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**Botanical Survey Report
Bobillot Staton Road New Earth Farms
Cannabis Cultivation Project**



Prepared by
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Revised
6/24/22

For
Hohman and Associates
Hydesville, CA

Signature:

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Date: 6/24/2022

Setting

The Bobillot Staton Road New Earth Farms Cannabis Cultivation Project is located in Section 17, Township 6 North, Range 5 East HB&M; Humboldt County, on the Willow Creek USGS 7.5' quadrangle. The project area is approximately 3.5 miles southwest of Willow Creek, and approximately 0.4 miles northeast of Four Mile Creek. The biogeographic region can be described using a three-tiered hierarchy of province, region, and sub-region. This site lies within the California Floristic Province, Northwestern California region, and North Coast sub-region. The property lies within Six Rivers National Forest. The elevation ranges from 1920 to 2040 feet. Slopes on the property are gentle to moderate, and the aspect is primarily east-facing. The vegetation is mixed coniferous forest dominated by Douglas fir (*Pseudotsuga menziesii*) (S4 G5). The property is approximately 23 acres, and the area to be cultivated is approximately 2 acres.

Methods

Caitlyn Allchin conducted the botanical surveys for Bobillot Staton Road New Earth Farms Cannabis Cultivation Project on 5/18/2020 and 7/15/2020. Caitlyn holds a B.S. in Biological Sciences with a concentration in Botany from Humboldt State University, where she is currently a graduate student. Caitlyn has taken relevant courses including plant taxonomy, lichens and bryophytes, and principles of ecology, and conducted her senior directed study on the pollination biology of *Petasites frigidus* var. *palmatius*. She has 2 years of botany experience in Northern California.

The surveys were floristic in nature and seasonally appropriate, with an initial survey conducted during the early summer to catch early blooming species and follow-up surveys during late summer for later-blooming species. Approximately 9 field hours were spent surveying the 2 acres of cultivation area, resulting in a survey rate of 0.2 acres/hour. Surveys included systematic assessment of all potential habitats in the area based on maps, aerial photos, and visible environmental features such as canopy cover, slope, soil texture, aspect, hydrologic features, and associated vegetation. This survey protocol is based on the Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018). A list of potential rare plants on CNPS lists 1 - 3 found within the 9-quad area as listed in CDFW BIOS and CNPS Inventory of Rare and Endangered Plants is available in Attachment A. Attachment B provides details on potential rare plants. Attachment C contains photos of rare plants and the habitat of the project area. Attachment D lists all plants identified from botanical surveys. Attachment E contains a locator map and an overview map of the parcel showing rare plant populations alongside botanical survey routes. Attachment F contains rare plant rank definitions.

Results

No protected rare or endangered plants (CNPS List 1 or 2) were detected at the Bobillot Staton Road New Earth Farms Cannabis Cultivation Project area. Tracy's tarplant (*Hemizonia congesta* ssp. *tracyi*), a CNPS 4.3, was growing along a decommissioned logging road to the north of the

cultivation area (Figure 1). *Hemizonia congesta ssp. tracyi* is characterized as having white ray flowers with no purple-vein abaxially and puberulent or bristly leaves (TJM2). The limited distribution Tracy's tarplant is unlikely to be impacted given its proximity to the cultivation area. Plants with a rank of .3 are not considered very threatened in California (<20% of occurrences threatened / low degree of immediacy of threat or no current threats known).

A population of *Erythronium* species was found in a vegetative state during the 5/18/2020 survey. This population is located to the south of the entrance to the property that is located on the southeastern side of the parcel. The population is marked with pink Native Plant Protection Flagging and is unlikely to be impacted due to its proximity to the cultivation area. There is a decommissioned logging road that runs to the northwest adjacent to the *Erythronium* population. If this road needs to be accessed, a professional botanist should be consulted to identify this population to species during its blooming period (March – July). If the population is found to be a rare or threatened species of *Erythronium*, then a 100 ft buffer should be delineated with flagging around it to ensure its protection during road use.

The project area is composed of mixed coniferous forest dominated by Douglas fir (*Pseudotsuga menziesii*) (S4 G5), with madrone (*Arbutus menziesii*), canyon live oak (*Quercus chrysolepis*), tan oak (*Notholithocarpus densiflorus*), black oak (*Quercus kelloggii*) and white oak (*Quercus garryana*) (Figure 2). There are also areas with big-leaf maple (*Acer macrophyllum*) and grey pine (*Pinus sabiniana*) on the property. The forest understory was sparsely populated with poison oak (*Toxicodendron diversilobum*) and other native plants (Figure 3). While native species made up the majority of the herbaceous layer on the property, Himalayan blackberry (*Rubus armeniacus*) was encroaching areas along the pond and grasslands (Figure 4), and the highly invasive star thistle (*Centaurea solstitialis*) was dominating the grasslands spanning approximately 0.5 acres just north of the cultivation area (Figure 5).

Mitigations

There is a high amount of invasive species on the property. A large population of star thistle (*Centaurea solstitialis*) and a moderate amount of Himalayan blackberry (*Rubus armeniacus*) were found on the property to the north of the cultivation area. According to Cal-IPC, star thistle and Himalayan blackberry are both considered to be highly invasive plants and thus should be mitigated as soon as possible. Disturbance and moving plant material during conversion operations has the potential to increase the spread of these non-native invasive plants. Removal is recommended prior to operations to minimize impacts to the native plant community.

Star thistle (*Centaurea solstitialis*) should be removed by hand and mowed every 2 to 4 weeks to eradicate the established populations (DiTomaso et al. 2013). It is best to mow when the population is just beginning to flower and by cutting all aboveground biomass from the base of the plant to inhibit resprouting (DiTomaso et al. 2013). If plants are removed after seeding has begun, plants must be bagged and removed from site (DiTomaso et al. 2013). Mowing is most effective when done in the early flowering stage and again 4 to 6 weeks later to cut regrowth when new buds are emerging, or after rainfall or germination occurs (DiTomaso et al. 2013). Tillage can be effective but is not typically recommended as it will increase erosion and can

disturb native plant communities (DiTomaso et al. 2013). Removal should take place over a period of several years to be successful (DiTomaso et al. 2013).

Himalayan blackberry (*Rubus armeniacus*) is highly invasive and readily outcompetes and displaces native species, severely limits light coming through the canopy thereby limiting the growth of native plants, as well as reduces soil moisture and creates barriers to water access for wildlife (DiTomaso et al. 2013). All canes, roots, and root crowns should be bagged and removed to prevent resprouting, and plants should be mechanically removed by manually digging them out by hand or with a device such as a Pulaski or mattock (DiTomaso et al. 2013). Cutting and removing only the aboveground biomass will stimulate new growth, so it is imperative that belowground roots and canes be removed (DiTomaso et al. 2013). Tillage and bulldozing are not recommended methods of removal as it will cause significant soil disturbance and is unsuitable in riparian areas (DiTomaso et al. 2013).

Compost piles, soil piles, and raised beds should be weeded and covered when not in use. When exposed, they are an excellent environment to support the growth and spread of non-native plant species.

The surveys were appropriately spread out over the spring and summer to identify potentially occurring rare plants. A *Piperia* sp. was located during the initial survey on 5/18/2020 and marked with flagging and GPS. The *Piperia* sp. was returned to during the 7/15/2020 survey and keyed to the flat spurred piperia (*Piperia transversa*) (Figure 6), not the rare, white-flowered rein-orchid (*Piperia candida*, CRPR 1B.2). The flat spurred piperia has a spur that is perpendicular to the stem, points straight back, and is 6 – 12 mm long. The white-flowered rein-orchid has a spur that is 1.5 – 3.5 mm long and points down or curves forward towards the lip. All potential rare plant habitats were surveyed, and false negative surveys are unlikely. No additional surveys are necessary at this time. An Invasive Species Report is recommended to remove the invasive star thistle and Himalayan blackberry on the property. Additional botanical surveys are recommended for the cultivation project in five years to keep surveys current.

References

Baldwin, B.G., D.H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California, second edition*. University of California Press, Berkeley.

[CDFW] California Department of Fish and Game, 2018. “Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities” State of California.

California Department of Fish and Wildlife, Natural Diversity Database, BIOS. 2020. California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, CA. <<https://apps.wildlife.ca.gov/bios/?tool=cnddbQuick>>.

CNPS (California Native Plant Society). 2020. *Inventory of Rare and Endangered Plants*. (online edition, v8-03 0.38). Sacramento, CA. <<http://www.rareplants.cnps.org>>.

DiTomaso, J. M., G.B. Kyser, S. R. Oneto, R. G. Wilson, S. B. Orloff, L. W. Anderson, S. D. Wright, J. A. Roncoroni, T. L. Miller, T. S. Prather, C. Ransom, K. G. Beck, C. Duncan, K. A. Wilson, and J. J. Mann. 2013. *Weed control in natural areas in the Western United States*. Weed Research and Information Center, University of California.

Kauffmann, M.E., V. T. Parker, and M. C. Vasey. 2015. Field guide to manzanitas: California, North America, and Mexico. Backcountry Press, Kneeland, CA, in association with California Native Plant Society, North Coast Chapter.

Niehaus, T.F., 1976. A field guide to Pacific States wildflowers: Washington, Oregon, California, and adjacent areas. Houghton Mifflin.

Pojar, J. and MacKinnon, A., 1994. Plants of the Pacific Northwest Coast. Lone Pine, Vancouver, BC.

Sawyer, J. O., T. Keeler Wolf, and J. M. Evens. 2009. A Manual of California Vegetation Online, 2nd edition. California Native Plant Society, Sacramento, CA. <<http://vegetation.cnps.org/>>.

Smith Jr, J.P., 2014. Field guide to grasses of California (Vol. 110). Univ of California Press.

Stuart, J.D. and J.O. Sawyer. 2001. Trees and shrubs of California (Vol. 62). Univ of California Press.

Wilson, B.L., 2008. Field guide to the Sedges of the Pacific Northwest/by Barbara L. Wilson...[et al.]. Oregon State University Press.

Attachment A: List of Potentially Occurring Sensitive Plant Species

Species	Common Name	CRPR	CESA	FESA	Blooming Period	Habitat Project
<i>alberticus</i>	Bald Mountain milk-vetch	None	None	2B.3	May-Aug	Potent
<i>arizona</i>	Bensoniella	None	Rare	1B.1	May-July	Potent
<i>arizonicus</i>	Rattlesnake fern	None	None	2B.2	(Apr)Jun, Aug, Sept	Potent
<i>arizonicus</i>	Northern clustered sedge	None	None	2B.2	Jun-Sep	Potent
<i>arizonicus</i>	Bristle-stalked sedge	None	None	2B.2	Mar-Jul	Potent
<i>arizonicus</i>	Northern meadow sedge	None	None	2B.2	May-July	Potent
<i>arizonicus</i>	Bunchberry	None	None	2B.2	May-July	Potent
<i>arizonicus</i>	Oregon fireweed	None	None	1B.2	June-Sept	Potent
<i>arizonicus</i>	Pink-margined monkeyflower	None	None	1B.3	Jun-Aug	Potent
<i>arizonicus</i>	Giant fawn lily	None	None	2B.2	Mar-July	Potent
<i>arizonicus</i>	Coast fawn lily	None	None	2B.2	Mar-Aug	Potent
<i>arizonicus</i>	Wayside aster	None	None	1B.2	Jun-Sept	Potent
<i>arizonicus ssp. pacifica</i>	Pacific gilia	None	None	1B.2	April-August	Potent
<i>arizonicus</i>	American manna grass	None	None	2B.3	Jun-Aug	Potent
<i>arizonicus</i>	California globe mallow	None	None	1B.2	June-Aug	Potent
<i>arizonicus</i>	Small groundcone	None	None	2B.3	April-Aug.	Potent
<i>arizonicus var. howellii</i>	Howell's lewisia	None	None	3.2	Apr-Jul	Potent
<i>arizonicus</i>	Northern microseris	None	None	2B.1	Jun-Sept	Potent
<i>arizonicus</i>	Howell's montia	None	None	1B.1	Feb-May	Potent
<i>arizonicus</i>	Wolf's evening-primrose	None	None	2B.2	May-Oct	Potent
<i>arizonicus</i>	white-flowered rein orchid	None	None	1B.2	Mar-Sept	Potent
<i>arizonicus</i>	Angel's hair lichen	None	None	2B.1	--	Potent
<i>arizonicus var. serpentina</i>	Gasquet rose	None	None	1B.3	Apr-Jun(Aug)	Potent
<i>arizonicus</i>	Great burnet	None	None	2B.2	Jul-Oct	Potent

<i>iflora ssp. patula</i>	Siskiyou checkerbloom	None	None	1B.2	Apr-Aug	Potent
<i>ana ssp. eximia</i>	Coast checkerbloom	None	None	1B.2	Jun-Aug	Potent
<i>ibusta</i>	Robust false lupine	None	None	1B.2	May-Jul	Potent
<i>ata var. trifoliata</i>	Trifoliolate laceflower	None	None	3.2	May-Aug	Potent
<i>parium</i>	Little-leaved huckleberry	None	None	2B.2	Jun-Aug	Potent

Attachment B: Potential Rare Plant Details

1. Bald mountain milk vetch (*Astragalus umbraticus*)

Status: CNPS List 2B.3: rare or endangered in California, common elsewhere; .3: not very endangered in CA. Not federally or state listed. State Rank S2: Imperiled. Global Rank G4: Apparently Secure.

Family: Fabaceae

Flowering: May - August

Habitat: sometimes roadside, cismontane woodland, lower montane coniferous forest.

Habitat in project area: potential habitat exists along roads and in forested areas.

2. Bensoniella (*Bensoniella oregona*)

Status: CNPS List 1B.1: rare or threatened in California and elsewhere; .1: seriously endangered in CA. Not federally listed. State listed as rare (CR). State Rank S2: Imperiled. Global Rank G3: Vulnerable.

Family: Saxifragaceae

Flowering: May - July

Habitat: mesic, bogs and fens, lower montane coniferous forest (openings), meadows and seeps.

Habitat in project area: potential habitat exists in mesic areas, meadows and seeps, and forested areas.

3. Rattlesnake fern (*Botrypus virginianus*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled. Global Rank G5: Secure.

Family: Ophioglossaceae

Flowering: April - September

Habitat: streams, bogs and fens, lower montane coniferous forest (mesic), meadows and seeps, riparian forest.

Habitat in project area: potential habitat exists in mesic areas, meadows and seeps, and forested areas.

4. Northern clustered sedge (*Carex arcta*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S1: Critically Imperiled. Global Rank G5: Secure.

Family: Cyperaceae

Flowering: June - September

Habitat: bogs and fens, North Coast coniferous forest (mesic).

Habitat in project area: potential habitat exists in mesic and forested areas.

5. Bristle-stalked sedge (*Carex leptalea*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S1: Critically Imperiled. Global Rank G5: Secure.

Family: Cyperaceae

Flowering: March - July

Habitat: bogs and fens, meadows and seeps (mesic), marshes and swamps.
Habitat in project area: potential habitat exists in mesic areas of the property.

6. Northern meadow sedge (*Carex praticola*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled. Global Rank G5: Secure.

Family: Cyperaceae

Flowering: May – July

Habitat: meadows and seeps (mesic).

Habitat in project area: potential habitat exists in mesic areas.

7. Bunchberry (*Cornus canadensis*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled. Global Rank G5: Secure.

Family: Cornaceae

Flowering: May – July

Habitat: bogs and fens, meadows and seeps, North Coast coniferous forest.

Habitat in project area: potential habitat exists in mesic areas, meadows and seeps, and forested areas.

8. Oregon fireweed (*Epilobium oreganum*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled. Global Rank G2: Imperiled.

Family: Onagraceae

Flowering: June - September

Habitat: mesic, bogs and fens, lower montane coniferous forest, meadows and seeps, upper montane coniferous forest.

Habitat in project area: potential habitat exists in mesic and forested areas.

9. Pink-margined monkeyflower (*Erythranthe trinitiensis*)

Status: CNPS List 1B.3: rare or endangered in California and elsewhere; .3: not very endangered in CA. No state or federal listing. State Rank S2: Imperiled. Global Rank G2: Imperiled.

Family: Phrymaceae

Flowering: June – August

Habitat: often serpentine, often roadsides, cismontane woodland, lower montane coniferous forest, meadows and seeps, upper montane coniferous forest.

Habitat in project area: potential habitat exists in roadsides, meadows and seeps, serpentine, and forested areas.

10. Giant fawn lily (*Erythronium oregonum*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled. Global Rank G4G5: Apparently Secure/Secure.

Family: Liliaceae

Flowering: March - July

Habitat: sometimes serpentinite, rocky, openings, cismontane woodland, meadows and seeps.

Habitat in project area: potential habitat exists in serpentine areas, rocky areas, meadows and seeps, and forest areas.

11. Coast fawn lily (*Erythronium revolutum*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S3: Vulnerable. Global Rank G4G5: Apparently Secure/Secure.

Family: Liliaceae

Flowering: March - August

Habitat: mesic, streambanks, bogs and fens, broadleafed upland forest, North Coast coniferous forest.

Habitat in project area: potential habitat exists in mesic and forested areas.

12. Wayside aster (*Eucephalus vialis*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S1: Critically Imperiled. Global Rank G3: Vulnerable.

Family: Asteraceae

Flowering: June - September

Habitat: gravelly, lower montane coniferous forest, upper montane coniferous forest.

Habitat in project area: potential habitat exists in gravelly and forested areas.

13. Pacific gilia (*Gilia capitata ssp. pacifica*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled, Global Rank G5T3: Secure/Vulnerable.

Family: Polemoniaceae

Flowering: April - August

Habitat: coastal bluff scrub, chaparral (openings), coastal prairie, valley and foothill grassland.

Habitat in project area: potential habitat exists in grassy openings.

14. American manna grass (*Glyceria grandis*)

Status: CNPS List 2B.3: rare or endangered in California, common elsewhere; .3: not very endangered in CA. No state or federal listing. State Rank S3: Vulnerable. Global Rank G5: Secure.

Family: Poaceae

Flowering: June - August

Habitat: bogs and fens, meadows and seeps, marshes and swamps (streambanks and lake margins).

Habitat in project area: potential habitat exists in mesic areas and meadows and seeps.

15. California globe mallow (*Iliamna latibracteata*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled, Global Rank G2G3: Imperiled/Vulnerable.

Family: Malvaceae

Flowering: June - August

Habitat: often in burned areas, chaparral (montane), lower montane coniferous forest, North Coast coniferous forest (mesic), riparian scrub (streambanks).

Habitat in project area: potential habitat exists in conifer-dominated areas and mesic areas.

16. Small groundcone (*Kopsiopsis hookeri*)

Status: CNPS List 2B.3: rare or endangered in California, common elsewhere; .3: not very endangered in CA. No federal or state listing. State Rank S1S2: Critically Imperiled/Imperiled. Global Rank G4?: Apparently Secure.

Family: Orobanchaceae

Flowering: April - August

Habitat: North Coast coniferous forest.

Habitat in project area: potential habitat exists in conifer-dominated areas.

17. Howell's lewisia (*Lewisia cotyledon* var. *howellii*)

Status: CNPS List 3.2: more information needed; .2: fairly endangered in CA. No State or Federal listing, State Rank S2: Imperiled. Global Rank G4T4Q: Apparently Secure.

Family: Montiaceae

Flowering: April - July

Habitat: rocky, broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest.

Habitat in project area: potential habitat exists in rocky and forested areas.

18. Northern microseris (*Microseris borealis*)

Status: CNPS List 2B.1: rare or endangered in California, common elsewhere; .1: seriously endangered in CA. No State or Federal listing, State Rank S1: Critically Imperiled, Global Rank G5: Secure.

Family: Asteraceae

Flowering: June - September

Habitat: mesic, bogs and fens, lower montane coniferous forest, meadows and seeps.

Habitat in project area: potential habitat exists in mesic and forested areas.

19. Howell's montia (*Montia howellii*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled, Global Rank G3G4: Vulnerable/Apparently Secure.

Family: Montiaceae

Flowering: January - May

Habitat: vernal mesic, sometimes roadsides, meadows and seeps, North Coast coniferous forest, vernal pools.

Habitat in project area: potential habitat exists in vernal mesic forested areas and roadsides.

20. Wolf's evening-primrose (*Oenothera wolffii*)

Status: CNPS List 1B.1: rare or endangered in California and elsewhere; .1: seriously endangered in CA. No state or federal listing. State Rank S1: Critically Imperiled. Global Rank G2: Imperiled.

Family: Onagraceae

Flowering: May - October

Habitat: sandy, usually mesic, coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest.

Habitat in project area: potential habitat exists within the forested and mesic areas.

21. White-flowered rein orchid (*Piperia candida*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere, .2 fairly endangered in CA. No state or federal listing. State Rank S3: Vulnerable, Global Rank G3: Vulnerable.

Family: Orchidaceae

Flowering: March - September

Habitat: sometimes serpentinite, broadleaved upland forest, lower montane coniferous forest, North Coast coniferous forest.

Habitat in project area: potential habitat exists within serpentinite and forested areas.

22. Angel's hair lichen (*Ramalina thrausta*)

Status: CNPS List 2 rare, threatened, or endangered in CA, .1 seriously endangered in CA. No state or federal listing. State Rank S2: imperiled, Global Rank G5: secure.

Family: Ramalinaceae

Habitat: On dead twigs and other lichens, North coast coniferous forest.

Habitat in Project Area: Potential habitat exists within the forested area.

23. Gasquet rose (*Rosa gymnocarpa* var. *serpentina*)

Status: CNPS List 1B.3: rare or endangered in California and elsewhere; .3: not very endangered in CA. No state or federal listing. State Rank S2: Imperiled, Global Rank G5T3T4:

Secure/Vulnerable/Apparently Secure.

Family: Rosaceae

Flowering: April - August

Habitat: serpentinite, often roadsides, sometimes streambanks, openings, chaparral, cismontane woodland.

Habitat in project area: potential habitat exists within serpentinite areas, forested areas, openings, and roadsides.

24. Great burnet (*Sanguisorba officinalis*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled, Global Rank G5?: Secure.

Family: Rosaceae

Flowering: July - October

Habitat: often serpentinite, bogs and fens, broadleaved upland forest, meadows and seeps, marshes and swamps, North Coast coniferous forest, riparian forest.

Habitat in project area: potential habitat exists within serpentinite areas, meadows and seeps, mesic areas, and forested areas.

25. Siskiyou checkerbloom (*Sidalcea malviflora ssp. patula*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere; .2: fairly endangered in CA. No state or federal listing, State Rank S2: Imperiled, Global Rank G5T2: Secure/Imperiled.

Family: Malvaceae

Flowering: April - August

Habitat: often roadcuts, coastal bluff scrub, coastal prairie, North Coast coniferous forest.

Habitat in project area: potential habitat exists within the forested areas and along roadsides.

26. Coast checkerbloom (*Sidalcea oregana ssp. eximia*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere; .2: fairly endangered in CA. No state or federal listing, State Rank S1: Critically Imperiled, Global Rank G5T1: Secure/Critically Imperiled.

Family: Malvaceae

Flowering: June - August

Habitat: lower montane coniferous forest, meadows and seeps, North Coast coniferous forest.

Habitat in project area: potential habitat exists within the forested areas, meadows, and seeps.

27. Robust false lupine (*Thermopsis robusta*)

Status: CNPS List 1B.2: rare or endangered in California and elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S2: Imperiled, Global Rank G2: Imperiled.

Family: Fabaceae

Flowering: May - July

Habitat: broadleafed upland forest, North Coast coniferous forest.

Habitat in project area: potential habitat exists within forested areas.

28. Trifoliolate laceflower (*Tiarella trifoliata var. trifoliata*)

Status: CNPS List 3.2: more information needed; .2: fairly endangered in CA. No state or federal listing. State Rank S2S3: Imperiled/Vulnerable. Global Rank G5T5: Secure.

Family: Saxifragaceae

Flowering: May - August

Habitat: edges, moist shady banks, streambanks, lower montane coniferous forest, North Coast coniferous forest.

Habitat in project area: potential habitat exists within forested and mesic areas.

29. Little-leaved huckleberry (*Vaccinium scoparium*)

Status: CNPS List 2B.2: rare or endangered in California, common elsewhere; .2: fairly endangered in CA. No state or federal listing. State Rank S3: Vulnerable. Global Rank G5: Secure.

Family: Ericaceae

Flowering: June - August

Habitat: subalpine coniferous forest (rocky).

Habitat in project area: potential habitat exists within rocky forested areas.

Attachment C. Rare Plant & Habitat Photos



Tracy's tarplant (*Hemizonia congesta*; CNPS 4.3) was found growing along a signed logging road north of the area.

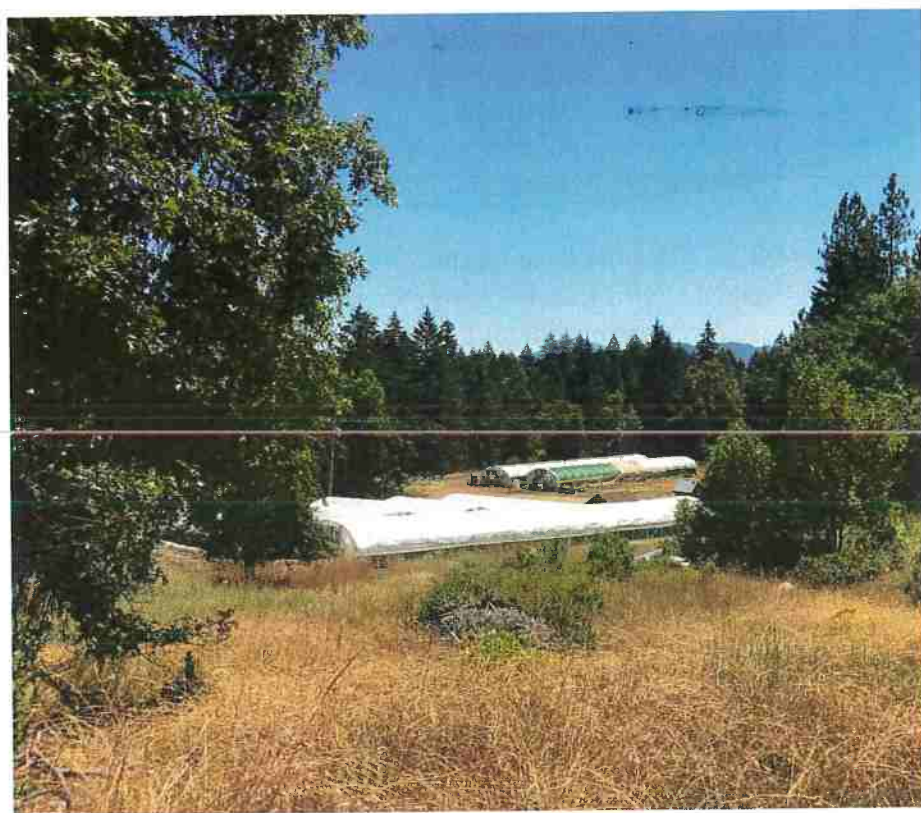


Figure 2. The project area is composed of mixed conifer forest dominated by Douglas fir (*Pseudotsuga menziesii*) with madrone (*Arbutus menziesii*), canyon live oak (*Quercus chrysolepis*), tanoak (*Notholithocarpus densiflorus*), black oak (*Quercus kelloggii*), and Oregon white oak (*Quercus garryana*).



Figure 3. The forest understory was sparsely populated with common oak (*Toxicodendron diversilobum*) and other species. The ground was covered with fallen leaves.

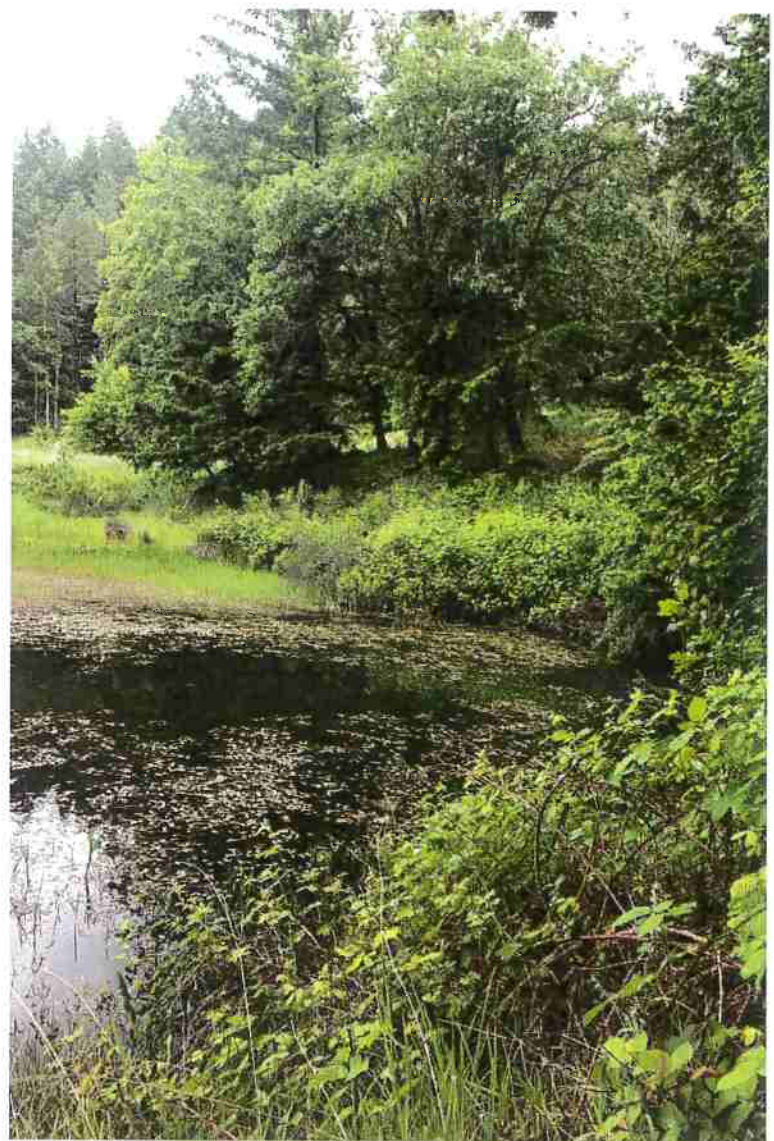


Figure 4. Himalayan blackberry (*Rubus armeniacus*) dominating areas surrounding the pond and other species. The area is located north of the cannabis cultivation area.



The property had ~ 0.5 acres of star thistle (*Centaurea*) dominating the grasslands north of the cultivation area on the



Figure 6. The *Piperia* sp. recorded or during the initial survey on 5/18/2020 & returned to and identified as the flat sp. piperia (*Piperia transversa*) on the follow-up survey on 7/15/2020.

Attachment D. Plant Species Observed

Type	Scientific Name	Common Name	Family	Date
Trees	<i>Acer macrophyllum</i>	Bigleaf maple	Sapindaceae	5/18/2020
	<i>Arbutus menziesii</i>	Madrono	Ericaceae	5/18/2020
	<i>Calocedrus decurrens</i>	Incense cedar	Cupressaceae	5/18/2020
	<i>Frangula purshiana</i>	Cascara sagrada	Rhamnaceae	7/15/2020
	<i>Juglans hindsii</i>	Northern California black walnut	Juglandaceae	7/15/2020
	<i>Malus sp.</i>	Apple sp.	Rosaceae	5/18/2020
	<i>Notholithocarpus densiflorus</i>	Tanoak	Fagaceae	5/18/2020
	<i>Pinus sabiniana</i>	Bull pine	Pinaceae	5/18/2020
	<i>Populus nigra</i>	black poplar	Salicaceae	5/18/2020
	<i>Pseudotsuga menziesii</i>	Douglas fir	Pinaceae	5/18/2020
	<i>Quercus chrysolepis</i>	Gold cup live oak	Fagaceae	5/18/2020
	<i>Quercus garryana</i>	Oregon oak	Fagaceae	5/18/2020
	<i>Quercus kelloggii</i>	California black oak	Fagaceae	5/18/2020
	<i>Salix babylonica</i>	weeping willow	Salicaceae	5/18/2020
Shrubs	<i>Arctostaphylos manzanita</i>	Common manzanita	Ericaceae	5/18/2020
	<i>Baccharis pilularis</i>	Coyote brush	Asteraceae	5/18/2020
	<i>Ceanothus cuneatus</i>	Buck brush	Rhamnaceae	5/18/2020
	<i>Ceanothus velutinus</i>	Tobacco brush, snowbrush	Rhamnaceae	5/18/2020
	<i>Cornus sericea</i>	American dogwood	Cornaceae	5/18/2020
	<i>Corylus cornuta</i>	Beaked hazelnut	Betulaceae	5/18/2020
	<i>Holodiscus discolor</i>	Oceanspray	Rosaceae	5/18/2020
	<i>Lonicera hispidula</i>	Pink honeysuckle	Caprifoliaceae	5/18/2020
	<i>Ribes roezlii</i>	Sierra gooseberry	Grossulariaceae	5/18/2020
	<i>Rosa gymnocarpa</i>	Wood rose	Rosaceae	5/18/2020
	<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	7/15/2020
	<i>Rubus ursinus</i>	California blackberry	Rosaceae	5/18/2020
	<i>Symphoricarpos albus</i>	Common snowberry	Caprifoliaceae	5/18/2020
	<i>Toxicodendron diversilobum</i>	Poison oak	Anacardiaceae	5/18/2020
Herbaceous	<i>Achillea millefolium</i>	Yarrow	Asteraceae	5/18/2020
	<i>Acmispon americanus</i>	American bird's foot trefoil	Fabaceae	7/15/2020
	<i>Acmispon brachycarpus</i>	Short-podded lotus	Fabaceae	5/18/2020
	<i>Acmispon wrangelianus</i>	Chilean trefoil	Fabaceae	5/18/2020
	<i>Aira caryophyllea</i>	Silvery hairgrass	Poaceae	5/18/2020
	<i>Allium falcifolium</i>	Sickle leaf onion	Alliaceae	7/15/2020
	<i>Anisocarpus madioides</i>	Woodland madia	Asteraceae	5/18/2020

<i>Anthoxanthum odoratum</i>	Sweet vernal grass	Poaceae	5/18/2020
<i>Aspidotis densa</i>	Lace fern	Pteridaceae	5/18/2020
<i>Avena barbata</i>	Slim oat	Poaceae	5/18/2020
<i>Brassica nigra</i>	Black mustard	Brassicaceae	5/18/2020
<i>Brodiaea elegans</i>	Harvest brodiaea	Themidaceae	7/15/2020
<i>Calystegia occidentalis</i>	Bush morning glory	Convolvulaceae	7/15/2020
<i>Capsella bursa-pastoris</i>	Shepherd's purse	Brassicaceae	5/18/2020
<i>Centaurea solstitialis</i>	Yellow starthistle	Asteraceae	7/15/2020
<i>Chaenorhinum minus</i>	Dwarf toad flax	Plantaginaceae	5/18/2020
<i>Chimaphila menziesii</i>	Little prince's pine	Ericaceae	5/18/2020
<i>Chlorogalum pomeridianum</i>	Amole	Agavaceae	7/15/2020
<i>Cichorium intybus</i>	Chicory	Asteraceae	7/15/2020
<i>Cirsium brevistylum</i>	Indian thistle	Asteraceae	5/18/2020
<i>Cirsium vulgare</i>	Bullthistle	Asteraceae	5/18/2020
<i>Claytonia perfoliata</i>	Miner's lettuce	Montiaceae	5/18/2020
<i>Cynoglossum grande</i>	Houndstongue	Boraginaceae	5/18/2020
<i>Cynosurus echinatus</i>	Dogtail grass	Poaceae	5/18/2020
<i>Cyperus eragrostis</i>	Tall cyperus	Cyperaceae	5/18/2020
<i>Dactylis glomerata</i>	Orchardgrass	Poaceae	5/18/2020
<i>Danthonia californica</i>	California oatgrass	Poaceae	5/18/2020
<i>Daucus pusillus</i>	Wild carrot	Apiaceae	5/18/2020
<i>Dichelostemma congestum</i>	Fork toothed ookow	Themidaceae	5/18/2020
<i>Epilobium foliosum</i>	California willowherb	Onagraceae	7/15/2020
<i>Equisetum hyemale</i>	Scouringrush horsetail	Equisetaceae	7/15/2020
<i>Erodium cicutarium</i>	Coastal heron's bill	Geraniaceae	5/18/2020
<i>Erythranthe dentata</i>	two-leaved monkey flower	Phrymaceae	5/18/2020
<i>Erythronium sp.</i>	Fawn Lily	Liliaceae	5/18/2020
<i>Eschscholzia californica</i>	California poppy	Papaveraceae	5/18/2020
<i>Euphorbia peplus</i>	Petty spurge	Euphorbiaceae	5/18/2020
<i>Festuca californica</i>	California fescue	Poaceae	5/18/2020
<i>Festuca perennis</i>	Italian rye grass	Poaceae	7/15/2020
<i>Fragaria vesca</i>	wild strawberry	Rosaceae	5/18/2020
<i>Galium aparine</i>	Cleavers	Rubiaceae	5/18/2020
<i>Galium californicum</i>	California bedstraw	Rubiaceae	7/15/2020
<i>Geranium dissectum</i>	Wild geranium	Geraniaceae	5/18/2020
<i>Hemizonia congesta</i> <i>ssp. tracyi</i> 4.3	Tracy's tarplant	Asteraceae	7/15/2020
<i>Hieracium albiflorum</i>	White flowered hawkweed	Asteraceae	5/18/2020
<i>Holcus lanatus</i>	Common velvetgrass	Poaceae	7/15/2020
<i>Hypericum perforatum</i>	Klamathweed	Ericaceae	7/15/2020
<i>Hypochaeris radicata</i>	Hairy cat's ear	Asteraceae	7/15/2020
<i>Iris purdyi</i>	Purdy's iris	Iridaceae	5/18/2020
<i>Juncus effusus</i>	Common bog rush	Juncaceae	5/18/2020

<i>Kopsiopsis strobilacea</i>	California ground cone	Orobanchaceae	5/18/2020
<i>Lactuca serriola</i>	Prickly lettuce	Asteraceae	5/18/2020
<i>Lamium purpureum</i>	Purple dead nettle	Lamiaceae	5/18/2020
<i>Lathyrus latifolius</i>	Sweet pea	Fabaceae	5/18/2020
<i>Lathyrus nevadensis</i>	Sierra pea	Fabaceae	5/18/2020
<i>Lepidium campestre</i>	Field pepper grass	Brassicaceae	5/18/2020
<i>Lithophragma affine</i>	Common woodland star	Saxifragaceae	5/18/2020
<i>Lomatium dasycarpum</i>	Lace parsnip	Apiaceae	5/18/2020
<i>Lysimachia arvensis</i>	Scarlet pimpernel	Myrsinaceae	7/15/2020
<i>Madia gracilis</i>	Gumweed	Asteraceae	5/18/2020
<i>Malva neglecta</i>	Dwarf mallow	Malvaceae	5/18/2020
<i>Malva nicaeensis</i>	Bull mallow	Malvaceae	5/18/2020
<i>Matricaria discoidea</i>	Pineapple weed	Asteraceae	5/18/2020
<i>Melilotus albus</i>	White sweetclover	Fabaceae	5/18/2020
<i>Mentha pulegium</i>	Pennyroyal	Lamiaceae	5/18/2020
<i>Mentha spicata</i>	Spearmint	Lamiaceae	5/18/2020
<i>Pedicularis densiflora</i>	Indian warrior	Orobanchaceae	7/15/2020
<i>Penstemon laetus</i>	Mountain blue penstemon	Plantaginaceae	7/15/2020
<i>Pentagramma triangularis</i>	Gold back fern	Pteridaceae	7/15/2020
<i>Piperia transversa</i>	Mountain piperia	Orchidaceae	5/18/2020
<i>Plagiobothrys nothofulvus</i>	Rusty haired popcorn flower	Boraginaceae	5/18/2020
<i>Plantago lanceolata</i>	Ribwort	Plantaginaceae	7/15/2020
<i>Polygala californica</i>	Milkwort	Polygalaceae	7/15/2020
<i>Polygonum aviculare</i>	Prostrate knotweed	Polygonaceae	7/15/2020
<i>Polystichum munitum</i>	Western sword fern	Dryopteridaceae	7/15/2020
<i>Primula hendersonii</i>	Mosquito bill	Primulaceae	5/18/2020
<i>Pteridium aquilinum</i>	Western brackenfern	Dennstaedtiaceae	5/18/2020
<i>Pyrola aphylla</i>	leafless wintergreen	Ericaceae	5/18/2020
<i>Ranunculus occidentalis</i>	Western buttercup	Ranunculaceae	5/18/2020
<i>Raphanus sativus</i>	Jointed charlock	Brassicaceae	5/18/2020
<i>Rumex acetosella</i>	Sheep sorrel	Polygonaceae	5/18/2020
<i>Rumex crispus</i>	Curly dock	Polygonaceae	5/18/2020
<i>Scoliopus bigelovii</i>	Slink pod	Liliaceae	5/18/2020
<i>Senecio jacobaea</i>	Tansy ragwort	Asteraceae	5/18/2020
<i>Senecio minimus</i>	Coastal burnweed	Asteraceae	7/15/2020
<i>Silene bolanderi</i>	Bolander's silene	Caryophyllaceae	5/18/2020
<i>Silene gallica</i>	Common catchfly	Caryophyllaceae	5/18/2020
<i>Sonchus asper</i>	Spiny sowthistle	Asteraceae	5/18/2020
<i>Sonchus oleraceus</i>	Sow thistle	Asteraceae	5/18/2020
<i>Stellaria media</i>	Chickweed	Caryophyllaceae	5/18/2020
<i>Trichostema laxum</i>	Turpentine weed	Lamiaceae	7/15/2020
<i>Trifolium hirtum</i>	Rose clover	Fabaceae	5/18/2020

<i>Trifolium repens</i>	White clover	Fabaceae	5/18/2020
<i>Trifolium willdenovii</i>	Tomcat clover	Fabaceae	5/18/2020
<i>Triteleia hyacinthina</i>	Wild hyacinth	Themidaceae	5/18/2020
<i>Viola ocellata</i>	Western heart's ease	Violaceae	5/18/2020
<i>Zeltnera muehlenbergii</i>	Muehlenberg's centaury	Gentianaceae	7/15/2020

Attachment E. Locator Map & Botanical Survey Map

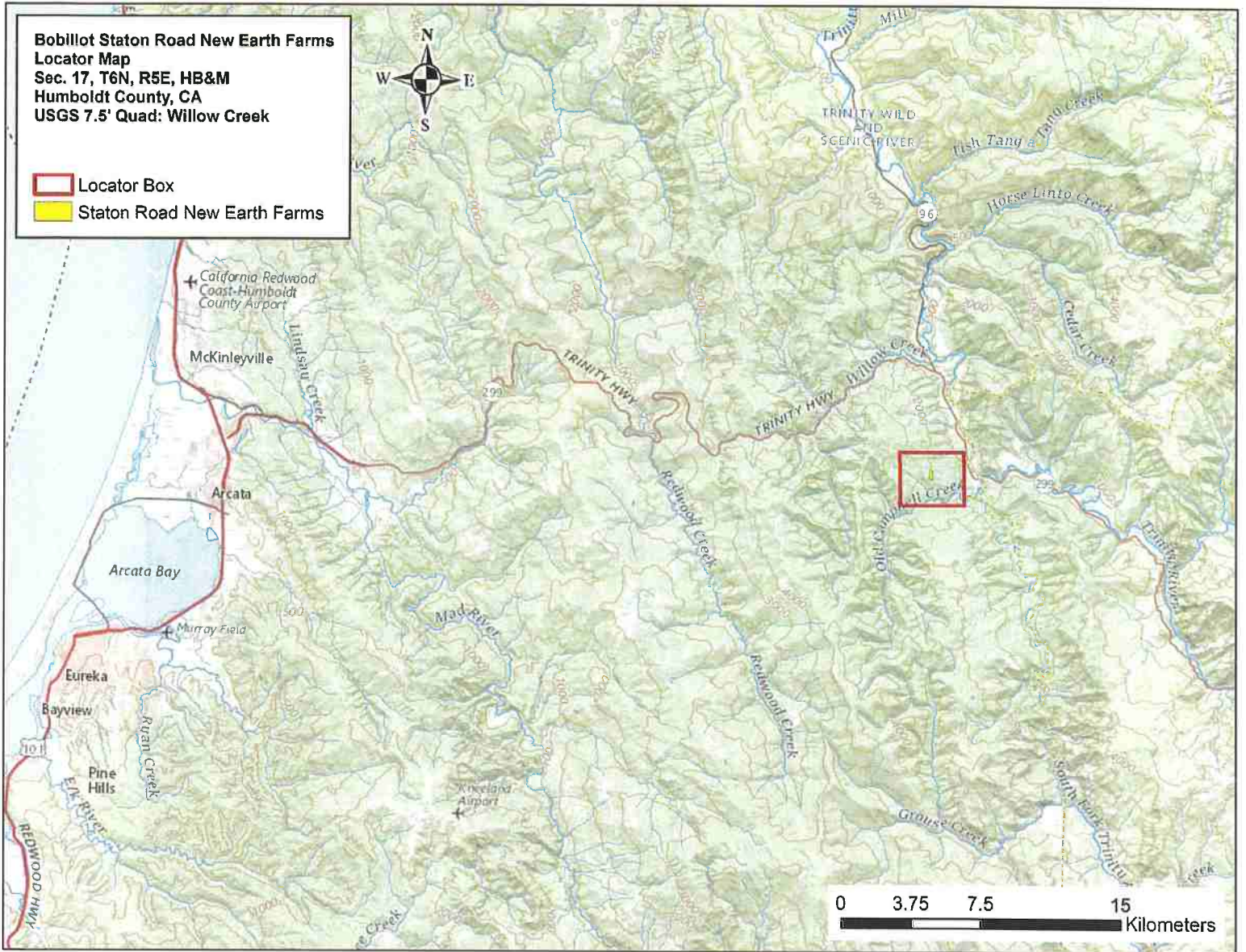


Figure I. Locator map for the Bobillot Staton Road New Earth Farms Cannabis Cultivation Project.

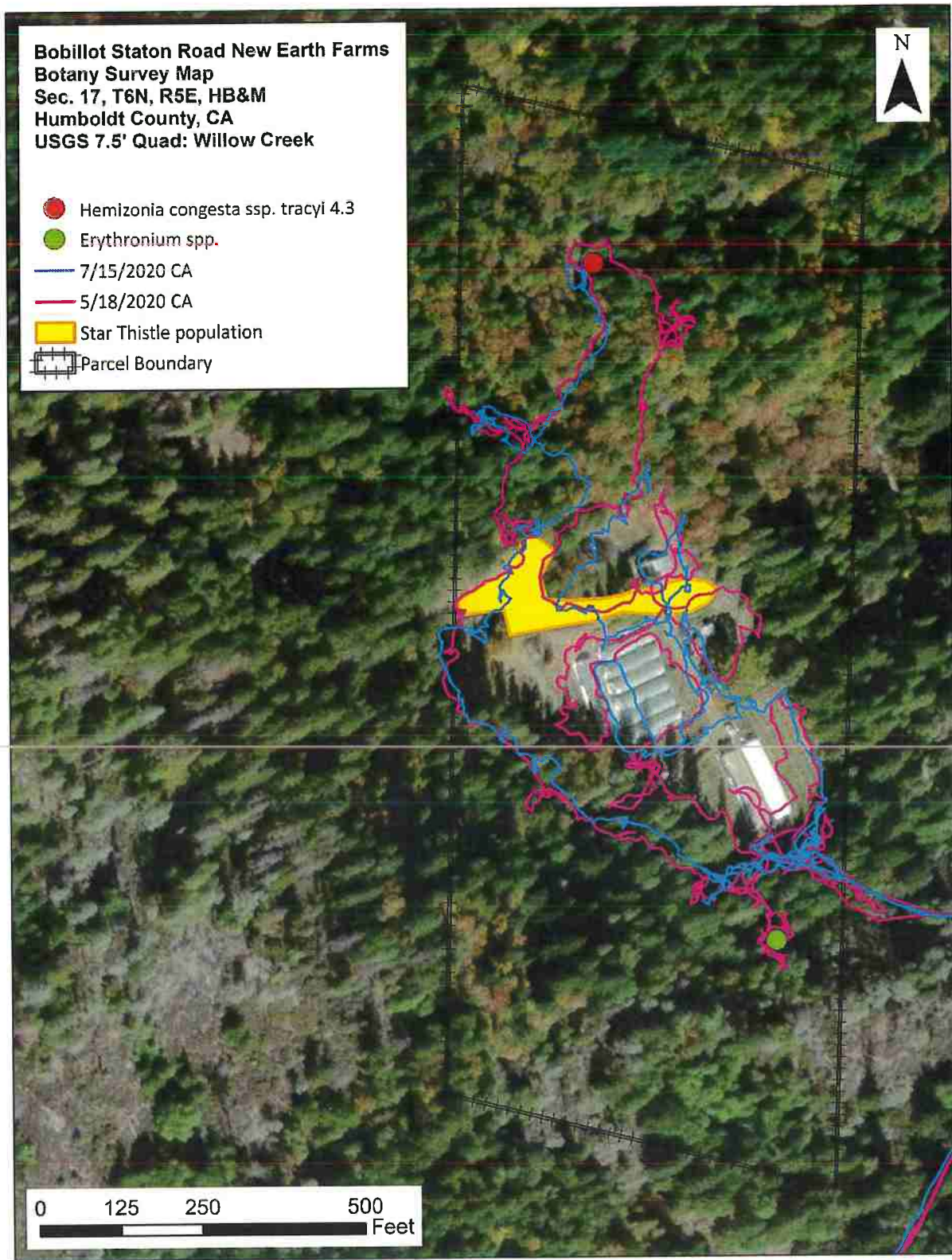


Figure II. Overview of the Bobillot Staton Road New Earth Farms Cannabis Cultivation Project site with botany survey tracks alongside rare plant populations and invasive star thistle (*Centaurea solstitialis*).

Attachment F. Rank Definitions

Global Conservation Status Definition

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

- G1** **Critically Imperiled** – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2** **Imperiled** – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
- G3** **Vulnerable** – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
- G4** **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5** **Secure** – Common; widespread and abundant.
- G#G#** **Range Rank** – A numeric range rank (e.g. G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

Intraspecific Taxon Conservation Status Ranks

- T#** **Intraspecific Taxon** (trinominal) – The status of intraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species. For example, a GIT2 subrank should not occur. A vertebrate animal population, (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an intraspecific taxon and given a T-rank; in such cases a Q is used after the T-rank to denote the taxon’s informal taxonomic status.

Subnational (S) Conservation Status Ranks

- S1** **Critically Imperiled** – Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.
- S2** **Imperiled** – Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.
- S3** **Vulnerable** – Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4** **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5** **Secure** – Common, widespread, and abundant in the jurisdiction.
- S#S#** **Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).

Rank Qualifiers

- ? **Inexact Numeric Rank** – Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status
- Q **Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The “Q” modifier is only used at a global level and not at a national or subnational level.

The California Rare Plant Ranks

- 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 we need more information – Review list
- 4. Plants of limited distribution – Watch list

1A: Plants Presumed Extirpated in California and either rare or extinct elsewhere

The plants of Rank 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes those plant taxa that are both presumed extinct, as well as those plants which are presumed extirpated in California and rare elsewhere. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California but may still occur elsewhere in its range.

1B: Plants Rare, Threatened or Endangered in California and Elsewhere (Includes Rare Plant Ranks 1B.1, 1B.2, 1B.3)

The plants of Rank 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. California Rare Plant Rank 1B plants constitute the majority of plant taxa tracked by the CNDDDB, with more than 1,000 plants assigned to this category of rarity.

2A: Plants Presumed Extirpated in California, but more common elsewhere

The plants of Rank 2A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes only those plant taxa that are presumed extirpated in California, but that are more common elsewhere in their range. Note: Plants of both Rank 1A and 2A are presumed extirpated in California; the only difference is the status of the plants outside of the state.

2B: Plants Rare, Threatened or Endangered in California, but More Common Elsewhere (Includes Rare Plant Ranks 2B.1, 2B.2, 2B.3)

The plants of Rank 2B are rare, threatened or endangered in California, but more common elsewhere. Plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act; however, they are eligible for consideration under the California Endangered Species Act. This rank is meant to highlight the importance of protecting the geographic range and genetic diversity of more widespread species by protecting those species whose ranges just extend into California. Note: Plants of both Rank 1B and 2B are rare, threatened or endangered in California; the only difference is the status of the plants outside of the state.

Threat Ranks:

The California Rare Plant Ranks (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. So, most CRPRs read as 1B.1, 1B.2, 1B.3, etc. Note that some Rank 3 plants do not have a threat code extension since there are no known extant populations of the plants in California.

Threat Code extensions and their meanings:

- .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 immediacy of threat)
- .3 – Not very threatened in California (<20% of occurrences threatened / low degree of immediacy of threat or no current threats known)