Amendment to Biological Resource Assessment for Highway 36 Homestead

APN 210-191-050

August 2019

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Introduction

This is an amendment to a Biological Resource Assessment prepared by TransTerra Consultants for the Highway 36 Homestead February 2019. This document focuses on APN 210-191-050, an adjacent parcel, which will be added to the project.

Environmental Setting

Project Location

The project area is located off Hwy 36 in Bridgeville (Section 8, T1N, R5E) in Humboldt County, California. The project is located on a 22.23-acre parcel within the U.S. Geological Survey's (USGS) Larabee Valley 7.5-minute quadrangle map. The parcel is zoned unclassified and the land-use code is rural-residential. Elevation is approximately 2500-2750 feet. Property is located in the Van Duzen Watershed. The regional climate is Mediterranean in nature with warm summers and cool winters.

Soil, Topography, Hydrology

Three (3) soil types are mapped in the project area on the Web Soil Survey. The parcel is primarily composed of Highyork-Elkcamp-Airstrip complex (4421), and Pasturerock-Coyoterock-Maneze complex (4426), and Hoagland-Chalkmountain-Pasturerock complex (4417). These soils are not considered hydric and are on moderately to very deep, poorly to well drained soils that formed in colluvium and residuum from various materials. [1]

The Highyork series consists of very deep, somewhat poorly drained soils that formed in material weathered from chloritic schist and other metasedimentary rocks. Highyork soils are on mountains and have slopes of 15 to 50 percent. The mean annual precipitation is about 2160 mm and the mean annual temperature is about 11 degrees C.

The Elkcamp series consists of very deep, well drained soils formed in colluvium and residuum derived from sandstone, siltstone, and mudstone. Elkcamp soils are on slope breaks and irregular slopes in mountainous terrain. This series has slopes of 15 to 50 percent and elevations of 187 to 985 m. These soils are formed in slow-moving earthflows. The mean annual precipitation is about 2290 mm and the mean annual temperature is about 13 degrees C. Elkcamp soils contain less than 35 percent clay and are on hummocky slopes.

The Airstrip series consists of moderately deep, well drained soils formed in colluvium and residuum derived from sandstone and siltstone. Airstrip soils are on strongly convex ridge tops, spur ridges, and mountain slopes. The slopes are 9 to 50 percent with elevations of 67 to 1032 m. Airstrip soils contain more than 35 percent coarse fragments, and have lithic contact below 50 cm. The mean annual precipitation is about 2290 mm and the mean annual temperature is about 11 degrees C.

The Pasturerock series consists of very deep, well drained soils formed in colluvium derived from sandstone and mudstone. Pasturerock soils are on mountains and have slopes of 15 to 50 percent. This series is found at elevations of 53 to 1220 m. Pasturerock soils have less than 35 percent clay in the particle size control section. The mean annual precipitation is about 2290 mm and the mean annual

[1] Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. (Accessed via https://websoilsurvey.sc.egov.usda.gov/.)

temperature is about 13 degrees C. The Pasturerock series has very high runoff with moderately low saturated hydraulic conductivity.

The Coyoterock series consists of very deep, moderately well drained soils formed in colluvium and residuum derived from sandstone and mudstone. Coyoterock soils are in moist locations on poorly incised drainages, hillslope hollows, and earthflows on mountain slopes. Slopes are 15 to 50 percent with elevations of 158 to 1220 m. The mean annual precipitation is about 2290 mm and the mean annual temperature is about 13 degrees C.

The Maneze series consists of very deep, well drained soils formed in colluvium and residuum derived from sandstone, mudstone, and siltstone. Maneze soils are on convex, upper mountain side slopes and spur ridges. Slopes are 15 to 50 percent with elevations at 158 to 964 m. The mean annual precipitation is about 2410 mm and the mean annual temperature is about 13 degrees C.

The Hoagland series consists of very deep, well drained soils formed in colluvium and residuum derived from sandstone and mudstone. Hoagland soils are on linear or slightly concave or convex positions on mountain slopes. Slopes are 15 to 50 percent with elevations ranging from 450 to 900 m. Mean annual precipitation is about 2160 mm and the mean annual temperature is about 13 degrees C.

The Chalkmountain series consists of very deep, well drained soils formed in colluvium and residuum derived from sandstone and mudstone. Chalkmountain soils are on linear or concave positions on mountain slopes. Slopes are 15 to 50 percent with elevations ranging from 490 to 914 m. Mean annual precipitation is about 2160 mm and the mean annual temperature is about 13 degrees C. Chalkmountain soils contain greater than 35 percent rock fragments and have an umbric epipedon greater than 50 cm thick.

Figure 1. Soil series results from Web Soil Survey with estimated parcel boundaries.

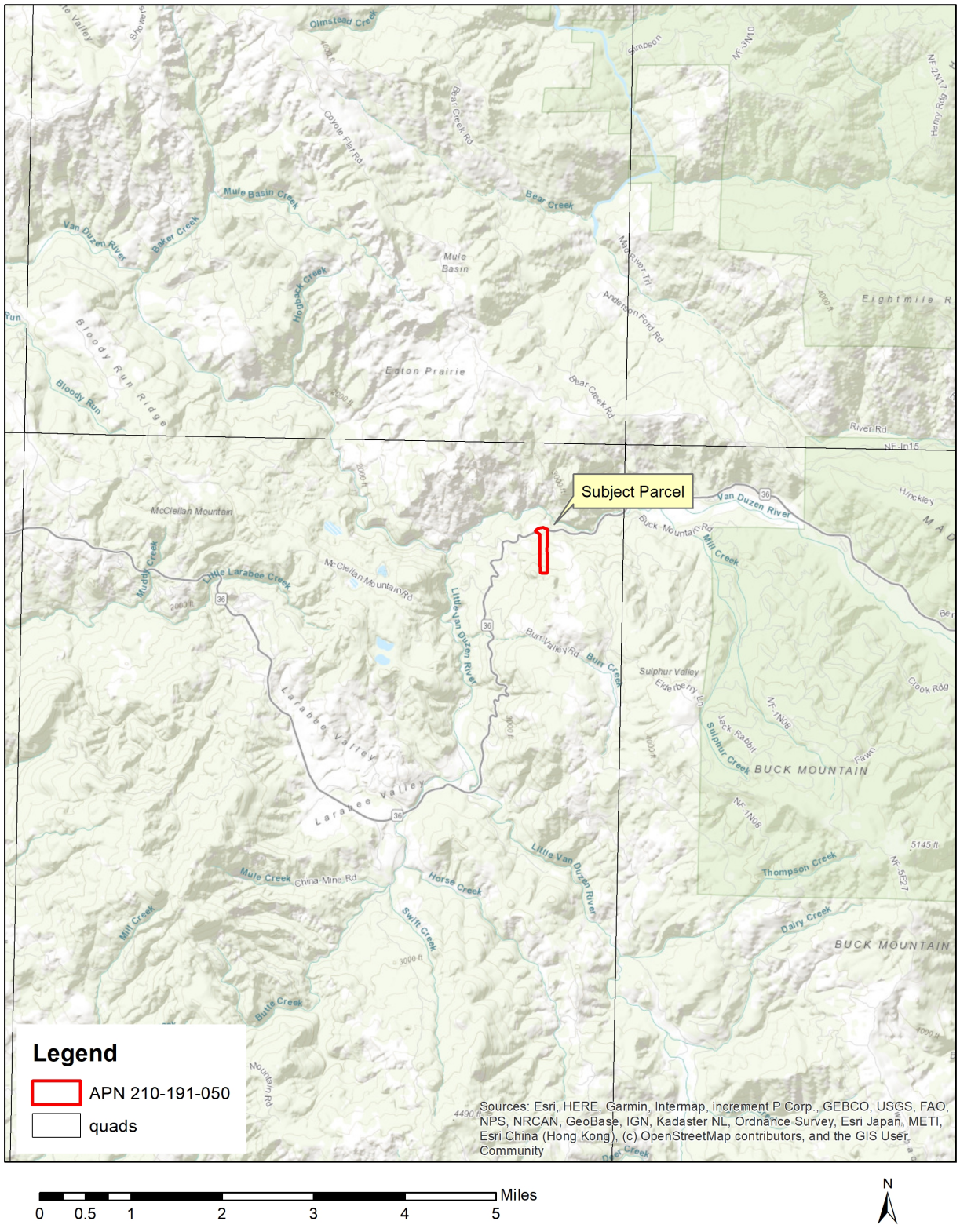
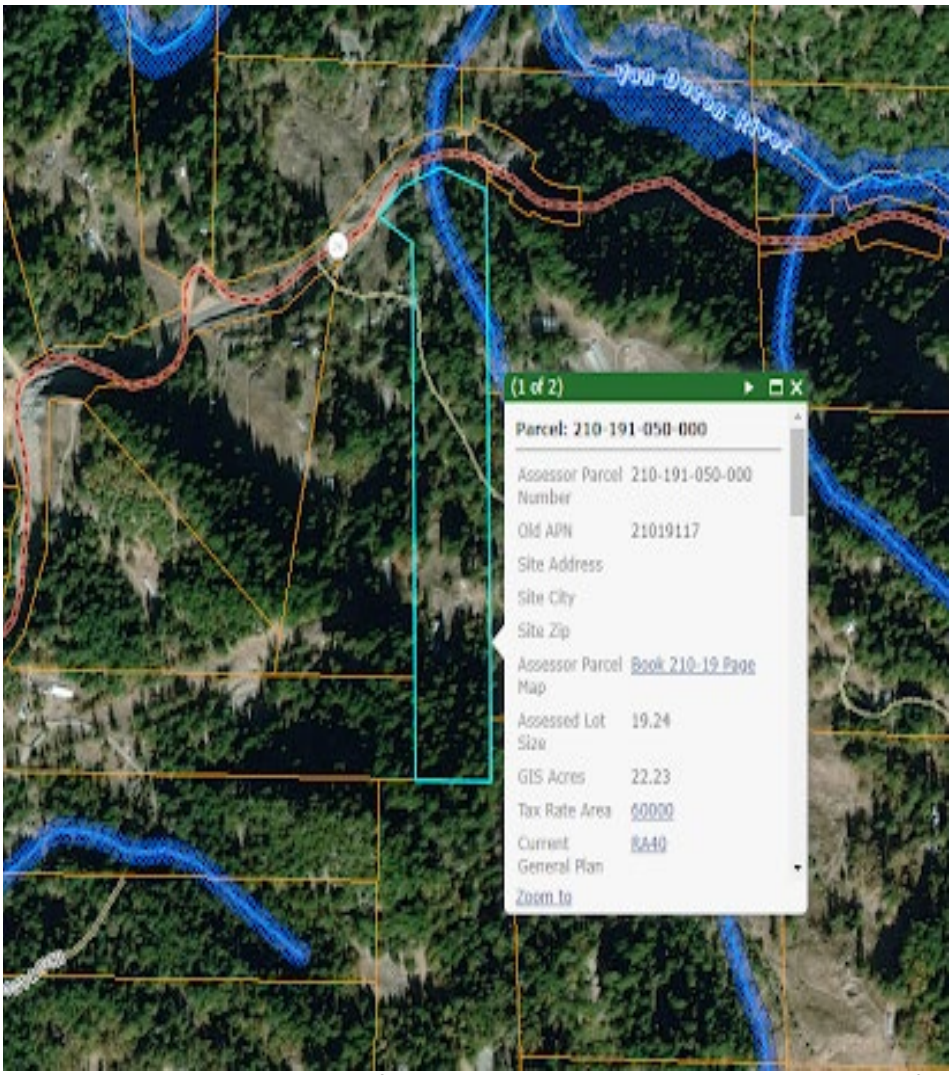


Figure 2. Project location. Map created using ArcMap 10.6.

The property is situated in Mill Creek-Van Duzen Watershed which is located in the Van Duzen Watershed. The property is primarily composed of sloping at 0 to 30% with elevation around 2700-3000 feet above sea level. Per the Humboldt GIS layer, the Streamside Management Area of an unnamed tributary off of the Van Duzen River bisects the property. The Streamside Management Area buffer is located to the northeastern edge of the parcel. The NWI and Humboldt GIS layers only show wetlands adjacent to the tributary on the property.

The area is mapped as possessing high levels of instability in the Humboldt County GIS database, being



located near the Eaton Roughs fault zone. Historic landslides, potential liquefaction, and other hazards are not mapped in or adjacent to the parcel on the Humboldt GIS database.

Figure 3. Streamside Management Areas (SMA) and National Wetland Inventory (NWI) wetlands mapped in and adjacent to the project site.[2]

[2] Humboldt County GIS layer. (Accessed via: http://webgis.co.humboldt.ca.us/HCEGIS2.0/)

Methods

The California Natural Diversity Database (CNDDB) RareFind and Spotted Owl Database, and California Native Plant Society (CNPS) databases were used to assess potential rare species. A habitat assessment was conducted by TransTerra Consulting Associate Biologist Adrian Macedo August 2, 2019**.** The assessment evaluated listed species and species of special concern (SOC). The study area was scanned for wildlife sign including tracks, scat, tree habitat (cavities, nests scrapes or accumulated vegetation) as well as special habitat types and habitats associated with rare plant species. The CNDDB 9-Quad area was queried to generate occurrences of special-status animal species.

The assessment was conducted due to mandatory requirements for cannabis permitting, however the timing of the field visit did not coincide with ideal survey seasons based on phenology and life history cycles for all potential species. Full floristic surveys and/or protocol-level surveys were not conducted in the project area. Based on the timing of the survey, all plant species growing within the study area may not have been observed due to varying flowering phenologies and life forms, such as bulbs, biennials, and annuals. Other potentially dominant species within vegetation communities on site may be present during other times of the year. Therefore, the present study is not floristic in nature. Some of the plant species identified in this report are tentative due to the absence of morphological characters, resulting from immature reproductive structures or seasonal desiccation, which is required to make species-level determinations. Species-specific surveys will be conducted as appropriate and are further discussed below.

Results and Discussion

Vegetation

Vegetation is variable throughout the parcel, but primarily composed of mixed evergreen forest. Dominant trees species included *Pseudotsuga menziesii* var *menziesii* (Douglas fir), *Umbellularia californica* (California bay), *Acer macrophyllum* (big leaf maple), *Quercus kelloggii* (California black oak), *Fraxinus latifolia* (Oregon ash), and *Arbutus menziesii* (madrone). Shrub species and density were variable depending upon hydrology and canopy. Most areas were dominated by *Rosa gymnocarpa* (wood rose), *Baccharis pilularis* (coyote brush), *Rubus armeniacus* (Himalayan blackberry), *R. parviflorus* (thimbleberry), *R. leucodermis* (white-stemmed raspberry), *Pteridium aquilinum* var. *pubescens* (Western bracken fern), *Toxicodendron diversilobum* (poison oak), *Symphoricarpos mollis* (creeping snowberry), *Holodiscus discolor* (oceanspray), *Cotoneaste*r sp. (cotoneaster), and *Rhamnus purshiana* (coffeeberry) as well as small tree species. The herb layer ranged from very dense to sparse, also dependent upon canopy and hydrology. Species observed included *Juncus effuses (*soft or lamp rush), *Lemna minor (*common duckweed), *Torilis arvensis (*tall sock-destroyer), *Circaea alpina* ssp. *pacifica (*Enchanter's nightshade), *Vicia americana* subsp. *Americana (*American vetch), *Galium aparine (*Goose grass), *Eleocharis macrostachya (*creeping spike-rush), *Maianthemum racemosum (*feathery false lily), *Maianthemum racemosum (*feathery false lily), *Salix sitchensis (*Sitka willow), *Agrostis capillaris (*colonial bent), *Madia gracilis (*slender tarweed), *Arrhenatherum elatius* tall oat grass. Non-vascular species include *Usnea cornuta*, *U. scabrata*, *Dicranum* sp., *Bryoria* sp., *Plagiomnium* sp., and *Parmelia* sp.

Nomenclature follows the most current scientific names in The Jepson Manual of Higher Plants of California Second Edition to the greatest degree feasible.[3]

Wetlands and SMA areas

A jurisdictional wetland delineation was not requested or conducted for this assessment.

Northern Spotted Owl

In 2016, the California Fish and Game Commission approved the listing of the Northern Spotted Owl (*Strix occidentalis caurina*) as Threatened under the California Endangered Species Act. It has been listed as Threatened under the federal Endangered Species Act since 1990. Owl pairs typically nest in broken-top trees, tree cavities, debris accumulations or nests built by other wildlife (abandoned raptor nests or rodent nests). Females generally lay one to two eggs in spring and chicks fledge and leave nests in early fall. Generally older forests with dense canopy closure are preferred for nesting and roosting, however younger stands with similar structure are also utilized. Structural components of high-quality stands include multiple canopy layers, higher species density, larger overstory trees, live trees with deformities and woody debris in the understory. Prey species include flying squirrels, woodrats, rabbits, voles, shrews, gophers, smaller birds, bats and insects. Owls are threatened by Barred Owls, habitat loss, climate change and pathogens. [4]

Northern Spotted Owl was recorded in the CDFW database within one mile The HUM0155 activity center is located approximately 0.80 miles to the northeast of the project. The activity center was established in 1988 by Tilghman and Paton but only negative observations have been recorded in the NSO database since 2002. The activity centers for HUM0983 and HUM0047 are both located to the south of the project just outside of the one-mile buffer, but have negative observations recorded within the one-mile buffer. Critical habitat for NSO is located within 1.8 miles to the east of the project area.

CNDDB and other Database Results

The CDFW CNDDB, BIOS, Rarefind and CNPS databases were scoped before and after field site visit to determine habitat potential and known occurrences of rare or listed species of concern in or around the project area. Known reference populations near the site were visited to confirm phenology. The following species were observed in the database within 1 miles of the project site.

Rana boylii (foothill yellow-legged frog) is California state listed as a threatened candidate species. It occupies partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. This species needs at least some cobble-sized substrate for egg-laying. A least 15 weeks is required to attain metamorphosis.

Sanicula tracyi (Tracy's sanicle) categorized as a 4.2 by the CNPS, denoting it a watchlist species. It occupies cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest. It is found in openings with dry gravelly slopes or flats, usually in or at the margin of oak woodland with scattered trees at elevations of 100-1585 m.

[3] The Jepson Manual: Higher Plants of California Second Edition (Accessed via http://ucjeps.berkeley.edu/jepman.html)
[4] Northern Spotted Owls in California. California Department of Fish and Wildlife (Accessed via https://www.wildlife.ca.gov/Conservation/Birds/Northern-Spotted-Owl

Emys marmorata (westen pond turtle) is a thoroughly aquatic turtle, usually found below 6000 ft elevation. It is found in ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation. They need suitable upland habitat, such as sandy banks or grassy open fields, up to 0.5 km from water for egg-laying. Basking sites are also necessary for *emys marmorata*.

Falco peregrinus anatum (American peregrine falcon) is a federally, as well as, California state delisted species. It is found near wetlands, lakes, rivers, or other water, usually located on cliffs, banks, dunes, mounds, or occasionally human-made structures. Their nests consist of a scrape, depression, or ledge in an open site.

Oncorhynchus mykiss irideus pop. 36 (summer-run steelhead trout) reside in northern California coastal streams south to Middle Fork Eel River. This population is included within range of Klamath Mountains province distinct population segment (DPS) and northern California DPS. They are found in cool, swift, shallow water with clean loose gravel for spawning, as well as, suitably large pools in which to spend the summer.

Atractelmis Wawona (Wawona riffle beetle) is not currently listed but is a watch list species. The species was observed near the project site. It is found in riffles or rapid, small to medium clear mountain streams from 2000-5000 feet in elevation. It has a strong preference for inhabiting submerged aquatic mosses.

Impact Assessment Guidance[5].

The Arcata Fish and Wildlife Office (AFWO) developed guidance that addresses the potential effects of disturbance on NSO. The memorandum includes a consistent and reasonable determinations of effects for activities that occur in or near owl suitable habitat, including human generated sounds or human activities near nest trees.

Potential Direct and Indirect Impacts

The potential direct, indirect, and cumulative effects of the land clearing, residential development, and cultivation activities include removal of vegetation and canopy cover, disturbance and compaction of soil, alteration of hydrologic regime, sedimentation and erosion, increase in invasive species, and noise, solid and chemical waste pollution, visual impacts, and air quality impacts.

Agency personnel from CDFW and USFWS can further analyze the potential impacts and provide technical assistance for any listed species if additional activities are proposed that may result in take of a listed species including Northern Spotted Owl.[6] If required, pre-construction reconnaissance surveys should follow the guidelines set forth in the Humboldt County Cannabis Program EIR, CDFW Survey and

[5] Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets of Northwestern California (Accessed via: https://www.fws.gov/arcata/es/birds/mm/documents/MAMU-NSO%20Harassment%20Guidance%20NW%20CA%202006Jul31.pdf)

[6] Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelet in Northwestern California: (Accessed via https://www.fws.gov/arcata/es/birds/nso/documents/MAMUNSO%20Harassment%20Guidance%20NW%20CA%202006Jul31.pdf)

Monitoring Protocols and Guidelines[7], USFWS Endangered Species Program[8] and CNPS Botanical Survey Guidelines[9]

Recommendations

Follow all recommendations outlined by existing agency policies for minimizing impacts to natural resources. Impacts from light, noise and chemicals can be addressed in the operations plan and best management practices can be employed to minimize impacts. Additional disturbance, clearing, and road cuts would likely modify existing groundwater, and surface water patterns and could impact water quality and/or hydrophytic species.

Please contact me with any comments or concerns regarding this memorandum or future work required for your project. I can be reached at tami@trans-terra.com or (707) 845-7483. I have included my project experience as an attachment to this memorandum as it is often requested by agency personnel reviewing work of this nature. (Appendix A)

Table 1. Plant species observed on-site

Circaea alpina subsp. pacifica	Enchanter's nightshade	Onagraceae	native	FAC
Acer macrophyllum	Bigleaf maple	Sapindaceae	native	FACU
Achillea millefolium	Common yarrow	Asteraceae	native	FACU
Agrostis capillaris	Colonial bent	Poaceae	introduced	FAC
Arrhenatherum elatius	Tall oat grass	Poaceae	introduced	UPL
Artemisia douglasiana	Mugwort	Asteraceae	native	FACW
Athyrium filix-femina var. cyclosorum	Lady fern	Woodsiaceae	native	FAC
Baccharis pilularis	Coyote brush	Asteraceae	native	UPL
Berberis aquifolium	Tall Oregon-grape	Berberidaceae	native	UPL
Bryoria sp.		Parmeliaceae	Native	
Callitriche sp.	Water-starwort	Plantaginaceae		
Chlorogalum pomeridianum var. pomeridianum	Soap plant	Agavaceae	native	NL
Cirsium vulgare	Bull thistle	Asteraceae	invasive	FACU
Corylus cornuta var. californica	California hazelnut	Betulaceae	native	FACU
Dendroalsia sp.		Crypheaceae	Native	
Dichelostemma capitatum	Blue dicks	Themidaceae	native	FACU
Dicranum sp.		Dicranaceae	Native	
Eleocharis macrostachya	Creeping spike-rush	Cyperaceae	native	UPL
Equisetum arvense	Common horsetail	Equisetaceae	native	FAC
Erodium sp.	Storksbill or filaree	Geraniaceae		
Fragaria vesca	Wood strawberry	Rosaceae	native	FACU
Fraxinus latifolia	Oregon ash	Oleaceae	native	FACW
Galium aparine	Goose grass	Rubiaceae	native	FACU
Holcus lanatus	Common velvet grass	Poaceae	invasive	FAC
Holodiscus discolor	Oceanspray	Rosaceae	native	FACU
Iris sp.	Iris	Iridaceae		
Juncus effusus	Soft or lamp rush	Juncaceae	native	FACW
Lemna minor	Common duckweed	Araceae	native	OBL
Madia gracilis	Slender tarweed	Asteraceae	native	UPL
Mentha pulegium	Pennyroyal	Lamiaceae	invasive	OBL
Parmelia sp.		Parmeliaceae	Native	
Perideridia sp.	Yampah	Apiaceae		

[7] California Department of Fish and Wildlife Survey and Monitoring Protocols and Guidelines (Accessed via https://www.wildlife.ca.gov/conservation/survey-protocols)
[8] USFWS Arcata Fish and Wildlife Office Endangered Species Program (Accessed via https://www.fws.gov/arcata/es/default.htm)
[9] California Native Plant Society (CNPS) Botanical Survey Guidelines (Accessed via https://cnps.org/wp-content/uploads/2018/03/cnps_survey_guidelines.pdf)

Plagiomnium sp.		Mniaceae	Native	
Polystichum munitum	Western sword fern	Dryopteridaceae	native	FACU
Prunella vulgaris	Common self-heal	Lamiaceae	native	FACU
Pseudotsuga menziesii var. menziesii	Douglas-fir	Pinaceae	native	FACU
Quercus garryana	Oregon oak	Fagaceae	native	FACU
Ribes sp.	Currant or gooseberry	Grossulariaceae		
Rosa californica	California rose	Rosaceae	native	FAC
Rubus leucodermis	Whitebark raspberry	Rosaceae	native	FACU
Rumex acetosella	Sheep sorrel	Polygonaceae	invasive	FACU
Salix sitchensis	Sitka willow	Salicaceae	native	FACW
Saxifraga sp.	Saxifrage	Saxifragaceae		
Smilacina racemosa	Feathery false lily of the valley	Ruscaceae	native	FAC
Symphoricarpos albus var. laevigatus	Common snowberry	Caprifoliaceae	native	FACU
Torilis arvensis	Tall sock-destroyer	Apiaceae	invasive	NL
Toxicodendron diversilobum	Poison-oak	Anacardiaceae	native	FAC
Trillium albidum	Giant white trillium	Melanthiaceae	native	FACU
Typha latifolia	Broadleaf cattail	Typhaceae	native	OBL
Usnea cornuta		Parmeliaceae	Native	
Usnea scabrata		Parmeliaceae	Native	
Vicia americana var. americana	American vetch	Fabaceae	native	FAC
Viola sp.	Violet	Violaceae		

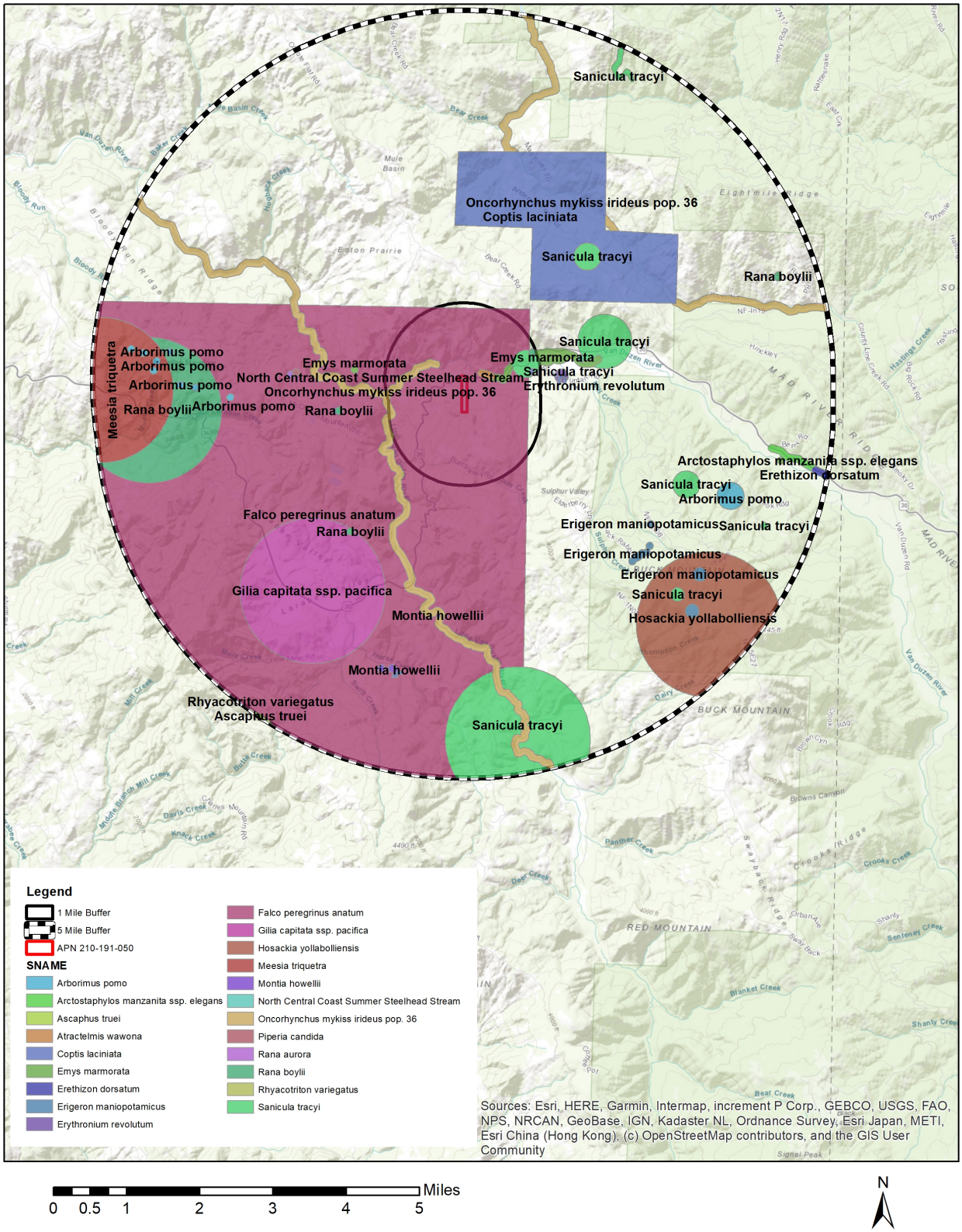


Figure 4. CNDDB search results of observed rare plant and sensitive animal occurrences within five miles of property.

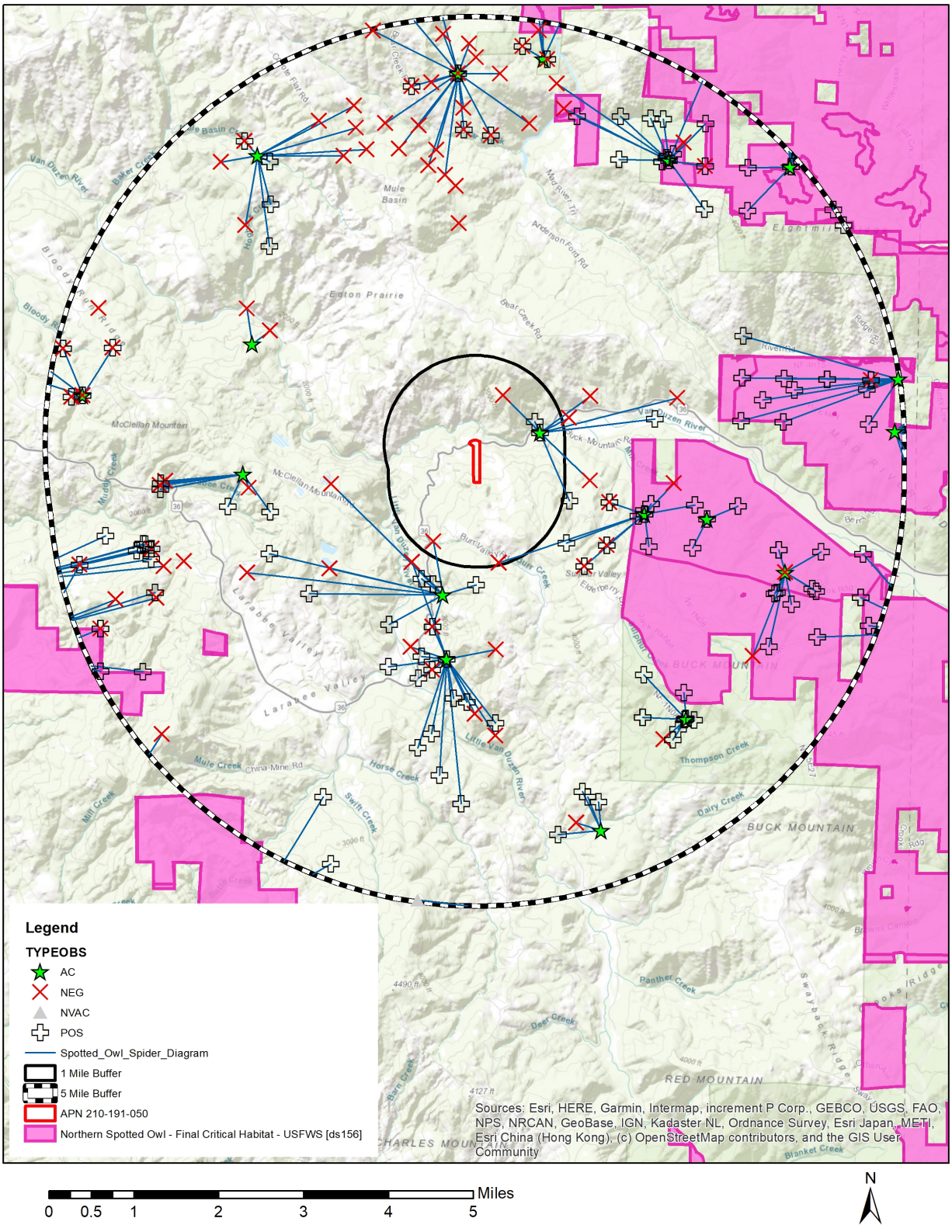


Figure 5. Northern Spotted Owls database entries within 5 miles of property.

Table 2. CNDDB nine-quad database results for the Larabee Valley 7.5' quadrangle (plants listed in CNPS results; C=Candidate Species, E=Endangered, T=Threatened, D=Delisted, N=None).

Scientific Name	Common Name	FESA	CESA	General Habitat	Micro Habitat
Aquila chrysaetos	golden eagle	N	N	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
Emys marmorata	western pond turtle	N	N	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
Accipiter cooperii	Cooper's hawk	N	N	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.
Accipiter gentilis	northern goshawk	N	N	Within, and in vicinity of, coniferous forest. Uses old nests, and maintains alternate sites.	Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.
Arborimus pomo	Sonoma tree vole	N	N	North coast fog belt from Oregon border to Somona County. In Douglas-fir, redwood & montane hardwood-conifer forests.	Feeds almost exclusively on Douglas-fir needles. Will occasionaly take needles of grand fir, hemlock or spruce.
Ascaphus truei	Pacific tailed frog	N	N	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.
Atractelmis wawona	Wawona riffle beetle	N	N	Aquatic; found in riffles of rapid, small to medium clear mountain streams; 2000-5000 ft elev.	Strong preferce for inhabiting submerged aquatic mosses
Bombus caliginosus	obscure bumble bee	N	N	Coastal areas from Santa Barabara county to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.
Bombus occidentalis	western bumble bee	N	N	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	
Corynorhinus townsendii	Townsend's big-eared bat	N	N	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.

Scientific Name	Common Name	FESA	CESA	General Habitat	Micro Habitat
Erethizon dorsatum	North American porcupine	N	N	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges.	Wide variety of coniferous and mixed woodland habitat.
Falco peregrinus anatum	American peregrine falcon	D	D	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Nest consists of a scrape or a depression or ledge in an open site.
Martes caurina humboldtensis	Humboldt marten	N	C E	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County.	Associated with late-successional coniferous forests, prefer forests with low, overhead cover.
Myotis evotis	long-eared myotis	N	N	Found in all brush, woodland and forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests.	Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.
Myotis volans	long-legged myotis	N	N	Most common in woodland and forest habitats above 4000 ft. Trees are important day roosts; caves and mines are night roosts.	Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.
Noyo intersessa	Ten Mile shoulderband	N	N	Found in coastal dunes, coastal scrub, and riparian redwood forest habitats.	
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	N	N	No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS.	Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.
Pandion haliaetus	osprey	N	N	Ocean shore, bays, freshwater lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
Pekania pennanti	fisher - West Coast DPS	N	T	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.
Rana aurora	northern red-legged frog	N	N	Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover.	Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.
Rana boylii	foothill yellow-legged frog	N	C T	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.

Scientific Name	Common Name	FESA	CESA	General Habitat	Micro Habitat
Rhyacotriton variegatus	southern torrent salamander	N	N	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.

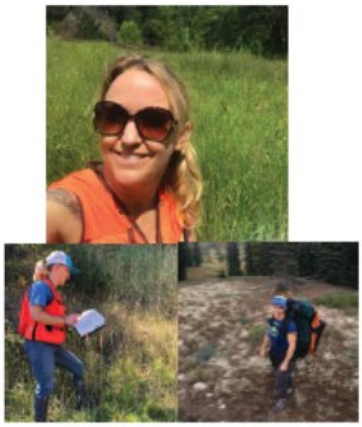
Table 3. CNPS nine-quad database results for Larabee Valley 7.5' quadrangle.

Scientific Name	Common Name	Lifeform	CRPR	Habitat
Allium hoffmanii	Beegum onion	perennial bulbiferous herb	4.3	Lower montane coniferous forest (serpentinite)
Anisocarpus scabridus	scabrid alpine tarplant	perennial herb	1B.3	Upper montane coniferous forest (metamorphic, rocky)
Arctostaphylos hispidula	Howell's manzanita	perennial evergreen shrub	4.2	Chaparral (serpentinite or sandstone)
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	perennial evergreen shrub	1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest
Arnica spathulata	Klamath arnica	perennial rhizomatous herb	4.3	Lower montane coniferous forest (serpentinite)
Astragalus agnicidus	Humboldt County milk-vetch	perennial herb	1B.1	Broadleafed upland forest, North Coast coniferous forest
Astragalus rattanii var. rattanii	Rattan's milk-vetch	perennial herb	4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest
Astragalus umbraticus	Bald Mountain milk-vetch	perennial herb	2B.3	Cismontane woodland, Lower montane coniferous forest
Calycadenia micrantha	small-flowered calycadenia	annual herb	1B.2	Chaparral, Meadows and seeps (volcanic), Valley and foothill grassland
Carex praticola	northern meadow sedge	perennial herb	2B.2	Meadows and seeps (mesic)
Carex scabriuscula	Siskiyou sedge	perennial rhizomatous herb	4.3	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest
Collomia tracyi	Tracy's collomia	annual herb	4.3	Broadleafed upland forest, Lower montane coniferous forest
Coptis laciniata	Oregon goldthread	perennial rhizomatous herb	4.2	Meadows and seeps, North Coast coniferous forest (streambanks)
Cryptantha rostellata	red-stemmed cryptantha	annual herb	4.2	Cismontane woodland, Valley and foothill grassland
Cypripedium fasciculatum	clustered lady's-slipper	perennial rhizomatous herb	4.2	Lower montane coniferous forest, North Coast coniferous forest
Cypripedium montanum	mountain lady's-slipper	perennial rhizomatous herb	4.2	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest
Epilobium oreganum	Oregon fireweed	perennial herb	1B.2	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest
Epilobium septentrionale	Humboldt County fuchsia	perennial herb	4.3	Broadleafed upland forest, North Coast coniferous forest

Scientific Name	Common Name	Lifeform	CRPR	Habitat
Erigeron maniopotamicus	Mad River fleabane daisy	perennial herb	1B.2	Lower montane coniferous forest, Meadows and seeps (open, dry)
Erythronium oregonum	giant fawn lily	perennial bulbiferous herb	2B.2	Cismontane woodland, Meadows and seeps
Erythronium revolutum	coast fawn lily	perennial bulbiferous herb	2B.2	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest
Eucephalus glabratus	Siskiyou aster	perennial herb	4.3	Lower montane coniferous forest, Upper montane coniferous forest
Fritillaria glauca	Siskiyou fritillaria	perennial bulbiferous herb	4.2	Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest
Gilia capitata ssp. pacifica	Pacific gilia	annual herb	1B.2	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland
Hosackia yollabolliensis	Yolla Bolly Mtns. bird's-foot trefoil	perennial herb	1B.2	Meadows and seeps, Upper montane coniferous forest (openings)
Howellia aquatilis	water howellia	annual herb (aquatic)	2B.2	Marshes and swamps (freshwater)
Kopsiopsis hookeri	small groundcone	perennial rhizomatous herb (parasitic)	2B.3	North Coast coniferous forest
Lathyrus biflorus	two-flowered pea	perennial herb	1B.1	Lower montane coniferous forest (serpentinite)
Lilium rubescens	redwood lily	perennial bulbiferous herb	4.2	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest
Listera cordata	heart-leaved twayblade	perennial herb	4.2	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest
Lupinus constancei	The Lassics lupine	perennial herb	1B.1	Lower montane coniferous forest (serpentinite)
Lupinus elmeri	South Fork Mountain lupine	perennial herb	1B.2	Lower montane coniferous forest
Lycopodium clavatum	running-pine	perennial rhizomatous herb	4.1	Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)
Meesia triquetra	three-ranked hump moss	moss	4.2	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest (mesic)
Mitellastra caulescens	leafy-stemmed mitrewort	perennial rhizomatous herb	4.2	Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest

Scientific Name	Common Name	Lifeform	CRPR	Habitat
Montia howellii	Howell's montia	annual herb	2B.2	Meadows and seeps, North Coast coniferous forest, Vernal pools
Packera bolanderi var. bolanderi	seacoast ragwort	perennial rhizomatous herb	2B.2	Coastal scrub, North Coast coniferous forest
Piperia candida	white-flowered rein orchid	perennial herb	1B.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest
Pityopus californicus	California pinefoot	perennial herb (achlorophyllous)	4.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest
Platanthera stricta	slender bog-orchid	perennial herb	4.2	Lower montane coniferous forest, Meadows and seeps
Ptilidium californicum	Pacific fuzz wort	liverwort	4.3	Lower montane coniferous forest, Upper montane coniferous forest
Ribes laxiflorum	trailing black currant	perennial deciduous shrub	4.3	North Coast coniferous forest
Sabulina decumbens	The Lassics sandwort	perennial herb	1B.2	Lower montane coniferous forest, Upper montane coniferous forest
Sanicula tracyi	Tracy's sanicle	perennial herb	4.2	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest
Sedum laxum ssp. flavidum	pale yellow stonecrop	perennial herb	4.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest
Sidalcea malachroides	maple-leaved checkerbloom	perennial herb	4.2	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	perennial rhizomatous herb	1B.2	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest
Thermopsis robusta	robust false lupine	perennial rhizomatous herb	1B.2	Broadleafed upland forest, North Coast coniferous forest
Usnea longissima	Methuselah's beard lichen	fruticose lichen (epiphytic)	4.2	Broadleafed upland forest, North Coast coniferous forest
Wyethia longicaulis	Humboldt County wyethia	perennial herb	4.3	Broadleafed upland forest, Coastal prairie, Lower montane coniferous forest

APPENDIX A-Qualifications

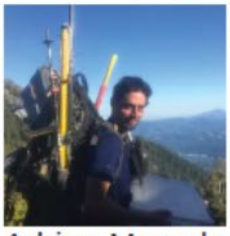


Tami Camper
Owner-Founder

Tami is the founder of TransTerra Consulting LLC. She obtained a B.S. in Environmental Science from Western Washington University and M.S. in Biology from Humboldt State University. She has worked on publications including a rare plant guide for timberlands of Mendocino County published by MCRCD. She has worked as a professional biologist and planner for 18 years, specializing in wetland/stream surveys, wildlife/vegetation mapping, rare species surveys, biological assessments, impact assessments, mitigation and monitoring plans, CEQA/NEPA and land-use planning. Though she has worked as an independent consultant for most of her career, she has also worked for HSU, Caltrans, Mendocino Redwood Company, Campbell Timberland Management and Streamline Planning (now SHN) to round out her experience. Her desire is to implement her diverse background and passion for the natural world to aid clients through the environmental process. She also is also a member of the Arcata Sunrise Rotary Club, California Native Plant Society, The Wildlife Society, The Society of Wetland Scientists and other local non-profits and professional organizations.

Margaux received her Bachelor's Degree in Molecular Biology from the California State University of Monterey Bay in 2018. She grew up in Humboldt and is very familiar with the unique geological and political landscape. Her experience encompasses restoration, environmental education, and lab techniques. She strives to utilize her molecular background to share an in depth understanding of the environmental field to promote policy and preservation.

Margaux Karp
Staff Biologist



Adrian Macedo
Staff Biologist

Adrian obtained a Bachelors of Science degree in Wildlife and a minor in Botany from Humboldt State University in 2017. He is currently finishing up a Masters of Science in Biological Sciences at Humboldt State. He has worked with the California Department of Fish and Wildlife for the past 5 years, specializing in fish, amphibian, and reptile research and restoration in the high mountain lakes of the Trinity Alps and Marble Mountain wilderness. His extensive resume includes his current phylogenetic work on Coastal Trailed Frog (Ascaphus truei), Mountain Lion (Puma concolor) tracking, bat mist-netting, electrofishing/dive counts, research specimen preparation, PIT tagging of amphibians, invasive species removal, native plant cultivation and landscaping, and much more. In addition, he has worked on six publications in various journals and three conference presentations.

Megan received her Bachelor's degree in Botany from Humboldt State University in 2019. She will be returning to HSU to pursue her Master's degree in Biology with a thesis focusing on fossil plants from the lower Devonian of Québec, Canada. Her previous work experience includes curation and care of an extensive living collection of plants from around the world, state-of-the-art biological lab facility and research equipment maintenance, and education. Currently, she is working on a diversity survey of ancient plants and will be presenting an oral paper at the Botanical Society of America conference this summer.

Megan Nibbelink
Staff Botanist