

BOTANICAL REPORT OF SPECIAL STATUS NATIVE PLANT POPULATIONS AND NATURAL COMMUNITIES

APN: 104-232-012 & 105-141-001

631 Chambers Rd. Petrolia, Humboldt County, CA

Prepared For:

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Summary Information

Legal description:	Portion of section 3 of T2S, R2W, H.B.&M.
APN:	104-232-012 & 105-141-001
USGS 7.5' Quad:	Petrolia (4012433)
Parcel size:	45.79 Acres
Dates of survey:	April 16 th 2022 and July 2 nd 2022
Surveyed by:	Sarah Mason
Field survey effort:	5 hours
Results:	<u>No CRPR 1 or 2 plants were observed</u>

Introduction, Background, and Project Understanding

Purpose and Need

This botanical survey report was prepared to assess potential impacts to botanical resources and summarizes the results of a survey conducted in southwestern Humboldt County near Petrolia, California (APN: 104-232-012 & 105-141-001). The survey was performed to identify special status plants and sensitive plant communities that could be impacted by cannabis cultivation operations in accordance with the California Environmental Quality Act (CEQA) using the California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

Project Description and Setting

The proposed project is for the expansion of 33,560 square feet of outdoor cannabis cultivation at an existing site of 10,000 square feet. In addition, the project includes the construction of a 2,016 square ft building, used for storage and drying, and a 425,000-gallon rainwater catchment pond. The project is to occur across two parcels totaling to 45.79 acres. A majority of the parcel is currently utilized for grazing and is dominated by several invasive species.

The parcel address is located at 631 Chambers Road, Petrolia, CA, 95558. The parcels are approximately 1.0 miles east of downtown Petrolia, California, within the Petrolia USGS 7.5-minute quadrangle (Quad code: 4012433), portion of section 3, T2S, R2W, H.B.&M. The center location of the project area is 40°19'24.19" N 124°16'34.42"W at an elevation of 206 feet (62.8 meters) above sea level (Google Earth Pro, 2022).

Soil, Topography, and Hydrology

Data from *Web Soil Survey* for the project area do not indicate any unique soil types that would provide habitat for rare plants such as serpentinite or peat. The parent material consists of alluvium deposits derived from mixed sedimentary sources and colluvium deposits derived from sandstone, mudstone, and schist.

The project area lies east of Mill Creek, within the Mattole River watershed, which drains into the Pacific Ocean via the Mattole River. The project area is situated 0.72 miles north of the Mattole River. No water courses run within the project area. Refer to Figure 1 (Appendix C) for locator map.

The project area is position against a foot and toe slope with a slight southwest facing aspect ranging from ~185 to ~ 245 feet in elevation.

Definitions

Special Status Plants and Plant Communities

Special status plants include taxa that are listed under the Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA) in addition to plants which meet the definition of rare or endangered under the California Environmental Quality Act (CEQA). CDFW recommends that plants on California Rare Plant Ranks (CRPR) Lists 1A (presumed extinct or extirpated), 1B (rare, threatened, or endangered in California and elsewhere), 2A (presumed extirpated) and 2B (rare, threatened, or endangered in California but more common elsewhere), or other species that warrant consideration based on local or biological significance, be addressed during California Environmental Quality Act (CEQA) review of proposed projects. Plants of rank 3 and 4, which are under review and watch lists respectively, are addressed by Naiad Biological Consulting, and may warrant consideration under CEQA if potential or cumulative impacts to the plant exist.

CDFW's natural community rarity rankings follow NatureServe's 2012 *NatureServe Conservation Status Assessment: Methodology for Assigning Ranks*, in which all alliances are listed with a global (G) and (S) rank. NCSC are those natural communities that are ranked S1 to S3 (CDFW, 2020), where 1 is critically imperiled, 2 is imperiled, and 3 is vulnerable. However, they may not warrant protection under CEQA unless they are considered high quality. Human disturbance, invasive species, logging, and grazing are common factors considered when judging whether the stand is high quality and warrants protection.

Methods

Pre-Site Visit Data Compilation and Preparation

Prior to conducting the field surveys, the following database information was reviewed to determine the location and types of botanical resources that possibly exist in the survey area. This pre-field investigation included searches of the California Natural Diversity Database (CNDDDB, 2022) and the California Native Plant Society's *Inventory of Rare and Endangered Plants* (CNPS, 2022). This list includes CRPR (California Rare Plant Rank) 1 and 2 plants that have been observed within a 9-quadrant search centered on the *Petrolia* quadrangle. Because this quadrangle is coastal, only 7 quadrangles

lie within the 9-quad search. USGS quadrangles within the search area include: Buckeye Mtn. (4012432), Cape Mendocino (4012444), Capetown (4012443), Cooskie Creek (4012423), Petrolia (4012433), Shubrick Peak (4012422), and Taylor Peak (4012442). The results of the project scoping are presented below in Table 1 (Appendix A).

Reference Populations

Reference populations were used to determine the timing of seasonally appropriate surveys. When access to suitable reference populations was unavailable, iNaturalist observations were used. The following reference populations of rare plants were used for this project:

- *Sidalcea malviflora* ssp. *patula* located about 16 miles northwest of the project area, on Mattole Road near Capetown, was observed in bloom on April 16th, 2022.
- *Gilia capitata* ssp. *pacifica* located about 100 miles northeast of the project area, off Bald Hills Road, was observed in bloom on July 3rd, 2022

Botanical Field Survey and Habitat Investigation

The botanical field surveys for this project were completed by Sarah Mason. Sarah holds a BS in Botany from Humboldt State University and is currently working towards a MSc in Biology. She is currently employed as a botany and forestry Science Aid for California State Parks, North Coast Redwoods District. Sarah has worked as an assistant botanist and biologist with Caltrans, a botanical technician for the Bitterroot and Klamath National Forests, and studied bumble bee and plant interactions in the Marble Mountains. Sarah has experience in rare plant identification, protection and monitoring of rare plants, and teaching plant taxonomy at the university level.

Surveys were floristic in nature and conducted in a manner consistent with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). Plants were identified to the lowest taxonomic level necessary to ensure that they were not a species of concern. Plants not identifiable in the field were identified off site with the use of *The Jepson Manual, Vascular Plants of California*. Other resources used to identify plants can be found in the reference section towards the end of this report.

Botanical surveys were conducted throughout the areas proposed for cultivation operations and the associated road system. Surveys were conducted in an intuitive meander focused on areas likely to provide habitat for rare plant species and/or potentially affected (directly or indirectly) by cultivation operations. These areas include, but are not limited to, existing permanent and seasonal roads, new road construction, road points and crossings, forest openings (i.e., meadows, landings, and cut banks), springs and watercourses. Refer to Figure 2 (Appendix C) for the survey routes.

Results

Habitats Observed

No special-status vegetation communities or habitats were observed during the botanical survey of the project area. The project area habitat is typical of a disturbed coastal prairie, dominated by several invasive grasses. No watercourses exist within the project area. See figures 3, 4, and 5 (Appendix D) for example photos of project area and habitats present.

Species Observed

No CRPR 1 or 2 plants were encountered in the project area. A total of 70 plant taxa were observed in the project area, of which approximately 40% are invasive. Several invasive species dominate the project area, such as Scotch broom (*Cytisus scoparius*), medusa head (*Elymus caput-medusae*), slender wild oat (*Avena barbata*), and sweet vernal grass (*Anthoxanthum odoratum*). Refer to Table 2 (Appendix B) for a list of species observed in the project area.

Conclusion and Discussion

Conclusion

Results of the botanical field survey indicate that negative impacts to sensitive species or sensitive habitats will not occur as a result of the development of cannabis cultivation expansion and a rainwater catchment pond at the sites surveyed.

Although no listed species were observed during the field survey, it is possible that previous ground disturbances, existing drought conditions, which may alter bloom times and durations, as well as herbivory by deer could have affected the survey results.

Recommendations

Due to the low quality of habitat, from historic grazing and high numbers of invasive grasses present, no sensitive plant species, communities, or habitats were encountered during the botanical field survey. It is not expected that cultivation operations or other ground disturbances will impact habitats further. No further botanical surveys are recommended.

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Appendix A. Results from database search

Table 1. Target special-status plants of the project area

Petrolia and surrounding 7.5 min quadrangles: Special-Status Plant Species

Scientific Name	Common Name	Federal Status	State Status	CRPR	Bloom Period	Lifeform	Habitat	Micro Habitat	Elevation (m)
<i>Usnea longissima</i>	Methuselah's beard lichen	None	None	4.2	N/A	fruticose lichen (epiphytic)	Broadleaved upland forest; North Coast coniferous forest	On tree branches; usually on old growth hardwoods and conifers.	50 - 1460 meters
<i>Erigeron biolettii</i>	streamside daisy	None	None	3	Jun-Oct	perennial herb	Broadleaved upland forest; Cismontane woodland; North Coast coniferous forest	Rocky, mesic	30 - 1100 meters
<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	None	None	4.3	May-Oct	annual herb	Coastal prairie; Lower montane coniferous forest; North Coast coniferous forest	openings, sometimes serpentinite.	120 - 1200 meters
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	None	None	1B.2	Mar-Jun	annual herb	Coastal Strand, Northern Coastal Scrub	dunes, coastal	0 - 215 meters
<i>Layia carnosa</i>	beach layia	Endangered	Endangered	1B.1	Mar-Jul	annual herb	Coastal Strand, Northern Coastal Scrub (sandy)	dunes, coastal	0 - 60 meters
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	None	None	2B.2	May-Jul	perennial rhizomatous herb	Coastal scrub; North Coast coniferous forest	Sometimes roadsides.	30 - 650 meters
<i>Erysimum concinnum</i>	bluff wallflower	None	None	1B.2	Feb-Jul	annual / perennial herb	Coastal bluff scrub, coastal dunes, coastal prairie	dunes, coastal	0 - 185 meters
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vech	None	None	1B.2	(Apr)Jun-Oct	perennial herb	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)	dunes, coastal	0 - 30 meters
<i>Hosackia gracilis</i>	harlequin lotus	None	None	4.2	Mar-Jul	perennial rhizomatous herb	Broadleaved upland forest; Coastal bluff scrub; Closed-cone coniferous forest; Cismontane woodland; Coastal prairie; Coastal scrub;	Wetlands; Roadsides; Meadows and seeps; Marshes and swamps;	0 - 700 meters

							North Coast coniferous forest; Valley and foothill grassland		
<i>Lathyrus glandulosus</i>	sticky pea	None	None	4.3	Apr-Jun	perennial rhizomatous herb	Cismontane woodland	NA	300 - 800 meters
<i>Ribes roezlii</i> var. <i>amictum</i>	hoary gooseberry	None	None	4.3	Mar-Apr	perennial deciduous shrub	Broadleaved upland forest; Cismontane woodland; Lower montane coniferous forest; Upper montane coniferous forest	NA	120 - 2300 meters
<i>Romanzoffia tracyi</i>	Tracy's romanzoffia	Nonr	Nonr	2B.3	Mar-May	perennial herb	Coastal bluff scrub. Coastal scrub	rocky	15 -30 meters
<i>Iris longipetala</i>	coast iris	None	None	4.2	Mar-May	perennial rhizomatous herb	Coastal prairie, Lower montane coniferous forest, Meadows and seeps.	Mesic sites, heavy soils	0 - 600 meters
<i>Sisyrinchium hitchcockii</i>	Hitchcock's blue- eyed grass	None	None	1B.1	Jun	perennial rhizomatous herb	Cismontane woodland (openings), Valley and foothill grassland	Known in CA from only one occurrence near Cape Ridge.	NA
<i>Erythronium oregonum</i>	giant fawn lily	None	None	2B.2	Mar-Jun	perennial bulbiferous herb	Cismontane woodland	sometimes serpentinite, rocky, openings; Meadows and seeps	100 - 1150 meters
<i>Erythronium revolutum</i>	coast fawn lily	None	None	2B.2	Mar-Jul	perennial bulbiferous herb	Broadleaved upland forest; North Coast coniferous forest	Mesic, streambanks; Bogs and fens	0 - 1600 meters
<i>Lilium rubescens</i>	redwood lily	None	None	4.2	Apr-Aug	perennial bulbiferous herb	Broadleaved upland forest; Chaparral; Lower montane coniferous forest; North Coast coniferous forest; Upper montane coniferous forest	Sometimes serpentinite, sometimes roadsides.	30 - 1910 meters
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	None	None	4.2	Apr-Aug	perennial herb	Broadleaved upland forest; Coastal prairie; Coastal scrub; North Coast coniferous forest; Riparian woodland	Often in disturbed areas.	0 - 730 meters
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	None	None	1B.2	May-Aug	perennial rhizomatous herb	Coastal bluff scrub; Coastal prairie; North Coast coniferous forest	often roadcuts.	15 - 880 meters

<i>Pityopus californicus</i>	California pinefoot	None	None	4.2	May-Aug	perennial herb (achlorophyllous)	Broadleaved upland forest; Lower montane coniferous forest; North Coast coniferous forest; Upper montane coniferous forest	mesic.	15 - 2225 meters
<i>Montia howellii</i>	Howell's montia	None	None	2B.2	Mar-May	annual herb	North Coast coniferous forest	Vernally mesic, sometimes roadsides; Meadows and seeps; Vernal pools	0 - 835 meters
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	None	None	4.3	Jul-Sep	perennial herb	Broadleaved upland forest; North Coast coniferous forest	sandy or rocky.	45 - 1800 meters
<i>Oenothera wolfii</i>	Wolf's evening-primrose	None	None	1B.1	May-Oct	perennial herb	Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest	sandy, usually mesic.	3 - 800 meters
<i>Listera cordata</i>	heart-leaved twayblade	None	None	4.2	Feb-Jul	perennial herb	Lower montane coniferous forest; North Coast coniferous forest	Bogs and fens	5 - 1370 meters
<i>Piperia candida</i>	white-flowered rein orchid	None	None	1B.2	May-Sep	perennial herb	Broadleaved upland forest; Lower montane coniferous forest; North Coast coniferous forest	sometimes serpentinite	30 - 1310 meters
<i>Castilleja litoralis</i>	Oregon coast paintbrush	None	None	2B.2	Jun-Jul	perennial herb (hemiparasitic)	Coastal bluff scrub, Coastal dunes, Coastal scrub	Sandy	15 - 100 meters
<i>Calamagrostis foliosa</i>	leafy reed grass	None	Rare	4.2	May-Sep	perennial herb	Coastal bluff scrub, North Coast coniferous forest	rocky	0 - 1220 meters
<i>Pleuropogon refractus</i>	nodding semaphore grass	None	None	4.2	Apr-Aug	perennial rhizomatous herb	Lower montane coniferous forest; Meadows and seeps; North Coast coniferous forest	mesic; riparian forest	0 - 1600 meters
<i>Gilia capitata ssp. pacifica</i>	Pacific gilia	None	None	1B.2	Apr-Aug	annual herb	Coastal bluff scrub; Chaparral (openings); Coastal prairie; Valley and foothill grassland	NA	5 - 1665 meters
<i>Gilia millefoliata</i>	dark-eyed gilia	None	None	1B.2	Apr - Jul	annual herb	Coastal Dunes	Sandy	0 - 30 meters

<i>Polemonium carneum</i>	Oregon polemonium	None	None	2B.2	Apr-Sep	perennial herb	Coastal prairie, Coastal scrub, Lower montane coniferous forest	NA	0 - 1830 meters
<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	None	None	4.3	Feb- Jun(Jul)	perennial herb	North Coast coniferous forest, Riparian forest	Streambanks, sometimes seeps, sometimes roadsides.	10 - 455 meters

Appendix B. Plant Species Observed

Table 2. List of plant species encountered during surveys

Botanical Name	Common Name	Origin
Trees		
<i>Acer macrophyllum</i>	bigleaf maple	Native
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	Native
<i>Notholithocarpus densiflorus</i>	tanoak	Native
<i>Pseudotsuga menziesii</i>	Douglas-fir	Native
<i>Quercus garryana</i>	Oregon white oak	Native
Shrubs		
<i>Baccharis pilularis</i>	coyote brush	Native
<i>Cytisus scoparius</i>	Scotch broom	Cal-IPC: High
<i>Rosa canina</i>	dog rose	Non-native
<i>Rosa rubiginosa</i>	sweet brier	Non-native
<i>Rubus armeniacus</i>	Himalayan blackberry	Cal IPC: High
<i>Rubus ursinus</i>	California blackberry	Native
<i>Toxicodendron diversilobum</i>	poison oak	Native
Grasses & Graminoids		
<i>Aira caryophylla</i>	silver hair grass	Non-native
<i>Agrostis capillaris</i>	colonial bent grass	Non-native
<i>Anthoxanthum odoratum</i>	sweet vernal grass	Cal-IPC: Limited
<i>Avena barbata</i>	slender oat	Cal-IPC: Moderate
<i>Briza maxima</i>	rattlesnake grass	Cal-IPC: Limited
<i>Briza minor</i>	small rattlesnake grass	Non-native
<i>Cynodon dactylon</i>	Bermuda grass	Cal-IPC: Moderate
<i>Cynosurus cristatus</i>	crested dogtail grass	Non-native
<i>Cynosurus echinatus</i>	bristly dogtail grass	Cal-IPC: Moderate
<i>Dactylis glomerata</i>	orchard grass	Cal-IPC: Limited
<i>Danthonia californica</i>	California oat grass	Native
<i>Elymus caput-medusae</i>	medusa head	Cal-IPC: High
<i>Elymus glaucus</i>	blue wild-rye	Native
<i>Festuca myuros</i>	rattail sixweeks grass	Cal-IPC: Moderate
<i>Festuca perennis</i>	rye grass	Cal-IPC: Moderate
<i>Holcus lanatus</i>	velvet grass	Cal-IPC: Moderate
<i>Hordeum marinum</i>	Mediterranean barley	Cal-IPC: Moderate
<i>Juncus effusus</i>	Pacific rush	Native
<i>Luzula comosa</i>	hairy wood rush	Native
<i>Poa annua</i>	annual bluegrass	Non-native
<i>Rytidosperma penicillatum</i>	poverty grass	Cal-IPC: Limited
Forbs		
<i>Brassica nigra</i>	black mustard	Cal-IPC: Moderate
<i>Calendula officinalis</i>	calendula	Non-native
<i>Carduus pycnocephalus</i>	Italian thistle	Cal-IPC: Moderate

<i>Cerastium glomeratum</i>	sticky mouse-ear chickweed	Non-native
<i>Cirsium vulgare</i>	bull thistle	Cal-IPC: Moderate
<i>Crepis capillaris</i>	hawksbeard	Non-native
<i>Digitalis purpurea</i>	foxglove	Cal IPC: Limited
<i>Galium parisiense</i>	wall bedstraw	Non-native
<i>Geranium dissectum</i>	cut leaf geranium	Cal IPC: Limited
<i>Geranium molle</i>	geranium	Non-native
<i>Helminthotheca echioides</i>	bristly ox tongue	Cal-IPC: Limited
<i>Hypochaeris radicata</i>	rough cat's-ear	Cal-IPC: Limited
<i>Lepidium chalepense</i>	lens-podded hoary cress	Non-native
<i>Linum bienne</i>	pale flax	Non-native
<i>Logfia gallica</i>	narrowleaf cottonrose	Non-native
<i>Lotus corniculatus</i>	bird's-foot trefoil	Non-native
<i>Lupinus bicolor</i>	annual lupine	Native
<i>Lysimachia arvensis</i>	scarlet pimpernel	Non-native
<i>Parentucellia viscosa</i>	yellow parentucellia	Cal-IPC: Limited
<i>Plantago lanceolata</i>	English plantain	Cal-IPC: Limited
<i>Ranunculus muricatus</i>	buttercup	Non-native
<i>Raphanus sativus</i>	wild radish	Cal-IPC: Limited
<i>Rumex acetosella</i>	sheep sorrel	Cal-IPC: Limited
<i>Rumex crispus</i>	curly dock	Cal-IPC: Moderate
<i>Sherardia arvensis</i>	field madder	Non-native
<i>Silybum marianum</i>	milk thistle	Cal IPC: Limited
<i>Solanum sp.</i>	nightshade	Non-native
<i>Sonchus asper</i>	prickly sow thistle	Non-native
<i>Spergularia rubra</i>	red sand-spurrey	Non-native
<i>Stellaria media</i>	common chickweed	Non-native
<i>Tanacetum parthenium</i>	feverfew	Non-native
<i>Torilis arvensis</i>	tall sock destroyer	Cal-IPC: Limited
<i>Trifolium subterraneum</i>	subterranean clover	Non-native
<i>Vicia sativa</i>	spring vetch	Non-native
<i>Vicia sativa</i>	spring vetch	Non-native
<i>Vicia villosa</i>	hairy vetch	Non-native
Ferns		
<i>Pteridium aquilinum</i>	Western brackenfern	Native

Appendix C. Maps

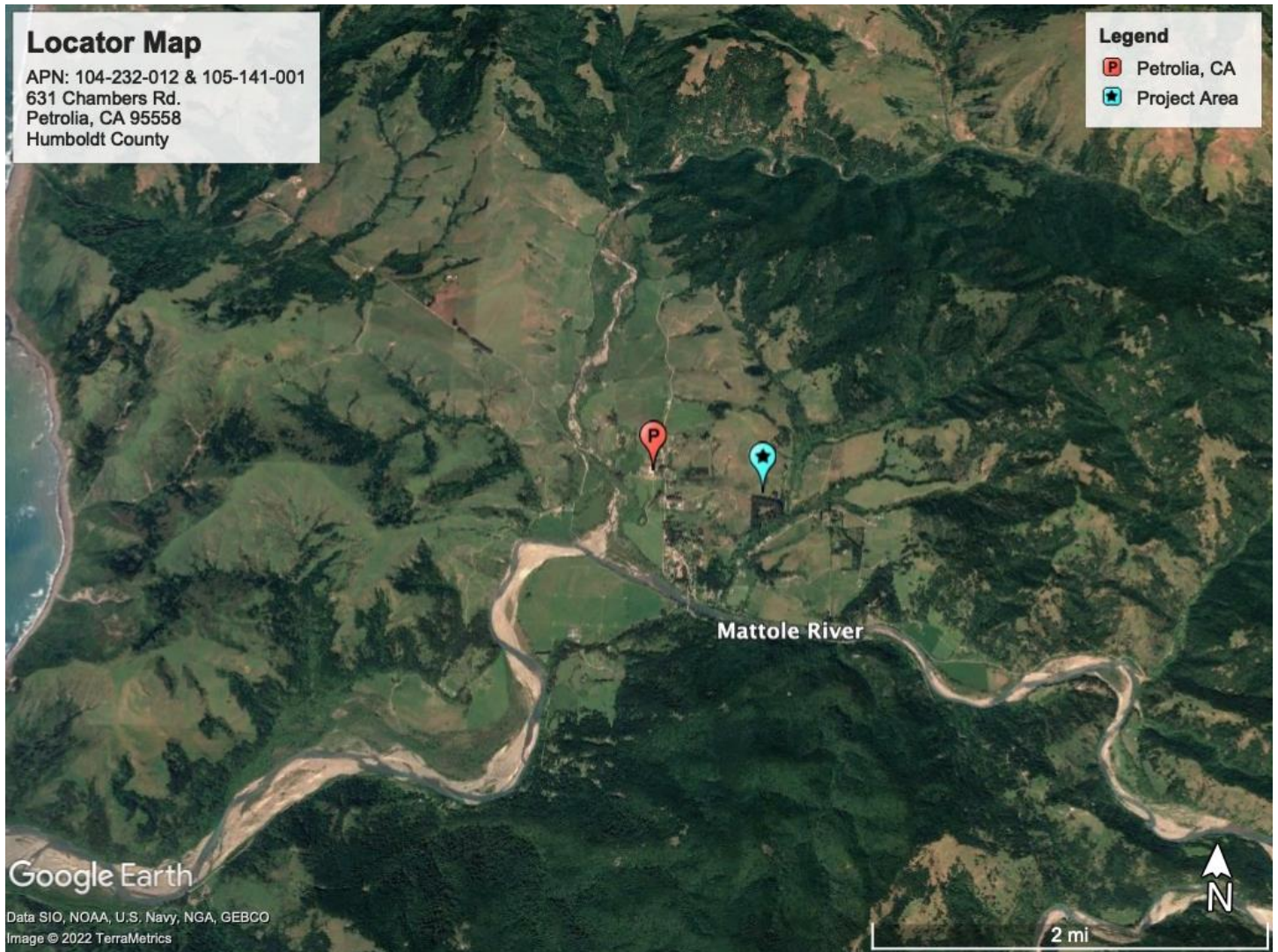


Figure 1. Locator Map of Project Area (blue star) and the nearest town of Petrolia, CA (red 'P').

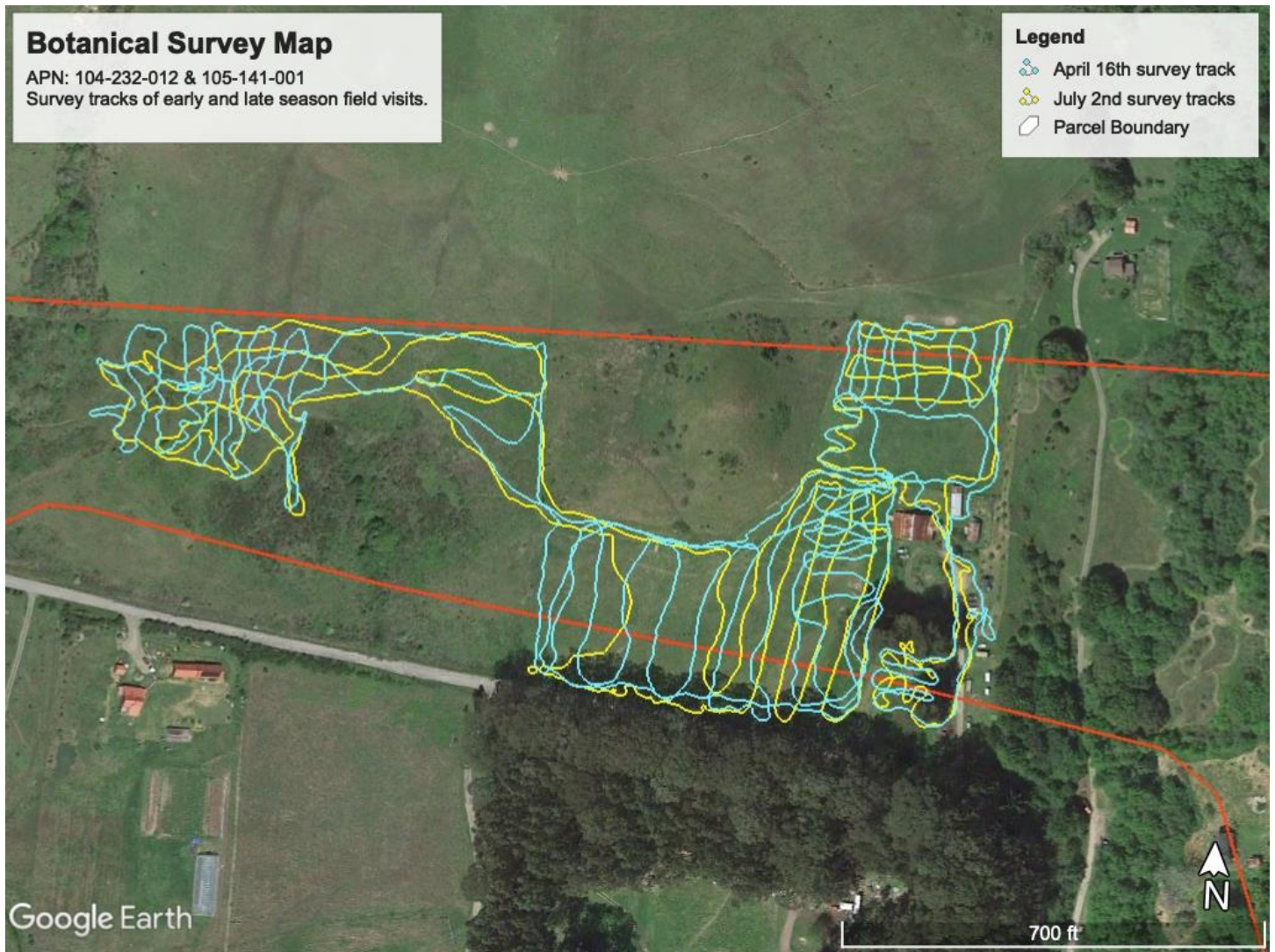


Figure 2. Map of project area and survey routes.

Appendix D. Project Area and Habitats



Figure 3. Northeast location of proposed outdoor cultivation, facing east, dominated by several invasive grasses.



Figure 4. Location of proposed outdoor cultivation, facing west, in southeast portion of project area.



Figure 5. Location of proposed rainwater catchment pond, in western portion of parcel, on hillside invaded by Scotch broom.