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Botanical Survey

Mabe Table Bluff Botanical Survey

Reference: 016209
Date: August 11, 2016
By: Joseph Saler, Biologist/Botanist



On July 27 and August 1, 2016 SHN Consulting Engineers & Geologists, Inc. botanist Joseph Saler conducted a botanical site reconnaissance and survey for special status botanical species¹ across the entire parcel designated APN 308-231-002. This included the portions of the parcel on both sides of Hawks Hill Road, and the right of way for Hawks Hill and Table Bluff Roads, along the parcel. This covers an area of approximately 4.68 acres along the top of the shoulder of Table Bluff. No project has been developed for the parcel, however, it is expected that the parcel would be developed with a single family dwelling and agricultural use. To ascertain such development potential the entire parcel was surveyed to ensure that no listed botanical species potentially occurring on the parcel were missed. The site is within the United States Geological Survey (USGS) 7.5-minute Fields Landing quadrangle located in Humboldt County. This Botanical Report documents the botanical site investigation and findings.

Background

The parcel designated APN 308-231-002 is located on Table Bluff at latitude 40.6654, and longitude - 124.2257 (see figure 1). Table bluff has been the location of intense agricultural use for over 100 years, which has largely determined the botanical species found within the parcel during the survey. The parcel is surrounded by agricultural use on two sides, and was at one time used for agriculture as evidenced by fencing. Additionally, there was a mobile home on the parcel in the past as seen on old aerial imagery and evidenced by piping, electrical hookups, a cement pad and sidewalk, and a gravel driveway. Due to the past agricultural use of the parcel and the history of development on the parcel, it is unlikely that any listed botanical species would be found on site.

Soils across the parcel are of the Rhonerville soil series, which consists of silty clay loam textured soils with deep, dark topsoil down to approximately 24 inches. These soils are deep and well drained which can support a wide range of vegetation. Due to the well drained nature of the soils across the entire parcel, very little wetland species were observed, with few species having more than facultative upland species¹.

¹ The Term "Special Status Species" is used collectively to refer to species that are state or federally listed, species that are state or federal candidates for listing, and all species listed by the California Natural Diversity Database. This term is consistent with the biological resources that need to be assessed pursuant to the California Environmental Quality Act.

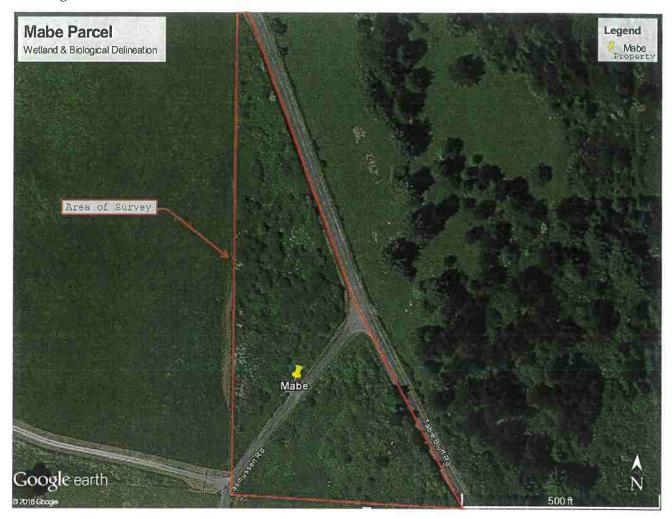


Figure 2: Survey area. Includes Right of way along Table Bluff Road and Hawks Hill Road (referred to as Rasmussen Rd in figure). Note agricultural fields to the south and west.

Methodology

A list of plant species potentially present within the parcel was developed from information available from the California Consortium of Herbaria and the Calflora Project. A search of the California Natural Diversity Data Base (CNDDB) for known rare, threatened, or endangered species within the Fields Landing and adjacent quadrangles resulted in 23 plant species. An additional search for known rare, threatened, or endangered species within the Fields Landing and adjacent quadrangles using the California Native Plant Society (CNPS) rare plant inventory resulted in 23 additional species for a total of 46 plant species. Of these, 11 species have low to medium potential to occur within the parcel (See Tables 1 and 2 for listed species). No listed species had a high potential of occurring on-site. The bulk of the remaining species occupy wetland habitats, beach habitat, or forested habitats. These species do not have suitable habitat within the parcel, which is on top of a shoulder of Table Bluff and is characterized by non-native grassland and shrubland, with a few isolated trees. Using information about sensitive species potentially

Jim Mabe Table Bluff Botanical Survey

August 11, 2016

Page 3

present in the project area, SHN undertook a botanical investigation in an attempt to determine if any of these species were actually located at the project site, and if project activities would have any adverse impacts to individuals or habitat.

Botanical Investigation

A focused botanical survey was conducted pursuant to the California Department of Fish and Wildlife (CDFW) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2009).

The survey protocol consisted of a database query and a focused botanical field survey for target species within suitable and potentially suitable habitat. Prior to conducting fieldwork, the following references were reviewed:

- CNDDB query for Field's Landing and the surrounding USGS 7.5 minute topographic quadrangles² (CDFW, 2016a).
- Electronic Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society [CNPS], 2016) query for a list of all plant species reported for the Field's Landing and the surrounding USGS 7.5 minute topographic quadrangles².
- U.S. Fish and Wildlife Service (USFWS) Listed/Proposed Threatened and Endangered Species for the Field's Landing Quadrangle (Candidates Included; USFWS, 2016).
- Biogeographical Information and Observation System (BIOS; CDFW, 2016b).

From the database query, a list of potential target species for the study area was compiled and is presented as Table 1 and Table 2 in Appendix A. These tables include all plant species reported by the CNDDB and CNPS. There are currently three botanical species identified by the USFWS as Threatened, Endangered, or Candidate species proposed for listing as either threatened or endangered under the Federal Endangered Species Act (FESA) that could potentially occur near the survey area. This includes the western lily (*Lilium occidentale*), beach layia (*Layia carnosa*), and Menzies' wallflower (*Erysimum menziesii*).

A field survey was conducted on July 27 and August 1, 2016 for all special status plant species potentially present (Table 1 and 2, Appendix A) in the study area. The survey was conducted on foot and covered the entire parcel as well as the right of way along Table Bluff and Hawks Hill Roads (Figure 1 for approximate survey boundary). The survey was conducted outside of the estimated flowering period for the seacoast ragwort (*Packera bolanderi* var. *bolanderi*), which has low potential of existing on site. The seacoast ragwort is known to have an estimated flowering period from April to May. It is unlikely that this species occurs within the survey area due to a lack of habitat; therefore it is unlikely that this species was missed due to the timing of the survey. Additional species had bloom periods outside the time of the survey however none of these species had any potential of existing within the survey area due to a lack of habitat. These species include the seaside bittercress (*Cardamine angulata*) (April-June), Oregon paintbrush (*Castelleja litoralis*) (June), pacific golden saxifrage (*Chrysosplenium glechomifolium*) (February-May), Menzies' wallflower (*Erysimum menziesii*) (March-April), shortleaved evax (*Hesperevax sparsiflora* var.

² Eureka, Arcata South, McWhinney Creek, Hydesville, Fortuna, Ferndale, Cannibal Island

Jim Mabe Table Bluff Botanical Survey

August 11, 2016

Page 4

brevifolia) (March-June), Howell's montia (Montia howellii) (March-May), and the California pinefoot (Pityopsis californica)(May). Because these species do not have habitat present within the parcel, they were not missed due to a lack of flowering during the time of the survey.

Reference sites were visited for listed species that occur near the survey area, to access these populations for vegetative, flowering or fruiting status. A nearby population of the western lily was observed as a reference site and found to be in full bloom, indicating that the survey was conducted within the correct bloom period for this species within the area.

In addition to surveying for target species, a list of all botanical species encountered was compiled. Plants were identified to the lowest taxonomic level possible to distinguish special-status species from others. A list of observed species is attached as Table 3, Appendix B. Botanical nomenclature follows *The Jepson Manual, Vascular Plants of California* (Baldwin et al. 2012) and subsequent online revisions.

Results

The habitat found across the parcel varied from non-native grassland to coastal shrubland dominated by cascara (*Frangula purshiana*), to large thickets of California blackberry (*Rubus ursinus*). Over 100 species were observed on site (Table 3, appendix B) of which 47.5% were native, reflecting the past agricultural and development uses of the parcel. The majority of the parcel was densely vegetated with some areas covered by large thickets of California blackberry. Several young Sitka spruce (*Picea sitchensis*) and Monterey pine (*Pinus radicata*) provided deep shade on the southern portion of the parcel. The parcel had 30% cover by non-native grassland, 65% cover by shrubs and cascara and 5% cover by maturing conifer trees. The habitats and plant communities within the parcel appear to represent a transitional community from an agricultural pasture to natural woodland, reflecting the years since the parcel was used for agriculture. Mature Sitka spruce and natural woodland is present to the northeast of the parcel across Table Bluff Road from the survey area. Dominant shrubs across the parcel include cascara, California blackberry, coyote brush (*Baccharis pilularis*), Scotch broom (*Cytisus scoparius*) and salal (*Gaultheria shallon*).

No listed species or special status plant species were observed on-site. The disturbed nature of the site, invasive species, high shrub density, and elevated levels of herbivory make it unlikely that any listed species are present within the parcel. Of the 46 listed species recorded for the Fields Landing and surrounding 7.5 minute quadrangles, 11 had some potential of occurring on site. Based on the habitat occurring on-site, the Siskiyou checkerbloom (Sidalcea malviflora ssp. Patula) and the western lily (Lilium occidentale) had moderate potential of occurring within the survey area, however neither was observed. The Siskiyou checkerbloom is found within coastal bluff scrub, coastal prairie, coastal coniferous forest, and along roadcuts. These habitat types are present within the survey area, or nearby. The coastal prairie within the survey area is of very low quality, and exhibits overwhelming dominance by non-native species such as sweet vernal grass (Anthoxanthum odoratum) and velvet grass (Holcus lanatus). The shrub habitat is very dense with California blackberry thickets and dense cover in some areas by scotch broom (Cytisus scoparius) possibly precluding the growth of this species. The road cuts represent potential habitat for the Siskiyou checkerbloom, however, no plants were observed. While potential habitat for this species did exist within the parcel, the parcel was scrutinized, and the survey occurred within the bloom period. The

Jim Mabe
Table Bluff Botanical Survey

August 11, 2016 Page 5

Siskiyou checkerbloom was not observed, and therefore, most likely does not exist within the area of the survey.

The western lily occurs on Table Bluff nearby, and is listed as an endangered species by the United States Fish and Wildlife Service (USFWS). Due to the project's proximity to known populations of this species, the parcel was scrutinized for the existence of this species on site. Habitat to support this species was not present within the survey area. The western lily requires loose soils that are wet for portions of the year. The parcel represents a dry shoulder of Table Bluff, and is well drained, although roadside ditches did represent potential habitat. In addition to the dry nature of the site and moderately compacted soils, the parcel was heavily browsed by deer. The area was crisscrossed by deer paths, and many species of plants showed signs of heavy herbivory. The western lily is very susceptible to herbivory and is preferentially browsed. Because of the history of agricultural use of the parcel, high levels of herbivory, and the dry nature of the site, it is highly unlikely that this species exists on-site.

The other nine species with a low potential of occurrence on site were searched for during the survey. The lack of habitat for the species, and the heavy cover by non-native or invasive species, precluded them from occurring within the survey area.

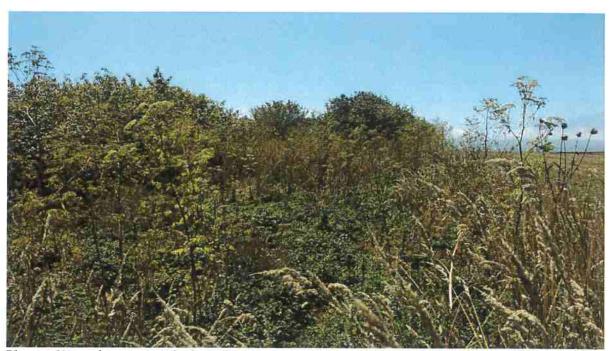


Photo 1: View of project area looking southwest. Note adjacent agricultural field and cover by Rubus and poison hemlock.

Page 6



Photo 2: View of project area looking south. Vegetation representative of the grassland habitat found across the parcel.



Photo 3: View of shrubs encroaching into grassland.

Jim Mabe Table Bluff Botanical Survey August 11, 2016 Page 7

Conclusions

There are 46 special status botanical species reported within the region consisting of the study area's quadrangle (Fields Landing) and the surrounding topographic quadrangles (CDFW, 2016a; CNPS, 2016, USFWS, 2016). This section summarizes conclusions based on the research and field investigations documented.

Of the 46 special status botanical species, 11 species listed in Table 1 and Table 2 (Appendix A) are considered to have a low or moderate potential to occur within the study area. No special status plant species were detected during the survey, and no additional surveys or mitigation measures are warranted.

Avoidance and Minimization

No special status plant species were observed within or adjacent to the project area. Therefore, no avoidance or minimizations of impacts are recommended.

Mitigation Measures

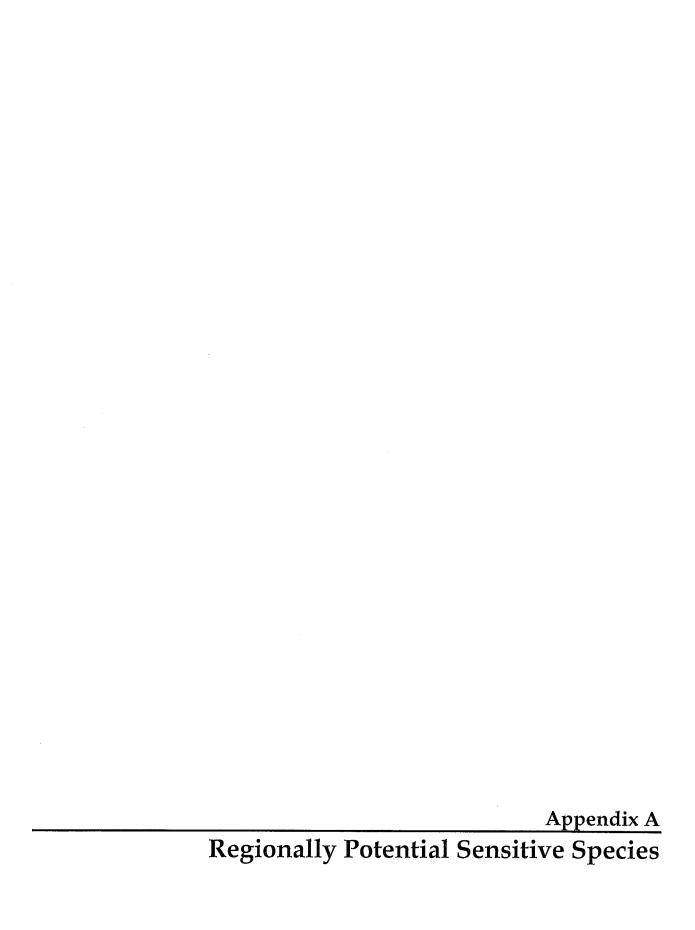
No special status plant species were observed within or adjacent to the project area. There is limited, if any, habitat within the project area for rare plant species know to occur in the region. Therefore, no mitigation measures are recommended.

References Cited

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Jim Mabe Table Bluff Botanical Survey August 11, 2016 Page 8

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- U.S. Fish and Wildlife Service. (2009). *Lilium occidentale* (western lily) 5-year review: Summary and Evaluation. Arcata Field Office. Arcata, CA.
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Regionally Potential Sensitive Species Mabe Botanical Survey Loleta, California

A California Natural Diversity Database (CNDDB; CDFW, 2016a) RareFind and California Native Plant Society Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2016) search was completed for the 7.5-minute U.S. Geological Survey (USGS) Field's Landing quadrangle and the surrounding USGS 7.5 minute topographic quadrangles (Table 1 and Table 2). Additionally, the US Fish and Wildlife Service (USFWS) species list was used to determine the potential presence of federally protected plant species (Table 1 and Table 2).

The databases were queried for historical and existing occurrences of state and federally listed Threatened, Endangered, and Candidate plant species and species proposed for listing. In addition to querying the CNDDB, a list of all federally listed species that are known to occur or may occur in the Field's Landing quadrangle was obtained from the Arcata U.S. Fish and Wildlife Service (USFWS) website (USFWS, 2016). Three special status botanical species were reported by the USFWS including the beach layia (*Layia carnosa*), Menzies wallflower (*Erysimum menziesii*), and the western lily (*Lilium occidentale*). While these species were reported for the area, the USFWS stated that habitat was not present within the project area to support these species.

Table 1 and 2 present the botanical species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the study area for the species. Each species was evaluated for its potential to occur within the study area according to the following criteria:

- 1) **None**. Species listed as having "none" with regard to their potential to occur on the study area are those species for which:
 - there is no suitable habitat present in the study area. (Habitats in the study area are unsuitable for the species requirements [for example, elevation, hydrology, plant community, disturbance regime, and so on].)
- 2) Low. Species listed as having a "low" potential to occur in the study area are those for which:
 - there is no known record of occurrence in the vicinity of the study area, and
 - there is marginal or very limited suitable habitat present in the study area.
- 3) **Moderate**. Species listed as having a "moderate" potential to occur on the study area are those species for which:
 - there is a known record of occurrence in the vicinity of the study area, and
 - there is suitable habitat present in the study area.
- 4) **High**. Species listed as having a "high" potential to occur in the study area are those species for which:
 - there is a known record of occurrence in the vicinity of the study area (there are many records and/or records in close proximity), and
 - there is highly suitable habitat present in the study area.
- 5) **Present**. Species listed as "present" in the study area are those species for which:
 - the species was observed in the study area during the investigations.

	Table 1 CNDDB Potential Regionally Occurring Special Status Botanical Species Mabe, Loleta CA											
Scientific Name	Common Name	FedList	CalList	SRank	RPlant Rank	Habitats	GenHab	MicroHab	Bloom Period	Potential of Occurrence		
Abronia umbellata var. breviflora	pink sand- verbena	None	None	S1	18.1	Coastal dunes	Coastal dunes and coastal strand.	Foredunes and Interdunes with sparse cover. Usually the plant closest to the ocean. 0-10 m.	June – Oct.	None. Habitat not present		
Anomobryum julaceum	slender silver	None	None	\$2	4.2	Broadleaved upland forest, Lower montane conifer forest, North coast conifer forest	Broadleafed upland forest, lower montane conifer forest, N. coast conifer forest.	Grows on damp rocks and soil; acidic substrates. Usually on road cuts. 100-1000 m.	N/A	None. Habitat not present		
Bryoria spiralifera	twisted horsehair lichen	None	None	S1S2	1B.1	North coast coniferous forest	North coast coniferous forest.	Usually on conifers. 0-30 m.	N/A	None. Habitat not present		
Cardamine angulata	seaside bittercress	None	None	S1	2B.1	Lower montane conifer forest N. coast coniferous forest, Wetland	North coast coniferous forest, lower montane coniferous forest.	Wet areas, streambanks. 90- 155 m.	April- June	None, Habitat not present		
Carex arcta	northern clustered sedge	None	None	S1	2B.2	Bog & fen, North coast coniferous forest, Wetland	Bogs and fens, north coast coniferous forest.	Mesic sites. 60- 1405 m.	June- Sept.	None. Habitat not present		
Carex leptalea	bristle-stalked sedge	None	None	\$1	2B.2	Bog & fen, Freshwater marsh, Marsh & swamp, Meadow & seep, Wetland	Bogs and fens, meadows, marshes&swamps, meadows&seeps.	Mostly known from bogs and wet meadows. 0- 700 m.	Mar- July	None. Habitat not present		
Castilleja litoralis	Oregon coast paintbrush	None	None	S3	2B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub	Coastal bluff scrub, coastal dunes, coastal scrub.	Sandy sites. 5-255 m.	June	None. Habitat not present		

Jim Mabe Table Bluff Botanical Survey August 11, 2016

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Scientific Name	Common Name	FedList	CalList	SRank	RPlant Rank	Habitats	GenHab	MicroHab	Bloom	Potential of
Name	Name				Kank	<u> </u>		Localized on	Period	Occurrence None.
Erysimum	Menzies'							dunes and coastal	Mar-	Habitat not
menziesii	wallflower	Endngrd	Endngrd	S1	1B.1	Coastal dunes	Coastal dunes.	strand, 0-35 m.	April	present
							- Codotal dallasi	Damp soil along	Арти	present
								the coast. In dry		
						North coast		streambeds and		None.
Fissidens	minute					coniferous forest,	North coast	on stream banks.		Habitat not
pauperculus	pocket moss	None	None	S2	1B.2	Redwood	coniferous forest.	10-1024 m.	N/A	present
	i					Chaparral, Coastal	Coast bluff scrub,			Low.
						bluff scrub, Coast	chaparral, coast			Habitat
Gilia capitata		l				prairie, Valley &	prairie, valley &		April-	potentially
ssp. pacifica	Pacific gilia	None	None	S2	18.2	foothill grassland	foothill grassland.	5-1345 m.	Aug	present
Gilia	doub acced								l	None.
millefoliata	dark-eyed gilia	None	None	S2	1B.2	Coastal dunes	Canatal dunas	2 20	April-	Habitat not
Timeronata	gilia	None	None	32	1D.Z	Coastal dunes	Coastal dunes.	2-30 m.	July	present
Lathyrus									May-	None. Habitat not
japonicus	seaside pea	None	None	S2	2B.1	Coastal dunes	Coastal dunes.	1-30 m.	Aug	present
<u> </u>							Semi-stabilized	On sparsely	7146	None.
						Coastal dunes	dunes, behind	vegetated areas.	Mar-	Habitat not
Layia carnosa	beach layia	Endngrd	Endngrd	S2	1B.1	Coastal scrub	foredunes	0-30 m.	July	present
								Well-drained, old		
						Bog & fen, Coast	Coastal scrub,	beach washes		
						bluff scrub, Coast	freshwater marsh,	overlain with		
						prairie, Coast	bogs and fens,	wind-blown		
						scrub, Freshwater	coastal bluff	alluvium and		
						marsh, Marsh &	scrub, coastal	organic topsoil;		Low.
1.00						swamp, N. coast	prairie, N. Coast	usually near		Habitat and
Lilium	wootom like	Foodbooms!	Co do avet	C1	4.0.4	coniferous forest,	conifer forest,	margins of Sitka	June-	proper soils
occidentale	western lily	Endngrd	Endngrd	S1	1B.1	Wetland	marshes&swamps.	spruce. 2-185 m.	July	not present

Jim Mabe Table Bluff Botanical Survey August 11, 2016 Page 3

Page 3	4									
Scientific Name	Common Name	FedList	CalList	SRank	RPlant Rank	Habitats	GenHab	MicroHab	Bloom Period	Potential of Occurrence
l								Forest understory,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
						Lower montane	Lower montane	edges, openings,		
						coniferous forest,	conifer forest, N.	roadsides; mesic		Low.
		l				Marsh & swamp,	coast coniferous	sites with partial		Quality
Lycopodium						N. coast conifer	forest, marshes	shade and light.	June-	habitat not
clavatum	running-pine	None	None	S3	4.1	forest, Wetland	and swamps.	45-1225 m.	Aug	present
						Broadleaved	Broadleaved	Often under		
						upland forest,	upland forest,	redwoods or		None.
Monotropa						North coast	north coast	western hemlock.	June-	Habitat not
uniflora	ghost-pipe	None	None	S2	2B.2	coniferous forest	coniferous forest.	15-855 m.	Aug	present
						Meadow & seep,	Meadows and	Vernally wet sites;		•
						N. coast conifer	seeps, north coast	often on		None.
Montia	Howell's					forest, Vernal	coniferous forest,	compacted soil.	Mar-	Habitat not
howellii	montia	None	None	S2	2B.2	pool, Wetland	vernal pools.	10-1005 m.	May	present
Packera										
bolanderi						Coastal scrub,	Coastal scrub,	Sometimes along		Low.
var.	seacoast					North coast	north coast	roadsides. 30-915	April-	Habitat not
bolanderi	ragwort	None	None	S2S3	2B.2	coniferous forest	coniferous forest.	m.	May	present
						Broadleaf upland	Broadleaf upland			
						forest, Coast	forest, coast	Woodlands and		
						prairie, Coast	prairie, coast	clearings near		Low.
	İ					scrub, N. coast	scrub, North coast	coast; often in		Quality
Sidalcea	maple-leaved				•	conifer forest,	conifer forest,	disturbed areas.	April-	habitat not
malachroides	checkerbloom	None	None	S3	4.2	Riparian forest	riparian forest.	0-730 m.	Aug.	present
								Open coastal		
								forest; roadcuts.		
						Coast bluff scrub,	Coast bluff scrub,	5-1255 m.		Medium.
Sidalcea						Coast prairie, N.	coastal prairie,			Habitat
malviflora	Siskiyou			i		coast conifer	north coast		May-	present,
ssp. patula	checkerbloom	None	None	S2	1B.2	forest	coniferous forest.		Aug.	disturbed

Jim Mabe

Table Bluff Botanical Survey

August 11, 2016

Page 4

Scientific Name	Common Name	FedList	CalList	SRank	RPlant Rank	Habitats	GenHab	MicroHab	Bloom Period	Potential of Occurrence
Sidalcea oregana ssp. eximia	coast checkerbloom	None	None	S1	18.2	Lower montane conifer forest, Meadow & seep, N. coast conifer forest, Wetland	Meadows and seeps, north coast coniferous forest, lower montane coniferous forest.	Near meadows, in gravelly soil. 5-1805 m.	June- Aug.	None. Wetland habitat not
Usnea Iongissima	Methuselah's beard lichen	None	None	S4	4.2	Broadleaved upland forest North coast coniferous forest Oldgrowth Redwood	North Coast coniferous forest, broadleafed upland forest.	"redwood zone" on big leaf maple, oaks, ash, Douglas-fir, and bay. 50-1460 m in California.	N/A	None. Habitat not present
Viola palustris	alpine marsh violet	None	None	S1S2	2B.2	Bog & fen, Coastal scrub, Wetland	Coastal scrub, bogs and fens.	Swampy, shrubby places in coastal scrub or coastal bogs. 0-150 m.	Mar- Aug.	None. Habitat not present

-: No Status/Listing CRPR: California Rare Plant Rank

1A: includes plants presumed extinct in CA.

- 1B: includes plants that are rare, threatened, or endangered in California and elsewhere.
- 2A: includes plants that are rare, threatened, or entangered in California and eisewhere.

 2B: includes plants plants that are rare, threatened, or endangered in California but more common elsewhere.

 2B: includes plants that are rare, threatened, or endangered in California but more common elsewhere.

 3: includes plants for which more information is needed—a review list,

 4: includes plants of limited distribution and should be documented as they are watch list species

Threat Ranks:

- .1: Seriously threatened in CA (over 80% of occurrence threatened/high degree and immediacy threat)
 .2: Moderately threatened in CA (20-80 % occurrences threatened).
 .3: Not very threatened in California (<20% of occurrences threatened).
 Plant habitat descriptions are from The Jepson Manual (Baldwin et al. 2012), California Natural Diversity Database (CDFW, 2016), and CNPS (2016).
 Blooming period from The Jepson Manual (Baldwin et al. 2012) and CNPS (2016).

Jim Mabe Table Bluff Botanical Survey August 11, 2016

	Table 2 CNPS Potential Regionally Occurring Special Status Botanical Species Mabe, Loleta CA									
Scientific Name	Common Name	Family	Lifeform	RPInt Rank	State Rank	Global Rank	Bloom Period	Potential of Occurrence		
Abronia umbellata var. breviflora	pink sand-verbena	Nyctaginaceae	perennial herb	1B.1	S1	G4G5T2	June- October	None		
Angelica lucida	sea-watch	Apiaceae	perennial herb	4.2	S3	G5	May- Sept.	None		
Anomobryum julaceum Astragalus pycnostachyus var.	slender silver moss	Bryaceae	moss	4.2	S2	G5?	N/A April-	None		
pycnostachyus Bryoria pseudocapillaris	coastal marsh milk-vetch false gray horsehair lichen	Fabaceae Parmeliaceae	perennial herb fruticose lichen (epiphytic)	1B.2 3.2	S2 S2	G2T2 G3	Oct. N/A	None None		
Bryoria spiralifera	twisted horsehair lichen	Parmeliaceae	fruticose lichen (epiphytic)	1B.1	S1S2	G3	N/A	None		
Cardamine angulata	seaside bittercress	Brassicaceae	perennial herb	2B.1	S1	G5	April- June	None		
Carex arcta	northern clustered sedge	Cyperaceae	perennial herb	2B.2	S1	G5	June- Sept.	None		
Carex leptalea	bristle-stalked sedge	Cyperaceae	perennial rhizomatous herb	2B.2	S1	G5	March- July	None		
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	2B.2	S3	G5	April- August	None		
Carex praticola	northern meadow sedge	Cyperaceae	perennial herb	2B.2	S2	G5	May- July	Low		
Castilleja litoralis Chloropyron maritimum ssp.	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic) annual herb	2B.2	S3	G3	June	None		
palustre	Point Reyes bird's-beak	Orobanchaceae	(hemiparasitic)	1B.2	S2	G4?T2	June- October	None		

Jim Mabe Table Bluff Botanical Survey August 11, 2016 Page 6

Scientific Name	Common Name	Family	Lifeform		State Rank	Global Rank	Bloom Period	Potential of Occurrence
							Feb	
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifragaceae	perennial herb	4.3	S3	G5	May	None
							June-	
Claudita anno con a con a della con l	Whitney's farewell-to-				l <u>.</u> .		August	
Clarkia amoena ssp. whitneyi	spring	Onagraceae	annual herb	1B.1	S1	G5T1		None
Erysimum menziesii	Menzies' wallflower	Brassicaceae	perennial herb	1B.1	C1		March-	None
Erysimum menziesii	Menzies waimowei	Brassicaceae	perennial herb	18.1	S1	G1	April March-	None
Erythronium revolutum	coast fawn lily	Liliaceae	herb	2B.2	S3	G4G5	July	Nama
Fissidens pauperculus	minute pocket moss	Fissidentaceae						None
rissidens puupercuius	minute pocket moss	rissidentaceae	moss	1B.2	S2	G3?	N/A	None
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniaceae	annual herb	1B.2	S2	G5T3	April-	1
Gilla capitata ssp. pacifica	racinic gina	roleilloillaceae	aimuai nei v	TD.Z	32	4515	August April-	Low
Gilla millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	1B.2	S2	G2	July	None
Gina Immejonata	dark-cycu gina	Tolemoniaceae	amidamen	10.2	32	02	May-	None
Glehnia littoralis ssp. leiocarpa	American glehnia	Apiaceae	perennial herb	4.2	S3	G5T5	August	None
Hesperevax sparsiflora var.	,		por annual mana		00	00.0	March-	TTOTIC
brevifolia	short-leaved evax	Asteraceae	annual herb	18.2	S2	G4T3	Tune	None
							May-	
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	1B.2	S3	G3	August	None
			perennial				May-	
Lathyrus japonicus	seaside pea	Fabaceae	rhizomatous herb	2B,1	S2	G5	August	None
							March-	
Lathyrus palustris	marsh pea	Fabaceae	perennial herb	2B.2	S2	G5	August	None
							March-	
Layia carnosa	beach layia	Asteraceae	annual herb	1B.1	S2	G2	July	None
			perennial bulbiferous				May-	
Lilium kelloggii	Kellogg's lily	Liliaceae	herb	4.3	S3	G3	August	None
			perennial bulbiferous	l				
Lillum occidentale	western lily	Liliaceae	herb	1B.1	S1	G1	June-Jul	Medium

Jim Mabe Table Bluff Botanical Survey August 11, 2016 Page 7

Scientific Name	Common Name	Family	Lifeform	RPInt Rank	State Rank	Global Rank	Bloom Period	Potential of Occurrence
			perennial bulbiferous				April-	
Lilium rubescens	redwood lily	Liliaceae	herb	4.2	S3	G3	August	None
							Feb	
Listera cordata	heart-leaved twayblade	Orchidaceae	perennial herb	4.2	S4	G5	July	None
			perennial				June-	
Lycopodium clavatum	running-pine	Lycopodiaceae	rhizomatous herb	4.1	S3	G5	August	Low
							3.6	
Mitellastra caulescens	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	4.2	.,	C.	May-	NI
Witteriasti u Caaresceris	leary-sterrified mitrewort	Saxiii agaceae	perennial herb	4.2	S4	G5	July	None
Monotropa uniflora	ghost-pipe	Ericaceae	(achlorophyllous)	2B.2	S2	G5	June- August	Nama
TVIONOCI OPU UNIJIOI U	gnost-pipe	Liteaceae	(actilor opinyilous)	20,2	32	43	March-	None
Montia howellii	Howell's montia	Montiaceae	annual herb	2B.2	S2	G3G4	May	None
	The West of Montal	Mondacac	difficulties of	20.2	32	434	May-	None
Oenothera wolfii	Wolf's evening-primrose	Onagraceae	perennial herb	1B.1	S1	G2	October	Low
Packera bolanderi var.			perennial				April-	
bolanderi	seacoast ragwort	Asteraceae	rhizomatous herb	2B.2	S2S3	G4T4	May	Low
			perennial herb					
Pityopus californicus	California pinefoot	Ericaceae	(achlorophyllous)	4.2	S4	G4G5	May	None
			perennial				April-	
Pleuropogon refractus	nodding semaphore grass	Poaceae	rhizomatous herb	4.2	S4	G4	August	Low
							April-	
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	2B.2	S2	G3G4	Sept,	Low
Puccinellia pumila	dwarf alkali grass	Poaceae	perennial herb	2B,2	SH	G4?	July	None
			perennial deciduous				March-	
Ribes laxiflorum	trailing black currant	Grossulariaceae	shrub	4.3	S4	G5	July	Low
	maple-leaved						April-	
Sidalcea malachroides	checkerbloom	Malvaceae	perennial herb	4.2	S3	G3	August	Low
			perennial				May-	
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	Malvaceae	rhizomatous herb	1B.2	S2	G5T2	August	Medium

Jim Mabe

Table Bluff Botanical Survey

August 11, 2016

Page 8

Scientific Name	Common Name	Family	Lifeform			Global Rank	Bloom Period	Potential of Occurrence
Sidalcea oregana ssp. eximia	coast checkerbloom	Malvaceae	perennial herb	1B.2	S1	G5T1	June- August	None
Usnea Ionaissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)	4.2	S4	G4	N/A	None
Viola palustris	alpine marsh violet	Violaceae	perennial rhizomatous herb	2B.2	S1S2	G5	March- August	None

-: No Status/Listing CRPR: California Rare Plant Rank

1A: includes plants presumed extinct in CA.

1B: includes plants that are rare, threatened, or endangered in California and elsewhere.

2A: includes plants presumed expatriated in California but more common elsewhere.

2B: includes plants that are rare, threatened, or endangered in California but more common elsewhere

3: includes plants for which more information is needed-a review list.

4: includes plants of limited distribution and should be documented as they are watch list species

Threat Ranks:

1: Seriously threatened in CA (over 80% of occurrence threatened/high degree and immediacy threat)
2: Moderately threatened in CA (20-80% occurrences threatened).
3: Not very threatened in California (<20% of occurrences threatened).
Plant habitat descriptions are from The Jepson Manual (Baldwin et al. 2012), California Natural Diversity Database (CDFW, 2016), and CNPS (2016).
Blooming period from The Jepson Manual (Baldwin et al. 2012) and CNPS (2016).

Table 3 Observed Botanical Species List

Table Bluff Rd Loleta, CA									
Plants Observed 7/27/16 and 8/1/16									
Scientific Name	Common Name	Native?	Wetland Status						
Trees									
Abies grandis	grand fir	Υ	FACU						
Frangula purshiana	cascara	Υ	FAC						
Juniperus sp.	cultivated juniper	N	N/A						
Picea sitchensis	Sitka spruce	Υ	FAC						
Pinus radiata	Monterrey pine	N	NL						
Prunus cerasifera	wild plum	N	UPL						
Pseudotsuga menziesii	Douglas fir	Υ	FACU						
Salix lasiandra	pacific willow	Υ	FACW						
Shrubs									
Baccharis pilularis	coyote brush	Υ	UPL						
Corylus cornuta	hazelnut	Υ	FACU						
Cytisus scoparius	scotchbroom	N	UPL						
Erica lusitanica	Spanish heather	N	UPL						
Gaultheria shallon	saial	Υ	FACU						
Genista monspessulana	French broom	N	UPL						
Ilex aquifolium	English holly	N	FACU						
Lonicera involucrata	twinberry	Υ	FAC						
Oemleria cerasiformis	indian plum	Υ	FACU						
Ribes sanguineum	flowering currant	Y	FACU						
Rosa californica	California rose	Y	FAC						
Rosa rubiginosa	sweetbriar	N	UPL						
Rubus armeniacus	Himalayan blackberry	N	FAC						
Rubus parviflorus	thimbleberry	Υ	FACU						
Rubus ursinus	California blackberry	Υ	FACU						
Sambucus racemosa	red elderberry	Υ	FACU						
Spirea douglasiana	Douglas spirea	Υ	FACW						
Symphoricarpos albus	common snowberry	Υ	FACU						
Vaccinium ovatum	evergreen huckleberry	Υ	FACU						
WINDLESS CONTROL OF THE STATE O	The Control of the State of Control of the Control	Total and the second	Section in program in the control of						
Herbs									
Achillea millefolium	common yarrow	Y	FACU						
Anaphalis margaritaceae	pearly everlasting	Υ	FACU						
Aquilegia formosa	western columbine	Υ	FAC						
Brassica rapa	common mustard	N	FACU						

Scientific Name	Common Name	Native?	Wetland Status
Carduus pycnocephalus	Italian thistle	N	UPL
Cirsium arvense	Canada thistle	N	FAC
Cirsium vulgare	bull thistle	N	FACU
Conium maculatum	poison hemlock	N	FAC
Crepis capillaris	smooth hawksbeard	N	FACU
Daucus carota	Queen Anne's lace	N	FACU
Digitalis purpurea	foxglove	N	FACU
Dipsacus fullonum	wild teasel	N	FAC
Epilobium ciliatum	Northern willowherb	Υ	FACW
Erigeron canadensis	Canada horseweed	Υ	FACU
Fragaria vesca	California strawberry	Υ	FACU
Galium aparine	cleaver plant	N	FACU
Geranium dissectum	cutleaf geranium	N	UPL
Heracleum maxima	cow parsley	Υ	FAC
Horkelia californica	California horkelia	Υ	NL
Hypochaeris radicata	hairy cats-ear	N	FACU
Iris douglasiana	Douglas iris	Υ	UPL
Leucantheumum vulgare	oxeye daisy	N	UPL
Linum bienne	flax	N	UPL
Lotus corniculatus	bird's foot trefoil	N	FAC
Lupinus rivularis	riverbank lupine	Υ	FAC
Lysimachia arvensis	scarlet pimpernel	N	FAC
Maianthemum racemosum	false Solomon's seal	Υ	FAC
Mentha pulegium	pennyroyal	N	OBL
Navarretia squarrosa	skunkweed	Υ	FACU
Parentucellia viscosa	yellow glandweed	N	FAC
Plantago lanceolata	English plantain	N	FACU
Prunella vulgaris	self heal	Υ	FACU
Pseudognaphalium ramosissimum	pink cudweed	Υ	UPL
Ranunculus repens	creeping buttercup	N	FAC
Rhaphanus sativa	wild radish	N	UPL
Rumex acetosella	sheep sorrel	N	FACU
Rumex crispus	curly dock	N	FAC
Scrophularia californica	California bee plant	Υ	FAC
Senecio minimus	coastal burnweed	N	FACU
Silybum marianum	blessed milk thistle	N	UPL
Solanum americanum	American nightshade	Υ	FACU
Solanum aviculare	New Zealand nightshade	N	NL
Solidago elongata	West coast Canada goldenrod	Υ	FACU
Sonchus olereacus	sow thistle	N	UPL

Scientific Name	Common Name	Native?	Wetland Status
Stachys ajugoides	bugle hedgenettle	Υ	OBL
Symphyotrichum chilense	California aster	Υ	FAC
Taraxicum officinale	dandelion	N	FACU
Tellima grandiflora	fringe cups	Υ	FACU
Trifolium pratense	red clover	N	FACU
Trifolium repens	white clover	N	FAC
Urtica dioica	stinging nettle	Υ	FAC
Vicia hirsuta	tiny vetch	N	UPL
Vicia sativa	spring vetch	N	UPL
Zeltnera venusta	charming centaury	Υ	NL
Grasses			
Aira caryophylla	silver hairgrass	N	FACU
Anthoxanthum odoratum	sweet vernal grass	N	FACU
Avena sativa	wild oat	N	UPL
Briza maxima	large quaking grass	N	UPL
Briza minor	small quaking grass	N	FAC
Bromus carinatus	California brome	Υ	NL
Bromus diandrus	ripgut brome	N	UPL
Bromus hordeacus	soft chess	N	FACU
Dactylis glomerata	orchard grass	N	FACU
Elymus glaucus	blue wildrye	Υ	FACU
Festuca arundinacea	tall fescue	N	FACU
Festuca microstachys	small fescue	Υ	UPL
Festuca perenne	Italian wildrye	N	FAC
Festuca rubra	red fescue	Υ	FAC
Holcus lanatus	velvet grass	N	FAC
Phalaris aquatica	harding grass	N	FACU
Poa pratensis	Kentucky bluegrass	N	FAC
Ferns and Allies		distribution	
Polystichum munitum	sword fern	Υ	FACU
Pteridium aquilinum	bracken fern	Y	FACU
Sedges and Rushes			alica de la companya
Carex leptopoda	slender footed sedge	Υ	FAC
Total		47.5% Native	40.75% FAC or wetter species

1. (USDA 2012)
Indicators are abbreviated as follows:
OBL: Obligate
FACW: Facultative FAC: Facultative

FACU: Facultative upland UPL: Upland NL: Not listed



Preliminary Jurisdictional Wetland Delineation

Jim Mabe Parcel Loleta, California

Prepared for:

Jim Mabe



812 W. Wabash Ave.

Eureka, CA 95501-2138

707-441-8855

August 2016

016209

Reference: 016209

Preliminary Jurisdictional Wetland Delineation

Jim Mabe Parcel Loleta, California

Prepared for:

Jim Mabe

Prepared by:

STAN

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August 2016

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Table of Contents

			Page
Αb	breviat	ions and Acronyms	iii
1.0	Introd	uction	1
	1.1	Purpose	1
	1.2	Project Location	1
2.0	Project	t Description	1
3.0	Enviro	onmental Setting	5
4.0	Geolog	gic Setting	5
5.0	Regula	atory Setting	5
5.1	Federa	ıl Laws	5
		5.1.1 Section 401 and 404 of the Clean Water Act	5
		5.1.2 Rivers and Harbors Appropriation Act of 1899	7
	5.2	State Laws - Porter-Cologne Water Quality Act	7
6.0	Metho	dology	7
	6.1	Vegetation Methodology	9
	6.2	Soils Methodology	10
	6.3	Hydrology Methodology	10
7.0	Results	s	10
	7.1.1	Vegetation	10
	7.2	Soils	11
	7.3	Hydrology	12
	7.4	Ordinary High Water Mark (OHWM)	12
8.0	Conclu	ısions	13
9.0	Limita	tions	13
10 (1	References Cited	12

Appendices

A.	National Wetlands Inventory
В.	Site Photographs
C.	Wetland Determination Data Forms
D.	Plant List

List of Illustrations

Figures	Follo	ws Page
1.	Site Vicinity	1
2.	Study Area and Delineated Wetlands	1
Table 1.	Wetland Delineation Results	. Page 11

Abbreviations and Acronyms

ACOE United States Army Corps of Engineers

APN Assessor's parcel number

CDEC California Data Exchange Center

CFR Code of Federal Regulations

CP control point

CWA Clean Water Act

EPA United States Environmental Protection Agency

ERDC/CRREL United States Army Engineer Research and Development Center/Cold Regions

Research and Engineering Laboratory

FAC facultative wetland plant species FACU facultative-upland plant species

FACW facultative-wet wetland plant species

GPS global positioning system

NCDC National Climatic Data Center

NL not listed plant species

NOAA National Oceanic & Atmospheric Administration

NR no reference

NRCS Natural Resources Conservation Service

NWI National Wetlands Inventory
OBL obligate wetland plant species

OHWM ordinary high water mark

PF01C freshwater forested/shrub wetland

R3UBF Riverine Wetland

RWQCB California Regional Water Quality Control Board

SHN Engineers & Geologists, Inc.

SWRCB State Water Resources Control Board

TP test pit

UPL upland plant species
USC United States Code

USDA United States Department of Agriculture

USFWS United States Fish & Wildlife Service

USGS United States Geological Survey

WDRs waste discharge requirements

WETS NRCS Climate Analysis for Wetlands

WFO weather forecast office

WoS waters of the State

WoUS waters of the United States

1.0 Introduction

SHN Engineers & Geologists, Inc. has prepared this preliminary jurisdictional wetland delineation for Jim Mabe in Loleta, California. On behalf of jurisdictional agencies over the study area, Mr. Mabe has requested a wetland delineation and botanical assessment for an open space consisting of one parcel divided into two portions by Rasmussen (Hawk's Hill) Road, near Loleta, CA.

1.1 Purpose

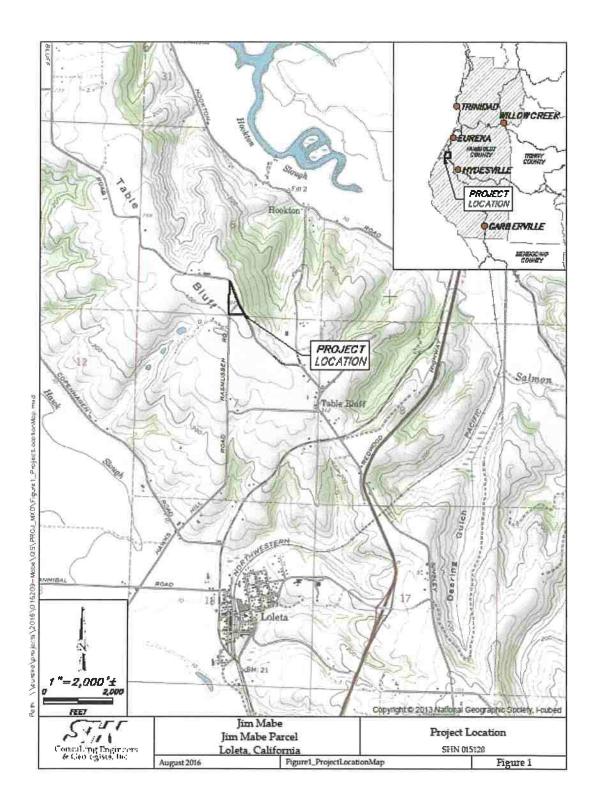
The purpose of this report is to identify potential wetlands and other waters of the U.S. within the study area, as defined by the United States Army Corps of Engineers (ACOE) methodology. The wetland delineation will help guide design, planning and permitting of a residential development within the study area. In conjunction with this delineation, a botanical assessment has been performed due to the site's habitat suitability for the western lily, *Lilium occidentale*, as well as a known population of this species three miles west of the parcel.

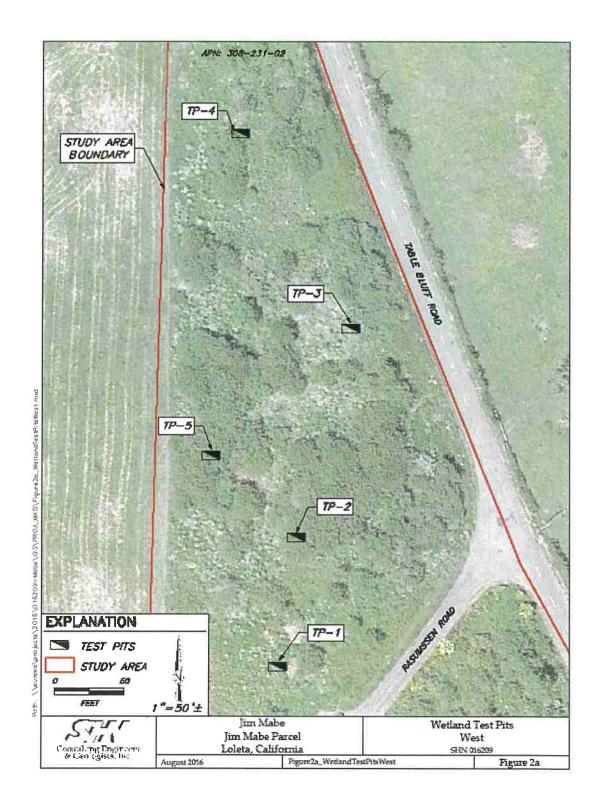
1.2 Project Location

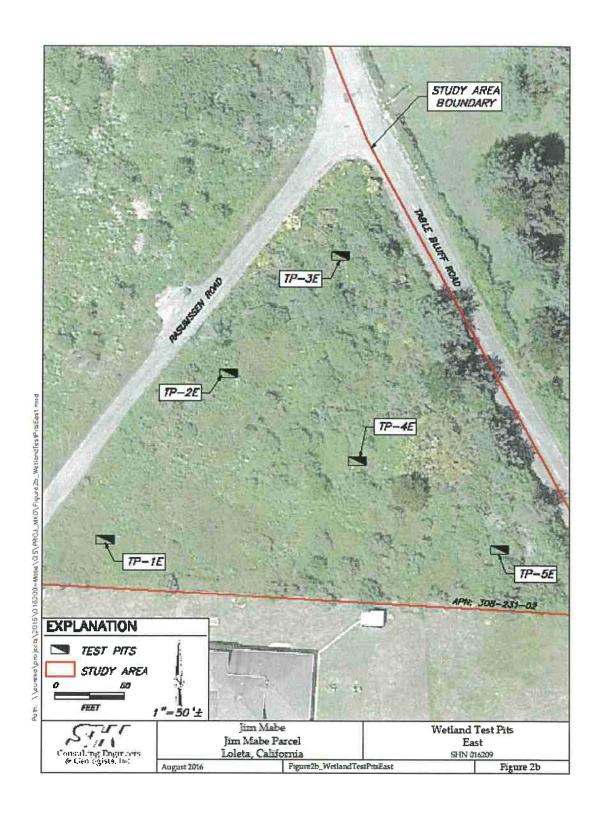
The project is located near Loleta, an un-incorporated community in Humboldt County (Figure 1; United States Geological Survey [USGS] Fields Landing 7.5-minute Quadrangle, Township 3 North, Range 1 West, Section 6, Humboldt Meridian). The property designated APN 308-231-002 straddles the north end of Hawk's Hill Road, at its junction with Table Bluff Road, 1.7 miles northeast of Loleta. The parcel lies 1.15 miles west of Highway 101 and 0.7 miles south of Hookton Slough, with a centerpoint latitude and longitude of 40.66536°/-124.22574°.

2.0 Project Description

The proposed project is a new single-family residential development. The site, surrounded by open pastureland that is grazed heavily, has been fenced long enough to allow shrubs and small broadleafed trees to emerge throughout the site. Before designing the development, a wetland delineation was required to determine setbacks and potential mitigation for the new construction. The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) does not have wetlands mapped within the project area. This wetland study was performed to investigate the presence or absence of wetlands on-site, and (if present) to determine the size and an accurate boundary of wetlands found throughout the study area.







3.0 Environmental Setting

Elevation throughout the project area averages approximately 418 feet above mean sea level. Topography is mostly flat, with a gentle slope (0-3%) from the central portion of the property sloping toward the south and north (See Figure 2 and Appendix B, photo B1 and B2). Zoned Agriculture exclusive on the County of Humboldt GIS zoning map, 4.68 acres comprise the parcel examined in this report. Lying on a coastal terrace north of the town of Loleta, the site overlooks the Loleta Bottoms to the southwest. As with the majority of coastal bluff habitats around Loleta and Humboldt Bay, the land area has been manipulated for nearly 100 years with agricultural practices such as wheat cropping and heavy grazing regimes (McLaughlin & Harradine 1965). This heavy impact has led to a loss of the native loam topsoil and native plant communities in the pasture areas. With relatively high clay content, wet season grazing has led to soil compaction and slope erosion on surrounding parcels (Photo 1, Appendix 2). Due to the perimeter fence on this parcel, livestock grazing and compaction have been prevented, maintaining soil development and health.

The average annual precipitation for this area from October 1 through March 31 is 40.33 inches (WeatherDB, 2016). Rainfall for the period from October 1, 2015, through March 31, 2016, was 43.87 inches (CDEC, 2016), indicating that the 2015-2016 rain season is in an above-normal category.

4.0 Geologic Setting

The site is set upon an uplifted marine terrace between Humboldt Bay and the Eel River Delta. Soils within the project area have the United States Department of Agriculture (USDA) classification of Rohnerville Series, and are mapped in the *Soils of Western Humboldt County California* soil survey (McLaughlin, 1965). This series is a brunizem soil formed from sedimentary rock alluvium. The rock alluvium is predominantly greywacke and sandstone, providing a medium acid reaction.

5.0 Regulatory Setting

5.1 Federal Laws

5.1.1 Section 401 and 404 of the Clean Water Act

Under Section 404 (33 U.S. Code [USC] 1344) of the Clean Water Act (CWA), as amended, the ACOE and the Environmental Protection Agency (EPA) retain primary responsibility for permits to discharge dredged or fill material into "navigable waters of the United States." All

discharges of dredged or fill material into jurisdictional Waters of the United States (WoUS) that result in permanent or temporary losses of the WoUS are regulated by the ACOE. A permit from the ACOE must be obtained before placing fill or grading in wetlands or other WoUS, unless the activity is exempt from the CWA Section 404 regulation (for example, certain farming and forestry activities).

In summary, the definition of WoUS as defined by 33 Code of Federal Regulations (CFR) Section 328.3 includes:

- 1. waters used for commerce,
- 2. interstate wetlands,
- 3. all other waters (including lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds),
- 4. impoundments of water,
- 5. tributaries to aforementioned waters,
- 6. territorial seas, and
- 7. wetlands adjacent to waters.

Under 33 CFR 328.3, WoUS do not include prior converted cropland or waste treatment systems.

In 2008, the EPA and ACOE released a guidance memorandum implementing the Supreme Court's decision in the cases of the Rapanos v. U.S. and Carabell v. U.S. As a result of these cases, the agencies will apply a significant nexus standard to the following categories to determine if it meets the definition of WoUS:

- Non-navigable tributaries that are not relatively permanent
- Wetland adjacent to non-navigable tributaries that are not relatively permanent
- Wetland adjacent to but does not directly abut a relatively permanent tributary

Section 401 of the CWA (33 USC 1341) requires applicants that need a federal license or permit to obtain a certification from the state in which the discharge originates or would originate, or if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the applicable effluent limitations and water quality standards. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and it's nine Regional Water Quality Control Boards (RWQCBs).

5.1.2 Rivers and Harbors Appropriation Act of 1899

The River and Harbors Appropriation Act of 1899 addresses activities that involve the construction of dams, bridges, dikes, and other structures across any navigable water. Placing obstructions to navigation outside established federal lines and excavating from, or depositing material in, such waters, requires permits from the ACOE Section 10 (33 USC 403) of the Rivers and Harbors Appropriation Act. The Act further prohibits the unauthorized obstruction or alteration of any navigable WoUS.

5.2 State Laws - Porter-Cologne Water Quality Act

The state maintains independent regulatory authority over the placement of waste, including fill, into Waters of the State (WoS) under the Porter-Cologne Water Quality Act. WoS are defined by the Porter-Cologne Water Quality Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. WoS are regulated by the RWQCBs under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

Projects that require an ACOE permit, or fall under other federal jurisdiction, and have the potential to impact WoS are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge to WoS, then the local RWQCB has the option to regulate such activities under its state authority in the form of waste discharge requirements (WDRs) or certification of WDRs. Water Quality Order No. 2004-0004-DWQ specifies general WDRs for dredged or fill discharges to waters deemed by the ACOE to be outside of federal jurisdiction under Section 404 of the CWA.

6.0 Methodology

Wetland delineation methods described in the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987) and The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (ACOE, 2010) were used to identify potential wetlands and other waters. The routine method for wetland delineation described in the ACOE 1987 manual was used to identify potential wetlands within the study area. The ACOE method relies on a three-parameter approach, in which criteria for hydrophytic vegetation, hydric soils, and wetland hydrology must each be met (present at the point of field investigation) to conclude that an area qualifies as a jurisdictional wetland. Since this site lies within the Coastal Zone, 1-parameter wetlands were also sought.

Hydrophytic vegetation refers to plant species known to be adapted to wetland sites. To classify the hydrophytic plants onsite, the most recent *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* was used (ACOE, 2016). Hydric soils are soils that are formed under saturated conditions, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (USDA, 2010). Wetland hydrology is demonstrated through direct evidence (primary indicators) or indirect evidence (secondary indicators) of flooding, ponding, or saturation for a significant portion of the growing season (ACOE, 2010).

At each investigation point, one test pit (TP) was excavated to determine if any wetland parameters were present or developing. When indicators of a wetland parameter are located, a pit is typically excavated within the apparent upland area, with a paired pit excavated in the apparent wetland area to determine the wetland boundary. No indications of wetland parameters were found onsite, so only individual pits were dug to document site conditions.

Prior to conducting the field investigation, SHN staff reviewed the 1979 USGS topographic quadrangle map (Figure 1), Soils of Western Humboldt County California, and NWI map (USFWS, 2016) (Appendix A). During the field investigation, sample points were characterized at the site for the aforementioned botanical, hydrological, and soil parameters.

Point locations were selected to:

- achieve appropriate coverage and characterization of wetland and upland habitats,
- document potential changes in the vegetative community (such as, a shift in the dominant species), and
- determine the approximate boundary line between wetlands and uplands by determining the extent of key wetland criteria (hydrology, hydric soils, and hydrophytic vegetation).

A preliminary scoping assessment was performed on May 25, followed by thorough field investigations on July 27 and August 1, 2016. A total of 11 test pits were excavated to characterize the area and record information for soils, vegetation, and hydrology on ACOE Wetland Determination Data Forms (Appendix C). None of the pits displayed wetland parameters so further investigation was not required. Locations of TPs are shown on Figure 2. Photos of the study area are included in Appendix B.

All field mapping was completed by marking pit locations in proximity to surrounding roads, fence lines and trees or tree clusters on an aerial image. Since soils were generally homogeneous throughout the site, it was determined that use of the global positioning system was not necessary. Pit locations were delineated by circling the pit with marking paint, along with installation of a numbered pin flag at each pit.

6.1 Vegetation Methodology

While the period considered ideal for botanical surveys is typically April through June, this site lies within the area known for the occurrence of the rare Western Lily, *Lilium occidentale*. Late July is the prime blooming time for this species. With normal winter and spring rains, all other species still contained seed heads, making identification easy. Streamline staff performed a preliminary wetland & botanical assessment on May 25 and found no trace of *Lilium, Sidalcea*, or other rare species at that time. During the May assessment, there was no indication of wetlands. While Streamline staff is well versed in spotting early basal leaves and late season seed stalks of plants such as checkerbloom and lilies, the final fieldwork was done during the prime lily blooming period to ensure maximum confidence in the survey.

Prior to the field investigation, a review of plant species reported from the project area was performed by querying the "Consortium of California Herbaria" database records and "Calflora" observations. Absolute percent cover of each plant species was visually estimated within the sample point and within each vegetation stratum. The herbaceous stratum was inspected at a 5-foot radius centered on the sample point. Botanical nomenclature follows *The Jepson Manual, Vascular Plants of California* (Baldwin *et al.*, 2012) in addition to the online Jepson Interchange (U. C. Berkeley, 2016) for verification of species whose taxonomy may have changed since its publication.

The wetland indicator status of plant species for this investigation was based on the *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* (Lichvar et al., 2016). Plant species were classified as:

- Obligate (OBL)-occurs almost always within a wetland (estimated probability 99%).
- Facultative-wet (FACW)-usually occurs in wetlands (estimated probability 67-99%).
- Facultative (FAC)-equally likely to occur in wetlands or non-wetlands (estimated probability 33-67%).
- Facultative-upland (FACU)-usually occurs in non-wetlands (estimated probability 1-33%).
- Upland (UPL)-occurs almost always in non-wetlands (estimated probability 99%).
- Not listed (NL)-is scored as an upland plant and is calculated as such on wetland determination forms.

The 50/20 method¹ was applied to each stratum to determine the dominant plant species and to satisfy the hydrophytic vegetation criteria. Since neither hydric soils nor wetland hydrology were present, the prevalence index² was not applied. The occurrence and type of plant cover determine whether jurisdictional areas are identified as satisfying the vegetation criteria of a wetland or other waters.

The 50/20 rule: for each stratum of the plant community, dominant species are the most abundant species that (when
ranked in descending order of abundance and cumulatively totaled) immediately exceed 50% of total dominance
measure for the stratum, plus any additional species that individually comprise 20% or more of the total dominance
measure for the stratum (ACOE, 2010).

6.2 Soils Methodology

Soils were field-verified for the presence or absence of hydric conditions. All TPs were dug to the maximum depth that would incorporate hydric soil indicators. The thickness of each soil horizon was measured. The Munsell Soil Color Chart (Kollmorgen Instruments Corporation, 1998) was referenced to determine the redoximorphic features and moist soil matrix colors (if present). Soils were closely inspected for hydric soil indicators, as defined by the NRCS "Field Indicators of Hydric Soils in the United States" (Version 7.0; USDA, 2010).

6.3 Hydrology Methodology

The presence of wetland hydrology indicators was determined by direct observation (or lack thereof) of surface water, groundwater, or shallow soil saturation during the field investigation. Since direct observation gave negative results, hydrology determinations were sought based on hydrology indicators (for example, drainage patterns, geomorphic position, and dry season water table) rather than actual direct evidence from saturation or inundation. Additionally, observations were made that would indicate whether or not the site is subject to flooding or standing water. Potential indicators would include water marks, drift deposits, sediment deposits, and similar features. Indicators of extended period saturation would include oxidized rhizospheres surrounding living roots or the presence of reduced iron or hydrogen sulfide in the soil profile.

7.0 Results

The preliminary field investigation was conducted on May 25, with the final field work performed on July 27 and August 1, 2016. Test pits (TP) were dug to characterize the area and record information on soils, vegetation, and hydrology. Locations of TPs are shown on Figure 2; completed "Wetland Determination Data Forms" are presented in Appendix C. Photos of the study area are shown in Appendix B.

7.1.1 Vegetation

The study area consists of relatively flat pasture habitat that has allowed shrubs and small broadleaf trees to emerge since the fence has prevented livestock grazing. Non-native grass species comprised the majority of plant cover and biomass, with other non-native ruderal herbaceous species composing the remainder. The vegetation was relatively similar throughout the site, consisting primarily of *Rubus ursinus* mixed with non-native grasses (Photo B2).

^{2.} The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot or other sampling unit, where each indicator status category is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, AND UPL = 5) and weighting is by abundance (absolute percent cover).

Scattered randomly around the site were *Frangula purshiana* and *Baccharis pilularis*. Although several facultative species such as *Frangula purshiana*, *Holcus lanatus* and *Conium maculatum* were common on the parcel, these plants were balanced out by the dominance of upland species such as *Rubus ursinus*, *Raphanus sativa* and *Anthoxanthum odoratum*. None of the test pit sites were dominated by hydrophytic vegetation.

A complete plant list is compiled in Table D-1 in Appendix D.

7.2 Soils

The wetland delineation study area, zoned Agriculture exclusive on the County of Humboldt GIS zoning map, contains 4.68 acres at latitude 40.6654 and longitude -124.2257. Lying on a coastal terrace north of the town of Loleta, the site overlooks the Loleta Bottoms to the southwest. While the surrounding soils showed evidence of overgrazing, including compaction and erosion, the parcel examined in this delineation had deep, friable soils showing evidence of healthy soil building processes and excellent infiltration (Photo B3). Although evidence of disturbance included the presence of ruderal species such as *Digitalis*, *Hieracleum* and *Raphanus*, along with the remains of a homestead, the volume of plant growth on the uncompacted soil has allowed organic matter, root mass and soil structure to develop, unlike the conditions found on the adjacent overgrazed parcels (Photo B4). Evidence of a former residence included a cement pad and stripped electrical hookups.

This site lies exclusively within the Rhonerville Soil Series described in the 1965 McLaughlin and Harradine Soil Survey, with the Rhonerville 2 map unit covering the entire site (Photo 2, Attachment 2). All of these are Silty Clay Loam-textured soils with deep, dark topsoil down to about 24 inches. This series is classified as a fine silty, mixed, isomesic Humic Normudult. With a moderate local climate and 40 inches of average annual rainfall, the local soils often support a dominance of facultative (hydrophytic) vegetation. However, the deep, well drained soils on this site appear to preclude development of wetland characteristics, including hydrophytic vegetation dominance (Photo 3, Attachment 2). The entire parcel was flat.

The Rohnerville soils qualify as Storie Rating 1 soils.

The Rohnerville Series consists of deep, moderately well drained, medium to fine textured alluvial soils on high river or marine terraces. Parent materials are mixed and the profile is medium in reaction. Slopes are flat or very gently undulating. Mean annual precipitation is between 1,016 to 1,270 millimeters. Mean annual temperature is about 11 degrees C.

The typical profile: A horizons: Hue: 10YR Value: 5 dry, 2 moist

Chroma: 2 (changing to 3 in A3 dry), moist or dry

Texture: silty clay loam Clay content: 32 to 34 percent Rock fragments: 0 percent gravel

Reaction: medium acid

B horizon:

Hue: 10YR dry, 7.5YR moist

Value: 6 dry, 5 moist Chroma: 4, moist or dry Texture: silty clay loam Clay content: 34 to 40 percent Rock fragments: 0 percent gravel

Reaction: medium acid

C horizon: (when present)
Hue: 10YR dry, 7.5YR moist
Value: 6 dry, 5 moist
Chroma: 4, moist or dry
Texture: silty clay loam
Clay content: 32 percent

Rock fragments: 0 percent gravel Reaction: moderately acid

(McClaughlin & Harradine, 1965).

Eleven test pits were excavated in the wetland study area representing 11 study locations: all pits were excavated as individual sites since no significant changes in vegetation or geomorphic position were evident (Figure 2). No pits contained hydric soils.

7.3 Hydrology

No wetland hydrology was present at any of the test pits. Pits were excavated to a depth of 24 inches to check for dry season water table, but all pits displayed a negative test for this indicator as well as all other hydrology indicators.

7.4 Ordinary High Water Mark (OHWM)

No OHWM features were observed at any location within or near the parcel.

8.0 Conclusions

The USFWS NWI website (Appendix A) did not show any wetlands within the boundary of the survey area. This survey was conducted in order to investigate definitively the presence or absence of wetlands on site, and the boundaries of any potential wetlands, for both 3-parameter Army Corps jurisdictional classification, as well as 1-parameter California Coastal Act classification. SHN conducted a study to investigate and define any boundaries. The site investigation occurred during a season with above-normal rainfall through the winter and spring season of 2015-2016. Following the ACOE 3-parameter guidelines, no portion of this parcel displayed any wetland parameters.

9.0 Limitations

The conclusions in this report represent a "snapshot in time" and it is possible that some species were not present at the time of the fieldwork.

This report documents the

Ta	able 1
Wetland Del	ineation Results
Jim Mabe Deli	neation, Loleta, CA
Upland Area	Area (acres)
1 (entire site)	4.68
Total	4.68

investigation by, and best professional judgment of, SHN's botanist and soil scientist. The conclusions should be verified by the ACOE through receipt of a jurisdictional determination letter.

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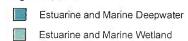
A



Mabe Wetlands Inventory







Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Other Riverine This map is for general reference only, The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper





Photo B1: West Edge of Site Overlooking Heavily Grazed Pasturelands.

Photo B2: Typical Site Vegetation Showing Frangula, Baccharis, Anthoxanthum and Iris.





Photo B3: Soil Pit Showing Dry, Friable Nature.

Photo B4: Soil Ped Showing Excellent Structure and Many Fine Roots.

Wetland Determination Data Forms

C

WETLAND DETERMINATION DA	ATA FORM - 1	Western Mou	ntains, Valleys, and Coast Region
Project/Site: Mabe, Table bluff Rd.	City/C	County: 4	mbold+ Sampling Date: 7/27/16
Applicant/Owner: Jim Mabe			State: <u>CA</u> Sampling Point: <u>1</u>
Investigator(s): 55, 5P	Section	on, Township, Ra	nge: Sw/4, 5E/4 Sec 6, TSN, RIW
Landform (hillslope, terrace, etc.):	Loca	I relief (concave.	convex. none); NON & Slope (%);
Subregion (LRR): A , MLRA	Lat: <u>40 • 6 6</u>	554	Long: -124.2257 Datum; W658
Soil Map Unit Name: RoZ, Rhonerville	silty cla	y loan, 0-	3% Slace NWI classification: None
Are climatic / hydrologic conditions on the site typical for thi			
Are Vegetation, Soil, or Hydrologys		-	'Normal Circumstances" present? YesNo
Are Vegetation, Soil, or Hydrology r	naturally problema	atic? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing sam	pling point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N			
Hydric Soil Present? Yes N		Is the Sampled within a Wetlan	X
Wetland Hydrology Present? Yes N Remarks:	0	within a wetlar	itesNo_Z
			,
ROZ= Fine silty, mixed, ison	nesiz H	lymic N	orm udult
VEGETATION – Use scientific names of plan			
Tran Stratum (Blot size:		inant Indicator	Dominance Test worksheet:
	% Cover Spec		Number of Dominant Species
1 2			That Are OBL, FACW, or FAC:(A)
3			Total Number of Dominant
4			Species Across All Strata: (B)
	= Tot	al Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
Sapling/Shrub Stratum (Plot size:)			Prevalence Index worksheet:
1	· — · —		Total % Cover of: Multiply by:
2			OBL species x 1 =
3			FACW species x 2 =
4			FAC species x 3 =
5		-10	FACU species x 4 =
Herb Stratum (Plot size:)	= 100	al Cover	UPL species x 5 =
1. Rubus arsmus	79 V	FACU	Column Totals: (A) (B)
2. Rubus armeniacus	_10	FAC	Prevalence Index = B/A =
3. Canium maculatum	1	FAC	Hydrophytic Vegetation Indicators:
4. Backans pilularis	1	LIPL	1 - Rapid Test for Hydrophytic Vegetation
5. Polystichum Mustum	_5	HACU	2 - Dominance Test is >50%
6. trangula purstiana	_1	FAC	3 - Prevalence Index is ≤3.01
7. Cirsiym Vulgare	_5	FACU	4 - Morphological Adaptations (Provide supporting
8			data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:	= Tota	I Cover	be present, unless disturbed of problematic.
ONLY.		10.	F
2.	v.T		Hydrophytic Vegetation
	= Tota	l Cover	Present? Yes No
% Bare Ground in Herb Stratum	10ta	. Cover	
Remarks:	*		

~	-	

Sampling Point:

Profile Description: (Describe to the dep	in needed to document the indicator of comit	in the absence of marcators.
Depth <u>Matrix</u>	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ²	Texture Remarks
0-15 1048212 100		
15-19 10 VR 3/2 100		
10 16 10 18 4/11 70		- T
17-26 1016 779 70		
10YR 31Z 30		_L(rotovina
		
1Type: C=Concentration D=Depletion PM=	Reduced Matrix, CS=Covered or Coated Sand G	Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all		Indicators for Problematic Hydric Soils ³ :
1 7		-
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	1
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		\vee
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
		6
1		I
		×
HYDROLOGY		~
HYDROLOGY Wetland Hydrology Indicators:		¥
Wetland Hydrology Indicators:	Is abook all that analy)	Secondary Indicators (2) or more convited)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required		Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)	— Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (exceptMLRA 1, 2, 4A, and 4B)Salt Crust (B11)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (B	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (E	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Water Table Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR 7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (EField Observations: Surface Water Present? Water Table Present? Yes 1	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR 7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (EField Observations: Surface Water Present? Yes Naturation Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR 7) Other (Explain in Remarks) Depth (inches): Depth (inches):	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (EField Observations: Surface Water Present? Yes Naturation Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): Wet	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Yes	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): Wet	
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Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Yes	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): Wet	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Yes	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): Wet	

A		#1556.1	intains, Valleys, and Coast Region
Project/Site: Mabe, Table Bluff Rd.	City/0	County: Hum	Sampling Date: 7/27/16
Applicant/Owner: Jim Mabe			State: CA Sampling Point:
Investigator(s): Joseph Salar San Poll	VSecti	on, Township, Ra	ange:
Landform (hillslope, terrace, etc.):	Loca	I relief (concave,	convex, none): Slope (%): 2
Subregion (LRR):			Long: Datum:
Soil Map Unit Name:			NWI classification:
Are climatic / hydrologic conditions on the site typical for th	is time of year? Y	7/	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly distur		"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally problema		eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing san	npling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N			
Hydric Soil Present? Yes N		Is the Sampled within a Wetlan	^
Wetland Hydrology Present? Yes N	10		
The market			
5			
VEGETATION - Use scientific names of plan	ıts.		
a a second		ninant Indicator	Dominance Test worksheet:
1. Transilla ovskiana	% Cover Spe	cies? Status	Number of Dominant Species
	95%_~	TAC	That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3	,		Species Across All Strata:(B)
*	95% = To	tal Cover	Percent of Dominant Species 33%
Sapling/Shrub Stratum (Plot size:)	10	tal Covel	That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2			
3			FACW species x 2 =
4			FAC species x 3 =
5			FACU species x 4 =
Herb Stratum (Plot size:)	= 101	al Cover	UPL species x 5 =
1. Rubus ursinus	51 V	LACY.	Column Totals: (A) (B)
2. Canium Maculatium	15	FAC	Prevalence Index = B/A =
3. Raphanus sativa	27% V	WPI COCK	Hydrophytic Vegetation Indicators:
4. Polystichum muntum	· - }	FACU	1 - Rapid Test for Hydrophytic Vegetation
5. Stachys a jugaides 6. Hera deum phaximum	5	<u> 0b</u>]	2 - Dominance Test is >50%
01 3 3		TAC	3 - Prevalence Index is ≤3.01
7 8			4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11,			¹ Indicators of hydric soil and wetland hydrology must
	109 = Tota	I Cover 52	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		50.8	
1	·—— ·		Hydrophytic Vagetation
2		I Cover	Vegetation Present? Yes No
% Bare Ground in Herb Stratum	= Tota	ii Covei	
Remarks:	383	1	

\sim	$\overline{}$	۰	9	
~	43	ı	1	

Sampling Point:

Lionie pescribnon: (pescribe)	o the depth needed to d	ocument the indicator or	confirm the abs	ence of indicators.)
DepthMatrix		tedox Features	- 2	
(inches) Color (moist)	% Color (moist	% <u>Type¹</u>	Loc ² Textu	
U-IO JUYK 11L	100		السا	on) one compaction,
10-17 10YR 3/2	[00]			oner disturbance
17-26 104R3/4	65		L	
1048 3/2	35			Crotovina
1011	<u> </u>			
		<u> </u>		
¹ Type: C=Concentration, D=Depl	etion RM=Reduced Matri	c. CS=Covered or Coated !	Sand Grains	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applica				dicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Red			2 cm Muck (A10)
Histic Epipedon (A2)	Stripped M		=	Red Parent Material (TF2)
Black Histic (A3)		ky Mineral (F1) (except M	LRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gle	yed Matrix (F2)	_	Other (Explain in Remarks)
Depleted Below Dark Surface	(A11) Depleted M	latrix (F3)	121	
Thick Dark Surface (A12)	Redox Dar	k Surface (F6)		dicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		ark Surface (F7)		wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Dep	ressions (F8)		unless disturbed or problematic.
Restrictive Layer (if present):				X - 7
Type:				\vee
Depth (inches):			Hydric	Soil Present? Yes No
HYDROLOGY				
Wetland Hydrology Indicators:				
Primary Indicators (minimum of o	ne required; check all that	apply)		Secondary Indicators (2 or more required)
Surface Water (A1)	Wate	-Stained Leaves (B9) (exc	ept	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)		.RA 1, 2, 4A, and 4B)	•	4A, and 4B)
Saturation (A3)		rust (B11)		Drainage Patterns (B10)
Water Marks (B1)	Aqua	ic Invertebrates (B13)		Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydro	gen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidiz	ed Rhizospheres along Liv	ving Roots (C3)	Geomorphic Position (D2)
Algal Mat or Crust (B4)	Prese	nce of Reduced Iron (C4)		Shallow Aquitard (D3)
Algal Mat or Crust (B4) Iron Deposits (B5)		nce of Reduced Iron (C4) at Iron Reduction in Tilled S		Shallow Aquitard (D3) FAC-Neutral Test (D5)
	Rece		Soils (C6)	
Iron Deposits (B5)	Rece	nt Iron Reduction in Tilled S	Soils (C6) (LRR A)	FAC-Neutral Test (D5)
Iron Deposits (B5) Surface Soil Cracks (B6)	Recei Stunto magery (B7) Other	nt Iron Reduction in Tilled S ed or Stressed Plants (D1)	Soils (C6) (LRR A)	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial I	Recei Stunte magery (B7) Other Surface (B8)	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks)	Goils (C6) (LRR A)	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations:	Recei Stunte magery (B7) Other Surface (B8)	nt Iron Reduction in Tilled S ed or Stressed Plants (D1)	Goils (C6) (LRR A)	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In Sparsely Vegetated Concave Field Observations: Surface Water Present?	Recei Stunte magery (B7) Other Surface (B8) Dept	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks)	Goils (C6) (LRR A)	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Your Saturation Present? (includes capillary fringe)	Receing Stunton Magery (B7) Other Surface (B8) Pos No Dept Dept Dept Dept Dept Dept Dept Dept	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks) th (inches): th (inches):	Goils (C6) (LRR A) Wetland Hyd	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Y Saturation Present?	Receing Stunton Magery (B7) Other Surface (B8) Pos No Dept Dept Dept Dept Dept Dept Dept Dept	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks) th (inches): th (inches):	Goils (C6) (LRR A) Wetland Hyd	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Y. Water Table Present? Y. Saturation Present? Y. (includes capillary fringe) Describe Recorded Data (stream	Receing Stunton Magery (B7) Other Surface (B8) Pos No Dept Dept Dept Dept Dept Dept Dept Dept	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks) th (inches): th (inches):	Goils (C6) (LRR A) Wetland Hyd	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Your Saturation Present? (includes capillary fringe)	Receing Stunton Magery (B7) Other Surface (B8) Pos No Dept Dept Dept Dept Dept Dept Dept Dept	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks) th (inches): th (inches):	Goils (C6) (LRR A) Wetland Hyd	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Y. Water Table Present? Y. Saturation Present? Y. (includes capillary fringe) Describe Recorded Data (stream	Receing Stunton Magery (B7) Other Surface (B8) Pos No Dept Dept Dept Dept Dept Dept Dept Dept	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks) th (inches): th (inches):	Goils (C6) (LRR A) Wetland Hyd	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Y. Water Table Present? Y. Saturation Present? Y. (includes capillary fringe) Describe Recorded Data (stream	Receing Stunton Magery (B7) Other Surface (B8) Parameters No Dept. Dept	nt Iron Reduction in Tilled Sed or Stressed Plants (D1) (Explain in Remarks) th (inches): th (inches):	Goils (C6) (LRR A) Wetland Hyd	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

WEILAND DETERMINATION D	ATAFORM	i – Western Mol	intains, Valleys, an	d Coast Region
Project/Site: Mabe, Table bluff Rd	с	ity/County:	nboldt	Sampling Date: 7/27/14
Applicant/Owner: Am Mab C			State: CA	Sampling Point:
Investigator(s): Joseph Saler, San Polly	<u> </u>	ection, Township, Ra	nge:	57 (37)
Landform (hillslope, terrace, etc.): Terrace		ocal relief (concave,	convex, none):	Slope (%): 2
Subregion (LRR):	Lat:		Long:	Datum:
Soil Map Unit Name:			NWI classific	cation:
Are climatic / hydrologic conditions on the site typical for the	nis time of year	? Yes <u>X</u> No _	(If no, explain in R	lemarks.)
Are Vegetation, Soil, or Hydrology	significantly di	sturbed? Are	'Normal Circumstances" p	oresent? Yes X No
Are Vegetation, Soil, or Hydrology	naturally prob	lematic? (If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map		sampling point I	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes		Is the Sampled		X
Wetland Hydrology Present? Yes		within a Wetlar	nd? Yes	No
Remarks:				
VEGETATION – Use scientific names of plan	nts.			
		Dominant Indicator	Dominance Test work	shoot
Tree Stratum (Plot size:)		Species? Status	Number of Dominant S	
1			That Are OBL, FACW,	
2			Total Number of Domin	ant \
3	-,		Species Across All Stra	
4			Percent of Dominant Sp	
Sapling/Shrub Stratum (Plot size:)		Total Cover	That Are OBL, FACW, o	Samuel Manager
1			Prevalence Index wor	
2				Multiply by:
3				x 1 =
4				x 2 = x 3 =
5				x 3 =
Herb Stratum (Plot size:)		Total Cover		x 5 =
1. Digitals armyea	27	FACU		(A)(B)
2. Holow Ionatus	40	V EAC		
3. Bacharis Oilylanis	20	TIPL	Prevalence Index Hydrophytic Vegetation	= B/A =
4. Ptaidium adulishm	15	FACU		lydrophytic Vegetation
5. Rubus Unsimus	56	FACU	2 - Dominance Tes	
6. Conum Maculation	5	FIC	3 - Prevalence Inde	
7. Cirsium, Vulgare	_5	FACU		daptations (Provide supporting
8. Franquia put shiang		FAC	data in Remarks	or on a separate sheet)
9. Raphanus stivum	10	lapl_	5 - Wetland Non-Va	
10.				ohytic Vegetation ¹ (Explain)
11,	170		'Indicators of hydric soil be present, unless distu	and wetland hydrology must
Woody Vine Stratum (Plot size:)	17 =	Total Cover	- o processing united distri	.ood or problematic.
1		35.8	Livedness houses	A
2			Hydrophytic Vegetation	
		Total Cover	Present? Yes	No No
% Bare Ground in Herb Stratum				
Remarks:				

Sampling Point: 3

Profile Description: (Describe to the dep	th needed to document the indicator or confirm	in the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type [†] Loc ²	Texture Remarks
0-14 10YR 2/2 100		
14-18 75 yr 3/2 100		
1074 10/8 3/11 00		
75/22/2		
1575 3/2 10		Crotouna
5 		
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Covered or Coated Sand G	Grains. Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	20
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		X
Туре:	<u> </u>	
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
Nomano.		
HYDROLOGY		
Wetland Hydrology Indicators:	d: check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require		Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (exceptMLRA 1, 2, 4A, and 4B)Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2,4A, and 4B)Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) 	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR 4) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Water Table Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No Depth (inches): Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No Depth (inches): Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No Depth (inches): Depth (inches): Well	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No Depth (inches): Depth (inches): Well	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, minimum)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No Depth (inches): Depth (inches): Well	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, minimum)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No Depth (inches): Depth (inches): Well	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, minimum)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR A Other (Explain in Remarks) No Depth (inches): Depth (inches): Well	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Oots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

WEI DAME DE LEMMINATIO	N DATA FORW -	- western wic	ountains, Valleys, and Coast Region
Project/Site: Mabe, able Bluff Rd	City	County Hu	mboldt 7/27
Applicant/Owner: Jim Mabe			Sampling Date: Sampling Point:
Investigator(s):	Sec	tion Townshin F	Ranna.
Landform (hillslope, terrace, etc.): + Crace	Loc	cal relief (concave	e, convex, none): None Slope (%): 3
Subregion (LRR):	Lat:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Soil Map Unit Name:			Datum:
Are climatic / hydrologic conditions on the site typical	for this time of year?		
Are Vegetation, Soil, or Hydrology			(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology			e "Normal Circumstances" present? Yes No needed, explain any answers in Remarks.)
			locations, transects, important features, et
Hydrophytic Vegetation Present? Yes	No_X		, , , , , , , , , , , , , , , , , , ,
Hydric Soil Present? Yes		Is the Sample	V
Wetland Hydrology Present? Yes	No <u>X</u>	within a Wetla	and? Yes No
Remarks:			
VEGETATION – Use scientific names of	plants.		
Troo Stratum (District	Absolute Dor	ninant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Spe	ecies? Status	Number of Dominant Species 1
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	= To	tal Cover	That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
Herb Stratum (Plot-size:)	= Tot	tal Cover	FACU species x 4 =
1. Ribw MSMUS.	87	FACU	UPL species x 5 =
e. Stachys a judoides		Obl	Column Totals: (A) (B)
3. Holcus landius	75	<u>ODI</u>	Prevalence Index = B/A =
. Comun Maculatin			Hydrophytic Vegetation Indicators:
s. Digitalis proure	17	EVCM	1 - Rapid Test for Hydrophytic Vegetation
. Sonchus bletaceus	— '_	TIPL	2 - Dominance Test is >50%
. Kaohanus sativa	5	Tipi	3 - Prevalence Index is ≤3.01
. Epilabium Citiatum		FACW	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
		1/10/1	5 - Wetland Non-Vascular Plants ¹
0			Problematic Hydrophytic Vegetation¹ (Explain)
1			Indicators of hydric soil and wetland hydrology must
	= Tota	I Cover 7288	be present, unless disturbed or problematic.
Voody Vine Stratum (Plot size:)		28.8	
			Hydrophytic
			Vegetation Present? Yes No
Bare Ground in Herb Stratum	= Total	Cover	FIRSTELL YES No
		1	
emarks:			

OIL Profile Description: (Describe to the	depth needed to document the indicator or confin	m the absence	Sampling Point:
	Redox Features		
Depth Matrix (inches) Color (moist) %	Color (moist) % Type¹ Loc²	Texture	Remarks
1-12 TOYR 2/2 100	Color (moist) 10 1790 Loo	· - /	The state of the s
101/2/2 100			7
2-16 JOYK 2/2 JOU			Compacted
16-24+ OVR 3/4 701	N.	L.	. V
10 VR 01/2 20		1-	Crotovena
101142 30		(P)	1,0100014
			i
			2
Type: C=Concentration, D=Depletion, I	RM=Reduced Matrix, CS=Covered or Coated Sand G	Brains. Lo	cation: PL=Pore Lining, M=Matrix.
dydric Soil Indicators: (Applicable to			ors for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)		n Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)		Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1	,	y Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Oth	er (Explain in Remarks)
Depleted Below Dark Surface (A11)	The state of the s	3	
Thick Dark Surface (A12)	Redox Dark Surface (F6)		ors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		and hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unies	ss disturbed or problematic.
Restrictive Layer (if present):			Χ
Type:			
			Present? Yes No 🔨
Depth (inches):		Hydric Soil	Present resNo
Depth (inches):Remarks:		Hydric Soil	riesenti resNo
		Hydric Soil	Triesenti 163NO
		Hydric Soil	Triesenti 163NO
		Hydric Soil	Triesenti TesNo
Remarks:		Hydric Soli	Tesanti TesNo
Remarks:		Hydric Soil	Triesenti TesNo
YDROLOGY Wetland Hydrology Indicators:	uired: check all that apply)		ndary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requ		Seco	ndary Indicators (2 or more required)
Primary Indicators (minimum of one requestrance Water (A1)	Water-Stained Leaves (B9) (except	Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestion of the control of the co	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<u>Seco</u>	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (exceptMLRA 1, 2, 4A, and 4B)Salt Crust (B11)	<u>Seco</u> V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestion of the property of the	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) 	<u>Seco</u> \ [ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	<u>Seco</u> \ [[ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro 	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro		ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestion (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro 		ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestion (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Royald Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR)	Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requested in the second	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR 10) (B7) Other (Explain in Remarks)	Seco	ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR 10) (B7) Other (Explain in Remarks)	Seco	ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C) Stunted or Stressed Plants (D1) (LRR of (B7)) (B7) Other (Explain in Remarks)	Seco	ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Process YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman (C4) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR 10) (B7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Seco	ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestion of the primary Indicators (minimum of one requestion of the primary Indicators (minimum of one requestion of the primary Indicators (Marker Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Caster of Stunted or Stressed Plants (D1) (LRR 10) Other (Explain in Remarks) Obepth (inches):	Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the property of the propert	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Ostunted or Stressed Plants (D1) (LRR 10) Other (Explain in Remarks) No Depth (inches): Depth (inches):	Seco	ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indicators: Primary Indicators (minimum of one requests) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface (B4) Field Observations: Surface Water Present? Water Table Present? Ves Saturation Present? Yes Saturation Present? Yes Signification Surface (B4) Sparsely Vegetated Concave Surface (B4) Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Signification Present? Yes Saturation Present? Yes Signification Present? Yes	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roman Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Caster of Stunted or Stressed Plants (D1) (LRR 10) Other (Explain in Remarks) Obepth (inches):	Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Hydro Soil Present? Yes No Within a Wetland? Yes No No Within a Wetland? Yes No Within a Wetland? Ye	WETLAND DETERMINATION	DATA FORM -	Western Mo	ountains, Valleys, and Coast Region
Applicant/Owner_SIRN Make Landiform (httlistipe, terrace, etc.): PCTGLO Local relief (concave, convex, none): Mone Slope (%): Landiform (httlistipe, terrace, etc.): PCTGLO Local relief (concave, convex, none): Mone Slope (%): Landiform (httlistipe, terrace, etc.): PCTGLO Local relief (concave, convex, none): Mone Slope (%): Landiform (httlistipe, terrace, etc.): PCTGLO Local relief (concave, convex, none): Mone Slope (%): Landiform (httlistipe, terrace, etc.): PCTGLO Local relief (concave, convex, none): Mone Slope (%): Landiform (httlistipe, terrace, etc.): Mone Slope (%): Landiform (httlistipe, terrac	Project/Site: Nabe, lable Blut Rd.			1111
Investigator(s): MY MY Section Township, Range: Loadforn (illislope, lerrace, etc.): PCTILD Loadforn (illislope, lerrace, etc.): PCTILD Loadforn (illislope, lerrace, etc.): PCTILD Subragion (RR): Lat: Long: NWI classification:	Applicant/Owner: JIM Mabe		93,500	State (A
Local relief (concave, convex, none); Novel Slope (%); Subregion (LRR); Lat: Long: Datum:	Investigator(s): Som Pall, Joseph Saler	Sec	tion Township F	Panne:
Solinger (LRR): Are climatic / hydrologic conditions on the site typical for this time of year? Yes Are Vegetation Soil or Hydrology algnificantly disturbed? Are Vegetation Soil or Hydrology Present? Yes No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No No Is the Sampled Area Welland Hydrology Present? Yes No	Landform (hillslope, terrace, etc.): Prace	Loc	al relief (concave	a convey pape): Nove 1
Sol Map Unit Name: No ((If no. explain in Remarks.) Are Vegetation (If no. explain in Remarks.) Are Normal Circumstances* present? Ves. No. SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophylic Vegetation Present? Yes. No. Is the Sampled Area within a Wetland? Ves. No. Wetland Hydrology Present? Yes. No. Wetland Hydrology Present? Yes. No. Absolute Senter. Absolute Dominant Indicator Status. Tree Stratum (Piot size: Absolute Senter. Absolute Dominant Indicator Status. Absolute Dominant Indicator Status. Also Cover. Absolute Status. Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Total Scover of: Multiply by: Total Scover of: Multip	Subregion (LRR):	Lat:	arronor (correave	Slope (%):
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (if no, explain in Remarks.) Are Negetation Soil or hydrology espirificantly disturbed? (if needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wettand Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No	Soil Map Unit Name:	3 2011		
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transacts, important features, etc Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Wetland Hydrology Wetland Hydrology Wetland Hydrology Wetland Hydrology Wetlation Indicators Hydrophytic Vegetation (Explain) Hydrophytic Vegetation Present? Yes No Wetland Hydrology Must be present, unless disturbed or problematic. **Hydrological Adaption Present?** Yes No Wetland Hydrology Must be present, unless disturbed or problematic.** **Hydrological Adaption Present?** Yes No Wetland Hydrology Must be present, unless disturbed or problematic.** **Hydrological Adaption Present?** Yes No Wetland Hydrology Must be present, unless disturbed or problematic.** **Hydrological Adaption Present?** Yes No Wetland Hydrology Must be present. Unless disturbed or problematic.** **Hydrological Adaption Present?** Yes No Wetland Hydrology Must be present. Unless disturbed or problematic.** **Hydrological Adaption Present?** Yes No Wetland Hydrology Must be present. Unless dis				
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc Hydrophytic Vegetation Present? Yes No Welfand Hydrology Must be present. In Hydrology Hydrology Hydrology Must be present. In Heart Stratum (Plot size: 10 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc hydropytic Vegetation Present? Yes No within a Wetland? Yes No w	Are Vegetation, Soil, or Hydrology	_ naturally problem		71
Statum Plot size: SabinarShrub Stratum Plot size: Total Cover FACU species X 1 = FACU species X 2 = FAC species X 3 = FACU species X 4 = UPL speci				locations through the same of
State Sampled Area within a Wotland? Yes No No Within a Wotland? Yes No Yes Yes No Yes Yes No Yes Yes No Yes Ye	Hydrophylic Vegetation Present?	ip showing sai	Inhining houring	locations, transects, important features, etc
Welland Hydrology Present? Yes No Within a Wetland? Yes No Welland Hydrology Present? Yes No Within a Wetland? Yes No Welland Hydrology Present? Yes No Welland Hydrology Present? Yes No Welland Hydrology Present? Yes No Welland Hydrology must be problematic. Yes No Welland Hydrology must be provent, and welland hydrology must be proposent? Yes No Welland Hydrology must be present. Yes No Yes Yes No Yes Yes No Yes Yes No Yes	11 11 0 11 -		Is the Sample	ed Area
Remarks:	W. H	* \ /		and? Yes No
Absolute Species				
Absolute Species				**
Absolute % Cover Species 7 Status Number of Dominant Species 1 Number of Dominant Species 1 Number of Dominant Species 2 Status 1 That Are OBL, FACW, or FAC: 1 (A) 3.				
Tree Stratum (Plot size:	VEGETATION – Use scientific names of pla	ants.		
2. 3. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	Tree Stratum . (Plot size:		ninant Indicator	Dominance Test worksheet:
2. 3. 3. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	1. Frangula Durstand	42 Spe		Number of Dominant Species
Species Across All Strata:	2		1110	That Are OBL, FACW, or FAC: (A)
Sapling/Shrub Stratum (Plot size: = Total Cover	3			Charles Assess All Division
That Are OBL, FACW, or FAC: (A/B)	4			
Prevalence Index worksheet: Total % Cover of:	Sanling/Chruib Circling (Dist.)	92 = Tot	al Cover	Percent of Dominant Species That Are OBL FACW or FAC:
Total % Cover of: Multiply by:				
OBL species x1 = A	2.			
FACW species	3			
FAC species	4			
Herb Stratum (Plot size:	5			
The stratum Maximum The stratum The s	Hart Ola I (Day of	= Tota	al Cover	
Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index = B/A = Hydrophytic Vegetation 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ 4 - Morphological Adaptations¹ (Explain) 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	Herb Stratum (Plot size:)	2	.DAC	
Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes		- 11	THE	Column Totals: (A) (B)
Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No		- 15	7/10	Prevalence Index = B/A =
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3,0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No	4. Rubus ursinus	- 5		
2 - Doffinance Test is >50% 3 - Prevalence Index is ≤3,0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Vegetation Present? Yes No No No Present? Yes No No No Present? Yes No Present? Yes No N	5. Rophanus sativa	30	The second secon	
3 - Prevalence Index is ≤3.0° 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Vegetation Present? Yes No No No No Present? Yes No	6. Stochus ajugoides	10		
data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No	7			
	8			data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation¹ (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Fresent? Yes No	9			
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No No No No No No No N	10			Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:) Hydrophytic Vegetation Present? Yes No	11	- 		Indicators of hydric soil and wetland hydrology must
Bare Ground in Herb Stratum = Total Cover Hydrophytic Vegetation Present? Yes No	Noody Vine Stratum (Plot size:	= Total	Cover	be present, unless disturbed or problematic.
Bare Ground in Herb Stratum = Total Cover Hydrophytic Vegetation Present? Yes No			LUID	
Bare Ground in Herb Stratum= Total Cover Present? Yes No				Vagatation
Bare Ground in Herb Stratum		= Total	Cover	Present? Yes No
	6 Bare Ground in Herb Stratum	. 5,07		
	Winding,			

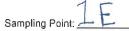
IL ofile Description: (Describe to the de	pth needed to document the Indicator or confirm	the absence	of indicators.)
epth Matrix	Redox Features		
nches) Color (moist) %	Color (moist) % Type ¹ Loc ²	Texture	Remarks
-10 JUYR 2/2 100			
-22 JOYR 3/182 JOD		1	
-32+ 10483/3 87		L	
10483/2 13		1_	Costovina
10 18 12 10			30000
	·		
pe: C=Concentration, D=Depletion, RM	M=Reduced Matrix, CS=Covered or Coated Sand Gra	ains. ² Loc	cation: PL=Pore Lining, M=Matrix.
dric Soil Indicators: (Applicable to a			rs for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)		n Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except MLRA 1)		Parent Material (TF2) y Shallow Dark Surface (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	-	er (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3Indicate	ors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		nd hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unles	s disturbed or problematic.
strictive Layer (if present):		1	X.
		ı	
Туре:			. X
Type: Depth (inches): emarks:		Hydric Soli	Present? Yes No
Type: Depth (inches): emarks:		Hydric Soli	Present? Yes No
Type: Depth (inches): marks: DROLOGY etland Hydrology Indicators:			*
Type: Depth (inches): marks: DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one requir		Seco	ndary Indicators (2 or more required
Type: Depth (inches): marks: DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one requir	Water-Stained Leaves (B9) (except	Seco	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1
Type: Depth (inches): marks: DROLOGY Itland Hydrology Indicators: mary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<u>Seco</u> l	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B)
Type: Depth (inches): marks: DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one requir , Surface Water (A1) , High Water Table (A2) , Saturation (A3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secoi	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10)
Type: Depth (inches): marks: DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (exceptMLRA 1, 2, 4A, and 4B)Salt Crust (B11)Aquatic Invertebrates (B13)	Seco V C	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
Type: Depth (inches): marks: DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secon V C C S	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along Living Roo	Secon V C C S ts (C3) G	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4)	Secon V C C S ts (C3) G	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along Living Roo	Secon V C S ts (C3) G S	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A)	Secon V C S ts (C3) G S	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Secon V C S ts (C3) G S	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inches):	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Secon V C S ts (C3) G S	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inches): Depth (inches): DROLOGY Etland Hydrology Indicators: Imary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Secon V C S ts (C3) G S	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inches): Depth (inches): DROLOGY Etland Hydrology Indicators: Imary Indicators (minimum of one require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Eld Observations:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) Depth (inches):	Secon V C S ts (C3) G S	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Beomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inches):	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches):	Secon — V — C — C — S ts (C3) — S — F — F	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inches):	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wetla	Secon V C S ts (C3) S F F	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Depth (inches):	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches):	Secon V C S ts (C3) S F F	ndary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

THE WAS DETERMINED TO	TOKIN -	TOOLOTTI MIC	ountains, Valleys, and Coast Region
		1 (
Applicant/Owner: Jim Mabe	- Oity	Godiny.	Sampling Date:
investigator(s):	0		
Landform (hillslope, terrace etc.): TROBER		aton, Township, F	Range: Slope (%):
Subregion (LRR):	Loc	al relief (concave	e, convex, none): None Slope (%): 3
Soil Man Unit Name	Lat:		
Soil Map Unit Name:			
Are climatic / hydrologic conditions on the site typical f			(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology			e "Normal Circumstances" present? Yes No
		•	needed, explain any answers in Remarks.) locations, transects, important features, et
		Thing boint	locations, transects, important features, et
Hydric Soil Present? Yes Hydric Soil Present? Yes		Is the Sample	od Area
Wetland Hydrology Present? Yes		within a Wetla	V
Remarks:			
			⊛
VEGETATION – Use scientific names of p	lants.		
Tree Stratum (Plot size:)	Absolute Dor	ninant Indicator	Dominance Test worksheet:
1. Costara franquia pursuana	% Cover Spe	cies? Status	Number of Dominant Species
2.	-20		That Are OBL, FACW, or FAC: (A)
3		——	Total Number of Dominant
4.			Species Across All Strata: (B)
	35 = то	tol Cours	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)			That Are OBL, FACW, or FAC: (A/B)
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5			FACUL appoints x 3 =
Herb Stratum (Plot size:)	= Tot	tal Cover	FACU species x 4 =
1. Rubus ursmur	80 V	FACU	UPL species x 5 = Column Totals: (A) (B)
2. Heracalum maximum	$-\frac{1}{2}$	-V47-	
3. Trila diopen	8	FAC	Prevalence Index = B/A =
4. Solonum americanum	2	FACIA	Hydrophytic Vegetation Indicators:
5. Conjun moculation	25	TAC	1 - Rapid Test for Hydrophytic Vegetation
6. Vicitalis purpurea	10	FACU	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
7. action vylgare	2	FACU	4 - Morphological Adaptations ¹ (Provide supporting)
8. Vicia Usutal	2	facu	data in Remarks or on a separate sheet)
Lysimachia arverse Pimpernel		FAC	5 - Wetland Non-Vascular Plants¹
10. Csalium aparine	3	<u> FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
11.	- 15 -		Indicators of hydric soil and wetland hydrology must
Noody Vine Stratum (Plot size:)	136 = Tota	I Cover	be present, unless disturbed or problematic.
(1 TOL 5128;)			
			Hydrophytic
			Vegetation Present? Yes No.
f & Bare Ground in Herb Stratum Remarks:	= Total	Cover	Present? Yes No

Profile Description: (Describe to the de	Redox Features	,
Depth Matrix (inches) Color (moist) %	Color (moist) % Type¹ Loc²	Texture Remarks
0-15 TOYR 2/2 TOU		
F 20 10 1020 Q0		
3-20 104/3/2 7/		
10 YR 5/8 8		L-
10-24+104R3/4 92		L
10 YR 3/2 8		L Crotovena
0111/2 8		
Type: C=Cancentration D=Depletion RM	=Reduced Matrix, CS=Covered or Coated Sand Gr	ains. ² Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to all		Indicators for Problematic Hydric Soils ³ :
Histosof (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histosof (A1) Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (\$4)	Redox Depressions (F8)	unless disturbed or problematic.
lestrictive Layer (if present):	5.1	
teetitetie zejet (ii procesta).		
Type:		\ /
		Hydric Soil Present? Yes No
Type: Depth (inches): Remarks:		Hydric Soil Present? Yes No
Type: Depth (inches): Remarks:		Hydric Soil Present? Yes No
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:		
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:	ed; check all that apply)	Secondary Indicators (2 or more required)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:	Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
Type: Depth (inches): temarks: YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Type: Depth (inches): demarks: YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1)	Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2) 4A, and 4B) Drainage Patterns (B10)
Type: Depth (inches): temarks: YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Type:	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) 	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Cats (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Caster (C3)) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roomann Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B8)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Type:		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Type:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

WETLAND DETERMINATION D	ATA FORM - V	Vestern Mou	intains, Valleys, and Coast Region
Project/Site: Make, Table bluff Road	City/Co	ounty: Hum	Sampling Date: 8/1/16
Applicant/Owner: NA Mabe	4)		State: (A Sampling Point: 1 E
Investigator(s): Torch Sales, Sam Pol	Section Section	n, Township, Ra	inge:
Landform (hillslope, terrace, etc.): Trace	Local	relief (concave,	convex, none): None Slope (%): 1
			Long: Datum:
Soil Map Unit Name:			
Are climatic / hydrologic conditions on the site typical for the	nis time of year? Ye	s X No	(If no explain in Remarks)
Are Vegetation, Soil, or Hydrology			'Normal Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology			eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing sam	pling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? YesI			(4)
Hydric Soil Present? Yes I	10 -	Is the Sampled	Area nd? Yes No
Wetland Hydrology Present? Yes I	No _X_	within a wetiai	nd? Yes No No
Remarks:			
VEGETATION – Use scientific names of plan	nte		
VEGETATION - Use scientific fiames of plan		nant Indicator	Dominance Test weekshoots
Tree Stratum (Plot size:)	% Cover Speci		Dominance Test worksheet: Number of Dominant Species
1			That Are OBL, FACW, or FAC:(A)
2			Total Number of Dominant
3			Species Across All Strata:(B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	= Tota	I Cover	That Are OBL, FACW, or FAC: 70 (A/B)
1			Prevalence Index worksheet:
2.			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 = FAC species x 3 =
5			FACU species x 4 =
Herb Stratum (Plot size:	= Total	l Cover	UPL species x 5 =
1. RINGUS LITSINUS,	92 V	FACU	Column Totals: (A) (B)
2. Conjum Maculatim	5	FAC	S
3. Digitalis purpurea	2	_ FACU	Prevalence Index = B/A =
4. Holds landis	27 V	_FAG_	1 - Rapid Test for Hydrophytic Vegetation
5. Heracleum Maxima		- FAC	2 - Dominance Test is >50%
6. Ca protesis	- 3	- TAC	3 - Prevalence Index is ≤3.0 ¹
7. Sever o Minimus 8. Achillea Miletolium		- Trou	4 - Morphological Adaptations (Provide supporting
		THU	data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹
9			Problematic Hydrophytic Vegetation ¹ (Explain)
11			Indicators of hydric soil and wetland hydrology must
	98 = Total	Cover 41	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		19.6	
1	. — — —	- /	Hydrophytic
2			Vegetation Present? Yes No
% Bare Ground in Herb Stratum	= Total	Cover	100
Remarks:			

~	_	9	
~	()	1	



Profile Description: (Describe to th	e depth needed to document the indicator or co	onfirm the absence of indicators.)
Depth Matrix (inches) Color (moist)	Redox Features Color (moist) % Type¹ Lo	oc ² Texture Remarks
	00	L Tomars
		
10-24+ 10YR3/2 10	U	
		N .
		
	n, RM=Reduced Matrix, CS=Covered or Coated Sa	
	to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLI Loamy Gleyed Matrix (F2)	RA 1) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
— Hydrogen Sulfide (A4) Depleted Below Dark Surface (A1)		Office (Explain in Nemarks)
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one re	equired; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (exception)	t Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Living	ng Roots (C3) Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tillèd So	
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (L	.RR A) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imag	ery (B7) Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Sur	face (B8)	
Field Observations:	V	H
Surface Water Present? Yes _	No X Depth (inches):	
Water Table Present? Yes _	No Depth (inches):	\vee
Saturation Present? Yes_ (includes capillary fringe)	No Depth (inches): ge, monitoring well, aerial photos, previous inspect	Wetland Hydrology Present? Yes No
Describe Necolded Data (Stream gad	ge, monitoring well, aerial priotos, previous inspect	none, n available.
Remarks:		
nemars.		

			intains, Valleys, and Coast Region
Project/Site: Mabe, Table Blut Rd.	City/Co	ounty: <u>Hum</u>	Sampling Date: 8/1/16
Applicant/Owner: NM Maye		· ·	State: (A Sampling Point: 2F
Investigator(s): Joseph Soller, Sam Poll	Sectio	n, Township, Ra	ange:
Landform (hillslope, terrace, etc.): Terrace	Local	relief (concave,	convex, none): Vane Slope (%):
Subregion (LRR):	Lat:		Long: Datum:
Soil Map Unit Name:			
Are climatic / hydrologic conditions on the site typical for	this time of year? Ye	s X No_	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally problema	tic? (If no	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site ma	ap showing sam	pling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No X		1
Hydric Soil Present? Yes		Is the Sampled	
Wetland Hydrology Present? Yes	No X	within a Wetla	YesNo
Remarks:			
VEGETATION – Use scientific names of pl	ante		
TEGETATION OSCISCIONATION NATIONS OF PI		nant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Speci		Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	= Tota	l Cover	That Are OBL, FACW, or FAC: (A/B)
1. Baccharis pilularis	_15 V	_ up	Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5			FACU species x 4 =
Herb Stratum (Plot size:)	= Tota	Cover	UPL species x 5 =
1. Rubus ursinus	70 V	TACU	Column Totals: (A) (B)
2. Pteridium aguillaum		FACU'	
3. Conjun Makulotum	2	FAC	Prevalence Index = B/A =
4. HRRACIPLING MOXIMA	_5	- FAC	1 - Rapid Test for Hydrophytic Vegetation
5. Dipsacus tulonum	- 	- HAC	2 - Dominance Test is >50%
6. Digitalic purpurea	_ <u> </u>	- FACU	3 - Prevalence Index is ≤3.0 ¹
7. Holas landtes!		- + NC	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			Indicators of hydric soil and wetland hydrology must
10.00	= Total	Cover 184	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		1363.	
1			Hydrophytic
2			Vegetation Present? YesNo
% Bare Ground in Herb Stratum	= Total	Cover	
Remarks:	15		

Profile Description: (Describe to the de	pth needed to document the indicator or co	onfirm the absence of indicators.)
DepthMatrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹ Lo	DC ² Texture Remarks
0-11 104R2/2 100		Loam
11-24 10 YROD- 110		
141 10403/4 100		
DIT 1011 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
¹ Type: C=Concentration, D=Depletion, RM	I=Reduced Matrix, CS=Covered or Coated Sa	and Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to al	I LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except ML	RA 1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		\ \ /
Type:		
Depth (inches):		Hydric Soil Present? Yes No
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one require	ed: check all that apoly)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (exception)	
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		ng Roots (C3) Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled So	
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (L	
Inundation Visible on Aerial Imagery (8		Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface		
Field Observations:		
Surface Water Present? Yes	No Depth (inches):	
Water Table Present? Yes		
		Westered United and Bases at 2 Van
Saturation Present? Yes (includes capillary fringe)	No _ Depth (inches):	Wetland Hydrology Present? Yes No
	onitoring well, aerial photos, previous inspec	tions), if available:
Remarks:		

WETLAND DETERMINATION D	DATA FORM -	Western Moi	untains, Valleys, and Coast Region
Project/Site: Mabe, Table bluff Rd.	City/0	County: Hum	Sampling Date: 8/1/6
Applicant/Owner: Tim Mabe			State: Sampling Point: 3E
Investigator(s): SAM POLLY, JOSEPH SAL	Section Section	on, Township, Ra	ange:
Landform (hillslope, terrace, etc.):	Loca	I relief (concave,	convex, none): Slope (%):
			Long: Datum:
Soil Map Unit Name:			
Are climatic / hydrologic conditions on the site typical for t			
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology		atic? (If n	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing san	npling point i	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes			\
Hydric Soil Present? Yes		Is the Sample	d Area nd? Yes No
Welland Hydrology Present? Yes	No	WILLIAM & TVELIA	nur resNo
Nemarks.			
VEGETATION – Use scientific names of pla	nts.		
		ninant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:	% Cover Spe		Number of Dominant Species
1. Franquila purstiana		_ FAC	That Are OBL, FACW, or FAC: (A)
			Total Number of Dominant
3	7.		Species Across All Strata: (B)
4	15 = To		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	12=10	tal Cover	That Are OBL, FACW, or FAC: (A/B)
1,			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FAC species x 2 =
5			FAC species x 3 = FACU species x 4 =
Herb Stratum (Rlot size:)	= To	al Cover	UPL species x 5 =
1 Rubus unstrius	50 ×	FACU	Column Totals: (A) (B)
2. Alastichum Muntum	Ta	FACIL	
3. Pteridium aguillam	10	FACU	Prevalence Index = B/A =
4. Heradeur Maxima	8	FAC	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5. Holcus Ignatus	10	FAC	2 - Dominance Test is >50%
6. Carex leiptivo da	_ 3	FAC	3 - Prevalence Index is ≤3.01
7. Digitalis purpurea	_ <u> </u>	<u> FACU</u>	4 - Morphological Adaptations (Provide supporting
8. Stakhys a jugoides		()b	data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants1
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11	119		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	= Tota	Il Cover	, and an
1			Hydrophytic
2.			Vegetation
W.B	= Tota	I Cover	Present? Yes No
% Bare Ground in Herb Stratum Remarks:			
ixellains.	~		

Sampling Point: 3E

Profile Description: (Describe	to the depth r				or confirm	n the abse	nce of indicators.)
Depth (inches) (Color (moist) (Color (2) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	- \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Rec Color (moist)	lox Feature: %	Type ¹	_Loc²		
	38	*					Mixed from upper horizon
Type: C=Concentration, D=De Hydric Soil Indicators: (Applic Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surfac Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches):	cable to all LR		erwise note (S5) ix (S6) Mineral (F ² d Matrix (F2 rix (F3) Surface (F6) k Surface (F6)	ed.) 1) (except)		Indi	² Location: PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) icators of hydrophytic vegetation and vetland hydrology must be present, inless disturbed or problematic. Soil Present? Yes No
HYDROLOGY							П
Wetland Hydrology Indicators							
Primary Indicators (minimum of Surface Water (A1)	one required; c		ply) tained Leav	es (B9) (e	xcept	<u>s</u>	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)			A 1, 2, 4A,	and 4B)			4A, and 4B)
Saturation (A3) Water Marks (B1)		Salt Cru	st (B11) Invertebrate	e (B13)			Drainage Patterns (B10) Dry-Season Water Table (C2)
Sediment Deposits (B2)			n Sulfide O			_	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)			Rhizosphe		Living Ro	ots (C3) _	Geomorphic Position (D2)
Algal Mat or Crust (B4)		Presenc	e of Reduce	ed Iron (C4	4)	_	_ Shallow Aquitard (D3)
Iron Deposits (B5)			ron Reducti				_ FAC-Neutral Test (D5)
Surface Soil Cracks (B6)		Stunted			1) (LRR A	۹) _	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial		Other (E	xplain in Re	emarks)		_	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concav	re Surrace (B8)				-		
	Yes No	X Denth /	inches):				
	Yes No		inches):				1
	Yes No	Depth (inches):		Wet		e: No
·							
Remarks:							

		Western Moi	intains, Valleys, and Coast Region
Project/Site: Make, Table Blut Rd.	City/0	County: Hum	Sampling Date: \$1116
Applicant/Owner: Tim Make			State: A Sampling Baint, 4 F
Investigator(s): Sam Polly, Joseph Ja	Section Section	on, Township, Ra	convex, none): None Slope (%): 1
Landform (hillslope, terrace, etc.):	Loca	I relief (concave,	convex, none): None Slope (%): 1
Subregion (LRR):	Lat:		Long: Datum:
Soil Map Unit Name:		(i)	NWI classification;
Are climatic / hydrologic conditions on the site typical for t	this time of year? Y	'es X No_	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	_ naturally problema	atic? (If no	eeded, explain any answers in Remarks.)
		npling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No X	Is the Sampled	^
Wetland Hydrology Present? Yes	No	within a wetta	iu. iesno_/
VEGETATION – Use scientific names of pla	ints.		
Tree Stratum (Plot size:)	Absolute Dom <u>% Cover</u> Spec	ninant Indicator	Dominance Test worksheet:
1	_/a Cover_ Spec	desr Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2			2
3			Total Number of Dominant Species Across All Strata: (B)
4			
Capling/Shrub Stratum (Diet sine)	= Tot	tal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1. Baccharis Dillions	15 V	110	Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
*	= Tot	al Cover	FACU species x 4 =
Herb Stratum (Plot size:)	5	Coch	UPL species x 5 =
1. SCRECO MINNW	- 20 -	1101	Column Totals:(A)(B)
2. Iris dovatosiana 3. Rubiu untinus	- 15	CACUL	Prevalence Index = B/A =
4. Digitalis ovoivea	- 10	TACK!	Hydrophytic Vegetation Indicators:
5. Sarchis bleraseus	- 1	TIOI	1 - Rapid Test for Hydrophytic Vegetation
6. Achillea miletolian	1	FACTI	2 - Dominance Test is >50%
7. Cirsium Julgare		FACIL	3 - Prevalence Index is ≤3.01
8. Franquia Ourshana	- 1	FAC	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
9. Evsimachia arversis scortet	- 	FAG	5 - Wetland Non-Vascular Plants
10.			Problematic Hydrophytic Vegetation (Explain)
11	0-		Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		I Cover	be present, unless disturbed or problematic.
1,,			Hydrophytic
2			Vegetation
	= Tota	l Cover	Present? Yes No
% Bare Ground in Herb Stratum			
Remarks:			

Profile Description: (Describe	to the depth r	eeded to document the indicator or co	onfirm the ab	sence of Indicators.)
DepthMatrix		Redox Features		
(inches) Color (moist)	7	Color (moist) % Type ¹ Lo		ture Remarks
0-20 10 YR 2/2	00		L	cam
20-24 10 YR 3/2	95		6	dm
IN/R 3/2	5		100	dn
				W13
·				
	- :			
	17 21 - 2-2- <u></u>			2
		duced Matrix, CS=Covered or Coated Sa		² Location: PL=Pore Lining, M=Matrix. ndicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applic	able to all LK			
Histosol (A1)	-	Sandy Redox (S5)	=	2 cm Muck (A10) Red Parent Material (TF2)
Histic Epipedon (A2)	-	Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except MLI	RA 1)	Very Shallow Dark Surface (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	-	Loamy Gleyed Matrix (F2)	(1) =	Other (Explain in Remarks)
Depleted Below Dark Surface	e (A11)	Depleted Matrix (F3)	-	
Thick Dark Surface (A12)		Redox Dark Surface (F6)	3	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	_	Depleted Dark Surface (F7)		wetland hydrology must be present,
Sandy Gleyed Matrix (S4)		Redox Depressions (F8)		unless disturbed or problematic.
Restrictive Layer (if present):				
Type:		<u></u>		\1
Depth (inches):			Hyd	ric Soil Present? Yes No _X
Remarks:				
, tomano.				
HYDROLOGY				
Wetland Hydrology Indicators	:			
Primary Indicators (minimum of	one required; c	heck all that apply)		Secondary Indicators (2 or more required)
Surface Water (A1)		Water-Stained Leaves (B9) (exception)	pt	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)		MLRA 1, 2, 4A, and 4B)		4A, and 4B)
Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Oxidized Rhizospheres along Livir	na Roots (C3	Geomorphic Position (D2)
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
Iron Deposits (B5)		Recent Iron Reduction in Tilled So	oils (C6)	FAC-Neutral Test (D5)
Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (I	-	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial	Imagany (R7)	Other (Explain in Remarks)	LINK (A)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concav				
	e Surface (Bo)			
Field Observations:		Dooth (inches)		
	Yes No	V		,
	Yes No			
	Yes No	Depth (inches):	Wetland H	ydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream	n gauge, monit	oring well, aerial photos, previous inspec	tions), if avail	lable:
Describe Accorded Data (chedi	,, gaaga,a	g, ac p, p	,,	
Pamarks:				
Remarks:				

WETLAND DETERMINATION	DATA FORM	- Western Mo	untains, Valleys, and Coast Region /
Project/Site: Mabe, Table Bluf Rd.		y/County: <u>Hum</u>	
Applicant/Owner: Jim Make	111.		State: A Sampling Point: 5E
Investigator(s): Joseph Saler, San F			
Landform (hillslope, terrace, etc.): Terrace	Lo	cal relief (concave,	, convex, none): \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Subregion (LRR):	Lat:		Long: Datum:
Soil Map Unit Name:			NWI classification:
Are climatic / hydrologic conditions on the site typical for	r this time of year?	Yes X No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology			eeded, explain any answers in Remarks.)
	-	ampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes		Is the Sample	d Area
Hydric Soil Present? Yes Wetland Hydrology Present? Yes			and? Yes No
Remarks:	140 77		
			9
VEGETATION - Use scientific names of pl	ants.		
Tree Stratum (Plot size:		ominant Indicator	Dominance Test worksheet:
1. Grand Francula purshara	20 20	pecies? Status	Number of Dominant Species
2.		- 110	That Are OBL, FACW, or FAC: (A)
3.			Total Number of Dominant Species Across All Strata: (B)
4.			CAN
	20 =	Fotal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: [A/B]
Sapling/Shrub Stratum (Plot size:)			Prevalence Index worksheet:
1,			Total % Cover of: Multiply by:
2			OBL species x 1 =
3			FACW species x 2 =
5.			FAC species x 3 =
11	= 1	Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)	95	/ ENCI	UPL species x 5 =
1. Anthoxadhun odoratun	$-\frac{65}{12}$	Mu	Column Totals: (A) (B)
2. Pteridium agriffully 3. Rubus usrifully	-12	- FACU	Prevalence Index = B/A =
3. Rubow ustitus, 4. Solidop elorgata		- them	Hydrophytic Vegetation Indicators:
5. Diataly our our ea	 -	TACH.	1 - Rapid Test for Hydrophytic Vegetation
6. Polystichun munitum		FACIL	2 - Dominance Test is >50%
7. Colium alarine	-	FACU	3 - Prevalence Index is ≤3.0 ¹
8. Achilea Miletolium	1	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	_99 = Te	otal Cover	be present, unless disturbed or problematic.
1		1.11.4	
2			Hydrophytic Vegetation
	= To	otal Cover	Present? Yes No
% Bare Ground in Herb Stratum	8 		
Remarks:	1		

	5
	4
Sampling Point: _	11

Profile Description: (Describe to the o	epth needed to document the indicator or co	onfirm the absence	e of indicators.)
Depth Matrix	Redox Features		Domodeo
(inches) Color (moist) %	Color (moist) % Type Lo	oc² Texture	Remarks
0-13 104R2/2 100		<u>_</u>	
13-20 10 YR 2/2 100		L	Gopler Crotovina
20-24 INVO3/3 IN			
10-21 10 1KJ) 100			÷
	_;		
			*
		7/3	
			*
¹ Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS=Covered or Coated Sa	and Grains. ² L	ocation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	Indica	tors for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)		cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)		ed Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except ML		ery Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	0	ther (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	-	
Thick Dark Surface (A12)	Redox Dark Surface (F6)		ators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		tland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unl	ess disturbed or problematic.
Restrictive Layer (if present):			s 1
Type:			V
Depth (inches):		Hydric S	oil Present? Yes No
HYDROLOGY			
Wetland Hydrology Indicators:			====
Primary Indicators (minimum of one requ	ired: check all that apply)	Se	condary Indicators (2 or more required)
	Water-Stained Leaves (B9) (exce		Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and 4B)	Pr	4A, and 4B)
High Water Table (A2)			Drainage Patterns (810)
Saturation (A3)	Salt Crust (B11)		Dry-Season Water Table (C2)
Water Marks (B1)	Aquatic Invertebrates (B13)	ALCO UNITED STATE OF THE PARTY	
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Livi		Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled So		FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery			Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface	ce (B8)		
Field Observations:	V		
Surface Water Present? Yes	No Depth (inches):		
Water Table Present? Yes	No X Depth (inches):		\ /
Saturation Present? Yes		Wetland Hydrol	ogy Present? Yes No
(includes capillary fringe)	l .		
Describe Recorded Data (stream gauge	, monitoring well, aerial photos, previous inspec	ctions), if available:	
Remarks:			

Plant List

Table D-1

Observed Botanical Species List

Table Bluff Rd Loleta, CA

	าtร								

Scientific Name Trees	Common Name	Native?	Wetland Status
Abies grandis	grand fir	Y	FACU
Frangula purshiana	cascara	Υ	FAC
Juniperus sp.	cultivated juniper	N	N/A
Picea sitchensis	Sitka spruce	Υ	FAC
Pinus radiata	Monterrey pine	N	NL
Prunus cerasifera	wild plum	N	UPL
Pseudotsuga menziesii	Douglas fir	Υ	FACU
Salix lasiandra	pacific willow	Υ	FACW
Shrubs			
Baccharis pilularis	coyote brush	Υ	UPL
Corylus cornuta	hazelnut	Υ	FACU
Cytisus scoparius	scotchbroom	N	UPL
Erica lusitanica	Spanish heather	N	UPL
Gaultheria shallon	salal	Υ	FACU
Genista monspessulana	French broom	N	UPL
Ilex aquifolium	English holly	N	FACU
Lonicera involucrata	twinberry	Υ	FAC
Oemleria cerasiformis	indian plum	Υ	FACU
Ribes sanguineum	flowering currant	Υ	FACU
Rosa californica	California rose	Υ	FAC
Rosa rubiginosa	sweetbriar	N	UPL
Rubus armeniacus	Himalayan blackberry	N	FAC
Rubus parviflorus	thimbleberry	Υ	FACU
Rubus ursinus	California blackberry	Υ	FACU
Sambucus racemosa	red elderberry	Υ	FACU
Spirea douglasiana	Douglas spirea	Υ	FACW

Scientific Name	Common Name	Native?	Wetland Status
Symphoricarpos albus	common snowberry	Y	FACU
Vaccinium ovatum	evergreen huckleberry	Υ	FACU
Herbs			
Achillea millefolium	common yarrow	Y	FACU
Anaphalis margaritaceae	pearly everlasting	Y	FACU
Aquilegia formosa	western columbine	Υ	FAC
Brassica rapa	common mustard	N	FACU
Carduus pycnocephalus	Italian thistle	N	UPL
Cirsium arvense	Canada thistle	N	FAC
Cirsium vulgare	bull thistle	N	FACU
Conium maculatum	poison hemlock	N	FAC
Crepis capillaris	smooth hawksbeard	N	FACU
Daucus carota	Queen Anne's lace	N	FACU
Digitalis purpurea	foxglove	N	FACU
Dipsacus fullonum	wild teasel	N	FAC
Epilobium ciliatum	Northern willowherb	Υ	FACW
Erigeron canadensis	Canada horseweed	Υ	FACU
Fragaria vesca	California strawberry	ΥΥ	FACU
Galium aparine	cleaver plant	N	FACU
Geranium dissectum	cutleaf geranium	N	UPL
Heracleum maxima	cow parsley	Υ	FAC
Horkelia californica	California horkelia	Υ	NL
Hypochaeris radicata	hairy cats-ear	N	FACU
Iris douglasiana	Douglas iris	Y	UPL
Leucantheumum vulgare	oxeye daisy	N	UPL
Linum bienne	flax	N	UPL
Lotus corniculatus	bird's foot trefoil	N	FAC
Lupinus rivularis	riverbank lupine	Υ	FAC
Lysimachia arvensis	scarlet pimpernel	N	FAC
Maianthemum racemosum	false Solomon's seal	Υ	FAC
Mentha pulegium	pennyroyal	N	OBL

Scientific Name	Common Name	Native?	Wetland Status
Navarretia squarrosa	skunkweed	Υ	FACU
Parentucellia viscosa	yellow glandweed	N	FAC
Plantago lanceolata	English plantain	N	FACU
Prunella vulgaris	self heal	Υ	FACU
Pseudognaphalium ramosissimum	pink cudweed	Υ	UPL
Ranunculus repens	creeping buttercup	N	FAC
Rhaphanus sativa	wild radish	N	UPL
Rumex acetosella	sheep sorrel	N	FACU
Rumex crispus	curly dock	N	FAC
Scrophularia californica	California bee plant	Υ	FAC
Senecio minimus	coastal burnweed	N	FACU
Silybum marianum	blessed milk thistle	N	UPL
Solanum americanum	American nightshade	Υ	FACU
Solanum aviculare	New Zealand nightshade	N	NL
Solidago elongata	West coast Canada goldenrod	Y	FACU
Sonchus olereacus	sow thistle	N	UPL
Stachys ajugoides	bugle hedgenettle	Υ	OBL
Symphyotrichum chilense	California aster	Υ	FAC
Taraxicum officinale	dandelion	N	FACU
Tellima grandiflora	fringe cups	Υ	FACU
Trifolium pratense	red clover	N	FACU
Trifolium repens	white clover	N	FAC
Urtica dioica	stinging nettle	Υ	FAC
Vicia hirsuta	tiny vetch	N	UPL
Vicia sativa	spring vetch	N	UPL
Zeltnera venusta	charming centaury	Υ	NL
Grasses			
Aira caryophylla	silver hairgrass	N	FACU
Anthoxanthum odoratum	sweet vernal grass	N	FACU
Avena sativa	wild oat	N	UPL

Scientific Name	Common Name	Native?	Wetland Status
Briza maxima	large quaking grass	N	UPL
Briza minor	small quaking grass	N	FAC
Bromus carinatus	California brome	Υ	NL
Bromus diandrus	ripgut brome	N	UPL
Bromus hordeacus	soft chess	N	FACU
Dactylis glomerata	orchard grass	N	FACU
Elymus glaucus	blue wildrye	Υ	FACU
Festuca arundinacea	tall fescue	N	FACU
Festuca microstachys	small fescue	Υ	UPL
Festuca perenne	Italian wildrye	N	FAC
Festuca rubra	red fescue	Υ	FAC
Holcus lanatus	velvet grass	N	FAC
Phalaris aquatica	harding grass	N	FACU
Poa pratensis	Kentucky bluegrass	N	FAC
	3 (2007)		
Ferns and Allies			4
Polystichum munitum	sword fern	Υ	FACU
Pteridium aquilinum	bracken fern	Υ	FACU
Sedges and Rushes			
Carex leptopoda	slender footed sedge	Y	FAC
1. (USDA 2012) Indicators are abbreviated as follows: OBL: Obligate FACW: Facultative FAC: Facultative	Total	47.5% Native	40.75% FAC or Wetter Species
FAC: Facultative FACU: Facultative upland UPL: Upland NL: Not listed			