of occurring at the project site. Its elevation range is between 0 and 730 meters. It blooms between April and Augusts and is known to occur in broadleafed upland forests, coastal prairies, coastal scrubs, North Coast coniferous forests, and riparian woodlands and also is often found in disturbed areas. Since the project site does have a history of disturbance, the potential of *Sidalcea malachroides* occurrance could be likely. However, the ongoing disturbance by heavy grazing makes it unlikely that this perennial species could maintain existence within the proposed project site. Furthermore, the timing of the site investigation was within the blooming period of *Sidalcea malachroides*, and no *Sidalcea malachroides* were observed during the visit. It is concluded that it is highly unlikely that this species occurs at the project site. The potential habitat areas surrounding the project site will not be disturbed by this proposed project. Also,

this species was only recorded to occur within the Bear Harbor 7.5 USGS Quads, and not in the Briceland 7.5 USGS Quad.

Howell's montia (*Montia howellii*) has a moderate potential of occurring at the project site. Its elevation range is between 0 and 880 meters and is known to occur in North Coast coniferous forests, meadows, seeps, vernal pools, and vernally mesic areas. The CNDDB BIOS map shows a locations of this species occurring approximately 1.25 miles from the project site (see Appendix B: Map 3). On the CNDDB BIOS map, this species occurrence is buffered to exist within a mile of the observed site. However, the report for this observation, recorded in 1923, explains that this species was observed "...along the Mattole River... [on the] wet ground along creek." It is also, occurring to the report, "presumed extant" from this location. While habitat for this species does exist within the agricultural field at the project site, the history of disturbance and ongoing cultivation of the field roughly a century, makes it highly unlikely that this species would occur at the project site. The potential habitat areas surrounding the project site will not be disturbed by this proposed project.

1. Other Special Status Plant Species

An occurrence of **Oregon goldthread (*Coptis laciniata*)**, was recorded approximately 0.60 miles north of the proposed project site in 2008 (see Appendix B: Map 3). *Coptis Laciniata* occur in North coast coniferous forests, meadows and seeps, primarily in mesic sites such as streambanks. This is the type of habitat that the 2008 observation found *Coptis Laciniata* in, specifically in "[a] rocky riparian area". Even though this species has the potential to still occur within this area, the habitat of the project site does not include any of this sort of habitat and the potential habitat areas surrounding the project site in which *Coptis Laciniata* could occure will not be disturbed by this proposed project.

C. Special Status Animals Species

Moderate to high potential habitat for 6 special status animal species exists within the project location. Of these 6 species, 3 are either birds or bats and would only utilize the project site for hunting and would otherwise only fly over the site. None of these species would utilize the

project site for nesting or shelter due to the sparseness of canopy cover. Therefore, it is not expected that these 6 species will be impacted in anyway but the proposed project. The remaining 3 special-status species include the Western Bumblebee (*Bombus occidentalis*), obscure bumble bee (*Bombus caliginosus*) and the North American porcupine (*Erethizon dorsatum*).

The **Western Bumblebee (*Bombus occidentalis*)** is widely distributed in California and is known to pollinate a wide variety of flowering plants. This species lives in abandoned burrows and cavities and potential nesting locations may exist within the project area. However, it unlikely that there would be a significant loss of nesting habitat as a result of the project. Furthermore it is unlikely that the project would result in a significant decrease in forage material, due to the preexisting limited foraging material as a result of the flats previous disturbance. It is not anticipated that the project will negatively impact this species.

The **obscure bumble bee (*Bombus caliginosus*)** nests underground or above ground in abandoned bird nests. Its favorable food plants include *Baccharis spp.*, *Cirsium spp.*, *Lupinus spp.*, *Lotus spp.*, *Grindella spp.*, *Phacella spp.* and even though some of these species could be found within the project site, it unlikely that there would be a significant loss of foraging habitat as a result of the project, especially due to the historical level of grazing disturbance within this project site. It is also unlikely that there would be significant loss of nesting habitat as a result of the project. It is not anticipated that the project will negatively impact this species.

The **North American Porcupine (*Erethizon dorsatum*)** can be found in forested habitats in broadleaf upland forest, cismontane woodland, and lower and upper montane conifer forest. Even though this species may reside nearby and could pass through the project site while foraging, the lack of cover within the project site makes it unlikely that this species would be found in the project area. Also, the frequent human, and cow, activity that occurs within the project area likely results in *Erethizon dorsatum* not utilizing the site. It is not anticipated that the project will negatively impact this species.

renders no negative habitat alterations resulting in the only potential direct impacts as disturbance-based.

Common disturbance based impacts include noise and light pollution. For this project, no noise pollution will be created as a result of no generators being used for the cultivation process. If fans are used in the greenhouse, they are not to exceed 50 dB when 100 ft away. Light pollution will be mitigated by completely covering the nursery greenhouses when they are being artificially lit. There will be no artificial light used in the cultivation process, other than the nursery, so light pollution for surrounding wildlife will not be an issue as well. As a result of these practices there is no anticipated disturbance-based impacts to the surrounding wildlife.

2. Potential Indirect Impacts

Given the existing nature of the project site, as well as the existing disturbance to the proposed cultivation site, the minimal development that occurred and will occur should have no significant adverse indirect impacts to the surrounding environment and habitats.

1. Other Special Status Animals Species

The nearest known **Northern Spotted Owl (*Strix occidentalis caurina*)** Activity Center approximately 1.75 miles from the project site (Appendix B: Map 4, & Appendix D: Observation Report). Northern spotted owls reside in dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2300 meters. They usually nest in trees or snag cavities, or in broken tops of large trees (Polite C. 1990). Since the surrounding habitat to the project site on the parcel is dominated by second growth forest, it was determined to not be ideal for *Strix occidentalis caurina*, especially within the immediate vicinity of the project site (i.e. within a .25 mile buffer). The Northern Spotted Owl Database contains no known Activity Centers within 0.7 miles. There will be no expected negative impacts to the nearest known Activity Center since it occurs more than 0.7 miles away from the project site. No trees with be removed for this project and therefore no habitat alterations will occur. Furthermore, it is noted that in general, noise levels of 70 dB or less, would not generate a significant disturbance unless within very close proximity (>25 m) to an active nest (USFWS 2006). Since the application will not be utilizing a generator, there are no anticipated noise disturbances that could impact owls. For light pollution, the applicant will completely cover their nursery greenhouses to eliminate escaping light when they are being artificially lit and for the cultivation project, no artificial light will be used.

Section V Conclusion

A. Potential Impacts and Recommended Mitigation

1. Potential Direct Impacts

Direct impacts are considered to be effects that may occur to the environment from direct interface with the proposed action. The project site is considered to have no direct impacts to the environment or the surrounding habitat. Given the dominate nonnative habitat of the project site, the history of disturbance (decades of heavy grazing and currently), and no vegetation being removed (within and surrounding the project site), the cultivation plan

Section VI References

2017 Humboldt County General Plan. Chapter 4 Land Use Element. Adopted October 23, 2017.

33 CFR Part 328: Definition of Waters of the United States. U.S. Army Corps of Engineers. Accessed March 2019.

Calflora database. Berkeley CA: Calflora . Accessed March 2019 http://calflora.org/

California Department of Fish and Wildlife. 2019 "California Natural Diversity Database" (CNDDB) Accessed March 2019 https://www.wildlife.ca.gov/Data/CNDDB

California Department of Fish and Wildlife. 2018 "Biogeographic Information and Observation System" (BIOS) Accessed December 2018 https://map.dfg.ca.gov/bios/

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 11 March 2019].

Google Earth Pro 2019 Accessed March 2019

Historic Aerials by Netronline. 2019. Accessed March 2019 https://www.historicaerials.com/

National Weather Service Corporate Image Web Team. (2005, October 24). NWS Eureka. Retrieved from https://w2.weather.gov/climate/local_data.php?wfo=eka

National Wetlands Inventory Map Report For North Coast, California. Project ID: R01Y07P08: CA_North_Coast, California. Accessed April 2019 https://www.fws.gov/wetlands/

Polite C. Kiff L, editor. 1990. Spotted Owl. California's Wildlife Vol I-III. California Depart. Fish and Wildlife, Sacramento, California.

Thompson R.C., Wright A.N., and Shaffer H.B. 2016. California amphibian species of special concern. University of California Press, Oakland, CA.

Top 10 Quietest Portable Generators (Under 65db) – Reviews. Accessed April 2019 https://generatorgrid.com/quiet/

US Climate Data. 2019. Accessed April 2019 https://www.usclimatedata.com/climate/eureka/california/united-states/usca0360

U.S. Fish and Wildlife Service (2019) "Information Planning and Conservation System" (IPAC) Accessed March 2019 https://ecos.fws.gov/ipac/

U.S. Fish and Wildlife Service Wetland Mapper. Accessed March 2019 https://www.fws.gov/wetlands/data/mapper.html

U.S. Fish and Wildlife Services. 2006. Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturabance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

Appendix A

Photos:

Figure 1. Image showing PG&E grid power hook up located approximately 100 feet from the proposed project site. Photo taken west of the project site facing east.

Figure 2. Current on site poly tank water storage. Approximately 30,000 gallons of storage.

Figure 3. Proposed location of cistern site.

Figure 4. Photo taken northeast of the project site facing south west. The project is proposed to exist entirely within the disturbed field.

Figure 5. Photo taken within the proposed project site facing east towards the mixed second growth hardwood and coniferous forest habitat. This habitat will not be disturbed by the proposed project.

Figure 6. Photo taken within the proposed project site facing south. Note the disturbed, heavily grazed, nonnative grassland habitat.

*Figure 7. Hillslopes to the northeast of the proposed project site covered in the same nonnative species, as well as the native Coastal wood fern (*Dryopteris argute*). This habitat will not be disturbed by the proposed project.*

Figure 8. Identified wetland habitat approximately 305 feet southwest of project site (dashed black line showing edge of wetland).

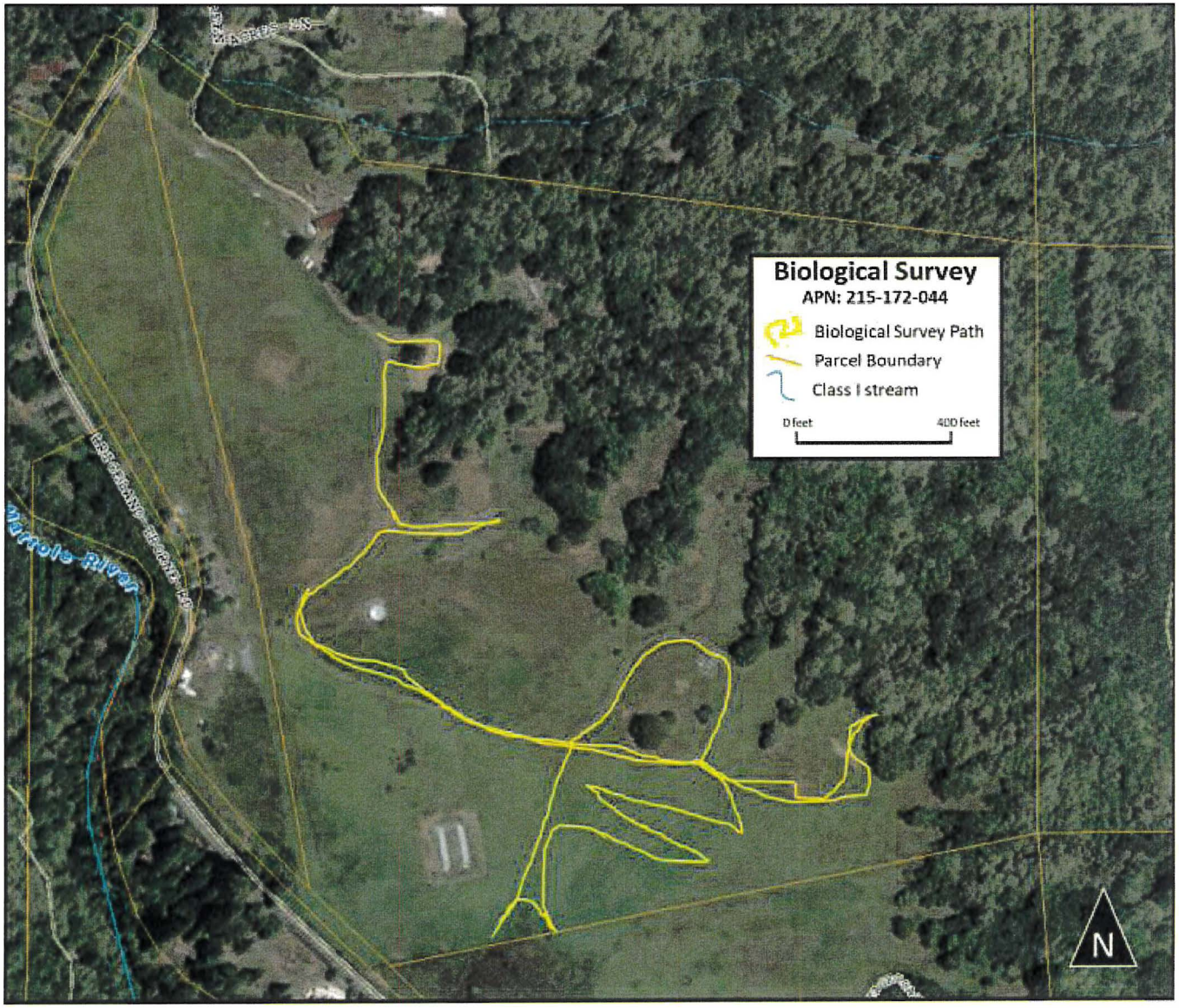
Figure 9. Photo taken facing east showing the Identified wetland habitat approximately 305 feet from the proposed project site (dashed black line showing edge of wetland).

Figure 10. Old cultivation "Site 1": cultivation in Class III ephemeral drainage.

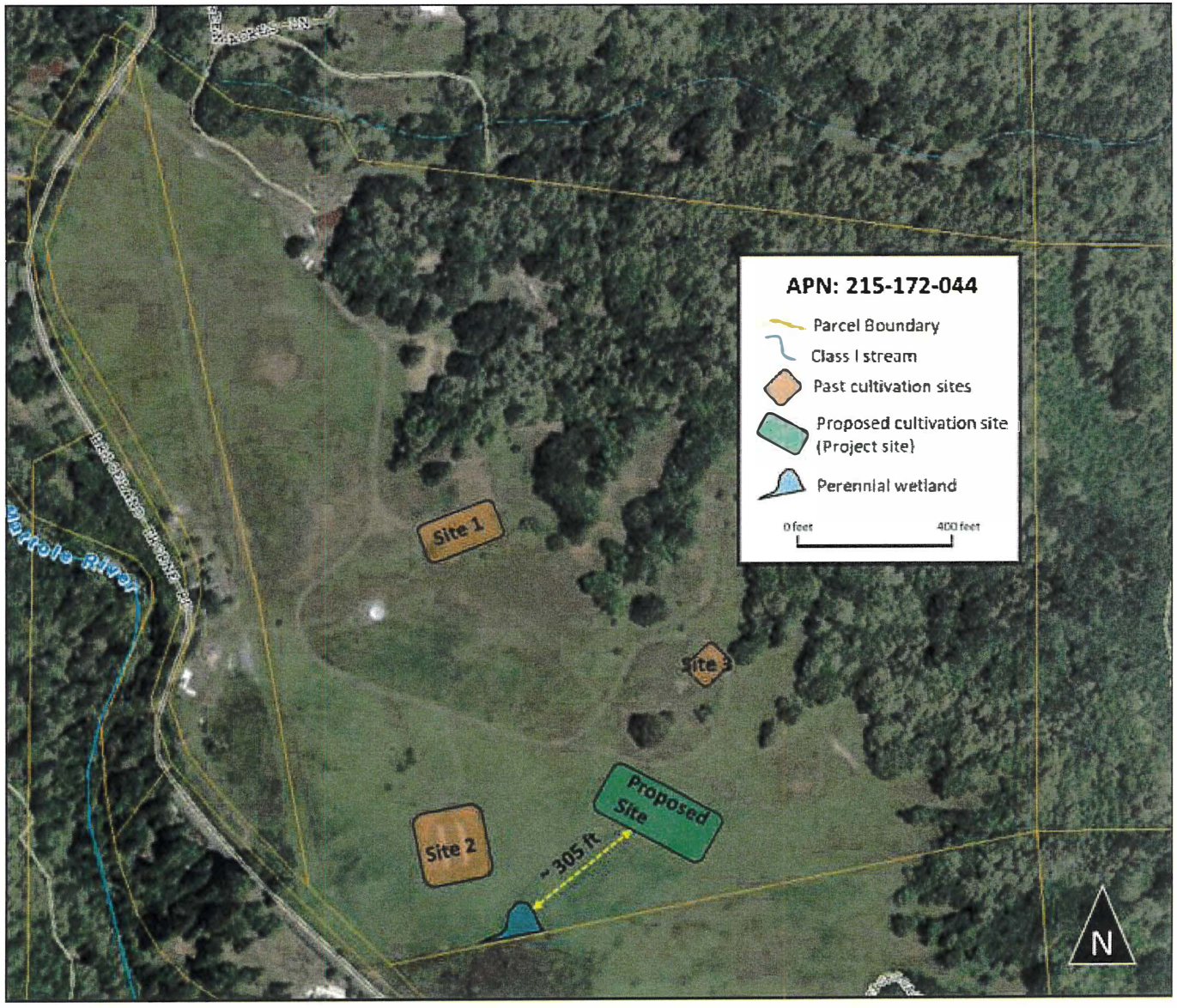
Figure 11. Old cultivation "Site 3": cultivated at the edge of forest.

Appendix B

Maps:

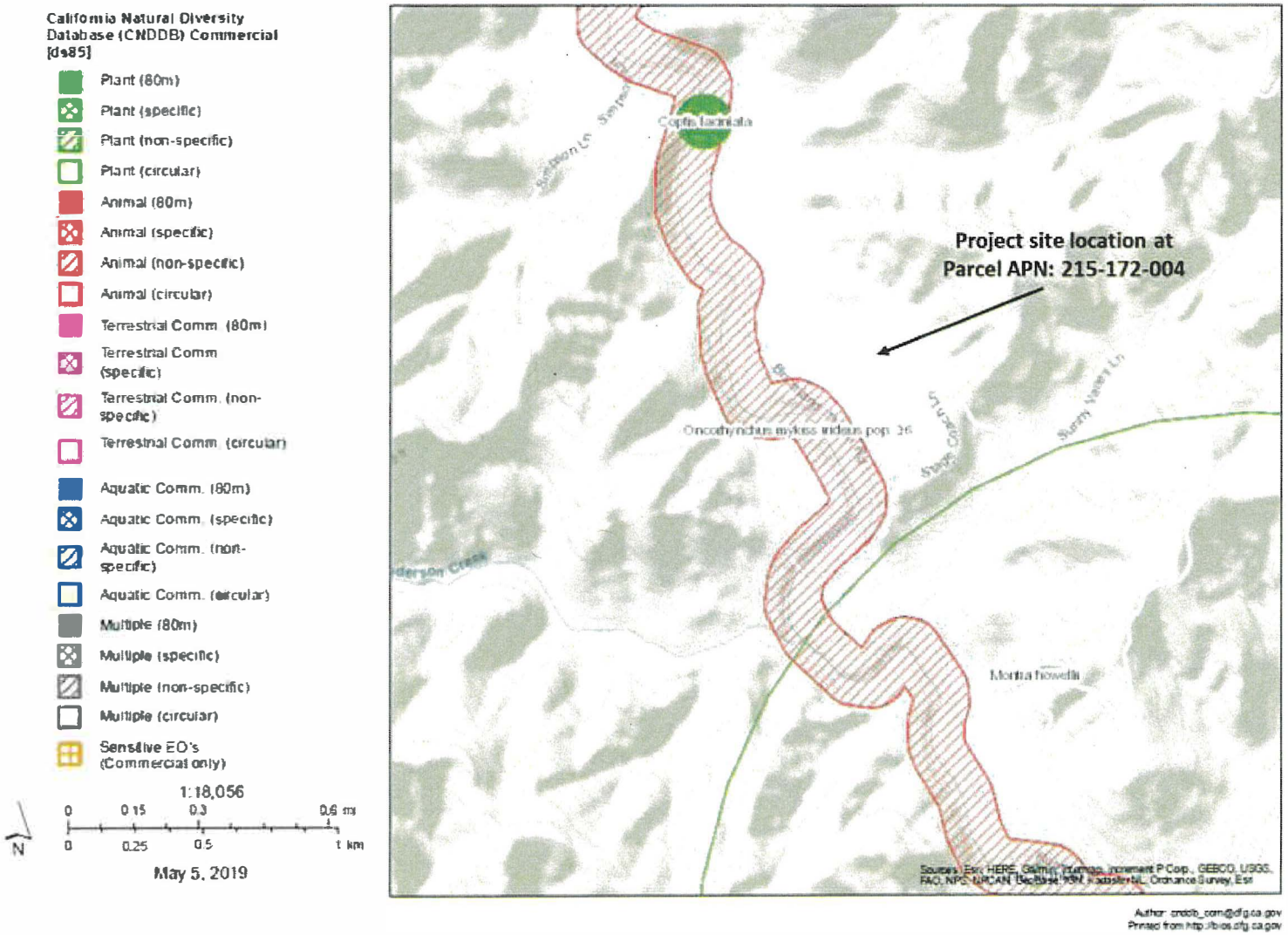


Map 1. The general path taken during the biological survey and site visit investigation on May 3rd, 2019.



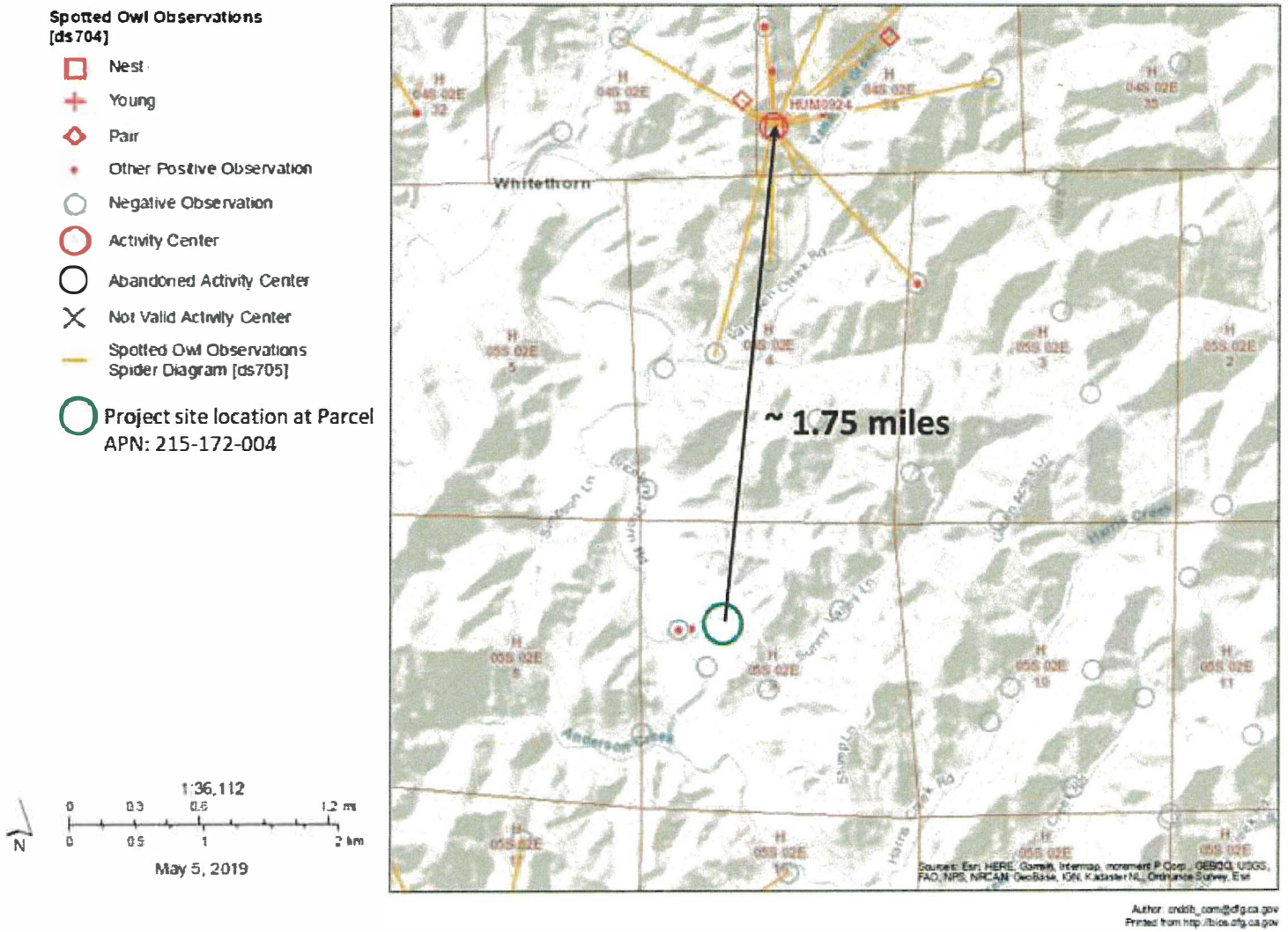
Map 2. Parcel APN: 215-172-044's past cultivation sites (Site 1, Site 2, and Site 3), and the proposed cultivation site. Also shown is the distance from the identified wetland habitat to the proposed site.

Map of Parcel APN 215-172-004 Surrounding Sensitive Species Observations



Map 3. Parcel APN 215-172-044 and the surrounding area showing occurrence of observed sensitive species.

Map of Nearest Spotted Owl Activity Center to Parcel APN 215-172-004's Project Site



Map 4. Distance from project site to the nearest Spotted Owl Activity Center.

Appendix C

Table 1 – Special Status Animal Species – May 2019 – APN 107-241-017 – Briceland and surrounding 7.5 min quadrangles

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Quad Name	Habitats	Potential of Occurrence
Amphibians							
Ascaphus truei	Pacific tailed frog	None	None	SSC	Bear Harbor Honeydew	Inhabits cold, clear, permanent rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for protective cover for adults, eggs, and larvae. After heavy rains, adults may be found in the woods away from the stream.	None
Rana boylii	foothill yellow-legged frog	None	Candidate Threatened	SSC	Honeydew Ettersburg Shelter Cove Miranda Piercy Garberville Briceland	found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valleyfoothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types.	None
Rhyacotriton variegatus	southern torrent salamander	None	None	SSC	Bear Harbor Briceland Ettersburg Shelter Cove Honeydew	This species occurs in cold, well-shaded permanent streams and seepages in shady coastal forests.	None
Taricha rivularis	red-bellied newt	None	None	SSC	Honeydew Shelter Cove Ettersburg Briceland	Broadleaved upland forest North coast coniferous forest Redwood Riparian forest Riparian woodlandLives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	None
Birds							
Accipiter cooperii	Cooper's hawk	None	None	WL	Bear Harbor Miranda	A breeding resident throughout most of the wooded portion of the state. Breeds in southern Sierra Nevada foothills, New York Mts., Owens Valley, and other local areas in southern California. Ranges from sea level to above 2700 m (0-9000 ft). Dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently.	Moderate in project area (flyover). Moderate in adjacent area.
Aquila chrysaetos	golden eagle	None	None	FP ; WL	Miranda	Ranges from sea level up to 3833 m (0-11,500 ft) (Grinnell and Miller 1944). Habitat typically rolling foothills, mountain areas, sage-juniper flats, desert.	Low in project area (flyover). Low in adjacent area.
Haliaeetus leucocephalus	bald eagle	Delisted	Endangered	FP	Garberville	Permanent resident, and uncommon winter migrant, now restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity cos. About half of the wintering population is in the Klamath Basin. More common at lower elevations	Low in project area (flyover). Low in adjacent area.

Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	Miranda	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Moderate in project area (flyover). Moderate in adjacent area.
Pandion haliaetus	osprey	None	None	WL	Miranda Garberville Bear Harbor Piercy	Riparian forest. Ocean shore, bays, lakes and larger freshwater streams.	Low in project area (flyover). Low in adjacent area.
Pelecanus occidentalis californicus	California brown pelican	Delisted	Delisted	FP	Bear Harbor Shelter Cove	Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	None
Asio otus	long-eared owl	None	None	SSC	Honeydew	Cismontane woodland Great Basin scrub Riparian forest Riparian woodland Upper montane coniferous forest: Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Low in project area (flyover). Moderate in adjacent area.
Psiloscops flammeolus	flammulated owl	None	None	-	Miranda	Need montane forests with some understory brush for breeding. In California the breeding range is closely associated with the presence of ponderosa pine and Jeffery pine.	Low in project area (flyover). Low in adjacent area.
Strix occidentalis caurina	northern spotted owl	Threatened	Threatened	SSC	Shelter Cove Piercy	Northern spotted owls typically nest or roost in multilayered, mature coniferous forest with high canopy closure, large overstory trees, and broken-topped trees or other nesting platforms (USFWS 2012). Confirmed breeding areas are widespread throughout Humboldt County (Hunter et al. 2005). Northern spotted owls may use a broad range of habitats for foraging. Their favored prey, the dusky-footed woodrat (Neotoma fuscipes), typically inhabits the forest edge (Harris 2005).	Low in project area (flyover). Low in adjacent area.
Empidonax traillii brewsteri	little willow flycatcher	None	Endangered	-	Miranda	Mountain meadows and riparian habitats in the Sierra Nevada and Cascades. Nests near the edges of vegetation clumps and near streams.	Low in project area (flyover). Low in adjacent area.
Crustaceans							
Pacifastacus fortis	Shasta crayfish	Endangered	Endangered	-	Bear Harbor	They live in cool, clear, spring-fed lakes, rivers and streams, usually at or near a spring inflow source, where waters show little annual fluctuation in temperature and remain cool during the summer. Most are found in still and slow to moderate flowing waters. The most important habitat requirement appears to be the presence of adequate volcanic rock rubble to provide escape cover from predators.	None
Fishes							

Entosphenus tridentatus	Pacific lamprey	None	None	SSC	Garberville	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	-	GarbervilleGarberville Briceland Bear Harbor Piercy Miranda Shelter Cove Ettersburg Honeydew	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	Endangered	Endangered	-	Shelter Cove	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
Oncorhynchus mykiss irideus pop. 1	steelhead - Klamath Mountains Province DPS	None	None	SSC	Shelter Cove	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	Threatened	None	-	Ettersburg Miranda Piercy Bear Harbor Briceland Garberville Honeydew	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	None	None	SSC	Honeydew Briceland Bear Harbor Ettersburg Shelter Cove	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	Threatened	None	-	Honeydew Shelter Cove Miranda Piercy Briceland Garberville	Aquatic, klamath northcoast flowing waters sacramento san joaquin flowing waters swift current gravel bottom	None
Insects							
Bombus caliginosus	obscure bumble bee	None	None	-	Garberville Piercy Briceland Miranda Shelter Cove	nests underground or above ground in abandoned bird nests. food plants include Baccharis, Cirsium, Lupinus, Lotus, Grindella, Phacella	Moderate in project area. Moderate in adjacent area.
Bombus occidentalis	western bumble bee	None	None	-	Miranda Briceland Piercy Garberville	Pollinates a wide variety of flowers, nests in cavities or abandoned burrows	Moderate in project area. Moderate in adjacent area.
Mammals							

Erethizon dorsatum	North American porcupine	None	None	-	Bear Harbor Garberville Piercy Miranda Ettersburg Honeydew	broadleaf upland forest, cismontane woodland, lower and upper montane conifer forest	Moderate in project area. Moderate in adjacent area.
Arborimus pomo	Sonoma tree vole	None	None	SSC	Shelter Cove Piercy Bear Harbor Briceland	Occurs in old-growth and other forests, mainly Douglas-fir, redwood, and montane hardwood- conifer habitats.	Low in project area. Low in adjacent area.
Pekania pennanti	fisher - West Coast DPS	None	Threatened	SSC	Piercy Miranda	Occurs in intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high percent canopy closure (Schempf and White 1977).	Low in project area. Moderate in adjacent area.
Antrozous pallidus	pallid bat	None	None	SSC	Piercy Garberville	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Low in project area. Low in adjacent area.
Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	Honeydew	This species is found in all but subalpine and alpine habitats, and may be found at any season throughout its range.	Low in project area. Low in adjacent area.
Myotis evotis	long-eared myotis	None	None	-	Garberville	This species has been found in nearly all brush, woodland, and forest habitats, from sea level to at least 2700 m (9000 ft), but coniferous woodlands and forests seem to be preferred	Moderate in project area (flyover). Moderate in adjacent area.
Myotis thysanodes	fringed myotis	None	None	-	Piercy	pinyon-juniper, valley foothill conifer and hardwood conifer	Low in project area. Moderate in adjacent area.
Myotis yumanensis	Yuma myotis	None	None	-	Piercy	lower and upper montane conifer and riparian forest and woodland	Low in project area. Moderate in adjacent area.
Mollusks							
Helminthoglypta arrosa monticola	mountain shoulderband	None	None	-	Honeydew	Known only from the King Range in Humboldt County: Found in talus slopes.	None in project area. Low in adjacent area.
Noyo intersessa	Ten Mile shoulderband	None	None	-	Miranda	coastal dunes coastal scrub, riparian redwood forest habitats	None in project area. Low in adjacent area.

Margaritifera falcata	western pearlshell	None	None	-	Piercy	Prefers lower velocity waters.	None
Anodonta californiensis	California floater	None	None	-	Garberville	freshwater lakes and slow moving streams and rivers	None
Reptiles							
Emys marmorata	western pond turtle	None	None	SSC	Garberville Miranda Ettersburg	aquatic, flowing waters, standing waters, marsh, swamp, wetland	None in project area. Low in adjacent area.

Definitions of CDFW statuses:

FP

Fully Protected: This classification was the State of California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal endangered species acts.

SS

Species of Special Concern: It is the goal and responsibility of the Department of Fish and Wildlife to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as "Species of Special Concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "Species of Special Concern" is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability.

WL

Watch List: The Department of Fish and Wildlife maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Appendix C

Table 2 – Special Status Plant Species – May 2019 – APN 107-241-017 – Briceland and surrounding 7.5 min quadrangles

Scientific Name	Common Name	California Rare Plant Rank	Global Rank	CESA	7.5 USGS Quad Occurance	Blooming Period	Lifeform	Habitat	Micro Habitat	Elevation (meters)	Potential of Occurrence
Usnea longissima	Methuselah's beard lichen	None	None	4.2	Honeydew Ettersburg Shelter Cove Briceland Miranda Piercy Bear Harbor	NA	fruticose lichen (epiphytic)	Broadleafed upland forest; North Coast coniferous forest	On tree branches; usually on old growth hardwoods and conifers.	50 - 1460 meters	Low in project area. Moderate in adjacent area.
Antennaria suffrutescens	evergreen everlasting	None	None	4.3	Shelter Cove	Jan-Jul	perennial stoloniferous herb	Lower montane coniferous forest	serpentinite	500 - 1600 meters	None due to elevation range.
Erigeron biolettii	streamside daisy	None	None	3	Miranda Piercy Garberville	Jun-Oct	perennial herb	Broadleafed upland forest; Cismontane woodland; North Coast coniferous forest	Rocky, mesic	30 - 1100 meters	Low in project area. Moderate in adjacent area.
Hemizonia congesta ssp. tracyi	Tracy's tarplant	None	None	4.3	Garberville Miranda Briceland	May-Oct	annual herb	Coastal prairie; Lower montane coniferous forest; North Coast coniferous forest	openings, sometimes serpentinite.	120 - 1200 meters	Moderate in project area. Moderate in adjacent area.
Lasthenia californica ssp. macrantha	perennial goldfields	None	None	1B.2	Shelter Cove	Jan-Nov	perennial herb	Coastal bluff scrub, Coastal dunes, Coastal scrub	NA	5 - 520 meters	None
Carex arcta	northern clustered sedge	None	None	2B.2	Garberville	Jun-Sep	perennial herb	North Coast coniferous forest (mesic)	Bogs and fens	60 - 1400 meters	None in project area.Low/Moderate in adjacent area.
Astragalus agnicidus	Humboldt County milk-vetch	None	Endangered	1B.1	Miranda	Apr-Sep	perennial herb	Broadleafed upland forest; North Coast coniferous forest	openings, disturbed areas, sometimes roadsides.	120 - 800 meters	Low in project area. Moderate in adjacent area.
Hosackia gracilis	harlequin lotus	None	None	4.2	Bear Harbor	Mar-Jul	perennial rhizomatous herb	Broadleafed upland forest, Coastal bluff scrub, Closed-cone coniferous forest, Cismontane woodland, Coastal prairie, Coastal scrub, Meadows and seeps, Marshes and swamps, North Coast coniferous forest, Valley and foothill grassland	wetlands, roadsides	0 - 700 meters	Low in project area. Moderate in adjacent area.
Lathyrus palustris	marsh pea	None	None	2B.2	Shelter Cove	Mar-Aug	perennial herb	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest	mesic	1 - 100 meters	None in project area.Low/Moderate in adjacent area.
Lycopus uniflorus	northern bugleweed	None	None	4.3	Miranda Garberville	Mar-Apr	perennial deciduous shrub	Broadleafed upland forest; Cismontane woodland; Lower montane coniferous forest; Upper montane coniferous forest	NA	120 - 2300 meters	None in project area.Low/Moderate in adjacent area.
Erythronium oregonum	giant fawn lily	None	None	2B.2	Ettersburg	Mar-Jun	perennial bulbiferous herb	Cismontane woodland	sometimes serpentinite, rocky, openings;	100 - 1150 meters	None in project area.Low/Moderate in adjacent area.

									Meadows and seeps		
Erythronium revolutum	coast fawn lily	None	None	2B.2	Ettersburg Miranda Garberville Piercy	Mar-Jul	perennial bulbiferous herb	Broadleafed upland forest; North Coast coniferous forest	Mesic, streambanks; Bogs and fens	0 - 1600 meters	None in project area.Low/Moderate in adjacent area.
Lilium rubescens	redwood lily	None	None	4.2	Piercy Bear Harbor Miranda	Apr-Aug	perennial bulbiferous herb	Broadleafed upland forest; Chaparral; Lower montane coniferous forest; North Coast coniferous forest; Upper montane coniferous forest	Sometimes serpentinite, sometimes roadsides.	30 - 1910 meters	None in project area.Low/Moderate in adjacent area.
Sidolceo malochroides	maple-leaved checkerbloom	None	None	4.2	Bear Harbor	Apr-Aug	perennial herb	Broadleafed upland forest; Coastal prairie; Coastal scrub; North Coast coniferous forest; Riparian woodland	Often in disturbed areas.	0 - 730 meters	Moderate in project area. Moderate in adjacent area.
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	None	None	1B.2	Garberville	May-Aug	perennial rhizomatous herb	Coastal bluff scrub; Coastal prairie; North Coast coniferous forest	often roadcuts.	15 - 880 meters	None in project area.Low/Moderate in adjacent area.
Pityopus californicus	California pinefoot	None	None	4.2	Piercy	May-Aug	perennial herb (achlorophyllous)	Broadleafed upland forest; Lower montane coniferous forest; North Coast coniferous forest; Upper montane coniferous forest	mesic.	15 - 2225 meters	None in project area.Low/Moderate in adjacent area.
Montia howellii	Howell's montia	None	None	2B.2	Briceland Miranda	Mar-May	annual herb	North Coast coniferous forest	Vernally mesic, sometimes roadsides; Meadows and seeps; Vernal pools	0 - 835 meters	Moderate in project area. Moderate in adjacent area.
Clarkia amoena ssp. whitneyi	Whitney's farewell-to-spring	None	None	1B.1	Shelter Cove	Jun-Aug	annual herb	Coastal bluff scrub, Coastal scrub	NA	10 - 100 meters	None
Epilobium septentrionale	Humboldt County fuchsia	None	None	4.3	Piercy Garberville	Jul-Sep	perennial herb	Broadleafed upland forest; North Coast coniferous forest	sandy or rocky.	45 - 1800 meters	None in project area.Low/Moderate in adjacent area.
Listera cordata	heart-leaved twayblade	None	None	4.2	Miranda	Feb-Jul	perennial herb	Lower montane coniferous forest; North Coast coniferous forest	Bogs and fens	5 - 1370 meters	None in project area.Low/Moderate in adjacent area.
Piperia candida	white-flowered rein orchid	None	None	1B.2	Miranda Briceland Piercy Honeydew	May-Sep	perennial herb	Broadleafed upland forest; Lower montane coniferous forest; North Coast coniferous forest	sometimes serpentinite	30 - 1310 meters	None in project area.Low/Moderate in adjacent area.
Castilleja litoralis	Oregon coast paintbrush	None	None	2B.2	Bear Harbor Shelter Cove	Jun-Jul	perennial herb (hemiparasitic)	Coastal bluff scrub, Coastal dunes, Coastal scrub	sandy	15 - 100 meters	None
Castilleja mendocinensis	Mendocino Coast paintbrush	None	None	1B.2	Bear Harbor	Apr-Aug	perennial herb (hemiparasitic)	Coastal bluff scrub, Closed-cone coniferous forest, Coastal dunes, Coastal prairie, Coastal scrub	NA	0 - 160 meters	None
Kopsiopsis hookeri	small groundcone	None	None	2B.3	Miranda	Apr-Aug	perennial rhizomatous herb (parasitic)	North Coast coniferous forest	NA	90 - 885 meters	None in project area.Low/Moderate in adjacent area.
Calamagrostis bolanderi	Bolander's reed grass	None	None	4.2	Piercy	May-Aug	perennial rhizomatous herb	Bogs and fens, Broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Meadows and seeps	NA	0 - 455 meters	None in project area.Low/Moderate in adjacent area.

								(mesic), Marshes and swamps (freshwater), North Coast coniferous forest			
Calamagrostis folioso	leafy reed grass	None	Rare	4.2	Bear Harbor Shelter Cove	May-Sep	perennial herb	Coastal bluff scrub, North Coast coniferous forest	rocky	0 - 1220 meters	None in project area.Low/Moderate in adjacent area.
Gilio copitato ssp. pacifico	Pacific gilia	None	None	1B.2	Shelter Cove Briceland Bear Harbor	Apr-Aug	annual herb	Coastal bluff scrub; Chaparral (openings); Coastal prairie; Valley and foothill grassland	NA	5 - 1665 meters	None in project area.Low/Moderate in adjacent area.
Leptosiphon acicularis	bristly leptosiphon	None	None	4.2	Garberville Miranda	Apr-Jul	annual herb	Chaparral; Cismontane woodland; Coastal prairie; Valley and foothill grassland	NA	55 - 1500 meters	None in project area.Low/Moderate in adjacent area.
Leptosiphon latisectus	broad-lobed leptosiphon	None	None	4.3	Miranda Briceland Garberville Honeydew	Mar-May	perennial rhizomatous herb	Meadows and seeps; North Coast coniferous forest (streambanks)	Riparian; mesic	0 - 1000 meters	None
Coptis laciniato	Oregon goldthread	None	None	4.2	Briceland	(Feb)Mar-May(Sep-Nov)	perennial rhizomatous herb	Mesic.	Meadows and seeps, North Coast coniferous forest (streambanks)	0 - 1000 meters	None in project area. Moderate in adjacent area.
Ceanothus gloriosus var. exaltatus	glory brush	None	None	4.3	Briceland Shelter Cove Bear Harbor	Mar-Jun(Aug)	perennial evergreen shrub	Chaparral	NA	30 - 610 meters	None in project area.Low/Moderate in adjacent area.
Mitellostra caulescens	leafy-stemmed mitrewort	None	None	4.2	Bear Harbor	Apr-Oct	perennial rhizomatous herb	Broadleafed upland forest; Lower montane coniferous forest; Meadows and seeps; North Coast coniferous forest	mesic, sometimes roadsides.	5 - 1700 meters	None in project area.Low/Moderate in adjacent area.

Global Conservation Status Definition

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

G1 **Critically Imperiled** – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 **Imperiled** – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.

G3 **Vulnerable** – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.

G4 **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 **Secure** – Common; widespread and abundant.

G#G# **Range Rank** – A numeric range range (e.g. G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges

cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

Infraspecific Taxon Conservation Status Ranks

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

Subnational (S) Conservation Status Ranks

S1 **Critically Imperiled** – Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.

S2 **Imperiled** – Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.

S3 **Vulnerable** – Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 **Secure** – Common, widespread, and abundant in the jurisdiction.

S#S# **Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).

Rank Qualifiers

? **Inexact Numeric Rank** – Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status

Q **Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The "Q" modifier is only used at a global level and not at a national or subnational level.

Appendix D

Observation Report – Spotted Owl

Data Version Date:
03/27/2019

Report Generation Date:
5/6/2019

Report #2 - Observations Reported
List of observations reported by site.

Meridian. Township. Range. Section (MTRS) searched:

H_05S_02E Sections(03.04.05.08.09.10):

H_04S_02E Sections(33.34):

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
Masterowl: HUM0580 Subspecies: NORTHERN											
POS	1990		1	UM				40.095836	-123.916173	H 04S 02E 24	Contributor
POS	1990-08-30		2	UMUF	Y			40.094692	-123.913941	H 04S 02E 24	Quarter-section centroid
POS	1991		1	UM				40.084048	-123.915499	H 04S 02E 25	Activity center
POS	1991		1	UM				40.095836	-123.916173	H 04S 02E 24	Contributor
POS	1991-04-22		1	UM				40.087051	-123.920853	H 04S 02E 26	Quarter-section centroid
POS	1991-04-26		1	UM				40.087249	-123.912891	H 04S 02E 25	Quarter-section centroid
POS	1991-05-06		1	UM				40.094692	-123.913941	H 04S 02E 24	Quarter-section centroid
POS	1992		2	UMUF	Y			40.095836	-123.916173	H 04S 02E 24	Contributor
POS	1992-04-08		2	UMUF	Y			40.087249	-123.912891	H 04S 02E 25	Quarter-section centroid
POS	1997-03-21	2400	2	UMUF	Y			40.083145	-123.924870	H 04S 02E 26	Section centroid
POS	1997-03-22	1204	1	UM				40.079901	-123.912406	H 04S 02E 25	Quarter-section centroid
POS	1997-05-29	1925	2	UMUF	Y			40.084290	-123.917895	H 04S 02E 26	Contributor
POS	1998-03-19	1740	2	UMUF	Y			40.079736	-123.920778	H 04S 02E 26	Quarter-section centroid
NEG	1999	2400	0					40.087329	-123.916124	H 04S 02E 25	Contributor
NEG	1999	2400	0					40.084138	-123.918760	H 04S 02E 26	Contributor
NEG	1999	2400	0					40.089618	-123.903971	H 04S 02E 25	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1999	2400	0					40.085539	-123.926727	H 04S 02E 26	Contributor
NEG	1999	2400	0					40.076978	-123.920137	H 04S 02E 26	Contributor
NEG	1999	2400	0					40.080285	-123.902752	H 04S 02E 25	Contributor
NEG	1999-03-05	2107-2117	0					40.075133	-123.934334	H 04S 02E 34	Contributor
POS	1999-05-05	2119-2129	1	UM				40.075133	-123.934334	H 04S 02E 34	Contributor
NEG	1999-05-07	2208-2218	0					40.095650	-123.918220	H 04S 02E 23	Contributor
NEG	2000	2400	0					40.095650	-123.918220	H 04S 02E 23	Contributor
NEG	2000	2400	0					40.085539	-123.926727	H 04S 02E 26	Contributor
NEG	2000	2400	0					40.080285	-123.902752	H 04S 02E 25	Contributor
NEG	2000	2400	0					40.089618	-123.903971	H 04S 02E 25	Contributor
NEG	2000	2400	0					40.087329	-123.916124	H 04S 02E 25	Contributor
NEG	2000-03-09	2119-2129	0					40.084138	-123.918760	H 04S 02E 26	Contributor
NEG	2000-03-09	2004-2014	0					40.075133	-123.934334	H 04S 02E 34	Contributor
POS	2000-03-09	1853-1901	2	UMUF	Y			40.081456	-123.914931	H 04S 02E 25	Contributor
POS	2000-03-09	1951-2001	1	UM				40.076978	-123.920137	H 04S 02E 26	Contributor
POS	2000-03-13	1638	1	UM				40.087249	-123.912891	H 04S 02E 25	Quarter-section centroid
POS	2000-05-04	2147-2157	1	UM				40.076978	-123.920137	H 04S 02E 26	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2000-05-04	1944-2010	2	UMUF	Y	Y		40.084048	-123.915499	H 04S 02E 25	Contributor
NEG	2000-05-04	2058-2108	0					40.084138	-123.918760	H 04S 02E 26	Contributor
AC	2000-05-18	1847-1926	2	UMUF	Y	Y		40.084048	-123.915499	H 04S 02E 25	Contributor
POS	2000-05-18	2032-2042	1	UM				40.084138	-123.918760	H 04S 02E 26	Contributor
NEG	2000-06-05	2354-0004	0					40.075133	-123.934334	H 04S 02E 34	Contributor
NEG	2001-03-14	2404	0					40.083508	-123.908560	H 04S 02E 25	Section centroid
NEG	2001-03-14	2250	0					40.083508	-123.908560	H 04S 02E 25	Section centroid
POS	2001-05-11	2310	1	UM				40.079901	-123.912406	H 04S 02E 25	Quarter-section centroid
NEG	2001-06-11	2101	0					40.083508	-123.908560	H 04S 02E 25	Section centroid
POS	2011-04-08	2234-2253	1	UM				40.081969	-123.916609	H 04S 02E 25	Contributor
NEG	2013	2400	0					40.095650	-123.918220	H 04S 02E 23	Contributor
NEG	2013	2400	0					40.076978	-123.920137	H 04S 02E 26	Contributor
NEG	2013	2400	0					40.089618	-123.903971	H 04S 02E 25	Contributor
NEG	2013	2400	0					40.087329	-123.916124	H 04S 02E 25	Contributor
NEG	2013	2400	0					40.085539	-123.926727	H 04S 02E 26	Contributor
NEG	2013	2400	0					40.084138	-123.918760	H 04S 02E 26	Contributor
NEG	2013	2400	0					40.080285	-123.902752	H 04S 02E 25	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2014	2400	0					40.076978	-123.920137	H 04S 02E 26	Contributor
NEG	2014	2400	0					40.087329	-123.916124	H 04S 02E 25	Contributor
NEG	2014	2400	0					40.080285	-123.902752	H 04S 02E 25	Contributor
NEG	2014	2400	0					40.089618	-123.903971	H 04S 02E 25	Contributor
NEG	2014	2400	0					40.095650	-123.918220	H 04S 02E 23	Contributor
NEG	2014	2400	0					40.084138	-123.918760	H 04S 02E 26	Contributor
NEG	2014-03-13	1830-1840	0					40.085539	-123.926727	H 04S 02E 26	Contributor
POS	2014-04-27	2240	1	AM				40.084913	-123.910571	H 04S 02E 25	Contributor
NEG	2014-05-13	2046-2056	0					40.085539	-123.926727	H 04S 02E 26	Contributor
NEG	2014-06-04	2257-2307	0					40.085539	-123.926727	H 04S 02E 26	Contributor
NEG	2014-06-24	2125-2135	0					40.085539	-123.926727	H 04S 02E 26	Contributor
NEG	2015	2400	0					40.095650	-123.918220	H 04S 02E 23	Contributor
NEG	2015	2400	0					40.087329	-123.916124	H 04S 02E 25	Contributor
NEG	2015	2400	0					40.084138	-123.918760	H 04S 02E 26	Contributor
NEG	2015	2400	0					40.089618	-123.903971	H 04S 02E 25	Contributor
NEG	2015	2400	0					40.080285	-123.902752	H 04S 02E 25	Contributor
NEG	2015	2400	0					40.085539	-123.926727	H 04S 02E 26	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2015-03-03	1857-1907	0					40.076978	-123.920137	H 04S 02E 26	Contributor
NEG	2015-03-25	2130-2141	0					40.076978	-123.920137	H 04S 02E 26	Contributor
NEG	2015-04-21	2130-2140	0					40.076978	-123.920137	H 04S 02E 26	Contributor
NEG	2015-04-21	1200	0					40.080285	-123.902752	H 04S 02E 25	Contributor
NEG	2015-04-21	1900-2000	0					40.084048	-123.915499	H 04S 02E 25	Activity center
NEG	2015-06-14	2217-2227	0					40.076978	-123.920137	H 04S 02E 26	Contributor
POS	2015-07-22	2141-2151	1	UM				40.076978	-123.920137	H 04S 02E 26	Contributor
NEG	2016	2400	0					40.080285	-123.902752	H 04S 02E 25	Contributor
NEG	2017-03-28	2210-2220	0					40.080285	-123.902752	H 04S 02E 25	Contributor
NEG	2018	2400	0					40.080285	-123.902752	H 04S 02E 25	Contributor
Masterowl: HUM0924 Subspecies: NORTHERN											
POS	1998-03-13	1815	2	UMUF	Y			40.065006	-123.951875	H 04S 02E 33	Contributor
NEG	1999	2400	0					40.070125	-123.946049	H 04S 02E 34	Contributor
NEG	1999	2400	0					40.066116	-123.935054	H 04S 02E 34	Contributor
POS	1999-02-17	2258-2304	1	UM				40.068819	-123.950360	H 04S 02E 34	Contributor
POS	1999-04-25	2347-2357	1	UM				40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	1999-04-25	0038-0048	0					40.068819	-123.950360	H 04S 02E 34	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1999-04-25	0021-0031	0					40.061106	-123.947885	H 05S 02E 04	Contributor
POS	1999-05-28	2237-2247	1	UU				40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	1999-05-28	2343-2353	0					40.055539	-123.940122	H 05S 02E 03	Contributor
POS	1999-06-14	1900	2	UMUF	Y			40.064681	-123.946430	H 04S 02E 34	Quarter-section centroid
POS	1999-07-01	2000	2	UMUF	Y			40.068294	-123.942024	H 04S 02E 34	Section centroid
NEG	2000-03-09	1700	0					40.068218	-123.960023	H 04S 02E 33	Section centroid
NEG	2000-03-09	2018-2028	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2000-04-05	2024-2034	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2000-04-05	2050-2100	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2000-04-05	2106-2116	0					40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	2000-04-05	2036-2046	0					40.070125	-123.946049	H 04S 02E 34	Contributor
POS	2000-04-05	1755	1	UM				40.066533	-123.949889	H 04S 02E 34	Contributor
POS	2000-05-04	1740-1801	2	UMUF	Y	Y		40.063606	-123.949730	H 04S 02E 34	Contributor
NEG	2000-05-17	2054-2104	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2000-05-17	2107-2117	0					40.070125	-123.946049	H 04S 02E 34	Contributor
AC	2000-05-17	1936-1952	1	UU		Y	2	40.063606	-123.949730	H 04S 02E 34	Contributor
NEG	2000-05-17	2121-2131	0					40.061106	-123.947885	H 05S 02E 04	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-05-17	2314-2324	0					40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	2000-06-05	2330-2340	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2013	2400	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2014	2400	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2014	2400	0					40.070125	-123.946049	H 04S 02E 34	Contributor
NEG	2014	2400	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2014	2400	0					40.075133	-123.934334	H 04S 02E 34	Contributor
NEG	2014-03-13	2015-2025	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2014-04-10	2130-2140	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2014-04-28	2110-2120	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2014-05-14	2220-2230	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2014-06-05	2149-2159	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2014-06-25	2210-2220	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2015	2400	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2015	2400	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2015	2400	0					40.070125	-123.946049	H 04S 02E 34	Contributor
NEG	2015	2400	0					40.075133	-123.934334	H 04S 02E 34	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2015-03-12	2107-2117	1	UM				40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2015-03-26	2057-2107	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2015-04-17	1600-1930	0					40.056654	-123.949992	H 05S 02E 04	Half-section centroid
NEG	2015-04-17	1200	0					40.064681	-123.946430	H 04S 02E 34	Quarter-section centroid
NEG	2015-04-21	2326-2336	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2015-06-10	2218-2228	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2015-07-30	2123-2133	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2015-08-24	2315-2325	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2016	2400	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2016	2400	0					40.070125	-123.946049	H 04S 02E 34	Contributor
NEG	2016	2400	0					40.075133	-123.934334	H 04S 02E 34	Contributor
NEG	2016	2400	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2016	2400	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2017-03-02	2121-2131	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2017-03-02	2311-2321	0					40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	2017-03-02	2227-2237	0					40.070125	-123.946049	H 04S 02E 34	Contributor
NEG	2017-03-02	2234-2244	0					40.068819	-123.950360	H 04S 02E 34	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2017-03-02	2250-2300	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2018	2400	0					40.070125	-123.946049	H 04S 02E 34	Contributor
NEG	2018	2400	0					40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	2018	2400	0					40.066116	-123.935054	H 04S 02E 34	Contributor
NEG	2018	2400	0					40.061106	-123.947885	H 05S 02E 04	Contributor
NEG	2018	2400	0					40.068819	-123.950360	H 04S 02E 34	Contributor
NEG	2018	2400	0					40.075133	-123.934334	H 04S 02E 34	Contributor
NEG	2018	2400	0					40.051926	-123.953646	H 05S 02E 04	Contributor
Positive Spotted Owl detections not associated with a known Activity Center Subspecies: NORTHERN											
POS	2015-06-15	2318-2328	1	UM				40.037602	-123.956042	H 05S 02E 09	Contributor
POS	2016-05-18	2145	1	UM				40.037649	-123.955155	H 05S 02E 09	Contributor
Additional surveys within the search area with no Spotted Owls detected											
NEG	1999	2400	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	1999	2400	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	1999	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor
NEG	1999	2400	0					40.032202	-123.958520	H 05S 02E 09	Contributor
NEG	1999-04-25	0009-0019	0					40.051926	-123.953646	H 05S 02E 04	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1999-04-25	2249-2304	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	1999-05-26	2335-2345	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	1999-05-26	2359-0009	0					40.051131	-123.957046	H 05S 02E 04	Contributor
NEG	1999-05-26	0012-0022	0					40.063374	-123.963883	H 04S 02E 33	Contributor
NEG	1999-05-26	2321-2331	0					40.034500	-123.950017	H 05S 02E 09	Contributor
NEG	1999-05-26	2234-2244	0					40.032847	-123.935132	H 05S 02E 10	Contributor
NEG	1999-05-26	2347-2357	0					40.044882	-123.958136	H 05S 02E 04	Contributor
NEG	1999-05-26	2309-2319	0					40.038635	-123.945235	H 05S 02E 09	Contributor
NEG	2000	2400	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	2000-03-03	2305-2315	0					40.063374	-123.963883	H 04S 02E 33	Contributor
NEG	2000-03-03	2251-2301	0					40.051131	-123.957046	H 05S 02E 04	Contributor
NEG	2000-03-09	2051-2101	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2000-04-05	2231-2241	0					40.048541	-123.946800	H 05S 02E 04	Contributor
NEG	2000-04-05	2200-2210	0					40.043302	-123.934535	H 05S 02E 03	Contributor
NEG	2000-04-05	2146-2156	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	2000-04-05	2248-2258	0					40.051926	-123.953646	H 05S 02E 04	Contributor
NEG	2000-04-05	2217-2227	0					40.045789	-123.940526	H 05S 02E 03	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-05-17	2216-2226	0					40.043302	-123.934535	H 05S 02E 03	Contributor
NEG	2000-05-17	2148-2158	0					40.048541	-123.946800	H 05S 02E 04	Contributor
NEG	2000-05-17	2258-2308	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2000-05-17	2134-2144	0					40.051926	-123.953646	H 05S 02E 04	Contributor
NEG	2000-05-17	2200-2210	0					40.045789	-123.940526	H 05S 02E 03	Contributor
NEG	2007	2400	0					40.029387	-123.929625	H 05S 02E 10	Contributor
NEG	2007	2400	0					40.034086	-123.924904	H 05S 02E 10	Contributor
NEG	2007	2400	0					40.034611	-123.933787	H 05S 02E 10	Contributor
NEG	2013	2400	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2013	2400	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	2013	2400	0					40.075133	-123.934334	H 04S 02E 34	Contributor
NEG	2013	2400	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	2014	2400	0					40.043302	-123.934535	H 05S 02E 03	Contributor
NEG	2014	2400	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2014	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor
NEG	2014	2400	0					40.051131	-123.957046	H 05S 02E 04	Contributor
NEG	2014	2400	0					40.038635	-123.945235	H 05S 02E 09	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2014	2400	0					40.051926	-123.953646	H 05S 02E 04	Contributor
NEG	2014	2400	0					40.045789	-123.940526	H 05S 02E 03	Contributor
NEG	2014	2400	0					40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	2014	2400	0					40.063374	-123.963883	H 04S 02E 33	Contributor
NEG	2014	2400	0					40.048541	-123.946800	H 05S 02E 04	Contributor
NEG	2014	2400	0					40.044882	-123.958136	H 05S 02E 04	Contributor
NEG	2014	2400	0					40.034500	-123.950017	H 05S 02E 09	Contributor
NEG	2014	2400	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	2014	2400	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	2014	2400	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2015	2400	0					40.034500	-123.950017	H 05S 02E 09	Contributor
NEG	2015	2400	0					40.048541	-123.946800	H 05S 02E 04	Contributor
NEG	2015	2400	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2015	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor
NEG	2015	2400	0					40.045789	-123.940526	H 05S 02E 03	Contributor
NEG	2015	2400	0					40.063374	-123.963883	H 04S 02E 33	Contributor
NEG	2015	2400	0					40.038635	-123.945235	H 05S 02E 09	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2015	2400	0					40.074845	-123.954087	H 04S 02E 33	Contributor
NEG	2015	2400	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	2015	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor
NEG	2015	2400	0					40.032847	-123.935132	H 05S 02E 10	Contributor
NEG	2015	2400	0					40.044882	-123.958136	H 05S 02E 04	Contributor
NEG	2015	2400	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	2015	2400	0					40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	2015	2400	0					40.051131	-123.957046	H 05S 02E 04	Contributor
NEG	2015	2400	0					40.032202	-123.958520	H 05S 02E 09	Contributor
NEG	2015	2400	0					40.043302	-123.934535	H 05S 02E 03	Contributor
NEG	2015	2400	0					40.051926	-123.953646	H 05S 02E 04	Contributor
NEG	2015-03-13	2133-2143	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2015-03-27	2057-2107	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2015-04-17	2135-2145	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2015-07-29	2253-2303	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2015-08-30	2201-2211	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2016	2400	0					40.048541	-123.946800	H 05S 02E 04	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2016	2400	0					40.051926	-123.953646	H 05S 02E 04	Contributor
NEG	2016	2400	0					40.032847	-123.935132	H 05S 02E 10	Contributor
NEG	2016	2400	0					40.051131	-123.957046	H 05S 02E 04	Contributor
NEG	2016	2400	0					40.043302	-123.934535	H 05S 02E 03	Contributor
NEG	2016	2400	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	2016	2400	0					40.034500	-123.950017	H 05S 02E 09	Contributor
NEG	2016	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor
NEG	2016	2400	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	2016	2400	0					40.044882	-123.958136	H 05S 02E 04	Contributor
NEG	2016	2400	0					40.074845	-123.954087	H 04S 02E 33	Contributor
NEG	2016	2400	0					40.032202	-123.958520	H 05S 02E 09	Contributor
NEG	2016	2400	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2016	2400	0					40.063374	-123.963883	H 04S 02E 33	Contributor
NEG	2016	2400	0					40.045789	-123.940526	H 05S 02E 03	Contributor
NEG	2016	2400	0					40.055539	-123.940122	H 05S 02E 03	Contributor
NEG	2016	2400	0					40.038635	-123.945235	H 05S 02E 09	Contributor
NEG	2016-03-16	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2016-03-18	0033-0043	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2016-04-04	2051-2101	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2016-05-19	1200	0					40.035712	-123.954105	H 05S 02E 09	Half-section centroid
NEG	2017	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor
NEG	2017-03-02	2137-2147	0					40.075133	-123.934334	H 04S 02E 34	Contributor
NEG	2017-03-02	2107-2117	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	2017-03-02	2100-2110	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2017-03-02	2044-2054	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	2018	2400	0					40.061029	-123.930933	H 05S 02E 03	Contributor
NEG	2018	2400	0					40.054110	-123.930425	H 05S 02E 03	Contributor
NEG	2018	2400	0					40.049846	-123.928495	H 05S 02E 03	Contributor
NEG	2018	2400	0					40.035535	-123.928349	H 05S 02E 10	Contributor
NEG	2018	2400	0					40.032847	-123.935132	H 05S 02E 10	Contributor
NEG	2018-03-11	2139-2149	0					40.063374	-123.963883	H 04S 02E 33	Contributor
NEG	2018-03-11	2225-2235	0					40.037602	-123.956042	H 05S 02E 09	Contributor
NEG	2018-03-11	2210-2220	0					40.044882	-123.958136	H 05S 02E 04	Contributor
NEG	2018-03-11	2244-2254	0					40.032202	-123.958520	H 05S 02E 09	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2018-03-11	2155-2205	0					40.051131	-123.957046	H 05S 02E 04	Contributor
NEG	2018-03-11	2321-2331	0					40.038635	-123.945235	H 05S 02E 09	Contributor
NEG	2018-03-11	2305-2315	0					40.034500	-123.950017	H 05S 02E 09	Contributor