

BOTANICAL SURVEY REPORT

FOR SPECIAL STATUS NATIVE PLANT POPULATIONS AND SENSITIVE NATURAL COMMUNITIES

92 Young Lane, Manila (Arcata), 95521, Humboldt County, CA

Assessor Parcel Number (APN):

506 – 071 – 020



Prepared For:

Friesen Homes

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Prepared By:

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PO Box 121
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Date Prepared:

September 16th, 2025

Certification: I hereby certify that the statements furnished in this report present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

X  _____

Mason London, MSc Biology

Naiad Biological Consulting, Principal Biologist

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Section 1 Summary Information

Legal description:	Portions of Section 35, T6N, R1W, H.B.&M.
APN:	506-071-020
USGS 7.5' Quad:	Eureka (Code: 4012472)
Parcel size:	~0.35 acres (assessed); ~0.29 acres (GIS-derived)
Survey size:	Entire parcel boundary
Dates of survey:	April 18, 2025 (9:00 am–12:15 pm), June 20, 2025 (1:00 pm–2:45 pm), August 12, 2025 (1:30 pm–2:15 pm)
Surveyed by:	Mason London
Field survey effort:	~ 5.75 hours
Results:	<u>No special-status plant species (CRPR 1 or 2) were observed within the Study Area.</u> Vegetation is dominated by ruderal, non-native grasses and forbs. No sensitive natural communities occur within the parcel boundary. Sensitive habitats and ESHA-designated communities (shore pine forest, Sitka spruce forest, and coastal dunes) occur nearby but will not be impacted.

Section 2 Introduction and Project Description

2.1 Purpose and Need

This botanical survey was conducted to establish baseline botanical conditions and determine the presence or absence of special-status plants and sensitive natural communities at 92 Young Lane. The work was undertaken in support of a Coastal Development Permit (CDP) application for proposed residential development.

Because the parcel lies within the California Coastal Zone, all projects must demonstrate consistency with the California Coastal Act and Humboldt County's certified Local Coastal Program (LCP). Under these frameworks, special-status species and Environmentally Sensitive Habitat Areas (ESHAs) must be avoided and protected. This report therefore provides essential documentation for permit review.

2.2 Surveyor's Qualifications

The botanical survey described in this report was conducted by Mason London.

Mason London, Principal Biologist of Naiad Biological Consulting, conducted the protocol-level botanical surveys for this project. He has over 18 years of professional experience in botany, vegetation ecology, and biological consulting throughout California. Mason meets the qualifications set forth in CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018), and he regularly conducts floristic surveys in support of CEQA and NEPA compliance. He has extensive field experience across a range of habitats—including coastal scrub, redwood forest, riparian corridors, serpentine grasslands, and mixed hardwood-conifer systems—and is highly skilled in identifying rare, threatened, and endangered plant species. Mason is proficient in the use of the CNPS Manual of California Vegetation (MCV) for the classification of sensitive natural communities

and has prepared numerous botanical reports and impact assessments for regulatory permitting. In addition to his botanical expertise, Mason has a strong background in wildlife biology and aquatic ecology, with experience conducting protocol-level surveys for amphibians, nesting birds, and special-status aquatic species. He holds a B.A. in Environmental Studies from UC Santa Cruz and an M.S. in Biology from Cal Poly Humboldt.

2.3 Project and Geographic Setting

The Study Area is a ~0.35-acre parcel located in the unincorporated community of Manila, Humboldt County, California (Map 1). Manila is situated on the Samoa Peninsula, a north–south trending barrier spit that extends approximately 14 miles between the Pacific Ocean to the west and Humboldt Bay to the east. The peninsula is a dynamic coastal landform composed primarily of unconsolidated sandy dune deposits that have accumulated over thousands of years through wind and wave action.

The Samoa Peninsula supports a mosaic of vegetation communities shaped by this dune geomorphology and the influence of fog, shallow groundwater, and salt spray. These include open foredunes, stabilized backdunes, freshwater swales, willow thickets, and coniferous forest stands dominated by shore pine (*Pinus contorta ssp. contorta*) and Sitka spruce (*Picea sitchensis*). Collectively, these habitats are ecologically significant, providing for numerous rare plant species, migratory birds, and unique dune-adapted fauna. Many of these communities are recognized as sensitive natural communities by the California Department of Fish and Wildlife (CDFW) and qualify as Environmentally Sensitive Habitat Areas (ESHAs) under the California Coastal Act and Humboldt County's certified Local Coastal Program (LCP).

The parcel itself has been historically cleared and leveled for residential use and is now dominated by ruderal, non-native herbaceous vegetation. Elevations within the parcel range from approximately 19 to 23 feet above mean sea level (Google Earth Pro 2025). No intact dune ridges or depressions remain within the lot, indicating a loss of natural topography due to grading and disturbance. A Pacific wax myrtle (*Myrica californica*) noted in a 2022 scoping survey was found dead and had been removed by 2025.

To the east of the parcel boundary, a dense willow thicket (*Salix hookeriana*) occurs, likely supported by perched groundwater typical of the Samoa dune system. Across the street to the west, relatively undisturbed habitats remain, including shore pine forest, Sitka spruce forest, and intact dune vegetation. These surrounding communities provide ecological context to the parcel, underscoring its location within a highly sensitive landscape matrix, despite the disturbed condition of the lot itself.

2.3.1 Soil

The NRCS (2024) maps the site as sandy dune deposits, typical of the Samoa Peninsula. These soils are excessively drained, nutrient-poor, and low in organic matter, with low water-holding capacity. In their intact condition, these soils support native dune specialists such as *Elymus mollis* (dune wildrye), *Lupinus arboreus* (yellow bush lupine), and *Armeria maritima* (sea thrift). However, when disturbed, these soils are highly susceptible to colonization by aggressive non-native grasses (*Bromus diandrus*, *Avena barbata*) and broadleaf weeds (*Hypochaeris radicata*, *Plantago lanceolata*).

At 92 Young Lane, past disturbance and clearing have altered soil structure, leading to dominance by invasive species and the absence of dune endemics. The sandy substrate nonetheless indicates that, without disturbance, the site could once have supported more diverse native dune vegetation.

2.3.2 Topography

The parcel is flat and lacks the dune ridges, depressions, and undulating microtopography characteristic of the surrounding undeveloped landscape. Adjacent parcels display rolling dune features, vegetated swales, and subtle elevation gradients that support unique plant assemblages. The flat condition at 92 Young Lane suggests the parcel has been artificially leveled and maintained in its current disturbed state for decades, likely associated with historic residential clearing and grading.

This artificial leveling reduces habitat heterogeneity and diminishes the site's potential to support the ecological functions typical of dune environments.

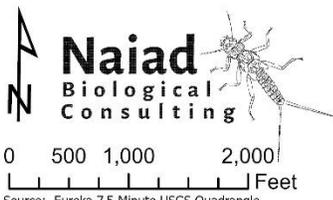
2.3.3 Hydrology

No wetlands, surface water features, or signs of ponding were observed within the parcel during surveys. The lot appears hydrologically isolated as a result of historic grading and soil compaction.

Although wetlands are absent within the parcel boundary, the site lies within a hydrologically complex dune system characteristic of the Samoa Peninsula. Shallow perched water tables often develop in depressions between dune ridges, supporting swales, willow thickets, and other hydrophytic vegetation. The dense willow patch immediately east of the parcel likely reflects one of these groundwater-dependent features.

While no direct hydrologic features occur on the parcel itself, the presence of nearby willow thickets and other moisture-dependent vegetation highlights the parcel's position within a broader mosaic of groundwater-influenced dune habitats.



<p>Map 1: Project Location</p>  <p>Study Area</p>	<p>Friesen Homes</p> <p>Project Location: 92 Young Ln. Manila, Humboldt County, CA APN: 506-071-020</p>
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Map 1. Locator Map of the parcel where the development project is proposed to occur and where the botanical survey was conducted.

Section 3 Definitions

3.1 Special Status Plants and Plant Communities

Special-status botanical resources include both **plant species** and **vegetation communities** that are protected under federal or state law or warrant consideration under CEQA due to their rarity or ecological importance. These resources encompass taxa formally listed under the **federal Endangered Species Act (ESA)** and the **California Endangered Species Act (CESA)**, as well as plants considered rare or endangered under the **California Environmental Quality Act (CEQA)**.

California Rare Plant Ranks (CRPR)

The California Department of Fish and Wildlife (CDFW) recommends that CEQA review consider all plant taxa assigned California Rare Plant Ranks (CRPR), maintained by the California Native Plant Society (CNPS):

- **List 1A** – Plants presumed extirpated or extinct in California because they have not been observed or collected in the wild for many years.
- **List 1B** – Plants rare, threatened, or endangered throughout their range, with most species endemic to California.
- **List 2A** – Plants presumed extirpated in California but more common elsewhere.
- **List 2B** – Plants rare, threatened, or endangered in California but more common elsewhere; except for their broader distribution, they would qualify as 1B taxa.
- **List 3** – Plants for which there is insufficient information to determine rarity; further data are needed to assign them to another list or reject them from consideration.
- **List 4** – Plants of limited distribution or infrequent occurrence across broader areas of California; their status should be monitored regularly.

In addition, each CRPR rank is supplemented with a threat rank (e.g., CRPR 4.3) that indicates the degree and immediacy of threat:

- **0.1 – Seriously threatened** in California (over 80% of occurrences threatened / high degree and immediacy of threat).
- **0.2 – Moderately threatened** in California (20–80% of occurrences threatened / moderate degree and immediacy of threat).
- **0.3 – Not very threatened** in California (less than 20% of occurrences threatened / low degree and immediacy of threat, or no current threats known).

Although plants on CRPR Lists 3 and 4 are not formally protected, they may still warrant consideration under CEQA if project-level or cumulative impacts could affect their persistence.

Sensitive Natural Communities

In addition to rare plant species, CEQA recognizes Sensitive Natural Communities—vegetation types considered rare, threatened, or declining in California. CDFW uses NatureServe’s 2012 Conservation Status Assessment methodology to assign conservation status ranks to vegetation alliances and

associations. Each community receives both a global (G) and state (S) rank, with S1 to S3 indicating increasing levels of rarity within California:

- **S1 – Critically imperiled**
- **S2 – Imperiled**
- **S3 – Vulnerable**

However, not all S1–S3 communities automatically warrant protection. Under CEQA, significance is typically assigned only to high-quality stands, which are evaluated based on site-specific indicators such as:

- Degree of human disturbance
- Extent of invasive species cover
- Evidence of past land uses (e.g., logging, grazing)
- Structural and compositional integrity of the vegetation stand

This framework ensures that environmental review focuses on ecologically intact and representative occurrences of sensitive communities, supporting accurate impact assessment and appropriate mitigation planning.

Section 4 Methods

4.1 Pre-Site Visit Data Compilation and Preparation

Prior to conducting field surveys, NBC compiled and reviewed multiple data sources to identify special-status plant species and sensitive natural communities with potential to occur in the vicinity of the Study Area:

- **California Natural Diversity Database (CNDDDB):** A query was conducted for the Eureka 7.5' USGS quadrangle and all surrounding quads. This database provides location-specific records of rare, threatened, and endangered species as well as sensitive natural communities. Results informed the list of target species (Table 1) and helped identify known occurrences of rare dune plants within the Samoa Peninsula.
- **California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (2025):** This online resource was used to refine status, habitat requirements, bloom periods, and conservation rankings (CRPR) for each target species.
- **Calflora, Jepson eFlora, and Consortium of California Herbaria (CCH2):** These databases were consulted for species distribution maps, verified herbarium records, and updated taxonomic treatment. These resources provided finer-scale data on known occurrences of dune-associated species (e.g., *Layia carnosa*, *Erysimum menziesii*).
- **NRCS Web Soil Survey (2024):** Soils were evaluated for their correspondence to known habitat requirements of special-status plants. For example, sandy dune soils on the Samoa Peninsula can support federally listed dune endemics, while clayey or saline substrates are associated with salt marsh specialists.
- **CalVeg Vegetation Mapping:** CalVeg layers were reviewed to assess mapped natural communities and vegetation alliances in and around the Study Area, including nearby shore pine and Sitka spruce forests (Map 2).

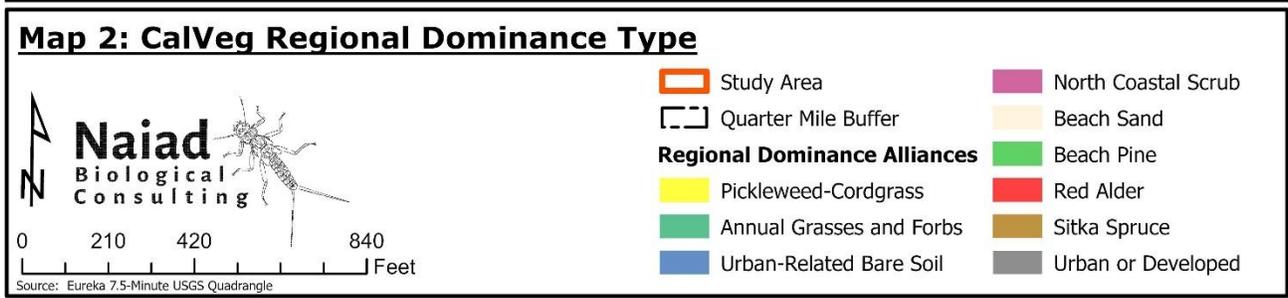
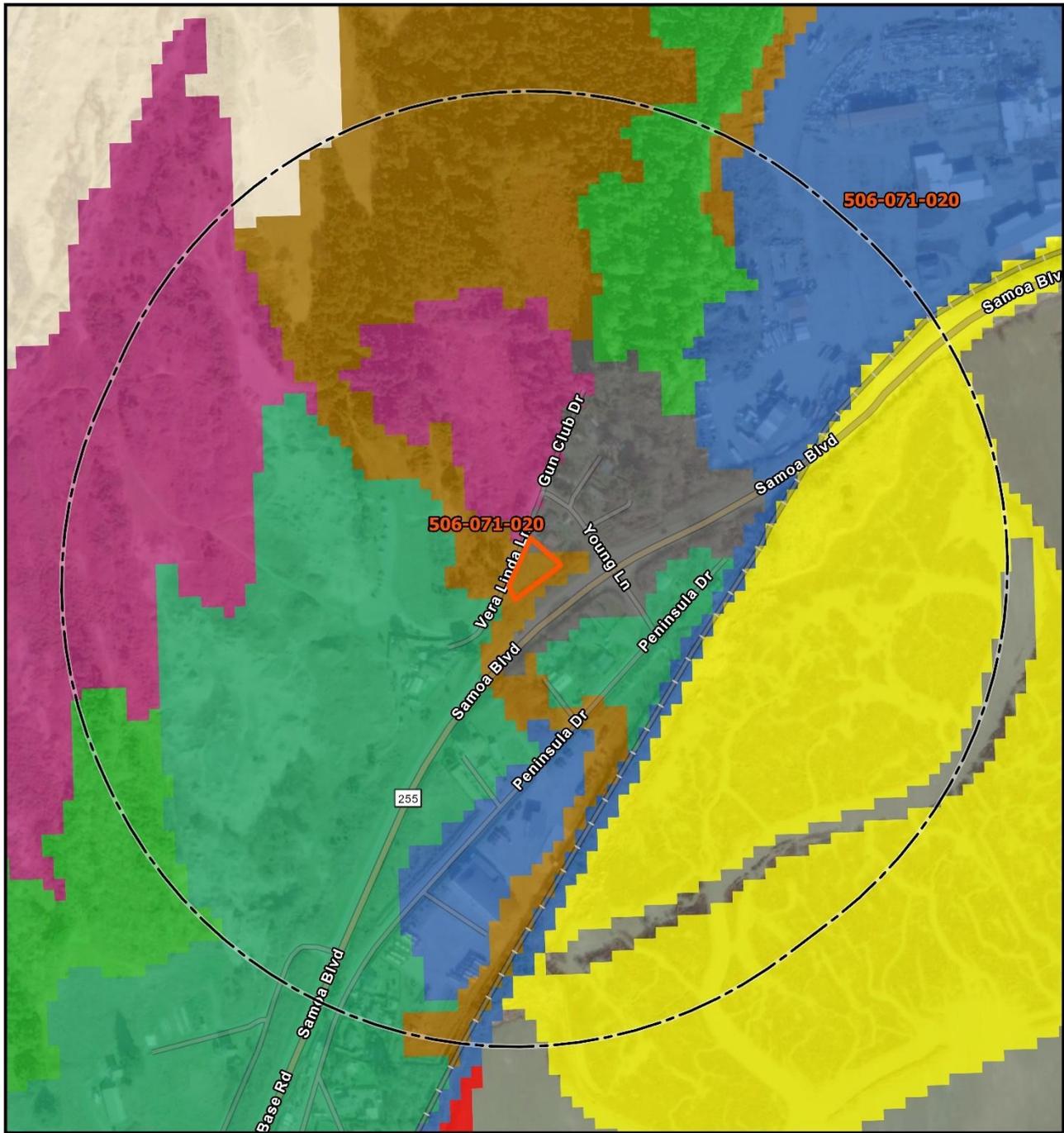
The records review was used to develop a target species list (Table 1) that included each species' status, habitat preferences, bloom timing, and known regional occurrences. This informed survey timing, allowed calibration of search effort, and guided field identification (Figure 1).

Table 1. Special-status plant species evaluated for potential to occur in the Study Area. This assessment was conducted prior to field surveys based on known habitat preferences, elevation ranges, and environmental conditions identified through desktop analysis.

Scientific Name	Common Name	CRPR	S Rank	CESA	FESA	Blooming Period	Habitat	Elevation (meters)	Potential to Occur
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	1B.1	S2	None	None	Jun-Oct	Coastal dunes	0-35	Low
<i>Angelica lucida</i>	sea-watch	4.2	S3	None	None	Apr-Sep	Coastal bluff scrub, Coastal dunes, Coastal	0-490	Moderate

							scrub, Marshes and swamps (coastal salt)		
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	1B.2	S2	None	None	(Apr-May)Jun-Oct	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)	0-180	Low
<i>Carex arcta</i>	northern clustered sedge	2B.2	S1	None	None	Jun-Sep	Bogs and fens, North Coast coniferous forest (mesic)	195-4595	None
<i>Carex lyngbyei</i>	Lyngbye's sedge	2B.2	S3	None	None	Apr-Aug	Marshes and swamps (brackish, freshwater)	0-35	None
<i>Carex praticola</i>	northern meadow sedge	2B.2	S2	None	None	May-Jul	Meadows and seeps (mesic)	0-10500	None
<i>Castilleja ambigua</i> var. <i>humboldtensis</i>	Humboldt Bay owl's-clover	1B.2	S2	None	None	Apr-Aug	Marshes and swamps (coastal salt)	0-10	None
<i>Castilleja litoralis</i>	Oregon coast paintbrush	2B.2	S3	None	None	Jun	Coastal bluff scrub, Coastal dunes, Coastal scrub	50-330	None
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes salty bird's-beak	1B.2	S2	None	None	Jun-Oct	Marshes and swamps (coastal salt)	0-35	None
<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	4.3	S3	None	None	Feb-Jun	North Coast coniferous forest, Riparian forest	35-1770	None
<i>Collinsia corymbosa</i>	round-headed collinsia	1B.2	S1	None	None	Apr-Jun	Coastal dunes	0-65	Low
<i>Erysimum menziesii</i>	Menzies' wallflower	1B.1	S1	CE	FE	Mar-Sep	Coastal dunes	0-115	Moderate
<i>Erythronium revolutum</i>	coast fawn lily	2B.2	S3	None	None	Mar-Jul(Aug)	Bogs and fens, Broadleaved upland forest, North Coast coniferous forest	0-5250	None
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	1B.2	S3	None	None	Apr-Aug	Chaparral (openings), Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	15-5465	Moderate
<i>Gilia millefoliata</i>	dark-eyed gilia	1B.2	S2	None	None	Apr-Jul	Coastal dunes	5-100	Low
<i>Glehnia littoralis</i> ssp. <i>leiocarpa</i>	American glehnia	4.2	S2S3	None	None	May-Aug	Coastal dunes	0-65	Low
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	1B.2	S3	None	None	Mar-Jun	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie	0-705	Moderate
<i>Hosackia gracilis</i>	harlequin lotus	4.2	S3	None	None	Mar-Jul	Broadleaved upland forest, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland	0-2295	Moderate
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	1B.2	S2	None	None	Jan-Nov	Coastal bluff scrub, Coastal dunes, Coastal scrub	15-1705	Moderate
<i>Lathyrus japonicus</i>	seaside pea	2B.1	S2	None	None	May-Aug	Coastal dunes	5-100	Moderate
<i>Lathyrus palustris</i>	marsh pea	2B.2	S2	None	None	Mar-Aug	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane	5-330	Low

							coniferous forest, Marshes and swamps, North Coast coniferous forest		
<i>Layia carnosa</i>	beach layia	1B.1	S2	CE	FT	Mar-Jul	Coastal dunes, Coastal scrub (sandy)	0-195	Moderate
<i>Lilium occidentale</i>	western lily	1B.1	S1	CE	FE	Jun-Jul	Bogs and fens, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest (openings)	5-605	None
<i>Lycopodium clavatum</i>	running-pine	4.1	S3	None	None	Jun-Aug(Sep)	Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)	150-4020	None
<i>Monotropa uniflora</i>	ghost-pipe	2B.2	S2	None	None	Jun-Aug(Sep)	Broadleafed upland forest, North Coast coniferous forest	35-1805	None
<i>Montia howellii</i>	Howell's montia	2B.2	S2	None	None	(Feb)Mar-May	Meadows and seeps, North Coast coniferous forest, Vernal pools	0-2740	Low
<i>Oenothera wolffii</i>	Wolf's evening-primrose	1B.1	S1	None	None	May-Oct	Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest	10 -2625	Moderate
<i>Pleuropogon refractus</i>	nodding semaphore grass	4.2	S4	None	None	(Feb-Mar)Apr-Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest	0-5250	Low
<i>Ribes laxiflorum</i>	trailing black currant	4.3	S3	None	None	Mar-Jul(Aug)	North Coast coniferous forest	15-4575	None
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	4.2	S3	None	None	(Mar)Apr-Aug	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland	0-2395	Low
<i>Sidalcea malviflora ssp. patula</i>	Siskiyou checkerbloom	1B.2	S2	None	None	(Mar-Apr)May-Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	50-4035	None
<i>Sidalcea oregana ssp. eximia</i>	coast checkerbloom	1B.2	S1	None	None	Jun-Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	15-4395	Low
<i>Silene scouleri ssp. scouleri</i>	Scouler's catchfly	2B.2	S2S3	None	None	(Mar-May)Jun-Aug(Sep)	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	0-1970	Low
<i>Spergularia canadensis var. occidentalis</i>	western sand-spurrey	2B.1	S1	None	None	Jun-Aug	Marshes and swamps (coastal salt)	0-10	None
<i>Sulcaria spiralifera</i>	twisted horsehair lichen	1B.2	S2	None	None		Coastal dunes (SLO Co.), North Coast coniferous forest (immediate coast)	0-295	None
<i>Viola palustris</i>	alpine marsh violet	2B.2	S1S2	None	None	Mar-Aug	Bogs and fens (coastal), Coastal scrub (mesic)	0-490	None



Map 2. The CalVeg Regional Dominance Types mapped within and surrounding the Study Area.

4.2 Botanical Field Survey and Habitat Investigation

Botanical field surveys were conducted by Mason London, Principal Biologist of NBC, on April 18, 2025 (9:00 am–12:15 pm), June 20, 2025 (1:00 pm–2:45 pm), and during a late-season follow-up visit on August 12, 2025 (1:00 pm–2:15 pm). These visits were timed to capture the full range of seasonal bloom periods for special-status species identified during the records review (Table 1), including early-spring, mid-summer, and late-summer taxa (Figure 1).

Surveys followed the methodology outlined in the California Department of Fish and Wildlife (CDFW 2018) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. The approach was floristic in scope, meaning that all vascular plant taxa encountered within the parcel were identified to the lowest feasible taxonomic level, not just target special-status species. This ensured a complete species list (Table 2) and allowed for vegetation community assessment using the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009).

A meandering transect approach was used to provide thorough coverage of the ~0.35-acre parcel (Map 3). Transects were spaced to ensure full visual access across all microhabitats, including:

- the central graded flat dominated by ruderal vegetation,
- parcel edges with lower elevation areas, and
- the interface with the willow thicket east of the boundary.

Special attention was given to disturbed areas, shallow depressions, and edges that could provide refugia for cryptic or late-blooming species.

Species Identification: All vascular plant species encountered were identified in the field using *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). Verification and taxonomic updates were cross-checked against the Jepson eFlora, Calflora, and the Consortium of California Herbaria (CCH2). Non-native species were documented, with Cal-IPC invasion status noted where relevant.

Habitat Quality Assessment: Vegetation composition, dominance, and community integrity were recorded, with particular attention to indicator species for sensitive natural communities (e.g., dune endemics such as *Layia carnosus* and *Erysimum menziesii*). No such indicators were observed within the parcel.

Photo Documentation: Representative photographs were taken during each survey to document vegetation conditions, disturbance history, and adjacent sensitive habitats (Photos 1–2).

Survey Conditions: Weather conditions were favorable during all visits.

- April 18: ~52 °F, clear skies/sunny, calm winds (<1 mph).
- June 20: ~56 °F, light cloud cover, mild winds (~2 mph).
- August 12: ~58 °F, light cloud cover, light breeze (~2–3 mph).

These mild, fog-influenced conditions provided excellent visibility and detection for both early- and late-season taxa.

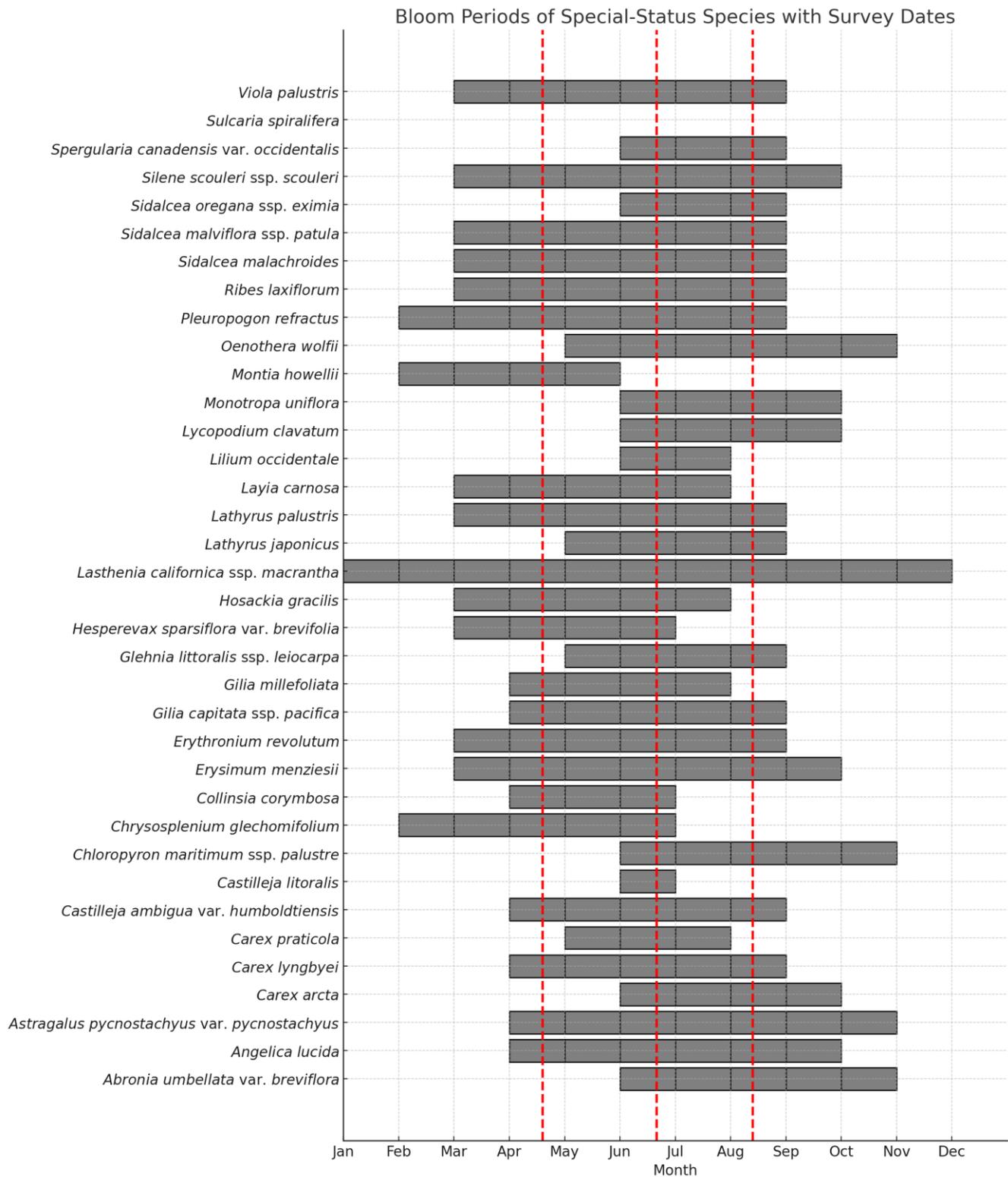
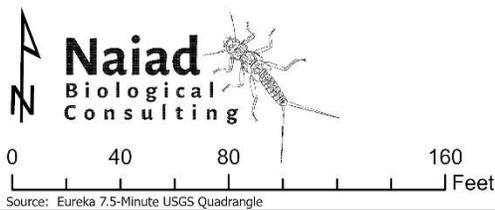


Figure 1. Gantt chart showing the blooming periods of special-status plant species with potential to occur in the Study Area. Red dashed lines indicate the dates on which botanical surveys were conducted. Surveys were timed to coincide with the blooming periods of all species with potential to occur, ensuring optimal detectability.



Map 3: Biological Survey Path



-  Study Area
- Biological Survey Path:**
-  Survey Path (4/18/25)
-  Survey Path (6/20/25)

Map 3. Survey paths taken by Mason London during his April 18th and June 20th 2025 botanical survey. Survey path on August 12th, 2025 was not recorded since this was a quick survey to spot check specific habitat features.

Section 5 Results

5.1 Habitats Observed

The Study Area supports a ruderal grassland/forb assemblage that has developed following repeated disturbance and vegetation clearing. Vegetation cover is dominated by non-native annual grasses and weedy forbs well-adapted to sandy, disturbed conditions.

Dominant taxa include *Bromus diandrus* (ripgut brome), *Avena barbata* (slender wild oat), *Hypochaeris radicata* (hairy cat's ear), *Plantago lanceolata* (narrowleaf plantain), *Geranium dissectum* (cut-leaved geranium), and *Rumex acetosella* (sheep sorrel).

Native species were present but limited in coverage, including *Prunus emarginata* (bitter cherry), *Salix hookeriana* (Hooker's willow), *Baccharis pilularis* (coyote brush), and *Lupinus arboreus* (yellow bush lupine). However, these occurred as scattered individuals or small patches along parcel margins and did not form intact stands representative of dune scrub or forest edge communities.

The dominance of invasive grasses and forbs, combined with the absence of diagnostic dune species such as *Elymus mollis* (dune wildrye) or *Armeria maritima* (sea thrift), indicates the parcel is ecologically degraded and lacks the floristic integrity of adjacent intact dune habitats.

5.1.1 Sensitive Natural Communities and ESHA

No sensitive natural communities, as defined by CDFW VegCAMP, were documented within the Study Area.

However, across the Young Lane, the following sensitive habitats are present within visual proximity to the Study Area:

- **Shore pine forest (*Pinus contorta* ssp. *contorta* Alliance):** a rare dune-associated conifer community restricted to the North Coast.
- **Sitka spruce forest (*Picea sitchensis* Alliance):** A fog-dependent coastal forest type with a limited distribution in California. Although Map 3 (CALVeg Regional Dominance Type) classifies the majority of the parcel as Sitka spruce forest, this mapping is remotely generated. Field-based surveys and ground-truthing conducted by NBC confirmed that this community does not occur within the Study Area (Photo 3).
- **Coastal dune vegetation:** undeveloped parcels nearby support native dune scrub and grassland elements, habitat for several listed species including *Layia carnosa* (beach layia).

These habitats are recognized as Environmentally Sensitive Habitat Areas (ESHAs) under the California Coastal Act and Humboldt County's Local Coastal Program. While ecologically important, they do not extend into the parcel boundary, and the proposed project is not expected to result in direct impacts provided development remains confined to the lot.

5.2 Special-Status Species Evaluation

A review of CNDDDB, CNPS, and related resources identified 36 special-status plant taxa with records in the Eureka quadrangle and surrounding areas (Table 1). Most are associated with intact coastal dune systems, tidal salt marshes, or wetland swales—habitats absent from the Study Area.

Botanical surveys on April 18, June 20, and August 12, 2025 documented no special-status species. The parcel is dominated by ruderal, non-native vegetation and lacks the microhabitat features required to support these taxa.

Notable species from the region and surrounding the Study Area include:

- *Erysimum menziesii* (Menzies' wallflower; CE, FE, CRPR 1B.1) – restricted to open dune habitat; potential moderate regionally but absent on site.
- *Layia carnososa* (beach layia; CE, FT, CRPR 1B.1) – requires sandy, open dunes; absent due to disturbance and invasive dominance.
- *Castilleja ambigua* var. *humboldtiensis* (Humboldt Bay owl's-clover; CRPR 1B.2) – limited to salt marshes; absent from the parcel.
- *Oenothera wolfii* (Wolf's evening-primrose; CE, FE, CRPR 1B.1) – found in dunes and bluffs; absent on site.

Overall, 10 taxa were ranked moderate potential, 10 low potential, and 16 no potential in the broader landscape context. Within the parcel, the potential for special-status species is considered negligible/absent.

5.3 Species Observed

A total of 35 vascular plant taxa were documented during the April 18, June 20, and August 12, 2025 botanical surveys (Table 2). Surveys were floristic in scope and included all vascular species encountered within the parcel boundary.

Of the 35 taxa recorded:

- **13 species (37%) were native**, representing a small fraction of the flora. These included common dune-associated or disturbance-tolerant natives such as *Lupinus arboreus* (yellow bush lupine), *Baccharis pilularis* (coyote brush), and *Salix hookeriana* (Hooker's willow). Native species were primarily restricted to parcel edges and occurred as scattered individuals or small patches rather than cohesive stands.
- **22 species (63%) were non-native**, including several invasive grasses and forbs that are characteristic of disturbed, low-quality habitats on the Samoa Peninsula.

Several California Invasive Plant Council (Cal-IPC) ranked invasive species were present, notably:

- *Bromus diandrus* (ripgut brome; Cal-IPC High)
- *Avena barbata* (slender wild oat; Cal-IPC Moderate)
- *Hypochaeris radicata* (hairy cat's ear; Cal-IPC Limited)
- *Plantago lanceolata* (narrowleaf plantain; Cal-IPC Moderate)
- *Holcus lanatus* (common velvet grass; Cal-IPC Moderate)
- *Hordeum murinum* (foxtail barley; Cal-IPC Moderate)

These invasive taxa dominate the herbaceous layer, creating near-monotypic patches in some areas. Their presence reflects a long history of disturbance and ongoing propagule pressure from surrounding

residential areas and roadways. Collectively, they reduce habitat suitability for native dune specialists by outcompeting them for light, water, and nutrients.

While a few native shrubs and forbs persist along parcel margins, the overall floristic integrity is low. The absence of dune indicator species such as *Elymus mollis* (dune wildrye), *Armeria maritima* (sea thrift), or *Ambrosia chamissonis* (beach bur) further confirms that the parcel no longer supports functional dune vegetation. Instead, it represents a ruderal, invasive-dominated assemblage that provides minimal ecological value relative to the intact dune and forest habitats located immediately across the street.

The high proportion of invasive and disturbance-adapted species within the parcel also suggests a potential risk of invasive spread into adjacent ESHA habitats if soil disturbance associated with construction is not carefully managed.

Table 2. Species observed and identified within the Study Area during the April 18, June 20, and August 12, 2025 protocol-level botanical survey.

Scientific Name	Common Name	Habit	Native Status	CAL-IPC Rank
<i>Prunus emarginata</i>	Bitter cherry	tree	native	-
<i>Salix hookeriana</i>	Hooker's willow	tree	native	-
<i>Baccharis pilularis</i>	Coyote brush	shrub	native	-
<i>Lupinus arboreus</i>	Yellow bush lupine	shrub	native	**Invasive north of Pt. Reyes**
<i>Rosa sp.</i>	Cultivar rose	shrub	non-native	-
<i>Rubus ursinus</i>	California blackberry	shrub	native	-
<i>Calystegia purpurata</i>	Purple western morning glory	forb	native	-
<i>Daucus carota</i>	Queen Anne's lace	forb	non-native	Moderate
<i>Daucus pusillus</i>	American wild carrot	forb	native	-
<i>Eriogonum latifolium</i>	Coast Buckwheat	forb	native	-
<i>Geranium dissectum</i>	Cut-leaved geranium	forb	non-native	Limited
<i>Hypochaeris glabra</i>	Smooth cat's ear	forb	non-native	-
<i>Hypochaeris radicata</i>	Hairy cat's ear	forb	non-native	Limited
<i>Lamium purpureum</i>	Purple deadnettle	forb	non-native	-
<i>Medicago polymorpha</i>	Bur clover	forb	non-native	Moderate
<i>Plantago lanceolata</i>	Narrowleaf plantain	forb	non-native	Moderate
<i>Raphanus raphanistrum</i>	Wild radish	forb	non-native	Limited
<i>Rumex acetosella</i>	Sheep sorrel	forb	non-native	Moderate
<i>Scrophularia californica</i>	California figwort	forb	native	-
<i>Solidago spathulata</i>	Dune Goldenrod	forb	native	-
<i>Sonchus oleraceus</i>	Annual sowthistle	forb	non-native	Moderate
<i>Vicia benghalensis</i>	Purple vetch	forb	non-native	-
<i>Vicia hirsuta</i>	Hairy vetch	forb	non-native	Limited
<i>Vicia sativa</i>	Common vetch	forb	non-native	Limited
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	grass	non-native	Moderate

<i>Avena barbata</i>	Slender wild oat	grass	non-native	Moderate
<i>Briza maxima</i>	big quakinggrass	grass	non-native	Limited
<i>Bromus diandrus</i>	Ripgut brome	grass	non-native	High
<i>Cynosurus echinatus</i>	Rough dogtail	grass	non-native	Limited
<i>Festuca bromoides</i>	Brome fescue	grass	non-native	-
<i>Holcus lanatus</i>	common velvet grass	grass	non-native	Moderate
<i>Hordeum murinum</i>	foxtail	grass	non-native	Moderate
<i>Juncus patens</i>	Spreading rush	other graminoid	native	-
<i>Equisetum telmateia</i>	Giant horsetail	fern	native	-
<i>Pteridium aquilinum</i>	Bracken fern	fern	native	-

Section 6 Conclusion and Discussion

6.1 Conclusion

Floristic botanical surveys conducted on April 18, June 20, and August 12, 2025 confirmed that no special-status plant species or sensitive natural communities occur within the boundaries of the 92 Young Lane parcel. Vegetation on the lot is limited to a disturbed ruderal assemblage of annual grasses and non-native forbs, with only scattered native species along parcel margins. The absence of dune indicator taxa and the dominance of invasive species demonstrate that the parcel is ecologically degraded and lacks the floristic integrity of surrounding natural habitats.

While the Study Area itself does not support sensitive resources, it is situated in a botanically significant landscape. Adjacent and nearby parcels contain shore pine forest, Sitka spruce forest, and coastal dune vegetation—all recognized as Environmentally Sensitive Habitat Areas (ESHAs) under the California Coastal Act and Humboldt County's certified Local Coastal Program. These communities provide habitat for several federally and state-listed plant species, including *Erysimum menziesii* (Menzies' wallflower) and *Layia carnosia* (beach layia). Although these habitats do not extend into the project parcel, their proximity underscores the importance of protective measures during construction.

6.2 Discussion and Recommendations

Although the parcel itself does not support special-status plants or sensitive communities, its location adjacent to ESHAs means that indirect impacts are possible if project activities are not properly contained. In particular, ground disturbance, soil movement, and invasive plant propagules could spread into adjacent intact habitats if not managed carefully.

To minimize risk and ensure compliance with CEQA, the Coastal Act, and Humboldt County's Local Coastal Program, NBC recommends the following measures:

- **Temporary construction fencing:** Install high-visibility fencing (e.g., ESA/ESHA fencing or orange safety fencing) along parcel boundaries prior to construction to clearly demarcate work limits and prevent encroachment into adjacent habitats.
- **Limit disturbance to approved footprint:** Grading, vegetation removal, and equipment operation should remain strictly within the designated development area. No equipment staging or soil stockpiling should occur outside the parcel boundary.
- **Invasive species management BMPs:**
 - Ensure construction equipment and vehicles are free of soil and seed material before entering the site.
 - Properly dispose of removed plant material at an approved offsite location to avoid spread of invasive propagules.
 - Following construction, stabilize exposed soils with native seed mixes or erosion-control materials to reduce colonization by invasive grasses and forbs.
- **Monitoring (if required by agency permits):** Consider a one-time compliance check during ground disturbance to confirm fencing integrity and invasive species containment.

With implementation of these avoidance and minimization measures, the proposed project can proceed without adverse impacts to sensitive botanical resources. No additional botanical surveys are warranted at this time unless the project footprint expands into adjacent parcels or into areas supporting intact dune, wetland, or forest vegetation.



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Photo Documentation



Photo 2. Photo showing general habitat type and condition during the April 18, 2025. Vegetation cover is dominated by non-native annual grasses and weedy forbs well-adapted to sandy, disturbed conditions.



Photo 1. Photo showing general habitat type and condition during the June 20, 2025. Vegetation cover is dominated by non-native annual grasses and weedy forbs well-adapted to sandy, disturbed conditions. Willows in the background are outside of the Study Area.



Photo 3. Photo showing the Sitka spruce forest (*Picea sitchensis* Alliance) which is considered ESHA and occurs outside of the Study Area to the west and north west. Study Area is dominated by non-native annual grasses and weedy forbs well-adapted to sandy, disturbed conditions