

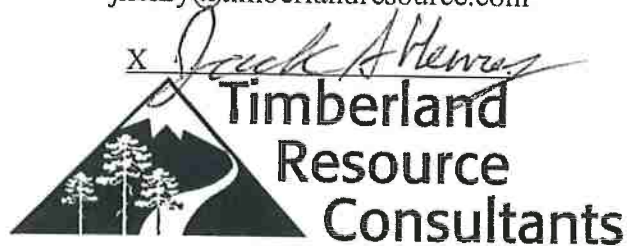
**Biological Assessment
for
Humboldt County Application #11222**

October 10, 2018

Prepared for:
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1.0 Introduction

1.1 Purpose and Need

This Biological Assessment has been prepared for Natural Wellness Collective and Humboldt County Application #11222 in response to a county request to:

“Submit a Biological Report and Restoration Plan confirming that the proposed relocation area is an environmentally superior area and detailing the specifics of the stream restoration activities. The Biologist should include monitoring protocol to check for the survival of required plantings as part of the Restoration Plan.”

A riparian restoration and monitoring plan have been submitted to Humboldt County by Manhard Consulting. Timberland Resource Consultants (TRC) reviewed these documents during the preparation of this assessment. At the time of the initial assessment the cultivation relocation and stream restoration had already been implemented. Implementation appeared to follow specifications laid out in the restoration plan. Due to the fact that the relocation had occurred prior to the initial assessment, this report assesses the existing site conditions as observed by TRC staff on October 20, 2017 and September 19, 2018.

1.2 Biological Assessment Area and Project Area

The Biological Assessment Area (BAA) is defined as the area within 0.25 miles from the Project Area. Potential impacts associated with this project are disturbance only and thus the BAA reflects the disturbance buffer for sensitive species.

2.0 Regulatory Background

2.1 Cannabis Cultivation

Commercial cannabis was recognized as an agricultural crop under the Medical Cannabis Regulation and Safety Act and further legalized for recreational uses under Proposition 64. The California Department of Food and Agriculture implements the CalCannabis program which regulates commercial cannabis licensing from a state level. Humboldt County also regulates commercial cultivation licensing from a local level through the Commercial Cannabis Land Use Ordinance. A cultivator must have both a state and county license to operator commercial cannabis cultivation in the state.

2.2 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act (CWA); state regulations such as the Porter-Cologne Act, the CDFW Fish and Game Code and the California Environmental Quality Act (CEQA); or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

2.2.1 Aquatic Habitats

Watercourses, waterbodies, and critical hydrologic features have been recognized by federal, state, and local regulatory agencies/bodies as ecologically important biological communities. Under Section 404 of the CWA the U.S. Army Corps of Engineers regulate “Waters of the United States” as defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “other waters” and are often characterized by an ordinary high water mark, and herein referred to as non-wetland waters. Non-wetland waters, for example, generally include lakes, rivers, and streams.

Although very similar, the term “Waters of the State” is defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction

includes wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the state are further protected from cannabis cultivation impacts through the Order No. 2015-0023 Waiver of Waste Discharge and General Water Quality Certification for Discharges of Waste from Cannabis and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region (R1-2015-0023). Streams, lakes, and riparian habitat are also subject to jurisdiction by CDFW under Sections 1600-1616 of CDFW Fish and Game Code and Humboldt County per §BR-P5 of the Humboldt County General Plan.

2.2.2 Wetlands

Section 404 of the CWA protects wetlands federally. In 1989 George H.W. Bush implemented the national “No-net Loss of Wetlands” policy which either avoids the filling of wetlands or mitigates the destruction and/or degradation of wetlands. U.S. Army Corps of Engineers defines wetlands as “areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas.” There is no single accepted definition of wetlands at the state level although CDFW exerts jurisdiction over them through their importance as wildlife habitat. Wetlands are locally protected through setbacks built within the most recent version of the Humboldt County General Plan (2017) and R1-2015-0023.

2.2.3 Sensitive Natural Communities

Sensitive Natural Communities have been defined by CDFW and the California Native Plant Society (CNPS) as vegetation types with a state rank of S1-S3 per standards set forth in the NatureServe Heritage Methodology. This system uses the best and most recent scientific information to assess rarity per a community’s range, distribution, and the proportion of occurrences that are of good ecological integrity. Threats and trends are also considered in the overall ranking of a community’s rarity. Although there are no specific protocols for avoiding and/or mitigating impacts to these communities they are afforded consideration during environmental review per CEQA Guidelines checklist IVb.

Sensitive species and communities are ranked per standards set forth in the NatureServe Heritage Methodology. All species are given two ranks that consist of a letter and a number. The letter represents whether the rank is a global rank (G) or a state rank (S). The number corresponds to the subject’s rarity.

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

2 Imperiled. At risk because of rarity due to the very restricted range, very few populations, (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province

3 Vulnerable. At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent widespread declines, or other factors

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

5 Secure – Common; widespread and abundant

Subspecies receive a T-rank attached to the G-rank and an additional S-rank for state ranking. With subspecies, the initial rank reflects the entire species’ risk while the second rank represents just the subspecies’ status.

2.2.4 Local Policies, Ordinances, and Regulations

The Humboldt County General Plan (HCGP) affords considerations to a host of biological communities and resources. As mentioned above the HGCP has setback protections for aquatic habitat, wetlands, and riparian vegetation. The HGCP also includes considerations for potential impacts to Oak Woodlands and

Invasive Plant Species. These programs are under development and at the time this report was generated there are no specific protections or conditions associated with these resources.

2.2.5 Sensitive and Protected Species

Sensitive and protected species include those plants and wildlife species that have been formally listed or are candidates for either listings under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford legal protection to both listed species and species that are candidates for listing. Additionally, CEQA affords special consideration to species listed as a CDFW Species of Special Concern and CDFW Fully Protected. In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under this legislation, destroying active nests, eggs, and young is illegal.

3.0 Methods

3.1 Field Observations

All field data was collected by wildlife biologist, Jack Henry, using direct observations, measurements, and ocular estimations during site reviews conducted on October 20, 2017 and September 19, 2018. A 75 foot logger's tape and Forestry Pro (Nikon Laser Range Finder) was used for recording distances to the nearest foot. Slope percent was measured using a Suunto PM-5/360 PC Clinometer to the nearest degree. The reach of the field observations covered terrestrial and aquatic habitat present within the project area.

3.2 Review of Scientific Literature and Available Data

All referenced literature has been sourced from published books, online peer-reviewed journal archives, and agency databases. If hardcopies or pdfs could not be acquired the web url and date of reference is present within the bibliography. Additional information has been sourced from the Cultivation Operations Plan, California Department of Fish and Wildlife (CDFW) Lake and Streambed Alteration Agreement (LSAA #1600-2016-0575-R1), and Water Resource Protection Plan (WRPP). Some species data is sourced from agency factsheets such as the U.S. Department of Agriculture (USDA), U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service (USFWS), and California Natural Diversity Database (CNDDB). Soils data is sourced from the NRCS Web Soil Survey accessed on October 4th.

NRCS Web Soil Survey:

<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

3.3 Agency Consultation

No agency personnel were consulted for this report.

3.4 Sensitive Species and Habitats

The scoping procedure used relative to the listed plants and listed animals noted in this report are as follows: First the Natural Diversity Database was queried (September 2018) for any species detections within the BAA. Next, a general habitat assessment was made for the BAA. Lastly, given the habitat types present within the BAA, a species list was developed for animals and plants using the following: California Department of Fish & Wildlife information sources: Endangered and Threatened Animals List (August 2018), Special Animals List (August 2018), Special Vascular Plants Bryophytes and Lichens List (August 2018), and Endangered Threatened and Rare Plants (August 2018).

The above lists were obtained from:

<https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals>.

The Plant Location Suitability feature available through Calflora was utilized as a litmus test to check for potential occurrences within the BAA. This data was matched with the Jepson eflora interactive GIS which utilizes specimen records from the Consortium of California Herbaria. These two GIS databases coupled with personal experience and knowledge was used to generate the Sensitive Plant Species list.

Web urls for these resources are included below:

<http://www.calflora.org/entry/dgrid.html?crn=931> (the final three digits represent the species search)

&

<http://ucjeps.berkeley.edu/eflora/> (CCH specimen record GIS data can be found in the bottom right hand corner of each web page for individual species)

Wildlife species are ranked using the same system NatureServe Heritage methodology.

Plant species have an additional ranking system designed by the CNPS. The following alphanumeric codes are the CNPS List, California Rare Plant Ranks (CRPR):

- 1A – Presumed extirpated in California and either rare or extinct elsewhere
- 1B – Rare or Endangered in California and elsewhere
- 2A – Presumed extirpated in California, but more common elsewhere
- 2B – Rare or endangered in California, but more common elsewhere
- 3 – Plants for which more information is needed – Review List
- 4 – Plants of limited distribution – Watch List

The CRPR use a decimal-style threat rank. The threat rank is an extension added onto the CRPR and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. Most CRPRs read as 1B.1, 1B.2, 1B.3, etc. Note that some Rank 3 plants do not have a threat code extension due to difficulty in ascertaining threats. Rank 1A and 2A plants also do not have threat code extensions since there are no known extant populations in California. Threat Code extensions and their meanings are as follows:

- 1) Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 2) Moderately threatened in California (20-80% of occurrences threatened / moderate degree and of threat)
- 3) Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

4.0 Results and Discussion

4.1 Parcel Description

The project parcel is located within the SW1/4 of Section 07, T1N, R5E, HB&M, APN 210-191-058-000. County zoning for the parcel is Forest Recreation (FR) with a land use designation of residential agriculture (RA40). The parcel is 59.9 acres in size. Existing development on the parcel includes a seasonal road network, existing structures, and the cannabis cultivation site. The seasonal road network contains approximately 0.7 miles of native surfaced road. Existing structures on the parcel include a single family residence (30' by 60'), a barn (30' by 55'), and a shed (10' by 12'). There is approximately 0.58 acres of disturbed area within the property boundaries.

4.2 Cannabis Cultivation

The cultivation operation consists of 18,000 square feet of light-deprivation cultivation. Plants are cultivated above ground in 0.5 cubic yard bags and irrigated by hand watering. Natural Wellness Collective has applied for mixed light although they only plan to implement light deprivation techniques. Additional information can be found in Natural Wellness Collective's Cultivation Operations Plan.

Cannabis cultivation was relocated in 2017 as a result of a CDFW Notice of Violation and compliance assessment per R1-2015-0023 standard conditions. Slopes at the cultivation site are moderate and range from 10 to 30%. Minimal earth work occurred to create a smooth surface for hoop house installation, no cut or fill prisms were observed. The site can be characterized as upland timberland that contains Douglas-fir (*pseudotsuga menziesii*), California bay laurel (*umbellularia californica*), white oak (*quercus*

garryana), and blue elderberry (*sambucus nigra* spp. *caerulea*). Native vegetation at this site was altered for the cannabis relocation. Twenty four trees were removed from the cultivation site and at the time of assessment no shrub or herbaceous layer was present. The footprint of the cultivation site is approximately 32,000 square feet. The footprint contains four 4,600 gallon water tanks, a 30,000 gallon water bladder, ten hoop houses that total approximately 18,000 square feet of cultivation and associated walkways.

4.3 Restoration Site

Prior to 2017, the cannabis cultivation site encroached on a Class III stream management area. A Notice of Violation concerning this site was issued by CDFW on October 6, 2016 for “impacts to a stream channel by unpermitted grading.” As a result cultivation was relocated and the site was restored to its natural condition.

Current conditions at the site consist of a restored stream channel, interim erosion control, and riparian planting. The stream channel restoration consisted of excavating and contouring a new stream channel at natural grade (6%). Interim erosion control measures were implemented to the disturbed stream channel in the form of straw wattles, seed, and straw mulch. Riparian vegetation was planted to establish long term soil stabilization, climate control, and organic inputs along this reach of stream channel. Species planted include: three big leaf maples (*acer macrophyllum*), two red alders (*alnus rubra*), 16 willows (*salix* spp.), four stream dogwoods (*cornus sericea*), twelve spirea (*spirea douglasii*), and eight thimbleberry (*rubus parviflorus*). The relocation of cultivation allows native vegetation to recolonize the meadow. Restoration at this site will be monitored per the specifications defined in the Brad Mason – Riparian Revegetation Monitoring Plan.

4.4 Terrestrial Habitat

Terrestrial habitats present within the BAA are predominantly made up of mid-seral timberlands with small clearings and riparian corridors dispersed throughout. Timberlands in the BAA can be characterized as Douglas-fir vegetation series. Associations observed in and adjacent to the project area include Douglas-fir – Tanoak, Douglas-fir – CA Bay Laurel/Poison Oak and Douglas-fir – White Oak/Grass. Non-timbered areas present in the BAA are often the result of geomorphic features associated with the Little Van Duzen River corridor. These areas contain a mix of young conifer/hardwood trees, willows, as well as native and nonnative grasses. They often display vegetation characteristic of Montane Meadow Habitats. Riparian corridors within the BAA often display a conifer/hardwood overstory with red alder (*alnus rubra*), creek dogwood (*cornus sericea*), willow (*salix* spp.), California hazel (*corylus cornuta*), chain fern (*woodwardia fimbriata*), salmonberry (*ribes spectabilis*), red columbine (*aquilegia formosa*), and Himalayan blackberry (*rubus armeniacus*) making up the understory. Slopes in the BAA range from moderate to steep and drain towards the Little Van Duzen River. Elevations within the BAA range from 2,000 to 2,720 feet above mean sea level. The climate at this site can be characterized by high-intensity rainfall over winter and warm, arid summers. The BAA overlaps five different soil types: 461 – Tannin-Burgsblock-Rockyglen Complex 30-50% slopes, 469 – Tannin-Burgsblock-Rockyglen Complex 50-70% slopes, 4412 – Hoagland-Chalkmountain-Pasturerock Complex 15-30% slopes, 4417 – Hoagland-Chalkmountain-Pasturerock Complex 30-50% slopes, and 4421 – Highyork-Elkcamp-Airstrip Complex 15-30% slopes. See attached NRCS Web Soil Survey Map.

4.5 Sensitive Biological Communities

4.5.1 Aquatic Habitats

The BAA is located within the Little Van Duzen River HUC12 watershed (HUC12#:180101050903). Aquatic habitat in the BAA can be characterized as either riverine or lacustrine.

Riverine habitats located within the BAA include perennial (Class I), intermittent (Class II), and ephemeral (Class III) watercourses. The Little Van Duzen River flows through the western portion of the BAA for approximately 0.6 miles. This perennial tributary to the Van Duzen River contains a range of stream morphologies. The reach that is overlapped by the BAA is dominated by cascade and riffle/glide morphology with varying sizes of coarse substrates. There is a partial fish blockage documented

downstream of the BAA on the Van Duzen River. This natural barrier located at Salmon Falls prevents Coho and Chinook salmon from reaching the Little Van Duzen River (CNDDDB). The Little Van Duzen River does provide potential habitat for Northern California coast summer and winter steelhead (*oncorhynchus mykiss*), coastal rainbow trout (*oncorhynchus mykiss irideus*), Humboldt sucker (*catostomus occidentalis humboldtianus*), prickly sculpin (*cottus asper spp*) and pacific lamprey (*entosphenus tridentate*)(CNDDDB). Intermittent and ephemeral tributaries present in the BAA are characterized by moderate to steep gradients, high canopy cover (>50%), and variable substrates (coarse and fine). These intermittent tributaries provide potential habitat for southern torrent salamander (*rhyacotriton variegatus*), coastal tailed frog (*ascaphus truei*), and coastal giant salamander (*dicamptodon tenebrosus*). Ephemeral watercourses often lack well defined channels or riparian vegetation given their episodic hydrology and they provide no aquatic habitat value.

Lacustrine habitat is present in the BAA in the form of multiple small isolated ponds. There are at least three known ponds present in the BAA all located outside of the Project Area. Lacustrine habitats are uncommon in Humboldt County and often support robust riparian communities and wildlife habitat. These waterbodies have potential to host non-native bullfrog (*lithobates catesbeianus*) populations. Potential aquatic species present in these habitats include western pond turtle (*emys marmorata marmorata*), pacific chorus frog (*pseudacris regilla*), northwestern salamander (*ambystoma gracile*), rough-skinned newt (*taricha granulosa*), and northern rough-legged frog (*rana aurora*).

4.5.2 Wetlands

This project is located within the U.S. Army Corps of Engineers Land Resource Region A (LRR:A) within the Western Mountains, Valleys, and Coast Region. LRR:A or the Northwest Forests and Coast sub region often experiences frequent and heavy rainfall events that create ample opportunities for wetland vegetation to propagate. Although these sites may show a diverse range of wetland vegetation they often lack proper hydrology and/or hydric soils to meet the definition of a wetland (U.S. Army Corps of Engineers 2010).

A wetland was identified and delineated within the Project Area. See Attached Wetland Delineation Data Sheet. This seasonal emergent palustrine wetland is located along the periphery of an ephemeral (Class III) watercourse and is intersected by an existing road. There was a single hoop house within 50' of the wetland but was empty at the time of the assessment.

4.5.3 Sensitive Natural Communities

One sensitive natural community was observed directly adjacent to the project area. Although the vegetation series Douglas-fir forest is state ranked S4, some associations have been identified as sensitive by CDFW and the CNPS. The vegetative association Douglas-fir – White Oak/Grass (*Pseudotsuga menziesii* – *Quercus garryana* var. *garryana*/grass) has been identified as a sensitive natural community.

4.5.4 Local Policies, Ordinances, and Regulations

The project is located on the Central Humboldt Biological Resources map. The Migratory Deer Winter Range is the only mapped resource that overlaps with the project. There are no specific protections or mitigations listed in the Humboldt County General Plan for this resource. The existing project has a low potential to impact migrating deer during the winter season because there will be very little activity on the property over winter.

The Humboldt County General Plan contains language identifying oak woodlands as important biological resources. There are patches of intermixed oak associations within the BAA and in close proximity to the Project Area. This project is not proposing the removal of any oak species.

4.6 Sensitive and Protected Species

4.6.1 Bird Species of Special Concern

- American Golden Eagle (*Aquila chrysaetos Canadensis*)

Status: Federally protected under the Bald and Golden Eagle Act, G5, S3, CDFW Fully Protected, BLM Sensitive Species, CDF Sensitive Species, IUCN Least Concern, USFWS Birds of Conservation Concern

Key Habitat: Golden Eagles are a rare to uncommon resident and a locally rare breeder in interior Humboldt County (Harris 2005). When present, they are often located near open grasslands for hunting and within dense forest for nesting (Hunter et al. 2005). Rolling terrain with good thermal lift, and nest sites that are secluded from disturbances are favored by golden eagle.

Status within BAA: The CNDDDB does not identify any known golden eagle sites within the BAA. There is potential nesting habitat present within the BAA in the form of large diameter conifer trees. This potential nesting habitat is low quality because of the lack of surrounding foraging habitat.

- American Peregrine Falcon (*Falco peregrinus anatum*)

Status: CESA de-listed (November 4, 2009), ESA de-listed (August 25, 1999), G4T4, S3S4, CDFW Fully Protected and CDF Sensitive Species

Key Habitat: American Peregrine Falcon is a common migrant and wintering bird, but a rare breeding species in Humboldt County (Harris 2005). Peregrines breed near wetlands, lakes, riparian areas, or other water, mostly on high cliffs, ledges and rock outcroppings in woodland, forest, and coastal habitats (Polite and Pratt 1990). There has been recent documentation of peregrine falcon nests in old growth redwood snags (Buchanan et al. 2014).

Status within BAA: There are small patches of nesting habitat within the BAA in the form of large boulders and rock outcroppings along the Little Van Duzen River. The CNDDDB displays a peregrine falcon habitat polygon over the BAA and entire USGS 7.5' quadrangle. This is because the exact location of peregrines are concealed by CNDDDB to prevent risks to the individual. This polygon is incorrectly mapped over the Larabee Valley quad; it should be located over the Bridgeville quad. There are known documented peregrine falcon nests located in the Larabee Valley quad.

- Marbled Murrelet (*Brachyramphus marmoratus*)

Status: ESA Threatened, CESA Endangered, G3G4, S1, CDF Sensitive Species, IUCN Endangered, North American Bird Conservation Initiative Red Watch List

Key Habitat: Marbled Murrelet (MAMU) occurs year-round in marine subtidal and pelagic habitats from the Oregon border to Point Sal, Santa Barbara Co. (Sowls et al. 1980 cited in Sanders 1990). Roosts/Nests up to 50 miles inland within stands of mature redwood or dense mature conifer forests (USFWS 1997).

Status within BAA: Very little suitable old-growth habitat is possibly present within the BAA. MAMU populations are known from isolated patches of old-growth forest within Humboldt County. None are known from this area.

- Northern Spotted Owl (*Strix occidentalis caurina*)

Status: ESA and CESA Threatened, G3G4, S1, CDF Sensitive Species, IUCN Endangered, North American Birds of Conservation Initiative Red Watch List

Key Habitat: Humboldt County supports a substantial number of breeding pairs of Northern Spotted Owl (Hunter et al. 2005). Northern spotted owls reside in dense, old-growth, multi-layered

mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2300m (0 – 7,600'). They usually nests in tree or snag cavities, or in broken tops of large trees (Polite C. 1990). In northwestern California, northern spotted owls also occur in second growth redwood-tanoak stands that retain suitable trees for nests and support high densities of their preferred prey, dusky-footed woodrats (Hunter et al. 2005).

Status within BAA: The BAA does contain potential nesting/roosting habitat for northern spotted owl. The Northern Spotted Owl Database contains no known Activity Center (AC) within the BAA. The nearest documented AC is approximately 1.2 miles southeast of the Cultivation Site.

- **Northern Goshawk** (*Accipiter gentilis*)

Status: G5, S3, CDFW Species of Special Concern (CSSC) Priority 3, BOF, CDF, BLM, and USFS Sensitive Species

Key Habitat: Usually nests on north slopes, near water, in densest parts of stands, but close to openings (Polite and Pratt 2005). Northern Goshawk are strongly associated with mature or old-growth forest stands because they often display the preferred characteristics. These include canopy closure, frequently large diameter conifer trees, and relatively open understories (Keane 2008).

Status within BAA: The CNDDDB shows no documented observations of goshawk within the BAA. Goshawks are very rare breeders in Humboldt County (Hunter et al. 2005). Conifer stands within BAA are characterized by mixed age and dense understories both of which are unfavorable to goshawks.

- **Purple Martin** (*Progne subis*)

Status: G5, S3, CSSC Priority 2 (nesting), IUCN Least Concern

Key Habitat: Purple Martin can found in a variety of woodlands and low-elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Common nest site characteristics include high nest cavity concentrations, relatively open air space, and adequate food sources. Studies have found that they prefer canopy cover less than 20% and selective of large insects such as dragonflies. These characteristics are often found in open marsh habitats (Airola and Williams 2008).

Status within BAA: The CNDDDB does not document any purple martin observations within Humboldt County. However Harris (2005) found at least 23 probable breeding observations in the county in 1998. The BAA contains potential purple martin breeding habitat in the form of managed timberlands capable of retaining large snags. The restoration site and surrounding meadow provide potential foraging habitat for purple martin.

- **Southern Bald Eagle** (*Haliaeetus leucocephalus leucocephalus*)

Status: Federally protected under Bald and Golden Eagle Act, De-listed from ESA in 2007, CESA Endangered, G5, S3, BLM Sensitive Species, CDF Sensitive Species, USFS Sensitive Species, CDFW Fully Protected, USFWS Birds of Conservation Concern

Key Habitat: Bald eagles are rare to uncommon residents and locally rare breeders in Humboldt County (Harris 2005). Bald Eagles require large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. Nesting/roosting habitat consists of tall trees with either broken tops or stout branches denude of vegetation. Bald Eagles nest most frequently in stands with less than 40% canopy cover (Polite C and Pratt J. 1990).

Status within BAA: The CNDDDB does not document any bald eagle observations within the BAA. There is potential nesting and foraging habitat present within the BAA in the form of the Little Van Duzen River and surrounding timberlands.

- **Vaux's Swift** (*Chaetura vauxi*)

Status: G5, S2S3, CSSC Priority 2 (breeding), IUCN Least Concern

Key Habitat: Northern California summer resident. Nests in large hollow trees and snags. Prefers redwoods and Douglas-firs, especially tall and burned out stubs. Also nests in other large conifers and occasionally in chimneys (Granholm 1990). Vaux's swifts were consistently more abundant in old-growth stands and were strongly correlated with densities of live trees >40" dbh & densities of snags >20" dbh (Lundquist et. al. 1991).

Status within BAA: The CNDDDB does not show any documented observations of Vaux's swift within the BAA. The BAA does not likely contain trees big enough at adequate densities to qualify as potential nesting habitat for Vaux's swift.

4.6.2 Mammal Species of Special Concern

- **Pacific Fisher** (*Pekania pennanti*)

Status: CESA Threatened, G5T2T3Q, S2S3, CSSC Priority 2, BLM Sensitive Species, USFS Sensitive Species

Key Habitat: Fisher occurrence is regularly associated with low- to mid-elevation coniferous and mixed conifer/hardwood forests with mature or late-successional characteristics. Abundant physical structure is the driving characteristic for habitat selection by Fishers (USFWS 2016).

Status within BAA: There is potential habitat throughout the BAA for Pacific Fisher. Timber observed within the property boundary lacked substantial structure that may indicate an increased potential for Pacific Fisher presence. The CNDDDB does not contain any observations of fisher in the BAA.

- **Townsend's Big-Eared Bat** (*Corynorhinus townsendii*)

Status: G3G4, S2, CSSC Priority 2, BLM Sensitive Species, USFS: Sensitive Species, IUCN Least Concern, Western Bat Working Group: High Priority

Key Habitat: Townsend's big-eared bat is unequivocally associated with areas containing caves and cave-analogs for roosting habitat. Beyond the constraint for cavernous roosts, habitat associations become less well defined. Generally, Townsend's big-eared bats are found in the dry uplands throughout the West, but they also occur in mesic coniferous and deciduous forest habitats along the Pacific coast (Kunz and Martin 1982). Townsend's big-eared bat requires spacious cavern-like structures for roosting (Pierson 1998) during all stages of its life cycle. Typically, they use caves and mines, but Townsend's big-eared bat have been noted roosting in large hollows of redwood trees, in attics and abandoned buildings (Dalquest 1947), and under bridges (Fellers and Pierson 2002). In coastal California, five of six known maternity colonies were in old buildings; the sixth was in a cave-like feature of a bridge (Fellers and Pierson 2002).

Throughout its western range, Townsend's big-eared bat roosts in a variety of vegetative communities, and at a range of elevations and there appears to be little or no association between local surface vegetative characteristics and selection of particular roosts in either eastern or western populations (Wethington et al. 1997, Sherwin et al. 2000). This suggests that the bats select roosts based on internal characteristics of the structure rather than the surrounding vegetative community. The Critical period for maternity roosts is May 15 - August 15 (Gruver and Keinath 2006).

Status within BAA: There are no detections within the BAA according to a CNDDDB query. The BAA lacks any significant cave structure capable of sustaining maternal roosts. Although no tree cavities were observed within the conversion exemption it is possible for maternal and

individual roosting habitat to be present outside of the project area, within the BAA. There is a residence on the property that views the conversion exemption; if a maternal roost is present within the conversion it would be detected.

- **White-footed vole (*Arborimus albipes*)**

Status: G3G4, S2, CSSC Priority 2, IUCN Least Concern

Key Habitat: The range of the white-footed vole species in California is not well understood as indicated by Ingles (1965). Maser (1966) suggested that the species occupies a coastal strip of unknown width. White-footed voles are a terrestrial species related to mature forests with large trees, 20-100% crown closure, and riparian habitats. The leaves of red alder make up a large portion of the diet of this species. This vole tends to nest on the ground, under logs, stumps, or rocks (Zeiner et al. 1990). Alteration or degradation of riparian habitats as has occurred in past logging practices may have been detrimental to this species, but data to determine population status is lacking (Williams 1986).

Status within BAA: The CNDDB contains no known observations of white-footed vole in the BAA. There is potential habitat within the dense riparian corridors along the Little Van Duzen River. Riparian habitat along the montane tributaries is less dense and more variable. Red alder does occur on the property but in small sporadic groups or as individual stems along stream banks. These characteristics reduce the potential for white-footed vole presence.

4.6.3. Reptiles and Amphibians of Special Concern

- **Foothill Yellow-legged Frog (*Rana boylei*)**

Status: Candidate for CESA Threatened, G3, S3, CSSC Priority 1, USFS Sensitive Species, BLM Sensitive Species, IUCN Near Threatened

Key Habitat: Foothill yellow-legged frog's habitat selection as many frogs, depends on their life stage. This species is primarily found in and around streams with shallow, flowing water with some cobble-sized substrate (Hayes and Jennings 1988). Egg masses require low flowing stream locations with some form of anchor and protection such as behind or under a rock (Thomson et al. 2016). Not much is known about foothill yellow-legged frog terrestrial habitat selection. Bourque (2008) found adult foothill yellow-legged frog an average distance from water of 3 m but also found select individuals up to 40 m from any surface water. This studied evaluated an inland population in Tehama County and coastal populations in more mesic timberlands may disperse farther distances more regularly.

Status within BAA: There are no documented occurrences of foothill yellow-legged frog within the BAA according to the CNDDB. There is aquatic and terrestrial habitat for foothill yellow-legged frog present within the BAA. The Little Van Duzen River provides adequate breeding habitat for this species. Given the steep slopes and intermittent hydrology there is low potential for foothill yellow-legged frog presence.

- **Northern Red-Legged Frog (*Rana aurora aurora*)**

Status: CSSC Priority 2, USFS Sensitive Species, IUCN Least Concern

Key Habitat: Northern red-legged frog (northern red-legged frog) is relatively terrestrial for a ranid frog (Thomson et al. 2016). Adult individuals are common in terrestrial habitats especially over winter or wet periods but they commonly prefer shorelines or stream banks with vegetative cover. Individuals have been observed up to 80 m away from surface water in rainy conditions (Haggard 2000). Reproductive sites require persistent water at least 6" deep with emergent vegetation required to anchor egg masses (Morey and Basey 1990). Jennings et al. (1993) found that intermittent streams chosen by northern red-legged frog for breeding retained surface water year round.

Status within BAA: During the site assessment two adult northern red-legged frogs were observed just downstream of the restoration site (40.476531; -123.65962). There are two ponds outside of the project area but within the BAA that provide breeding habitat to northern red-legged frog. See attached CNDDDB forms.

- **Northwestern Pond Turtle (*Emys marmorata*)**

Status: G3G4, S3, CSSC Priority 1, BLM Sensitive Species, USFS Sensitive Species, IUCN Vulnerable

Key Habitat: Northwestern pond turtles are aquatic habitat generalist and can be found in a variety of waterbodies including rivers, streams, lakes, ponds, and marshes. Northwestern pond turtle have even been observed using ephemeral water features such as vernal pools or settling ponds. These turtles require upland habitat with adequate soil conditions for excavating nests that also lack disturbance. Studies have shown females prefer nesting sites within 100 m of a waterbody. Northwestern pond turtle prefer quiet and undisturbed water features with adequate basking substrate such as emergent woody debris or relatively unshaded shorelines (Thomson et al. 2016). They can persist in unfavorable conditions for some period of time (Spinks et al. 2003).

Status within BAA: The CNDDDB does not document any known northwestern pond turtle observations within the BAA. There are two CNDDDB observations in close proximity (<0.5 mi) to the BAA. The BAA contains multiple small isolated ponds surrounded by moist soils that may provide potential habitat for this species.

- **Coastal Tailed Frog (*Ascaphus truei*)**

Status: G4, S3S4, CSSC Priority 2 and IUCN Least Concern

Key Habitat: Coastal tailed frog is regarded to be an uncommon inhabitant of Humboldt County but has been shown to be quite common in the correct habitat characteristics. Coastal tailed frogs occur in permanent streams and are highly dependent on water temperature (Morey 1990). Welsh and Hodgson (2011) found that canopy cover is the best predictor of this species' presence. Pacific tailed frogs were never observed within streams with less than 83% canopy cover (Welsh and Hodgson 2011). Aside from cold water temperature tailed frogs select habitat with coarse substrate (cobbles and boulders) and steep gradients (Thomson et al. 2016).

Status within BAA: The CNDDDB shows no documented occurrences of coastal tailed frog within the BAA. The BAA does contain potential tailed frog habitat in the form of steep forested cold water tributaries of the Little Van Duzen River. However, the quality of this habitat is highly dependent on canopy cover and hydrologic period.

- **Southern Torrent Salamander (*Rhyacotriton variegatus*)**

Status: G3G4, S2S3, CSSC Priority 1, USFS Sensitive Species, IUCN Least Concern

Key Habitat: Southern torrent salamander prefers habitat characteristics that correlate with late-seral forests. Coastal coniferous forests that may not be mature enough may be productive enough to create these conditions which include clear, cold waters with loose, coarse substrates that lack overall sediments loads (Welsh and Lind 1996). Interstitial spacing between gravels and cobbles is very important for low flow periods within intermittent low-order streams occupied by southern torrent salamander. This may be why southern torrent salamanders also prefer high gradient streams capable of flushing out sediment loads and maintaining coarse substrates. Torrent salamander presence is also highly associated with canopy cover due to its strong correlation with temperature control and hydrologic period (Thomson et al 2016).

Status within BAA: The CNDDDB shows no documented detections of southern torrent salamander within the BAA. The BAA contains potential torrent salamander habitat in the form

of high gradient, rocky substrate intermittent watercourses, springs, and seeps. The Project Area lacks aquatic habitat with adequate substrate and hydrologic period.

4.6.4 Fish Species of Special Concern

- Pacific Lamprey (*Entosphenus tridentatus*)

Status: G4, S4, CSSC, BLM Sensitive Species, USFS Sensitive Species, American Fisheries Society: Vulnerable

Key Habitat: Pacific lampreys are distributed in fresh water streams throughout coastal California during their breeding season. They spawn in substrates similar to that of salmonid species (Streif 2008). They prefer gravel substrates consisting of both fines and cobbles usually at the head of riffles. Young ammocoetes require sand substrate where they spend 3-7 years maturing into the next life stages. Once matured to the next stage, macrophthalmia, they drift downstream and into the ocean where they feed and grow into adults (Stillwater Sciences et al. 2016).

Status within BAA: The CNDDB identifies the host watershed as potentially containing Pacific lamprey. However the lack of low gradient riffles for egg laying and sand substrates capable of supporting ammocoetes results in a low potential for presence of this species in the BAA.

- Steelhead – Northern California DPS (*Oncorhynchus mykiss irideus* pop. 16)

Status: ESA Threatened, G5T2Q, S2S3, American Fisheries Society: Threatened

Key Habitat: As many salmonid species, steelhead trout utilize a variety of habitats depending on their life stage. North Coast Steelhead occur as two distinct population segments (DPS) in Humboldt County, summer run (mature inland) steelhead and winter run (mature in ocean) steelhead. Adult steelhead require swift moving water with depths of at least 18 cm (Bjornn and Reiser 1991). Spawning sites are often located at the tail-out of pools with fine gravel substrates (Moyle et al 2015). NCST frye require clear, cool, quick moving water usually located at seeps and stream confluences (Moyle 2002).

Status within the BAA: The CNDDB documents critical habitat for North Central Coast Summer Steelhead DPS along the Little Van Duzen River within the BAA. It is likely that both summer and winter NCST occur within these two major rivers. There are no other fish bearing streams within the BAA.

4.6.5 Plant Species of Special Concern

<i>Astragalus umbraticus</i>		Bald Mountain milk-vetch	
Fed List: None	State List: None	CNPS Rank: 2B.3	State Rank: S2
USGS 7.5' Quad (CNDDB): Fish Lake, French Camp Ridge, Holter Ridge, Hupa Mountain, Johnsons, Lord-Ellis Summit, Maple Creek, Showers Mtn, Tish Tang Point, Weitchipec, Willow Creek			
Documented in BAA: No		Potential Habitat in BAA: Yes	
Habitat: Cismontane woodland, Lower montane coniferous forest (CNDDB). Dry, open woodland (Jepson eflora). Foothill woodland (Calflora)			
<i>Calycadenia micrantha</i>		Small-flowered calycadenia	
Fed List: None	State List: None	CNPS Rank: 1B.2	State Rank: S2
USGS 7.5' Quad (CNDDB): Blake Mountain			
Documented in BAA: No		Potential Habitat in BAA: Yes	

Habitat: Chaparral, Meadow & seep, Ultramafic, Valley & foothill grassland (CNDDDB). Dry, open rocky ridges, hillsides, talus; openings in scrub, woodland (Jepson eflora).

Carex praticola

Northern Meadow Sedge

Fed List: None

State List: None

CNPS Rank: 2B.2

State Rank: S2

USGS 7.5' Quad (CNDDDB): Arcata South, Eureka, Bark Shanty Gulch, French Camp Ridge, Grouse Mtn, Holter Ridge, Orick

Documented in BAA: No

Potential Habitat in BAA: Yes

Habitat: Meadow & seep, Wetland (CNDDDB). Moist to wet meadows, riparian edges, open forest (Jepson eflora). Coastal prairie, North Coastal Coniferous Forest, meadows (Calflora).

Erigeron mantopotamicus

Mad river fleabane daisy

Fed List: None

State List: None

CNPS List: 1B.2

State Rank: S2?

USGS 7.5' Quad (CNDDDB): Board Camp Mountain, Dinsmore

Documented in BAA: No

Potential Habitat in BAA: Yes

Habitat: Lower montane coniferous forest, Meadow & seep (CNNDDB). Bogs and small streams (Jepson eflora). Yellow pine forest, Red fir forest, lodgepole forest, subalpine forest, freshwater wetlands, wetland-riparian (Calflora).

Erythronium oregonum

Giant Fawn Lily

Fed List: None

State List: None

CNPS List: 2B.2

State Rank: S2

USGS 7.5' Quad (CNDDDB): Blue Creek Mtn, Ettersburg, Fish Lake, Grouse Mtn, Hennessey Peak, Hoopa, Hupa Mountain, Panther Creek, Iaqua Buttes, Johnsons, Lord-Ellis Summit, Myers Flat, Scotia, Somes Bar, Taylor Peak, Tish Tang Point

Documented in BAA: No

Potential Habitat in BAA: Yes

Habitat: Cismontane woodland, Meadow & seep, Ultramafic (CNNDDB). Openings in woodlands (Jepson eflora). Mixed Evergreen Forest (Calflora).

Gilia capitata ssp pacifica

Pacific gilia

Fed List: None

State List: None

CNPS List: 1B.2

State Rank: S2

USGS 7.5' Quads (CNDDDB): Bridgeville, Larabee Valley, Board Camp Mountain, and Mad River Buttes

Documented in BAA: No

Potential Habitat in BAA: Yes

Habitat: Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grasslands (CNDDDB). Steep slopes, ravines, open flats, or coastal bluffs, grassland, dunes (Jepson eflora).

Hosackia yollabollensis

Yolla Bolly Mtns. bird's-foot trefoil

Fed List: None

State List: None

CNPS List: 1B.2

State Rank: S2

USGS 7.5" Quad (CNDDDB): Blake Mountain, Dinsmore, Sims Mountain

Documented in BAA: No

Potential Habitat in BAA: Yes

Habitat: Meadow & seep, Upper montane coniferous forest (CNDDDB). Open, dry slopes, fir forest (Jepson eflora).

Kopsiopsis hookeri

Small Groundcone

Fed List: None

State List: None

CNPS List: 2B.3

State Rank: S1S2

USGS 7.5" Quad (CNDDDB): Bald Hills, Fish Lake, French Camp Ridge, Holter Ridge, Johnsons, Miranda, Salyer, Weitchpec

Documented in BAA: No

Potential Habitat in BAA: Yes

Habitat: North coast coniferous forest (CNDDDB). Open woodland, mixed conifer forest, generally on <i>Gaultheria shallon</i> , occasionally on <i>Arbutus menziesii</i> , <i>Arctostaphylos</i> (Jepson eflora).			
<i>Lupinus Elmeri</i>		South Fork Mountain lupine	
Fed List: None	State List: None	CNPS List: 1B.2	State Rank: S2
USGS 7.5' Quad (CNDDDB): Blake Mountain, Sims Mountain			
Documented in BAA: No		Potential Habitat in BAA: Yes	
Habitat: Lower montane coniferous forest (CNDDDB). Open areas in conifer forest (Jepson eflora).			
<i>Montia howellii</i>		Howell's montia	
Fed List: None	State List: None	CNPS List: 2B.2	State Rank: S2
USGS 7.5' Quad (CNDDDB): Arcata North, Bald Hills, Blocksburg, Briceland, Bridgeville, Buckeye Mountain, Bull Creek, Capetown, Eureka, Ferndale, Fields Landing, Fort Seward, Fortuna, Hupa Mountain, Hydesville, Jaqua Buttes, Korbel, Larabee Valley, Lord-ellis Summit, Mad River Buttes, Maple Creek, McWhinney Creek, Miranda, Myers Flat, Orick, Owl Creek, Panther Creek, Redcrest, Salyer, Scotia, Taylor Peak, Weitchipec, Willow Creek, Yager Junction			
Documented in BAA: No		Potential Habitat in BAA: Yes	
Habitat: Meadow & seep, North coast coniferous forest, vernal pool, wetland (CNDDDB). Vernally wet sites, often compacted soils (Jepson eflora). Redwood forest, Freshwater wetlands, Wetland-riparian (Calflora)			
<i>Sidalcea malviflora ssp patula</i>		Siskiyou checkerbloom	
Fed List: None	State List: None	CNPS List: 1B.2	State Rank: S1
USGS 7.5' Quad (CNDDDB): Arcata North, Bald Hills, Board Camp Mountain, Bridgeville, Capetown, Denny, Eureka, Ferndale, Fields Landing, Fortuna, Grouse Mountain, Hydesville, Jaqua Buttes, Korbel, Maple Creek, Myers Flat, Orick, Owl Creek, Petrolia, Salyer, Scotia, Taylor Peak, Weitchipec, Yager Junction			
Documented in BAA: No		Potential Habitat in BAA: Yes	
Habitat: Coastal bluff scrub, coastal prairie, north coast coniferous forest (CNDDDB). Open coastal forests, bluffs (Jepson eflora). Occurs usually in wetlands (Calflora).			
<i>Thermopsis robusta</i>		Robust False Lupine	
Fed List: None	State List: None	CNPS List: 1B.2	State Rank: S2
USGS 7.5' Quad (CNDDDB): Bark Shanty Gulch, Blue Creek Mtn, Fish Lake, French Camp Ridge, Johnsons, Lonesome Ridge, Lord-Ellis Summit, Maple Creek, Orleans, Weitchipec			
Documented in BAA: No		Potential Habitat in BAA: Yes	
Habitat: Broadleaved upland forest, North coast coniferous forest, Ultramafic (CNDDDB) Shale, serpentine, open sites, forest (Jepson eflora). North Coastal Coniferous Forests (Calflora).			

4.7 Potential Impacts

4.7.1 Potential Direct Impacts

Direct impacts are effects that may occur to the environment from direct interface with the proposed action. The historic cultivation site was potentially directly impacting riparian resources within the stream management area. The relocation of cultivation and implementation of restoration in 2017 significantly reduced the risk of these potential impacts occurring. This is because the new site is located outside of any sensitive biological communities. There is potential for the project to directly impact water quality and aquatic habitat from potential sediment discharges. However, this potential is reduced to non-significant levels assuming the site operator follows standard conditions and best management practices agreed to in the LSAA and WRPP.

Given that no alterations are proposed and the project is pre-existing, the only potential direct impacts are disturbance-based. Common disturbance based impacts include noise and light pollution. Given that this

project will not use supplemental lighting, noise pollution is the only potential disturbance. Noise levels have the potential to disturb sensitive wildlife species such as northern spotted owl. In general, noise levels of 70 dB (measured at 15.2 m) or less would not generate a significant disturbance unless within very close proximity (>25 m) to an active nest. Usually hand tools, small electric power tools, and light vehicle traffic do not reach these decibel levels (USFWS 2006). The primary concern associated with this project and potential noise impacts is the potential use of heavy equipment for road maintenance. There is also potential for heavy equipment that may exceed the 70 dB threshold to impact wildlife while performing road maintenance. The road network on the property passes through potential NSO nesting/roosting habitat. Significant impacts from this action can be mitigated to non-significant levels if performed outside of the critical bird nesting season, February 1st through July 8th.

4.7.2 Potential Indirect Impacts

This project should have no significant adverse indirect impacts to the surrounding environment. Given the existing nature of the cultivation site, the minimal development that occurred to create it, and conditions contained in the LSAA and WRPP that will minimize impacts associated with this project. Beneficial indirect impacts are likely to occur at the restoration site in the form of increased riparian vegetation, habitat and improved water quality.

5.0 Recommendations

- Remove all foreign materials from seasonal wetland SMA
- Perform floristic survey if any additional ground disturbance is proposed.
- Perform road maintenance outside of the critical period for breeding birds, Feb 1 – July 8.
 - If road maintenance is to occur during the critical period, NSO surveys should be performed per Section 9 in the Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls (2012).

6.0 References

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Appendixes

Photographs



Photograph #1: Picture of the Cultivation Site. Photo Date: 09/19/2018

Photographs



Picture #2: Picture illustrating the seasonal wetland that was delineated. See attached wetland delineation data sheets.
Photo Date: 09/19/2018

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Natural Wellness Collective City/County: Humboldt Sampling Date: 9/19/18
 Applicant/Owner: Brad Mason State: CA Sampling Point: 1
 Investigator(s): KW + JAH Section, Township, Range: SW 1/4 Sec. 07, T1N, R5E, H38M
 Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): LRRA Lat: 40.476297 Long: -123.65933 Datum: _____
 Soil Map Unit Name: 461 - Tanin - Bungeblock - Rockyglan complex NWI classification: PE1
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
1. _____	_____	_____	_____		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
= Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. <u>Salix lasiolepis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Fraxinus latifolia</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
= Total Cover					
Herb Stratum (Plot size: <u>10' by 20'</u>)					
1. <u>Juncus patens</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Mentha pulegium</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
3. <u>Holcus lanatus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4. <u>Dipsacus fullonum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
5. <u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6. <u>Carex sp. (Not flowering)</u>	<u>2</u>	<u>?</u>	<u>FACW?</u>		
7. <u>Other grazed/non flowering grasses</u>	<u>20</u>	<u>?</u>	<u>?</u>		
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Remarks: <u>Area grazed by chickens</u>	
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					

Sampling Point: 1

HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

Western Mountains, Valleys, and Coast – Version 2.0

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Natural Wellness Collective City/County: Humboldt Sampling Date: 9/19/18
 Applicant/Owner: Brad Mason State: _____ Sampling Point: 2
 Investigator(s): KW + JAH Section, Township, Range: SW 1/4 Sec 07, T1N, R5E, N38M
 Landform (hillslope, terrace, etc.): top of slope Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): LRR A Lat: 40.476198 Long: -123.659349 Datum: _____
 Soil Map Unit Name: 461 Tanin-Burgblock-Rockyglan Complex NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' = r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>17%</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Quercus garryana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>20' = r</u>)				
1. <u>Pseudotsuga menziesii</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>↑(saplings)↑</u>				
3. <u>Symphoricarpos albus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>_____</u> = Total Cover				
Herb Stratum (Plot size: <u>10' = r</u>)				
1. <u>Elymus glaucus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Fragaria vesca</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Toxicodendron diversilobum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Anthoxanthum odoratum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Holcus lanatus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>_____</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>_____</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/2	100					CL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: XDepth (inches): XHydric Soil Present? Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

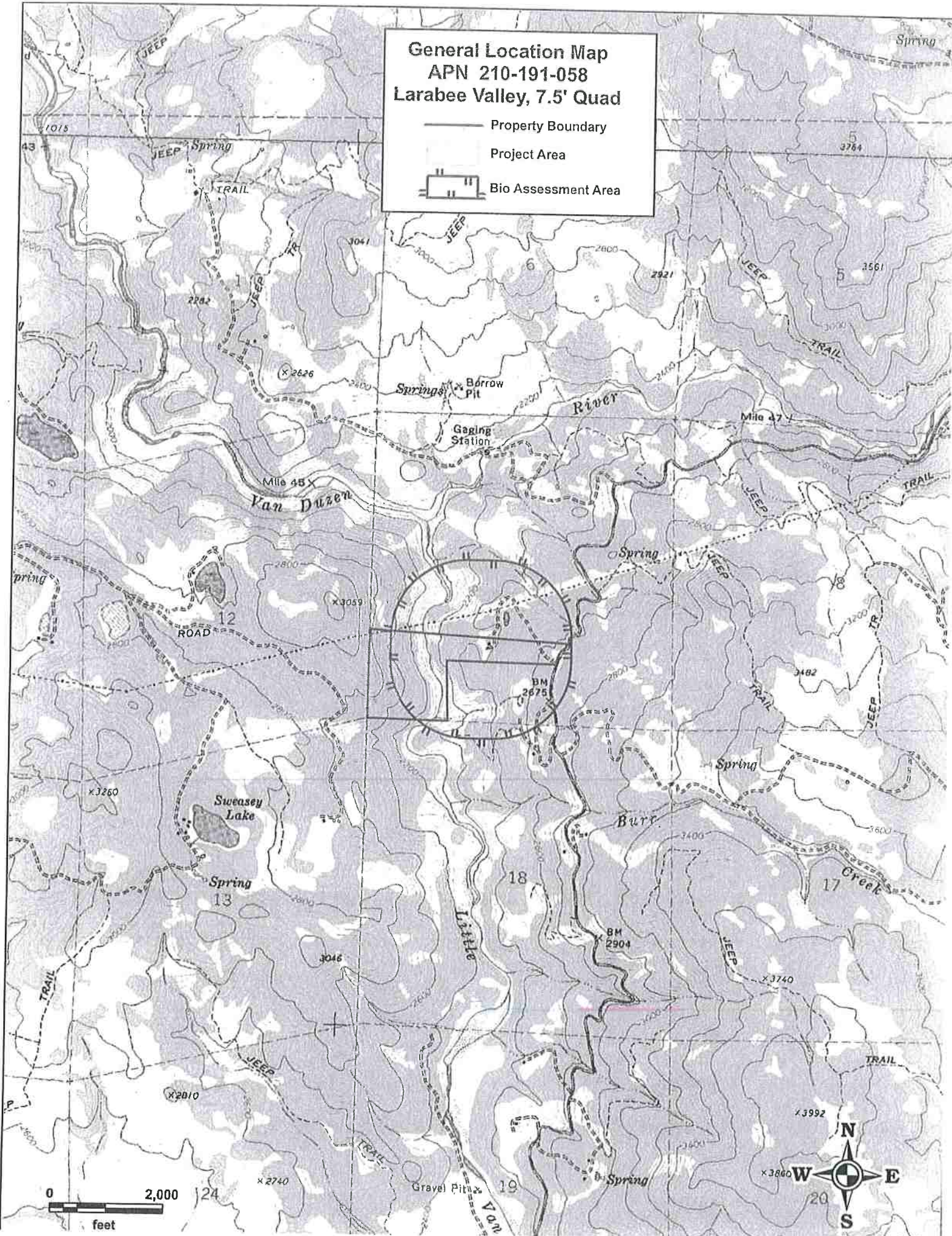
Field Observations:

Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches):
(includes capillary fringe)Wetland Hydrology Present? Yes No X














Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

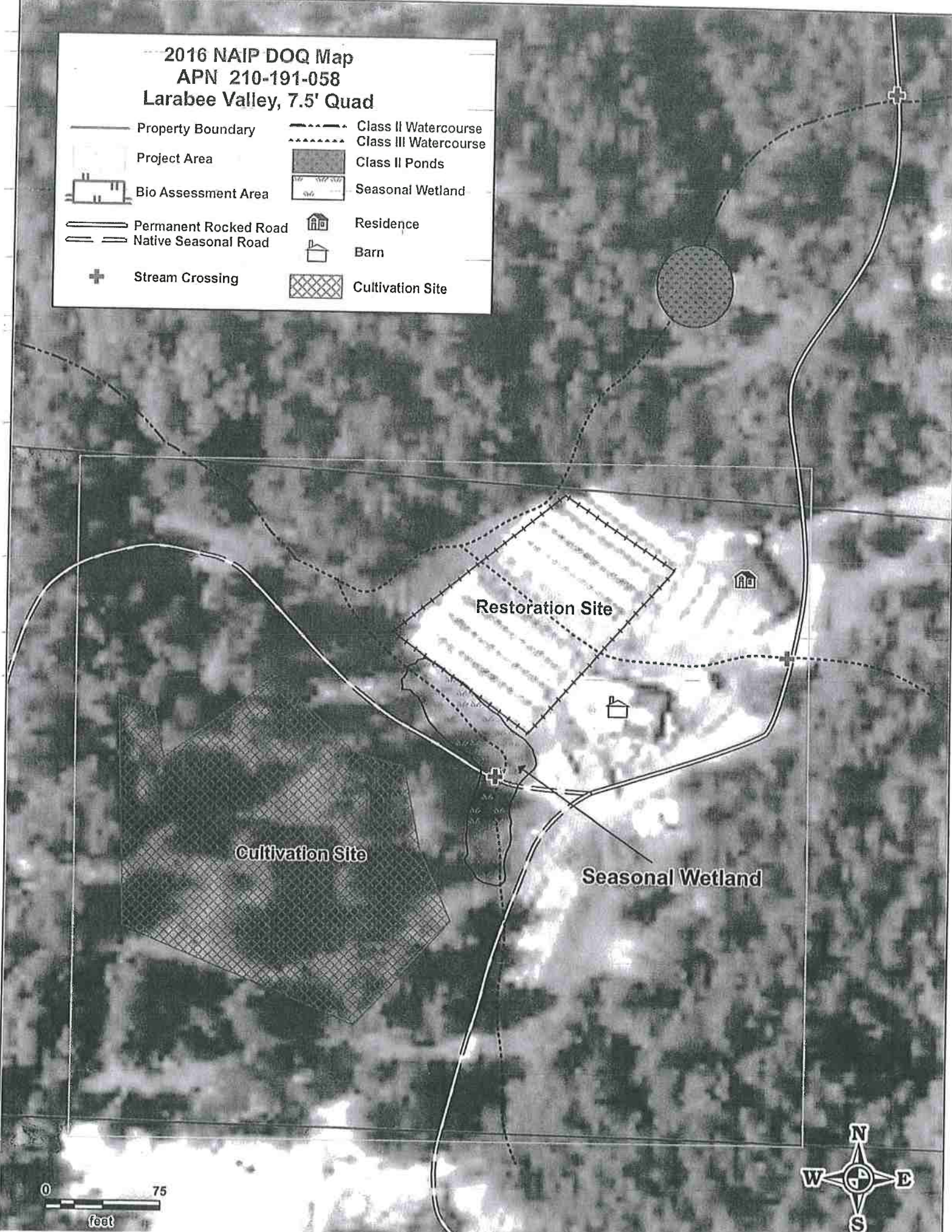
Remarks:

Property Boundary
Project Area
Bio Assessment Area



2016 NAIP DOQ Map
 APN 210-191-058
 Larabee Valley, 7.5' Quad














- | | | | |
|---|-----------------------|---|-----------------------|
|  | Property Boundary |  | Class II Watercourse |
|  | Project Area |  | Class III Watercourse |
|  | Bio Assessment Area |  | Class II Ponds |
|  | Permanent Rocked Road |  | Seasonal Wetland |
|  | Native Seasonal Road |  | Residence |
|  | Stream Crossing |  | Barn |
| | |  | Cultivation Site |

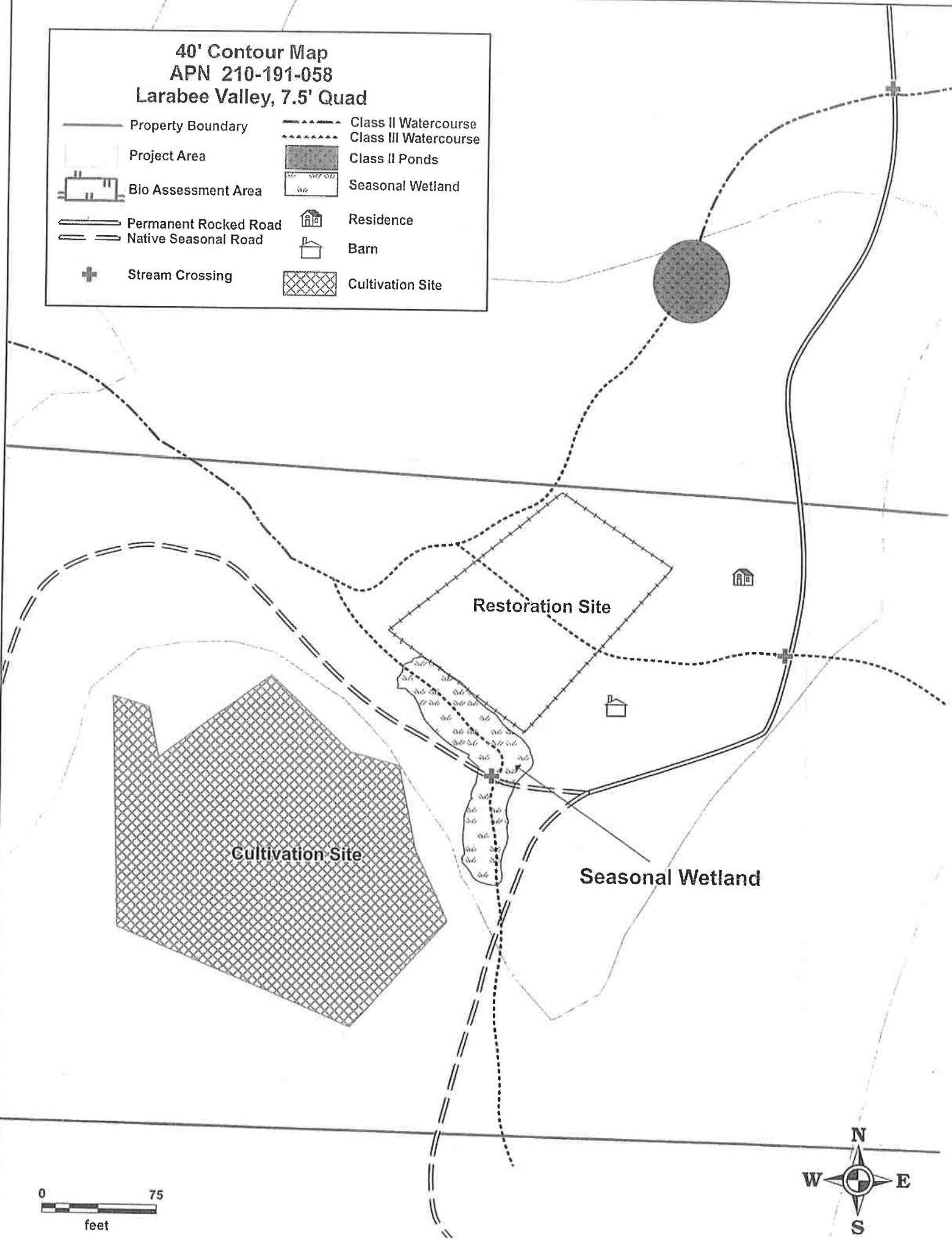


0 75
 feet



40' Contour Map
APN 210-191-058
Larabee Valley, 7.5' Quad

- | | |
|---|---|
|  Property Boundary |  Class II Watercourse |
|  Project Area |  Class III Watercourse |
|  Bio Assessment Area |  Class II Ponds |
|  Permanent Rocked Road |  Seasonal Wetland |
|  Native Seasonal Road |  Residence |
|  Stream Crossing |  Barn |
| |  Cultivation Site |



0 75
 feet



NRCS Web Soil Survey Map

APN 210-191-058

Larabee Valley, 7.5' Quad

Property Boundary

Project Area

Bio Assessment Area



461 - Tannin-Burgsblock-Rockyglen, 30-50 percent slopes

469 - Tannin-Burgsblock-Rockyglen, 50-70 percent slopes

4412 - Hoagland-Chalkmountain-Pasturerock, 15-30 percent slopes

4417 - Hoagland-Chalkmountain-Pasturerock, 30-50 percent slopes

4421 - Highyork-Elkcamp-Airstrip, 15-30 percent slopes

469

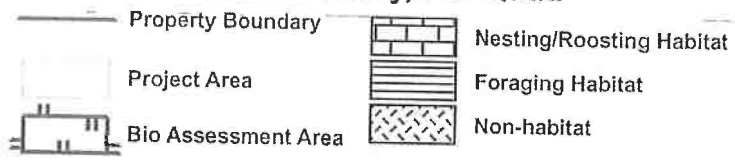
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4412

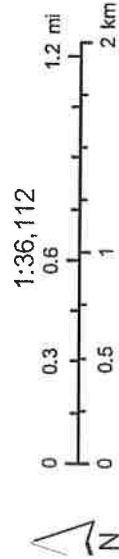
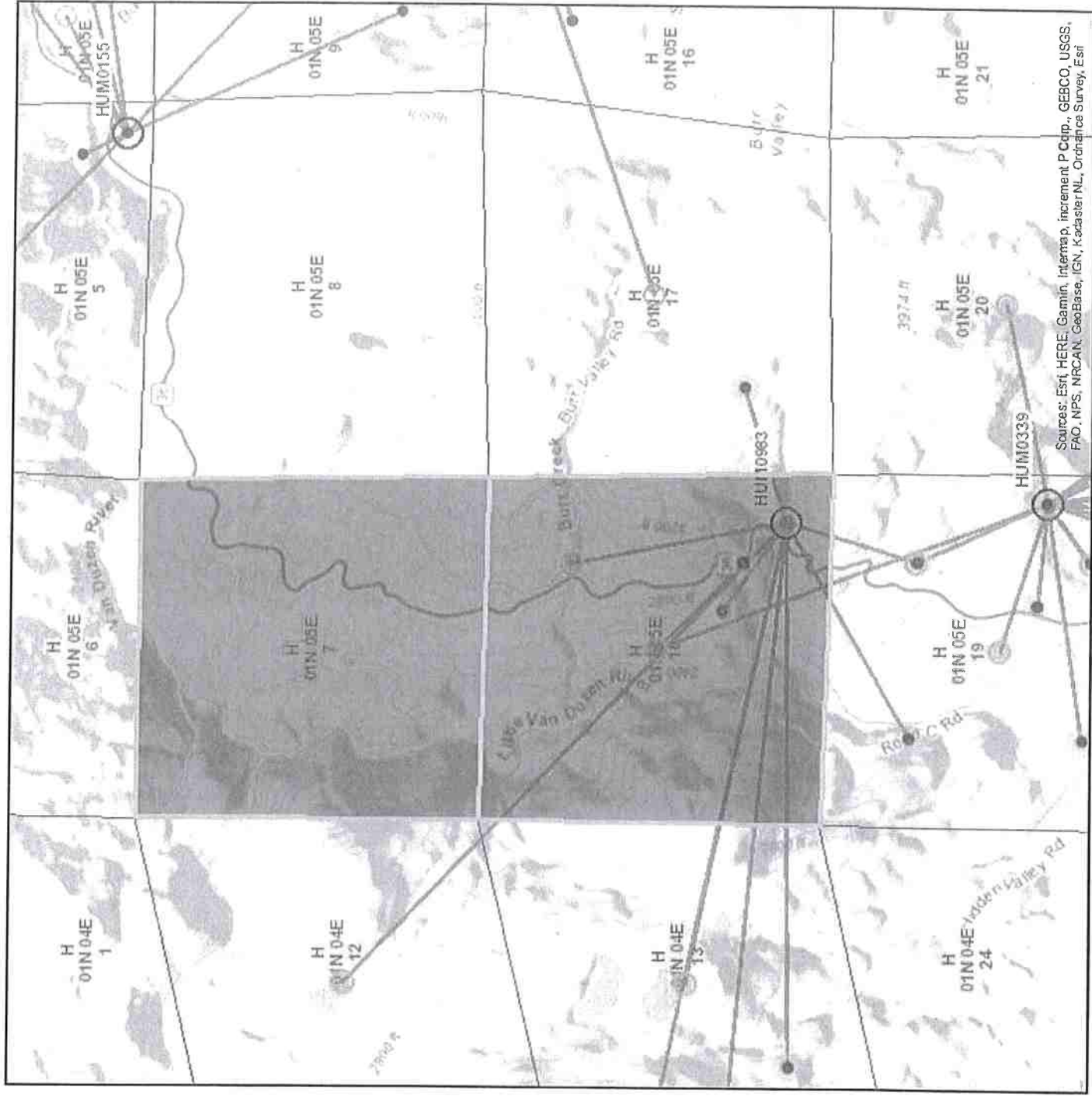
4421

4417

NSO Habitat Map
APN 210-191-058
Larabee Valley, 7.5' Quad



Spotted Owl Database Map



October 8, 2018

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

Data Version Date:
09/27/2018
Report Generation Date:
10/8/2018

Report #1 - Spotted Owl Sites Found
Known Spotted Owl sites having observations
within the search area.



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

H_01N_05E Sections(07,18);

<i>Masterowl</i>	<i>Subspecies</i>	<i>LatDD NAD83</i>	<i>LonDD NAD83</i>	<i>MTRS</i>	<i>AC Coordinate Source</i>
HUM0339	NORTHERN	40.448827	-123.648549	H 01N 05E 19	Contributor
HUM0983	NORTHERN	40.459812	-123.649693	H 01N 05E 18	Contributor

Data Version Date:
09/27/2018
Report Generation Date:
10/8/2018

Report #2 - Observations Reported

List of observations reported by site.



Meridian, Township, Range, Section (MTRS) searched:
H_01N_05E Sections(07,18);

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
Masterowl: HUM0339 Subspecies: NORTHERN											
POS	1991-07-20		1	UU				40.449246	-123.654214	H 01N 05E 19	Contributor
POS	1991-07-22		1	UU				40.449246	-123.654214	H 01N 05E 19	Contributor
POS	1991-07-22		1	UU				40.447384	-123.661589	H 01N 05E 19	Quarter-section centroid
POS	1991-08-20		1	UU				40.448827	-123.648549	H 01N 05E 19	Activity center
POS	1991-08-28		1	UU				40.448827	-123.648549	H 01N 05E 19	Activity center
POS	1992-05-11		2	UMUF	Y			40.441556	-123.643881	H 01N 05E 29	Contributor
NEG	1992-05-20	1200	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
POS	1992-06-09		1	UU				40.441556	-123.643881	H 01N 05E 29	Contributor
POS	1992-07-08		2	UMUF	Y			40.441556	-123.643881	H 01N 05E 29	Contributor
NEG	1996-03-28	1800	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	1999-06-28	2240	0					40.450599	-123.637646	H 01N 05E 20	Section centroid
POS	1999-07-28	1500	1	UU				40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
NEG	2000-04-11	2202	0					40.447007	-123.651763	H 01N 05E 19	Quarter-section centroid
POS	2000-04-25		1	UM				40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
NEG	2000-05-10	2106	0					40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
NEG	2000-05-15	2039	0					40.450599	-123.637646	H 01N 05E 20	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-05-21	2045	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2000-05-25	2037	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2000-06-16	2040	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2000-06-26	2052	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2000-07-18	2105	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2000-07-25	2330	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2000-08-01	2010	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2001-03-18	2052	0					40.439543	-123.642076	H 01N 05E 29	Quarter-section centroid
NEG	2001-04-13	1900	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2001-05-18	2037	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2002-03-28	2126	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2002-04-12	2122	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2002-05-18	2325	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2003-04-07	2225	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2003-04-11	1950	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2003-04-25	2322	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2003-04-25	2322	0					40.435934	-123.637378	H 01N 05E 29	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2003-04-26	2036	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2003-05-24	2324	0					40.439539	-123.642081	H 01N 05E 29	Quarter-section centroid
NEG	2004-03-21	2013	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2004-04-16	1909	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
NEG	2004-05-14	2254	0					40.435934	-123.637378	H 01N 05E 29	Section centroid
POS	2005-03-11	1841	1	UM				40.447007	-123.651763	H 01N 05E 19	Quarter-section centroid
NEG	2005-03-12	0843	0					40.450799	-123.656670	H 01N 05E 19	Section centroid
POS	2005-04-01	1843	1	UM				40.447007	-123.651763	H 01N 05E 19	Quarter-section centroid
NEG	2005-04-02	0730	0					40.447007	-123.651763	H 01N 05E 19	Quarter-section centroid
AC	2005-04-18	1832	2	AMAF	Y	Y		40.448827	-123.648549	H 01N 05E 19	Contributor
NEG	2005-04-26	0017	0					40.435934	-123.637378	H 01N 05E 29	Section centroid
POS	2010-07-08	2348	1	UU				40.438090	-123.637413	H 01N 05E 29	Contributor
POS	2012-05-23	2400	1	UU				40.442188	-123.646842	H 01N 05E 30	Contributor
POS	2012-05-23	2400	1	UM				40.428956	-123.649737	H 01N 05E 30	Contributor
POS	2012-06-06	2400	1	UM				40.424177	-123.644740	H 01N 05E 32	Contributor
POS	2012-06-07	2400	1	UM				40.442188	-123.646842	H 01N 05E 30	Contributor
POS	2012-07-02	2400	1	UM				40.424177	-123.644740	H 01N 05E 32	Contributor

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2012-07-02	2400	1	UM				40.445524	-123.654768	H 01N 05E 19	Contributor
POS	2012-07-30	2400	1	UM				40.433564	-123.654700	H 01N 05E 30	Contributor
POS	2012-07-31	1200	2	UMUF	Y			40.436050	-123.651667	H 01N 05E 30	Half-section centroid
Masterowl: HUM0983 Subspecies: NORTHERN											
POS	1991-06-26		1	AM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
POS	1991-07-17		1	AM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
POS	1991-07-17		1	UM				40.462487	-123.654578	H 01N 05E 18	Contributor
NEG	1996-03-25	1810	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1996-04-04	2010	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1996-05-07	2010	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1996-05-09	2030	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1996-06-05	2130	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1996-06-06	2050	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1996-06-30	2050	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1997-03-05	1630	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1997-04-22	2000	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1997-04-29	1955	0					40.465321	-123.656764	H 01N 05E 18	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1997-05-05	2012	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1997-05-13	2027	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1997-05-21	2000	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1997-06-03	2000	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1997-07-06	2050	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
AC	1998-04-29		1	UM				40.459812	-123.649693	H 01N 05E 18	Contributor
POS	1998-05-03		1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
NEG	1998-06-07	2220	0					40.468898	-123.652045	H 01N 05E 18	Quarter-section centroid
NEG	1998-06-13	2137	0					40.468898	-123.652045	H 01N 05E 18	Quarter-section centroid
POS	1998-07-28		1	UM				40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
POS	1999-03-16	1948	1	UM				40.466271	-123.688680	H 01N 04E 14	Quarter-section centroid
POS	1999-03-29		1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
NEG	1999-03-29	2026	0					40.478387	-123.675154	H 01N 04E 12	Section centroid
NEG	1999-04-02	2016	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-04-02	2016	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-04-13	0007	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-04-13	0007	0					40.465321	-123.656764	H 01N 05E 18	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	1999-04-26	2210	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
POS	1999-04-29		1	UM				40.459594	-123.679648	H 01N 04E 13	Quarter-section centroid
POS	1999-04-29	2137	1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
POS	1999-05-03		1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
POS	1999-05-04	1807	1	AM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
NEG	1999-05-07	2050	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-05-07	2050	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-05-22	0112	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-05-22	0112	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-05-26	2041	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
NEG	1999-06-01	0013	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-06-01	0013	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	1999-06-02	2123	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
POS	2000-04-11	2226	1	UM				40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
POS	2000-04-11	2241	1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
POS	2000-04-11	2222	1	UM				40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
POS	2000-04-11	2238	1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2000-04-13	1551	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2000-04-13	1551	0					40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
NEG	2000-04-13	1551	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2000-04-19	2210	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-04-19	2210	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2000-04-19	1730	0					40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
NEG	2000-04-19	1730	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-04-19	1730	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2000-04-19	2244	0					40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
POS	2000-04-25	0158	1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
POS	2000-04-25	0158	1	UM				40.461601	-123.651951	H 01N 05E 18	Quarter-section centroid
NEG	2000-04-28	1955	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-04-28	2056	0					40.454304	-123.651845	H 01N 05E 19	Quarter-section centroid
NEG	2000-04-28	1955	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2000-05-04	2148	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-05-04	2148	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
POS	2000-05-10	2137	1	UM				40.454591	-123.661577	H 01N 05E 19	Quarter-section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
POS	2000-05-10	2241	1	UM				40.461619	-123.642350	H 01N 05E 17	Quarter-section centroid
NEG	2000-05-15	2039	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2000-05-21	2045	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-05-25	2037	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-06-16	2040	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-06-26	2052	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-07-18	2105	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-07-25	2330	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2000-08-01	2010	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
POS	2000-11-04	2226	1	UM				40.454591	-123.661577	H 01N 05E 19	Quarter-section centroid
NEG	2001-03-15	1821	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2001-03-15	1821	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2001-04-13	2120	0					40.463954	-123.675151	H 01N 04E 13	Section centroid
NEG	2001-04-13	2120	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2001-04-22	2128	0					40.478387	-123.675154	H 01N 04E 12	Section centroid
NEG	2001-04-22	2128	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2002-04-22	2311	0					40.465321	-123.656764	H 01N 05E 18	Section centroid

Type	Date	Time	#Adults	Age/Sex	Pair	Nest	#Young	Latitude DD NAD83	Longitude DD NAD83	MTRS	Coordinate Source
NEG	2002-06-25	2140	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2002-06-27	0457	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2002-07-05	2234	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2002-07-13	2255	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2002-07-17	0006	0					40.465321	-123.656764	H 01N 05E 18	Section centroid
NEG	2004-04-07	1900	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
NEG	2004-04-13	1830	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
NEG	2004-04-22	2240	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
NEG	2004-05-04	1810	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
NEG	2004-05-17	2115	0					40.463008	-123.693483	H 01N 04E 14	Section centroid
NEG	2004-05-25	1850	0					40.463008	-123.693483	H 01N 04E 14	Section centroid