April 1, 2014

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WETLAND DELINEATION REPORT:

East Sand Island Clatsop County, Oregon

Prepared for:



US Army Corps of Engineers ® Portland District 333 SW 1st Avenue Portland, Oregon 97204

Prepared by: Green Banks LLC 3828 SE 13th Avenue Portland, Oregon 97202 (503)477-5391 PAGE INSERTED TO IMPROVE FORMAT WHEN PRINTING DOUBLE-SIDED

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A. LANDSCAPE SETTING AND LAND USE

A.1 Detailed Description of Study Area

The study area for this wetland delineation is East Sand Island (ESI), an approximate 60 acre undeveloped island in the Columbia River; Clatsop County, Oregon (Figure 1). The study area is comprised of the eastern portion of tax lot 300 on tax map T9N R11W (Figure 2); no section number is assigned to this portion of the map. A small area on the eastern tip of the island is in Township 9N Range 10W Section 18, in Pacific County, Washington. ESI is near River Mile 5 of the Columbia. The northern side of the island faces Baker Bay, Washington. The island is approximately one mile west of the town of Chinook, Washington, and 8 miles northwest of the city of Astoria, Oregon.

A.2 Landscape Setting

ESI is a highly modified natural island. It is long and narrow; over 1.4 miles long from east to west, and approximately 900 feet wide at its widest. Most of the island is low elevation. During low-tide events, sand is exposed down to elevations near sea level. The highest elevation on the island is approximately 26 feet above sea level (NAVD88). Most of the island is composed of sandy soil, including extensive dredge material, but has areas with finer textured soils such as silt loam, and silty clay loam. Some areas, primarily along the southern shoreline, have recently eroded and show signs of active erosion. This erosion is caused by wind, wave, and debris action. There is a stone jetty at the west end of ESI and areas armored with large-angular rock in the central portion of the island.

A.3 Land Use

No roads are currently located within the study area but some structures such as fencing, aboveground tunnels for bird hazing, and sheds are present throughout the island. Most of these features are associated with bird control and research. ESI provides habitat for many species of birds and is the nesting site of the largest Caspian tern colony in the world (Audubon Society 2014). It is also a breeding site for double-crested and Brandt's cormorants and has the largest breeding colony of double-crested cormorants in western North America, and possibly the entire continent (Roby et al. 2013). Various other water birds use the island for nesting and/or roosting including two species of gulls and brown pelicans. ESI is designated as an Important Bird Area by the American Bird Conservancy and the National Audubon Society, and is included in the Western Hemisphere Shorebird Reserve Network Site (USACE 2014). The U.S. Army Corps of Engineers (USACE) is the federal agency that manages ESI. This wetland delineation was completed to assist the USACE with their research involving natural resources on the island.

B. SITE ALTERATIONS

B.1 Site History

The U.S. Army obtained the island in 1863 and it was used for military purposes until the mid 20th century. Historically, structures such as a railroad spur line, docks, barracks and other military buildings were present (Darby 2014). The island is near to Fort Canby and it has been used as an artillery range for the fort. In the early 1900s, seine-net fishing for salmon was common on the island.

The area now known as East Sand Island had once been a narrow peninsula connected to the main portion of Sand Island. In 1931, the USACE started building a dike to hold deposited dredge materials and stabilize Sand Island. By 1933, the dike extended along the southern shore of the eastern peninsula, and dike groins were being constructed that extended south. Before construction of the groins were completed, the dike was breached and the eastern peninsula was separated from the main portion of the island.

ESI was used as a containment site for dredge materials in the 1970s and 1980s. Over 650,000 cubic yards of dredge material from the nearby Chinook channel was placed on the island between the years of 1978 and 1982 (USACE 2012). ESI has not been used as a disposal site for dredge material since the 1980s. Areas of the island, such as the western end, were stabilized with large-angular rock to prevent erosion at that time.

B.2 Historic Aerial Photograph Review

A review of aerial photographs from Bing, Google Earth, and the USACE dating from 1931 through 2012 was completed for ESI and surrounding areas; selected aerial photos are included in Figures 5a-f. A photo from 1944 (Figure 5a) displays inundation into the eastern portion of ESI, a railroad line and various other infrastructure. The island was slightly different in shape at that time. A photo from 1958 (Figure 5b) displays the eastern portion of the island and inundation in an area that is currently un-vegetated sand and used as a nesting site for Caspian terns. In 1975 (Figure 5c), the island was more similar to its present day shape as a result of dredge material deposition and diking. In 1983 (Figure 5d), re-shaping of the island's topography can be observed; especially on the eastern end. An newly constructed berm can be viewed in this area; this berm currently exists and separates two delineated wetlands (Wetlands E and F). A photo from 2001 (Figure 5e) displays vegetation establishment on the island. This photo displays the extent of vegetation on the western side of the island prior to the colonization of double-crested cormorants. Currently this area is overgrazed, leaving it virtually un-vegetated. A photo from 2012 (Figure 5f) displays the current condition of the island.

C. PRECIPITATION DATA AND ANALYSIS

Tables 1 and 2 summarize data obtained from the National Weather Service (NWS) Astoria Weather Station and from the Natural Resource Conservation Service (NRCS) Astoria WETS Table. This delineation effort occurred in the early portion of the growing season; based on the WETS table for Astoria, a typical growing season starts on February 13th. Astoria is approximately 8 miles southeast of ESI.

Table 1 displays the daily recorded precipitation for February 2014, including the days of our field investigation (Feb. 19, 20, 25-28). As of February 28th, the total rainfall in Astoria was 7.40 inches; which is 0.47 inches below the average February rainfall of 7.87 inches, according to the Astoria WETS table (the NWS February average is 7.61).

Ŭ	Î		
Date	(Inches)	Date	Precipitation (Inches)
Eshmany 1	0.07	Echanomy 15	1 15
February 1	0.07	February 15	1.13
February 2	Т	February 16	1.07
February 3	0.00	February 17	1.09
February 4	0.00	February 18	0.79
February 5	0.00	February 19	0.29
February 6	0.04	February 20	0.25
February 7	0.07	February 21	0.02
February 8	0.15	February 22	0.00
February 9	0.03	February 23	0.17
February 10	0.41	February 24	0.44
February 11	0.74	February 25	Т
February 12	0.21	February 26	Т
February 13	0.18	February 27	0.01
February 14	0.22	February 28	0.00

Table 1: Daily Precipitation Data for February 1 through February 28, 2014

Notes: T=Trace.

Table 2 displays the NWS recorded precipitation data versus monthly averages from the WETS Table for the three previous months. The current Water Year started on October 1, 2013. November and December of 2013, and January 2014, all had less than average rainfall and November and December were below the "normal" 30-70 percentile range.

Month	Total Precipitation (Inches)	Average Precipitation* (Inches)	Percent of Average Monthly Precipitation	Within "Normal" 30- 70 percentile Range from WETS Table?	Water Year to Date (Inches)	Percent of Average Water Year to Date* at end of Month
Nov. 2013	5.11	10.50	49%	below normal range (7.45"-12.44")	7.17	45%
Dec. 2013	5.00	10.40	48%	below normal range (7.48"-12.44")	12.17	46%
Jan. 2014	6.36	9.62	66%	Within normal range (6.24"- 11.56")	18.52	51%

Note: *Monthly rainfall averages and the calculated "Average Water Year to Date" are from the Astoria WETS tables; the monthly averages vary slightly from those on the NWS website because the period of record is different.

D. METHODS

After reviewing background maps, aerial photographs, LiDAR (Light Detection and Ranging) generated topography maps, and soil descriptions, Green Banks LLC scientists C. Jonas Moiel and Jeff Handley conducted a wetland and waters delineation of ESI on February 19, 20, and 25 through 28, 2014. Additional data collection assistance was provided by Rian Dawson (Green Banks LLC) and Terry Frederick (Harris Environmental).

Wetland and water resources were delineated according to the protocols of the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0).

The Natural Resource Conservation Service mapped Tropopsamments, 0-15% slopes (Map Unit 67), on the island (Figure 4); except for some areas which were mapped at Water. Tropopsamments are not listed as hydric soils according to the Clatsop County hydric soils list (2007), but may have inclusions of Aquents, which are hydric. According to the *Soil Survey of Clatsop County*, Tropopsamments are sands that are deep, excessively drained, and were formed in stratified dredge spoils. Portions of the eastern end of the island were mapped as Water (Map Unit W).

Wetland indicator statuses were obtained for observed plants from the *Regional Wetland Plant List* for the Western Mountains, Valleys, and Coast (USACE 2013).

Forty-three sample plots were established in wetlands and adjoining uplands to document the presence or absence of field indicators of wetland hydrology, soils and vegetation. The plot data were entered onto standardized wetland determination data sheets (Appendix B).

The USACE and the Oregon Department of State Lands (DSL) have different definitions of jurisdictional limit in tidal waters; however both are very similar, if not synonymous. The DSL has jurisdiction to the elevation of the "highest measured tide" (HMT) which is defined as the highest tidal elevation, not including storm surges. The HMT may be "*determined by a land survey referenced to the closest tidal benchmark based upon the most recent tidal epoch and reference to both the tidal datum (MLLW) and fixed geodetic datum (NAVD88)*", or by using field indicators such as the uppermost drift or wrack line, water-mark line, intertidal zone inhabited by aquatic invertebrates, and/or a marsh to upland plant community shift (DSL 2014; OAR 141-085-0515(2)).

The USACE's jurisdiction over tidal waters is outlined in Section 10 of the Rivers and Harbors Act, and Section 404 of the Clean Water Act. Section 10 defines jurisdiction to the "mean high water line" which is the average of all high tides. Section 404 defines jurisdiction to the "high tide line" (HTL) which is the maximum height of a rising tide, not including storm surges (33 CFR 328.3d). Since the HTL would be higher in elevation than the mean high water line, we delineated the HTL to determine the federal jurisdictional limit. The HTL can be delineated using either gauge data or field indicators similar to those used for delineating the HMT.

We used two methods to delineate the tidal waters boundary; the first method utilized river gauge data to estimate the HMT elevation, and the second method was based on field indicators. The two

closest river gauges to ESI are located near Fort Stevens (3.9 miles southeast) and Hammond (4.4 miles southeast), and are displayed on Figure 1. The HMT elevations calculated for the Fort Stevens and Hammond gauges were 12.06 feet (NAVD88; tidal epoch 1960-1978) and 11.34 feet (NAVD88; tidal epoch 1983-2001) respectively (DSL 2010). Since the HMT calculated for the Hammond gage is from the current tidal epoch, we used its calculated elevation of 11.34 feet (NAVD88) for ESI. One-foot contour maps were developed for the island using 2009 LiDAR data provided by the USACE. An 11.34 foot calculated HMT contour line was generated in GIS and overlaid on the maps (Figures 6a-c). This calculated HMT contour was also uploaded to a GPS unit for field verification (ground-truthing). Since the methods for determining the HMT and HTL based on gauge data are very similar, we assume that the calculated HMT would also be very similar to the calculated HTL.

A field indicator delineation of the tidal waters boundary was also completed. The field indicators described for determining the HMT in the DSL protocol (e.g. uppermost drift/wrack line, water-mark line, vegetation shifts) and for the HTL in the Clean Water Act Section 404 (e.g. line of oil/scum or debris, vegetation lines) are very similar, and would correspond to the same approximate elevation in field. Several indicators were observed on the island and used to delineate the tidal waters boundary.

As a means of ground-truthing the calculated HMT elevation and comparing the gauge based method versus the field indicator method, we established twelve "waters comparison transects" at representative locations on the island. At each transect location, we located the calculated HMT elevation using GPS and estimated the tidal waters boundary based on field indicators. Photographs of the waters comparison transects are included in Appendix D and their locations are displayed on Figures 6a-c.

The wetland and waters boundaries, data plots, photo point locations, and other site features were mapped using a survey-grade Trimble GeoXT GPS unit. Representative ground-level photographs of the features and habitat types (Appendix C) were taken in the field as well as general notes regarding plant community composition. A list of the plant species observed on ESI is included in Appendix E.

E. WETLANDS AND WATERWAYS

Green Banks delineated eight wetlands (Wetlands A-H) on East Sand Island (Figures 6a-c). Wetlands A, C, E and F are non-tidal freshwater wetlands. Wetlands B, D, G and H are tidal estuarine wetlands. No freshwater "waters" resources were identified on the island. Tidal waters were mapped on ESI using a combination of two delineation methods.

E.1 Freshwater Non-Tidal Wetlands

Wetlands A, C, E, and F are non-tidal wetlands that are located at a relatively higher elevation than the tidal wetlands; well above the calculated HMT. The Hydrogeomorphic (HGM) class of these wetlands was generally Slopes/Flats. The Cowardin classes of these wetlands were a mix of Palustrine Scrub-Shrub (PSS) and Palustrine Emergent (PEM).

The non-tidal wetlands have three sources of hydrology: direct precipitation, runoff, and a high groundwater table. A narrow un-maintained ditch runs through a portion of Wetland C that was likely installed to drain the area. The outfall of this ditch is blocked by a slight topological rise and it is no longer functioning properly to drain the wetland. During high-tide events it is possible for water to enter the ditch; however, tidal influence is not a primary input of hydrology for this wetland as it is likely to occur very infrequently and for a short duration. Wetlands E and F are separated by an artificial berm (constructed around 1983; Figure 5d) and are likely connected hydrologically by groundwater. Indicators of wetland hydrology observed at the plot locations included primary indicators: High Water Table (A1), Saturation (A3), and Oxidized Rhizospheres (C3); as well as secondary indicators: Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test (D5), and Raised Ant-Mounds (D6). Hummocky topography was observed in areas that was either as result of raised ant-mounds or frost-heave (D4).

The soil textures in these wetlands included sandy loam, silt loam and silty clay loam. Hydric soil indicators observed at the plot locations included: Redox Dark Surface (F6), Depleted Matrix (F3) and Sandy Redox (S5).

The non-tidal wetlands were dominated by native and non-native vegetation such as: bentgrass (*Agrostis* species), black twinberry (*Lonicera involucrata*), common velvetgrass (*Holcus lanatus*), creeping buttercup (*Ranunculus repens*), Hooker willow (*Salix hookeriana*), red elderberry (*Sambucus racemosa*), soft rush (*Juncus effusus*), and yellow iris (*Iris pseudacorus*). The non-tidal wetland data plots had hydrophytic plant communities based on the 50/20 dominance test.

E.2 Estuarine Tidal Wetlands

Wetlands B, D, G and H are tidal wetlands. These wetlands are located entirely below the delineated tidal waters boundary. The primary HGM class of the tidal wetlands is Marine-Sourced High Tidal Fringe (MSH); the lower portion of Wetland B is Marine-Sourced Low Tidal Fringe (MSL). The Cowardin class of the tidal wetlands is Estuarine Emergent (EEM). Since Wetland B is located entirely below the calculated HMT, we conducted a wetland "determination" for this area based on vegetation; which did not include sample plots.

Wetlands D, G and H only receive tidal surface water during higher-high tides (maybe only a few times annually) and are considered "high marsh". The lower portion of Wetland B is on a beach and is inundated at least once daily in a majority of the days each month, and is considered a "low marsh". Wetlands D, G and H displayed primary indicators of wetland hydrology: High Water Table (A2) and Saturation (A3). Surface water was observed in Wetland B during a high-tide event.

Soil textures in the tidal wetlands consist of sand and loamy sand. The hydric soil indicator Sandy Redox (S5) was observed at the wetland plot locations.

The herbaceous layer in Wetland D is dominated by Baltic rush (*Juncus balticus*). Wetlands G and H are dominated by bentgrass, common velvetgrass, slough sedge (*Carex obnupta*), and soft rush. The dominant vegetation in Wetland B includes: annual bluegrass (*Poa annua*), Baltic rush, bentgrass, and Pacific silverweed (*Argentina anserina*). The tidal wetland plots had hydrophytic plant communities based on the 50/20 dominance test.

E.3 Uplands (including areas below the tidal waters boundary)

We did not observe any primary indicators of wetland hydrology in the upland plots. Some of the upland plots had either a nominal (FAC dominated) hydrophytic plant community or hydric soils, but never had primary or secondary indicators of wetland hydrology. The presence of hydric soils in some of the upland plots may have been a result of historic dredge spoil placement and compaction (e.g observed near Plots 34-36).

The uplands adjacent to the non-tidal wetlands are dominated by American dunegrass (*Leymus mollis*), bentgrass, black twinberry, gorse (*Ulex europaeus*), hairy bittercress (*Cardamine hirsuta*), Himalayan blackberry (*Rubus areminacus*), purple foxglove (*Digitalis purpurea*), red elderberry, Scotch broom (*Cytisus scoparius*), tall fescue (*Schedonorus arundinaceus*), and trailing blackberry (*Rubus ursinus*).

The uplands in proximity to the tidal wetlands are dominated by FACU and UPL species such as American dunegrass and American beachgrass (*Ammophila breviligulata*). None of the upland plots adjacent to the tidal wetlands (Plots 6, 8 and 19) had positive indicators of wetland hydrology or soils. These areas are infrequently flooded and have well-drained coarse textured soils (sand). However, since some of these "uplands" are below the delineated tidal waters boundary, they will likely be regulated as jurisdictional "waters".

E.4 Wetland Boundaries

The wetland boundaries were delineated based on the presence of all three wetland indicators. In most cases there was a topological break near the wetland boundary and a change in plant community composition. Red elderberry (FACU) was observed in both uplands and wetlands and was not a good indicator of the boundary. Other species such as Scotch broom (UPL) and gorse (UPL) were found only in the uplands, and yellow iris (OBL) was primarily found in wetlands. The tidal wetland boundaries had abrupt shifts from hydrophytic plant communities to upland plant communities. The presence of primary and secondary hydrology indicators were also used to delineate the wetland boundaries, with no hydrology indicators observed in upland areas. The boundaries were fine-tuned by spot checking the upper soil profile with an auger.

E.5 Tidal Waters

The tidal waters boundary delineated using the gauge calculated method and field indicator method were similar. In general, we observed the calculated 11.34 foot HMT elevation to be in close proximity to HMT/HTL field indicators. The 2009 LiDAR data is highly accurate (⁺/- 0.1 inch), but the dynamic nature of the island due to erosion, dunal shifts, and large wood accumulation, made it inaccurate in areas.

Waters comparison transects (WT-1 through WT-12) compared the calculated HMT elevation to the field indicator delineated boundary (Appendix D). In many areas, the calculated HMT was very close (within 2 to 4 horizontal feet) to the field indicator delineated boundary. In other areas, such as along the southern shoreline, we observed recent erosion (WT-4, WT-5, WT-6) with nearly vertical banks, and inaccuracies in the 2009 LiDAR generated topography maps. Large wood accumulations were also noted on the southwestern portion of the island at elevations higher than predicted by the calculated HMT (WT-3). We believe that the LiDAR data may be less accurate in

these areas due to the high volume of large wood, and its movement on a semi-annual or annual basis. Wind drifts on the northern to northwestern shoreline were also noted, which likely have resulted in higher topography than was displayed by the 2009 LiDAR data.

A field indicator delineation of tidal waters (HMT and HTL) was completed based on several observed indicators: uppermost wood or debris wrack line, water-mark line, tidally eroded banks, and vegetation community shifts. In many areas of ESI, field indicators of the tidal waters boundary were obvious due to recent erosion and large woody debris accumulations. In other areas, such as the eastern portion of the island, field indicators were more difficult to identify. This was the case because wood debris was sparsely scattered in the area without an identifiable upper wrack line, and with relatively flat topography. The HMT and HTL do not include storm surges, making it difficult to determine which large woody debris was placed during surge events and which was a result of the HMT/HTL.

Due to the inaccuracies of the LiDAR data in areas, and difficulty of identifying field indicators in others, we created a tidal waters boundary line (HMT and HTL) that is the result of merging both the calculated HMT line and field indicator line. This merged tidal waters boundary utilizes the most accurate delineation method in each area of ESI, reducing the sources of error presented by each method. This tidal waters boundary represents the delineated HMT and HTL.

F. DEVIATION FROM LWI OR NWI MAPPED WETLANDS

ESI is not within the urban growth boundary of a city, thus no Local Wetland Inventory (LWI) has been prepared.

The National Wetland Inventory (NWI) Map (Figure 3) displays wetland and estuarine water types on or near the island. A Palustrine Emergent, seasonally flooded, spoil (PEMCS) wetland is mapped on the eastern portion of the island in the same vicinity of delineated Wetlands E and F. However, the shapes of the delineated wetland polygons are different than mapped by the NWI. Estuarine Intertidal Emergent, regularly flooded, spoil (E2EMNS) wetland is mapped on the northern shore of ESI in the vicinity of delineated Wetlands B, C, D, G, and H. These wetlands were separated by upland plant communities and topographic breaks, and were not contiguous as displayed by the NWI. Estuarine Intertidal Emergent, irregularly flooded, spoil (E2EMPS) wetland and E2EMNS is mapped in western portions of ESI, but we did not delineate wetlands in these areas. Much of ESI is mapped as upland by the NWI. Delineated Wetland A is in an area that is mapped as upland. Tidal waters areas surrounding the island are mapped as a variety of intertidal and subtidal waters classes (E1UBL, E2USM, E2USNS, E2USPS). The delineated tidal waters boundary is in the same vicinity as mapped by the NWI, but of a different shape.

G. MAPPING METHODS AND ESTIMATED ACCURACY

Spatial data were collected using a survey-grade Trimble GeoXT GPS unit which can achieve submeter accuracy after post-processing. All site features including sample plots, photo points, and wetland and waters boundaries, were collected as point data to allow for point-averaging and differential correction. Data were collected on several days and the accuracy after post-processing varied slightly due to satellite alignment, terrain, etc. On average, approximately 64% of the points collected were accurate to within 30-50 centimeters, 35% were within 0.5-1.0 meter, and 1% were within 1.0-2.0 meters.

H. ADDITIONAL INFORMATION

This wetland delineation was conducted as part of a larger Environmental Impact Statement (EIS) study. For more information about the island and this EIS, please refer to the: DRAFT *Double-crested Cormorant Management Plan to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary* (USACE 2014).

I. RESULTS AND CONCLUSIONS

Wetlands and waters on East Sand Island were delineated by Green Banks LLC in February of 2014. A total of 7.135 acres (310,818 ft²) of wetlands were delineated, including 6.026 acres (262,492 ft²) of non-tidal freshwater wetlands, and 1.109 acres (48,326 ft²) of tidal wetlands. Forty-three data collection plots were established throughout the island to document the presence or absence of wetland vegetation, soils and hydrology. The Cowardin classes of the delineated wetlands were Palustrine Scrub-Shrub, Palustrine Emergent, and Estuarine Emergent. The HGM classes of the delineated wetlands were Slopes, Flats, Marine-Sourced High Tidal Fringe, and Marine-Sourced Low Tidal Fringe. No freshwater "waters" resources were identified.

Tidal waters were delineated using two methods (gauge calculated and field indicator) and a merged boundary line was created to achieve the highest level of accuracy in areas where either method had observed error. The tidal waters boundary represents both the highest measured tide and the high tide line. This is the case because the definitions and methods used to determine the HMT and HTL are very similar, if not synonymous, and would result in the delineation of the same approximate boundary. The acreage of tidal waters was not calculated as the island is located within the Columbia River.

Table 3 indicates the areas of potentially jurisdictional wetlands and waters on the site. Wetlands B, D, G, and H were delineated below the tidal waters boundary. Even though these areas met wetland criteria, they may be regulated as tidal waters.

Name	Area (square feet)	Cowardin Class	HGM Class	DSL Regulated ¹	USACE Regulated ¹
Wetland A	890	PSS	S	Yes (as wetland)	Yes (as wetland)
Wetland B	21,330	EEM	MSL, MSH	Yes (as tidal waters)	Yes (as tidal waters)
Wetland C	33,957	PSS, PEM	S/F	Yes (as wetland)	Yes (as wetland)
Wetland D	1,730	EEM	MSH	Yes (as tidal waters)	Yes (as tidal waters)
Wetland E	8,869	PSS	S/F	Yes (as wetland)	Yes (as wetland)
Wetland F	218,776	PSS, PEM	S/F	Yes (as wetland)	Yes (as wetland)
Wetland G	1,045	EEM	MSH	Yes (as tidal waters)	Yes (as tidal waters)
Wetland H	24,221	EEM	MSH	Yes (as tidal waters)	Yes (as tidal waters)

Table 3: Wetlands and Waters within the Study Area

¹This is based on Green Banks' best professional judgment. Only DSL and USACE can determine if they regulate these wetlands and waters.

J. DISCLAIMER

This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.

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APPENDIX A Maps

Figure 1: Site Location Map



Note: Background map data compliments of National Geographic TOPO! and USA Topo Maps; Copyright: © 2013 National Geographic Society, i-cubed. Map produced by Green Banks LLC.

Figure 2: Tax Lot Map



Note: Tax lot map compliments of Clatsop County and ORMAP. Map produced by Green Banks LLC.

Figure 3: National Wetland Inventory (NWI) Map



Note: Background layers compliments of the USFWS online web mapper and Bing Aerials (2011). Map produced by Green Banks LLC.

Figure 4: Natural Resource Conservation Service (NRCS) Soil Map



Note: Background layers compliments of the NRCS web soil survey (Clatsop Co.) and Bing Aerials (2011). Map produced by Green Banks LLC.



Note: Aerial photograph compliments of the U.S. Army Corps of Engineers.

Figure 5b: Aerial Photograph 1958

East Sand Island, Oregon



Note: Aerial photograph compliments of the U.S. Army Corps of Engineers.

Figure 5c: Aerial Photograph 1975

East Sand Island, Oregon



Note: Aerial photograph compliments of the U.S. Army Corps of Engineers.



Note: Aerial photograph compliments of the U.S. Army Corps of Engineers.





Figure 6a: Wetland and Waters Delineation Map



Background Files: Aerial photograph compliments of Bing 2011; LIDAR data compliments of the Corps, flown 2009. GPS data collected in February of 2014. Map produced by Green Banks LLC.

East Sand Island, Oregon

Figure 6b: Wetland and Waters Delineation Map



Background Files: Aerial photograph compliments of Bing 2011; LIDAR data compliments of the Corps, flown 2009. GPS data collected in February of 2014. Map produced by Green Banks LLC.

East Sand Island, Oregon

Figure 6c: Wetland and Waters Delineation Map



Background Files: Aerial photograph compliments of Bing 2011; LIDAR data compliments of the Corps, flown 2009. GPS data collected in February of 2014. Map produced by Green Banks LLC.

East Sand Island, Oregon

Wetland Area Summary Information:Wetland A=0.020 ac. (890 sq. ft.)Wetland B=0.489 ac. (21,330 sq. ft.)Wetland C=0.779 ac. (33,957 sq. ft.)Wetland D=0.039 ac. (1,730 sq. ft.)Wetland E=0.204 ac. (8,869 sq. ft.)Wetland F=5.022 ac. (218,776 sq. ft.)Wetland G=0.024 ac. (1,045 sq. ft.)Wetland H=0.556 ac. (24,221 sq. ft.)



APPENDIX B

Data Forms

PAGE INSERTED TO IMPROVE FORMAT WHEN PRINTING DOUBLE-SIDED

WETLAND	DETERMINATION D	ATA FO	RM – W	estern Mountain	s, Valleys and Co	ast Region		
Project/Site: East Sand Island		City	//County:	Clatsop		Sampling D	ate:	2/19/2014
Applicant/Owner: U.S. Arr	my Corps of Engineers			State	: Oregon	Sampling Po	pint:	1
Investigator(s): C. Jonas Moiel, Jef	f Handley		Sec	tion, Township, Range	: T9N R11W			
Landform (hillslope, terrace, etc.):	low elevation be	nch		Local relief (c	oncave, convex, none):	none	Slope (%): 0
Subregion (LRR): LRR A		Lat: 46.3	262	Long	: -123.981	Dat	um: <u>NAD 8</u>	33 UTM 10N
Soil Map Unit Name: Tropops	samments, 0-15% slopes				NWI classification:	upland		
Are climatic / hydrologic conditions on	the site typical for this time	of year?		Yes	X No	(If no, ex	plain in Ren	narks)
Are Vegetation Yes ,Soil	, or Hydrology		si	gnificantly disturbed?	Are "Normal Circu	ımstances" pre	sent?	
					Yes	X No		_
Are Vegetation,Soil	, or Hydrology		n	aturally problematic?	(If needed, explain a	ny answers in R	emarks.)	
SUMMARY OF FINDINGS –	Attach site map showing	sampling	point loc	ations, transects, im	portant features, etc.			
Hydrophytic Vegetation Present?	Yes	No	Х					
Hydric Soil Present?	Yes	No	X	Is the Sampled Are	а			
Wetland Hydrology Present?	Yes	No	X	within a Wetland?	Yes	No	X	_
Plot 1 is located in a low elevation are (south). Vegetation was disturbed due	ea which is separated from the to high levels of avian brow	ne calculat vse.	ed highes	st measured tide elevat	ion by a sand berm (no	rth) and a large	∍-angular r	ock wall
Trop Stratum (Plat aiza: 50 ft.)	Absolute	Do	minant	Indicator	Dominance Test wo	rksheet:		
	<u>% Cover</u>	<u>Sp</u>	ecies?	Status	Number of Dominant	Species		
2					That Are OBL, FACW	, or FAC:	0	_(A)
2.								
3.					Total Number of Dom	inant		
4.					Species Across All St	rata:	0	_(B)
Carling/Ohm h Churchurg (Dist size) 05	Total Cover: 0%							
Sapling/Shrub Stratum (Plot size: 25	π.)				Percent of Dominant	Species		
1.					That Are OBL, FACW	, or FAC:	0%	(A/B)
2.					Prevalence Index we	orksheet:	. In	
J.							Dy.	
4.					OBL species	x 1 =		_
5					FACW species	x 2 =		_
	Total Cover: 0%				FAC species	x 3 =		_
Herb Stratum (Plot size: 5 ft.)					FACU species	x 4 =		_
1. Poa annua	1%		No	FAC	UPL species	x 5 =		
2.					Column Totals:	<u>0</u> (A)	0	_(B)
3					Prevalence Inde	∋x = B/A =		
4					Hydrophytic Vegeta	tion Indicator	5:	
5					Dominance Test i	s >50%		
6					Prevalence Index	is ≤3.0 ¹		
7					Morphological Ad	aptations ¹ (Pro	vide suppo	orting
8					data in Remar	ks or on a sepa	arate shee	t)
	Total Cover: 1%				Wetland Non-Vas	cular Plants ¹		
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hydro	ophytic Vegeta	tion ¹ (Expl	ain)
1					¹ Indicators of hydric s	oil and wetland	i hydrology	/ must
2					be present.			
	Total Cover: 0%				Hydrophytic Vegeta	tion		
% Bare Ground in Herb Stratum	99%				Present?	Yes	No X	_
% Bare Ground in Herb Stratum Remarks: Vegetation is highly disturbed due to e	99%	<i>annua</i> hao	d low cove	er and was not conside	Present?	Yes	<u>No X</u>	

Profile Descri							Sampli	ng Point:
	iption: (Describe to	the depth ne	eded to documen	t the indicator or	confirm the at	osence of indicators.)	•	
Depth	Matrix			Redox F	eatures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remark
0-10	10YR3/1	100	no redox				sand	
10-28	10YR3/1	98	10YR3/2	2	С	М	sand	
	<u></u>							
	·							
T 0 0 0			2					
Type: C=Con	centration, D=Depleti	on, RM=Redu	ced Matrix. Loc	cation: PL=Pore Li	ning, RC=Root	Channel, M=Matrix.		
Tyaric Soli ind	dicators: (Applicable	e to all LRRS,	unless otherwise	e notea.)		Indicators for Prot	elematic Hydric Solls	•
Histosol (A	1) 		_ Sandy Redox (S	(00)		2 cm Muck (A10		
HISTIC EPIPE	edon (A2)		_ Stripped Matrix ((56) lineral (E1) (excen t		Red Parent Mat	erial (TF2)	
	Cultido (A4)	_					n hemarks)	
Doploted P	olow Dark Surface (A		Doploted Matrix	(E2)				
	Surface (A12)		Beday Dark Sur	(F6)				
Sandy Muc	ky Mineral (S1)		 Depleted Dark S	Surface (E7)		³ Indicators of hydror	phytic vegetation and	
Sandy Glev	ved Matrix (S4)		Bedox Depressi	ons (F8)		wetland hydrology must be present		
Destrictive Le		_		(-)				
Tupo:	yer (if present):							
Type.	200);					Hudrie Ceil Dresse	+0 Vee	No
Deptil (Incli	<u> </u>		_			Hyunc Son Fresen		
HYDROLO(Wetland Hydr	GY							
Primary Indicat	ology maloutors.					Secondary Indic	ators (2 or more requir	ed)
Primary indicators (any one indicator is sufficient)						<u>Secondary Indic</u> Water-Stain	ators (2 or more requir	ed) oast)
Surface Wa	tors (any one indicator ater (A1)	r is sufficient)	Water-Stained L	.eaves (B9) (excer	ot NW coast)	Secondary Indic Water-Stain Sparsely Ve	ators (2 or more requir ed Leaves (B9) (NW c o getated Concave Surfa	ed) oast) ace (B8)
Surface Wa	tors (any one indicato ater (A1) Table (A2)	r is sufficient)	Water-Stained L Salt Crust (B11)	.eaves (B9) (excep	ot NW coast)	<u>Secondary Indic</u> Water-Stain Sparsely Ve Drainage Pa	ators (2 or more requir ed Leaves (B9) (NW c getated Concave Surfa atterns (B10)	<u>ed)</u> oast) ace (B8)
Surface Wa High Water Saturation	ater (A1) Table (A2) (A3)	r is sufficient) 	Water-Stained L Salt Crust (B11) Aquatic Inverteb	eaves (B9) (excep prates (B13)	ot NW coast)	<u>Secondary Indic</u> Water-Stain Sparsely Ve Drainage Pa Dry-Season	ators (2 or more requir ed Leaves (B9) (NW c getated Concave Surfa atterns (B10) Water Table (C2)	<u>ed)</u> oast) ace (B8)
Surface Wa High Water Saturation Water Mark	r Table (A2) (A3) (Sors (any one indicato) (A1) (A3) (S) (B1)	r is sufficient) — — —	Water-Stained L Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid	Leaves (B9) (excep prates (B13) e Odor (C1)	ot NW coast)	Secondary Indic Water-Stain Sparsely Ve Drainage Pa Dry-Season Saturation V	ators (2 or more requir ed Leaves (B9) (NW c getated Concave Surfa atterns (B10) Water Table (C2) <i>'</i> isible on Aerial Imager	<u>ed)</u> oast) ace (B8) y (C9)
Surface Wa High Water Saturation Water Mark Sediment D	ater (A1) Table (A2) (A3) (B1) Deposits (B2)	r is sufficient) 	Water-Stained L Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos	eaves (B9) (excep prates (B13) e Odor (C1) pheres along Livin	ot NW coast) g Roots (C3)	Secondary Indic Water-Stain Sparsely Ve Drainage Pa Dry-Season Saturation V Geomorphic	ators (2 or more requir ed Leaves (B9) (NW c getated Concave Surfa atterns (B10) Water Table (C2) /isible on Aerial Imager : Position (D2)	<u>ed)</u> oast) ace (B8) y (C9)
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Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi	tors (any one indicator ater (A1) r Table (A2) (A3) <s (b1)<br="">Deposits (B2) its (B3) r Crust (B4) its (B5)</s>	r is sufficient) 	Water-Stained L Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Stunted or Stres	eaves (B9) (excep orates (B13) e Odor (C1) opheres along Livin duced Iron (C4) duction in Tilled Soi ssed Plants (D1) (L	g Roots (C3) Is (C6) RR A)	Secondary India Water-Stain Sparsely Ve Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu Frost-Heave	ators (2 or more requir ed Leaves (B9) (NW cr getated Concave Surfa atterns (B10) Water Table (C2) /isible on Aerial Imager : Position (D2) uitard (D3) e Hummocks (D4) I Test (D5)	<u>ed)</u> oast) ace (B8) y (C9)
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WETLAN	D DETERMINATION	I DATA FORM -	Western Mountain	s, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/Count	ty: Clatsop	•	Sampling Date:	2/19/2014
Applicant/Owner: U.S. A		State	: Oregon	Sampling Point:	2	
Investigator(s): C. Jonas Moiel, J	eff Handley		Section, Township, Range	: T9N R11W		
Landform (hillslope, terrace, etc.):	low-elevation	n tidal floodplain	Local relief (c	oncave, convex, none)	: none Slo	be (%): <u>1</u>
Subregion (LRR): LRR A	A	Lat: 46.264	Long	: -123.966	Datum:	NAD 83 UTM 10N
Soil Map Unit Name: Water				NWI classification	: E1UBL	
Are climatic / hydrologic conditions of	on the site typical for this t	time of year?	Yes	X No	(If no, explain	in Remarks)
Are Vegetation,Soil	, or Hydrolog	ау 	significantly disturbed?	Are "Normal Circ	umstances" present	?
				Ye	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrolog	ау 	naturally problematic?	(If needed, explain	any answers in Remark	(S.)
SUMMARY OF FINDINGS -	 Attach site map show 	ing sampling point	locations, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X	_			
Hydric Soil Present?	Yes	No X	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	No	<u>X</u>
Plot 2 is located on a low elevation t	terrace, below the calcula	ted highest measured	tide elevation.			
VEGETATION	Abcolut	o Dominant	Indicator	Dominanco Tost w	orkehoot:	
Tree Stratum (Plot size: 50 ft.)		e Dominant ar Species?	Status	Number of Dominant	t Species	
1.	<u>/// 00//(</u>			That Aro OBL EACL		1 (A)
2.				That Ale OBL, I AC	N, 011 AC.	<u> </u>
3.	i			Total Number of Dor	ninant	
4.	i			Species Across All S	Strata:	2 (B)
	Total Cover: 0%			Opecies Across Air c		<u> </u>
Sapling/Shrub Stratum (Plot size: 2	5 ft.)			Percent of Dominant	Species	
1. Sambucus racemosa	2%	No	FACU	That Are OBL EACL	N or FAC: 5	0% (Δ/B)
2. Bubus armeniacus		No	FACU	Prevalence Index w	orksheet:	(////)
3.				Total % Cover	of: <u>Multiply by:</u>	
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
	Total Cover: 3%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Levmus mollis	50%	Yes	FACU	UPL species	x 5 =	
2. Poa species	35%	Yes	FAC ?	Column Totals:	0 (A)	0 (B)
3. Rumex crispus	10%	No	FAC	Prevalence Inc	dex = $B/A =$	
4. Cardamine hirsuta		No	FACU	Hydrophytic Vegeta	ation Indicators:	
5.				Dominance Test	is >50%	
6.				Prevalence Inde	x is ≤3.0 ¹	
7.				Morphological Ad	daptations ¹ (Provide	supporting
8.				data in Rema	rks or on a separate	sheet)
	Total Cover: 100%			Wetland Non-Va	scular Plants ¹	
Woody Vine Stratum (Plot Size: 5	ft.)			Problematic Hyd	rophytic Vegetation ¹	(Explain)
1.				¹ Indicators of hydric	soil and wetland hyd	rology must
2.				be present.		0.
	Total Cover: 0%			Hydrophytic Vegeta	ation	
% Bare Ground in Herb Stratum	0%	_		Present?	Yes No	Х
				-		

SOIL							Sar	mpling Point: 2	
Profile Descri	iption: (Describe to	the depth ne	eded to documen	it the indicator or	confirm the al	bsence of indicators	s.)	1 0	
Depth	Matrix	[Redox F	eatures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-12	10YR3/1	99	7.5YR4/6	1	С	М	sand		
12-24	10YR3/1	80	no redox	. <u></u>			sand	mixed matrix	
	10YR2/1	20	no redox	. <u></u>				<u> </u>	
	. <u> </u>			. <u> </u>					
	·								
T			21 a			Charges M. Matrix			
Type. C=Con	dicators: (Applicable			ation. PL=Pore Li	ining, RC=ROOL		blomatic Hydria Sa	ilo ³ .	
			Sondy Poday (S	5)		2 om Muck (A		115 :	
Histosol (A	$(\Lambda 2)$	-	Sariuy Redux (S	(S6)		2 Cill Muck (A	torial (TE2)		
Black Histic		-	Loamy Mucky M	(30) lineral (E1) (evcen	+ MI RA 1)		aleriar (TF2)		
	C (AS) Cultido (A4)	-		Actrix (E2)					
Doploted P	Sulliue (A4)	-	Loany Gleyed N	(E2)					
Depieteu B	Surface (A12)		Depleted Matrix	(F3)					
Sandy Muo	Surface (ATZ)	-	Neulox Dark Sur	Surface (F7)		³ Indicators of hydr	onhytic vegetation an	d	
Sandy Glov	und Matrix (S1)	-	Depleted Dark C	one (E8)		wetland hydrology must be present			
		-				wettand hydrolog	gy must be present.		
Restrictive La	iyer (if present):								
l ype:									
Depth (inch	nes):					Hydric Soil Prese	ent? Yes	<u>No X</u>	
HYDROLO Wetland Hydro	GY ology Indicators:					Secondary Inc	licators (2 or more re	quired)	
Primary Indicat	tors (any one indicato	r is sufficient)				Water-Sta	ined Leaves (B9) (N	V coast)	
Surface Wa	ater (A1)		Water-Stained Leaves (B9) (except NW coast)			Sparsely Vegetated Concave Surface (B8)			
X High Water	r Table (A2)	-	Salt Crust (B11)			Drainage Patterns (B10)			
X Saturation	(A3)	-	Aquatic Invertebrates (B13)			Dry-Season Water Table (C2)			
Water Mark	ks (B1)	-	Hydrogen Sulfide Odor (C1)			Saturation Visible on Aerial Imagery (C9)			
Sediment D	Deposits (B2)	-	Oxidized Bhizospheres along Living Boots (C3)			Geomorphic Position (D2)			
Drift Depos	sits (B3)	-	Presence of Reduced Iron (C4)			Shallow Aguitard (D3)			
Algal Mat o	or Crust (B4)	-	Becent Iron Beduction in Tilled Soils (C6)			Frost-Heave Hummocks (D4)			
Iron Deposi	its (B5)	-	Stunted or Stressed Plants (D1) (LRR A)			FAC-Neutral Test (D5)			
Surface So	il Cracks (B6)	-	Other (Explain i	n Remarks)		Raised An	t Mounds (D6) (LRR	A)	
Inundation	Visible on Aerial Imag	gery (B7)							
ield Observa	ations:								
Surface Water	r Present? Yes	1	No X I	Depth (inches):					
Water Table F	Present? Yes	Х	No 0	Depth (inches):	10.5"	Wetland H	Hydrology Present?		
Saturation Pre	esent? Yes	Х	No 0	Depth (inches):	9"		Yes X	No	
(includes capil	llary fringe)			· · · / _		- 1			
Describe Reco	orded Data (stream ga	auge, monitor	ing well, aerial phot	os, previous inspe	ctions), if availa	ble:			
Remarke:									
The high grour	ndwater table is likely	a result of rec	cent rainfall.						
Data enterod h	av: C.IM Data a	hecked by:	ΙΔΗ						
	by. Oolwin Dala C	meened by	// M 1						

WET	LAND DETERM	INATION DA	TA FORM	– Western Mountair	ns, Valleys and C	oast Region	
Project/Site: East Sand Isla		City/Cou	nty: Clatsop	•	Sampling Date:	2/19/2014	
Applicant/Owner: U.S. Army Corps of Engineers				State: Oregon		Sampling Point:	3
Investigator(s): C. Jonas M		Section, Township, Rang	e: T9N R11W	_			
Landform (hillslope, terrace, e	tc.): <u>c</u>	gentle depression	1	Local relief (concave, convex, none): <u>none</u> Slope	e (%): <u>0</u>
Subregion (LRR):	LRR A		Lat: 46.264	Lon	g: <u>-123.967</u>	Datum: N	AD 83 UTM 10N
Soil Map Unit Name:	Tropopsamments, C	-15% slopes			NWI classificatio	n: E2USNS	
Are climatic / hydrologic condi	tions on the site typ	ical for this time	of year?	Ye	s <u>X</u> No	(If no, explain in	Remarks)
Are Vegetation	,Soil,	or Hydrology		significantly disturbed?	Are "Normal Cir	cumstances" present?	
					Ye	es X No	
Are Vegetation	,Soil,	or Hydrology		naturally problematic?	(If needed, explain	any answers in Remarks	.)
SUMMARY OF FINDIN	GS – Attach site	map showing s	sampling poin	t locations, transects, in	nportant features, etc	•	
Hydrophytic Vegetation Prese	ent? Y	es	No <u>X</u>	_			
Hydric Soil Present?	Y	es	No <u>X</u>	Is the Sampled Ar	ea		
Wetland Hydrology Present?	Y	es	No <u>X</u>	within a Wetland?	Yes	<u>No X</u>	<u> </u>
Remarks: Plot 3 is located in a low-eleva used for avian hazing.	ation gentle depress	ion, below the ca	alculated highe	st measured tide elevation	. It is approximately 40	feet east of an erosion	control fence
VEGETATION							
		Absolute	Domina	nt Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 50 f	ft.)	<u>% Cover</u>	Species	<u>Status</u>	Number of Dominar	nt Species	
1.					That Are OBL, FAC	W, or FAC: 1	(A)
2.							
3.					Total Number of Do	minant	
4.					Species Across All	Strata: 2	(B)
	Total Cove	er: 0%					
Sapling/Shrub Stratum (Plot s	size: 25 ft.)				Percent of Dominan	t Species	
1.					That Are OBL, FAC	W, or FAC: <u>50</u>	<u>%</u> (A/B)
2.					Prevalence Index	worksheet:	
3.					Total % Cover	of: Multiply by:	_
4.					OBL species	x 1 =	
5.					FACW species	x 2 =	
	Total Cove	er: 0%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)					FACU species	x 4 =	
1. Leymus mollis		60%	Yes	FACU	UPL species	x 5 =	
2. Poa annua		25%	Yes	FAC	Column Totals:	0 (A)	0 (B)
3. Poa species		10%	No	FAC ?	Prevalence In	dex = B/A =	
4. unknown herb		5%	No	?	Hydrophytic Veget	ation Indicators:	
5.					Dominance Tes	t is >50%	
6.					Prevalence Inde	ex is ≤3.0 ¹	
7.					Morphological A	daptations ¹ (Provide si	upporting
8.					data in Rema	arks or on a separate s	heet)
-	Total Cove	or: 95%			Wetland Non-V	ascular Plants ¹	,
Woody Vine Stratum (Plot Si	ize: 5 ft.)	JI. JJ/0			Problematic Hur	trophytic Vegetation ¹ (-
1					¹ Indicators of hydric	coil and wetland budro	
2					he present	son and wettand hydro	iogy must
	Total Original	00/			Hydronbytic Veget	ation	
% Raro Ground in Uarh Stratu		51. U%			Present?	Ves No	Y
70 Dare Ground in Herb Stratu	J76	_				100	<u>^</u>

Poa species was assumed to be FAC or wetter. Rosettes of an unknown herb were observed within the plot but were too young to identify; it was not a dominant species.

SOIL							Samp	ling Point:	3
Profile Descri	iption: (Describe to	the depth ne	eded to docume	nt the indicator or	confirm the al	osence of indicators	.)	0	
Depth	Matrix	[Redox Features						
(inches)	Color (moist)	%	Color (moist) % Type ¹			Loc2	Texture	Remai	rks
0-12	10YR3/2	99	10YR4/6	1	С	М	sand		
12-24	10YR3/1	95	10YR4/6	5	С	М	sand		
	. <u> </u>			. <u> </u>					
	<u> </u>								
				. <u> </u>					
Type: C=Con	centration, D=Depleti	on, RM=Redu	ced Matrix. ² Lo	ocation: PL=Pore Li	ining, RC=Root	Channel, M=Matrix.		2	
Hydric Soil Ind	dicators: (Applicable	e to all LRRs	, unless otherwis	se noted.)		Indicators for Pro	blematic Hydric Soils	:	
Histosol (A1)			Sandy Redox (S5)			2 cm Muck (A10)			
Histic Epipe	edon (A2)	-	Stripped Matrix	(S6)		Red Parent Material (TF2)			
Black Histic	c (A3)	_	Loamy Mucky	Mineral (F1) (excep	t MLRA 1)	Other (Explain	in Remarks)		
Hydrogen S	Sulfide (A4)	_	Loamy Gleyed	Matrix (F2)					
Depleted B	elow Dark Surface (A	.11)	Depleted Matri	x (F3)					
Thick Dark	Surface (A12)	-	Redox Dark Su	urface (F6)		31	and a strain and a strain and a		
Sandy Mucky Mineral (S1)			Depleted Dark	Surface (F7)					
Sandy Gley	ved Matrix (S4)	-	Redox Depressions (F8)			wetland hydrology must be present.			
Type:	200);					Hudrie Ceil Drees	nto Vee	No	v
Depth (Inch	ies):					Hydric Soll Prese	nt? Yes	NO	<u> </u>
HYDROLO Wetland Hydro	GY ology Indicators:					Secondary Ind	icators (2 or more requi	red)	
Primary Indicat	ors (any one indicato	r is sufficient)				Water-Stained Leaves (B9) (NW coast)			
Surface Water (A1)			Water-Stained Leaves (B9) (except NW coast)			Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)		-	Salt Crust (B11)			Drainage Patterns (B10)			
Saturation (A3)		-	Aquatic Invertebrates (B13)			Dry-Season Water Table (C2)			
Water Marks (B1)			Hydrogen Sulfi	de Odor (C1)		Saturation Visible on Aerial Imagery (C9)			
Sediment Deposits (B2)			Oxidized Rhizospheres along Living Roots (C3)			Geomorphic Position (D2)			
Drift Deposits (B3)			Presence of Reduced Iron (C4)			Shallow Aquitard (D3)			
Algal Mat or Crust (B4)			Recent Iron Reduction in Tilled Soils (C6)			Frost-Heave Hummocks (D4)			
Iron Deposits (B5)			Stunted or Stressed Plants (D1) (LRR A)			FAC-Neutral Test (D5)			
Surface Soil Cracks (B6)			Other (Explain in Remarks)			Raised Ant Mounds (D6) (LRR A)			
Inundation	Visible on Aerial Imag	gery (B7)							
Field Observa	tions:								
Surface Water	Present? Yes	Ν	No X	Depth (inches):					
Water Table P	resent? Yes	XN	No	Depth (inches):	14"	Wetland H	lydrology Present?		
Saturation Pre	- sent? Yes	XN	No	Depth (inches):	13"	-	Yes	No	Х
(includes capil	lary fringe)								
Describe Reco	orded Data (stream ga	auge, monitori	ing well, aerial pho	otos, previous inspe	ctions), if availa	ble:			
Remarks:									
The high groun	dwater table is likely	a result of rec	ent rainfall.						
Data entered b	oy: CJM Data c	hecked by: J	IAH						
WETLAND DE	ETERMINATION	DATA FORM – W	Vestern Mountaii	ns, Valleys and Co	oast Region				
---	----------------------------	------------------------	-------------------------	---	---	--------------------------------------	---------------------------		
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Da	ite:	2/19/2014		
Applicant/Owner: U.S. Army	Corps of Engineers		Sta	te: Oregon	Sampling Po	int:	4		
Investigator(s): C. Jonas Moiel, Jeff Ha	andley	Se	ction, Township, Rang	ge: T9N R11W					
Landform (hillslope, terrace, etc.):	gentle depres	ssion	Local relief (concave, convex, none)	: concave	Slope (%)): <u>0</u>		
Subregion (LRR): LRR A		Lat: 46.264	Lor	ng: <u>-123.968</u>	Datu	Im: NAD 8	33 UTM 10N		
Soil Map Unit Name: Tropopsam	iments, 0-15% slopes			NWI classification	E2USNS				
Are climatic / hydrologic conditions on the	e site typical for this ti	me of year?	Ye	es <u>X</u> No	(If no, exp	plain in Rem	iarks)		
Are vegetation,Soll	, or Hydrolog	ys	ignificantly disturbed?	Are "Normal Circ	umstances" pres	sent?			
Are Vegetation Soil	or Hydrolog	v n	aturally problematic?	(If needed, explain	$5 \land 100$	marke)			
SUMMABY OF FINDINGS - Att	ach site man showi	ng sampling point lo	cations transacts in		any answers in ne	inarks.)			
Hydrophytic Vegetation Present?	Yes X	No		nportant leatures, etc.					
Hydric Soil Present?	Yes X	No	Is the Sampled A	rea					
Wetland Hydrology Present?	Yes X	No	within a Wetland?	? Yes	X No				
Remarks:					<u></u>		_		
Plot 4 is located in a low-elevation gentle lower than Plot 8 (upland).	depression, below th	e calculated highest m	easured tide elevatior	n. Plot 4 is located appro	oximately 60 feet	southeas	t and 2 feet		
VEGETATION									
	Absolute	e Dominant	Indicator	Dominance Test we	orksheet:				
Tree Stratum (Plot size: 50 ft.)	<u>% Cove</u>	r <u>Species?</u>	Status	Number of Dominant	Species				
1				That Are OBL, FAC	N, or FAC:	2	(A)		
2									
3.				Total Number of Dor	ninant				
4.				Species Across All S	Strata:	2	(B)		
т	otal Cover:	_							
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominant	Species				
1. Sambucus racemosa	1%	No	FACU	That Are OBL, FAC	V, or FAC:	<u>100%</u>	(A/B)		
2				Prevalence Index w	orksheet:				
3				Total % Cover	of: <u>Multiply</u>	by:			
4.				OBL species	x 1 =				
5				FACW species	x 2 =		_		
т	otal Cover: 1%	_		FAC species	x 3 =		_		
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =		_		
1. Carex obnupta	45%	Yes	OBL	UPL species	x 5 =		_		
2. Holcus lanatus	40%	Yes	FAC	Column Totals:	0 (A)	0	(B)		
3. Iris pseudacorus	5%	No	OBL	Prevalence Inc	dex = $B/A =$				
4. Poa species	5%	No	FAC ?	Hydrophytic Vegeta	ation Indicators	:			
5. Digitalis purpurea	2%	No	FACU	X Dominance Test	is >50%				
6. Dipsacus fullonum	2%	No	FAC	Prevalence Inde	x is ≤3.0 ¹				
7. Rumex crispus	1%	No	FAC	Morphological Ad	daptations ¹ (Prov	vide suppo	orting		
				data in Rema	rks or on a sepa	rate sheet	:)		
8.									
8T	otal Cover: 100%			Wetland Non-Va	scular Plants ¹				
8 T <u>Woody Vine Stratum</u> (Plot Size: 5 ft.)	otal Cover: 100%			Wetland Non-Va Problematic Hyd	scular Plants ¹ rophytic Vegetat	ion ¹ (Expla	ain)		
8 <u>Woody Vine Stratum</u> (Plot Size: 5 ft.) 1	otal Cover: 100%			Wetland Non-Va Problematic Hyd ¹ Indicators of hydric	scular Plants ¹ rophytic Vegetat soil and wetland	ion ¹ (Expla hydrology	ain) [,] must		
8 <u>Woody Vine Stratum</u> (Plot Size: 5 ft.) 1 2	otal Cover: 100%			Wetland Non-Va Problematic Hyd ¹ Indicators of hydric be present.	scular Plants ¹ rophytic Vegetat soil and wetland	ion ¹ (Expla hydrology	ain) ^r must		
8T <u>Woody Vine Stratum</u> (Plot Size: 5 ft.) 1 2T	otal Cover: 100%			Wetland Non-Va Problematic Hyd ¹ Indicators of hydric be present. Hydrophytic Vegeta	scular Plants ¹ rophytic Vegetat soil and wetland ation	ion ¹ (Expla hydrology	ain) ^r must		

SOIL							Sar	npling Point: 4
Profile Descr	iption: (Describe to	the depth	needed to document	the indicator or	confirm the al	osence of indicators	5.)	
Depth	Matrix	<		Redox F	eatures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-8	10YR3/2	98	10YR4/6	2	С	М	sand	
8-20	10YR3/2	97	10YR4/6	3	С	M	sand	refusal at 20"
			<u> </u>					
			<u> </u>					
1								
'Type: C=Con	centration, D=Depleti	ion, RM=Red	duced Matrix. ² Loc	ation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		0
Hydric Soil In	dicators: (Applicabl	e to all LRR	ls, unless otherwise	noted.)		Indicators for Pro	oblematic Hydric So	ils³:
Histosol (A	1)		X Sandy Redox (S	5)		2 cm Muck (A	10)	
Histic Epipe	edon (A2)		Stripped Matrix (S6)		Red Parent M	aterial (TF2)	
Black Histic	c (A3)		Loamy Mucky Mi	neral (F1) (excep	t MLRA 1)	Other (Explain	n in Remarks)	
Hydrogen S	Sulfide (A4)		Loamy Gleyed M	atrix (F2)				
Depleted B	elow Dark Surface (A	(11)	Depleted Matrix	(F3)				
Thick Dark	Surface (A12)		Redox Dark Surf	ace (F6)		3		
Sandy Muc	ky Mineral (S1)		Depleted Dark S	urface (F7)		Indicators of hydro	ophytic vegetation an	d
Sandy Gley	yed Matrix (S4)		Redox Depression	ons (F8)		wetland hydrolog	gy must be present.	
Refusal at 20 in	nches likely due to bu	iried wood.						
HYDROLO	GY ology Indicators:					0	///0	
Primary Indicat	tors (any one indicato	r is sufficien	t)			Secondary Inc	incators (2 or more red	<u>quirea)</u>
		i io ounicien	Water Otained L			vvater-Sta	lined Leaves (B9) (NV	v coast)
Surface wa	ater (A1)		Water-Stained Lo	eaves (B9) (exce	DI NW COASI)	Sparsely \	Vegetated Concave S	urface (B8)
X Fign Water	(A2)		Salt Crust (BTT)	(D12)		Drainage i	Patterns (BTU)	
X Saturation	(A3) ka (B1)		Aqualic Invertebr			Dry-Seaso		
Sodimont F	NS (DT)				a Pooto (C2)	Saturation	i visible on Aenai Ima	gery (C9)
Drift Dopos	vite (B2)		OXIUIZED HIIZOS	ucod Iron (C4)	y houis (03)	<u>Geomorp</u>		
Algel Matio	or Crust (B4)		Becent Iron Bed	uction in Tilled So		Erost-Hea	ve Hummocks (D4)	
Iron Denos	its (B5)		Stunted or Stress	sed Plants (D1) (I	BR ()	EAC-Neut	ral Test (D5)	
Surface So	il Cracks (B6)		Other (Explain in	Remarks)		Raised An	t Mounds (D6) (LRR	A)
Inundation	Visible on Aerial Imag	perv (B7)		(internet)				/
Field Observa	ations:	5-3()						
Surface Wate	r Present? Voc			anth (inchas):				
Water Table F	Present? Ves	x		epth (inches):	۵"		Hydrology Present?	
Saturation Pre	sent? Vee	×		enth (inches).	9 8"			No
(includes capil	llary fringe)	~		-/	0	-	103 <u>A</u>	
Describe Reco	orded Data (stream g	auge, monito	oring well, aerial photo	s, previous inspe	ctions), if availa	ble:		
Burnel								
Remarks:								
Doto ontono di								
Data entered t	Jy UJIVI Data (snecked by:	υAΠ					

		$\mathbf{A} = \mathbf{A} + \mathbf{O} + \mathbf{W}$	estern Mountains	s, valleys and Co	bast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/19/2014
Applicant/Owner: U.S. Army Corps	of Engineers		State	: Oregon	Sampling Point:	5
Investigator(s): C. Jonas Moiel, Jeff Handley	/	Sec	ction, Township, Range	: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle depressior	1	Local relief (co	oncave, convex, none): <u>none</u> Slope (%): <u>0</u>
Subregion (LRR): LRR A		Lat: 46.264	Long	: -123.967	Datum: NAI	O 83 UTM 10N
Soil Map Unit Name: Water				NWI classification	n: E2USNS	
Are climatic / hydrologic conditions on the site t	typical for this time	of year?	Yes	X No	(If no, explain in R	emarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Circ	cumstances" present?	
				Ye	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain	any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach s	ite map showing s	ampling point loo	cations, transects, imp	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes X	No	is the Sampled Area	а		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	<u>X</u> No	
Remarks: Plot 5 is located in a low-elevation gentle depre in elevation than Plot 6 (upland).	ession, below the ca	alculated highest m	easured tide elevation.	Plot 5 is located appro	oximately 65 feet north a	and 2 feet lowe
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominan	t Species	
1				That Are OBL, FAC	W, or FAC: 4	(A)
3.				Total Number of De	minont	
4.						(D)
Total C	0%			Species Across Air a	517did. <u>4</u>	(D)
Sapling/Shrub Stratum (Plot size: 25 ft.)	over. 078			Percent of Dominan	t Snecies	
	25%	Voo	EACIN	That Aro ORL EAC	100% or EAC: $100%$	(A/P)
2.	33%	165	FAGW	Provalence Index v	workshoot:	<u> </u>
3.				Total % Cover	of: Multiply by:	
4				OBL species	x 1 –	
5				FACW species	x 2 =	
	25%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft)	over. 35%			FACI I species	x 4 -	
1 Agrostic species	10%	Voc			x 5 =	
2 Holous longtun	40 /8	Vee		Column Totals:	(A)	(B)
	30%	Vee		Prevalence In	(/)	(D)
	20%	No	EACU	Hydronhytic Veget	ation Indicators:	
	19/	<u></u> No		X Dominance Test	is >50%	
6	1 76	<u> </u>	OBL	Revalence Inde	$x = (3, 200, 0)^{1}$	
7				Morphological A	∧ is ⊒0.0 daptations ¹ (Provido sur	porting
8				data in Bema	uapialions (Frovide Sup	porting
	100%			Wotland Non Vo	and a separate site	501)
Total G Woody Vino Stratum (Plot Sizo: 5 ft.)	over. 100%				isculal Fidilis	(nicin)
1				Problematic Hyd		(piairi)
۰ ۶			·	haicators of hydric	son and wetland hydrolo	yy must
				Be present.	ation	
l otal C	over:			inyurophytic veget		
2/ Dave Orecard in Llack Obstance				Drocont?		

Dopth							Sam	piling Folint. J
Dopth	ription: (Describe to	the depth	needed to document	the indicator or co	nfirm the ab	sence of indicators	5.)	
Deptii	Matrix	x		Redox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc2	Texture	Remarks
0-4	10YR3/2	100	no redox				sand	
4-24	10YR3/2	91	10YR4/6	4	C	<u>M</u>	sand	
			10YR2/1	5	D	M		
ype: C=Cor	ncentration, D=Deplet	ion, RM=Re	duced Matrix. ² Loca	ation: PL=Pore Lining	g, RC=Root	Channel, M=Matrix.	·	
ydric Soil In	dicators: (Applicabl	e to all LRF	Rs, unless otherwise	noted.)		Indicators for Pro	oblematic Hydric Soils	s ³ :
Histosol (A	.1)		X Sandy Redox (S5	5)		2 cm Muck (A	10)	
Histic Epip	edon (A2)		Stripped Matrix (S	S6)		Red Parent Ma	aterial (TF2)	
Black Histi	c (A3)		Loamy Mucky Mir	neral (F1) (except M	LRA 1)	Other (Explain	in Remarks)	
Hydrogen	Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)				
Depleted E	Below Dark Surface (A	A11)	Depleted Matrix (F3)				
Thick Dark	Surface (A12)		Redox Dark Surfa	ace (F6)				
Sandy Muc	cky Mineral (S1)		Depleted Dark Su	urface (F7)		³ Indicators of hydro	ophytic vegetation and	
Sandy Gle	yed Matrix (S4)		Redox Depressio	ons (F8)		wetland hydrolog	gy must be present.	
	GY							
IYDROLO	GY rology Indicators:					Secondary Ind	licators (2 or more requ	uired)
IYDROLO /etland Hydr	GY ology Indicators: tors (any one indicato	or is sufficier	ht)			Secondary Inc Water-Sta	licators (2 or more required Leaves (B9) (NW	<u>uired)</u> coast)
IYDROLO Vetland Hydr rimary Indica Surface W	GY rology Indicators: tors (any one indicato ater (A1)	or is sufficier	nt) Water-Stained Le	eaves (B9) (except N	W coast)	Secondary Ind Water-Sta Sparsely V	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur	<u>uired)</u> coast) rface (B8)
VDROLO Vetland Hydr rimary Indica _ Surface W	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2)	or is sufficier	nt) Water-Stained Le Salt Crust (B11)	eaves (B9) (except N	W coast)	<u>Secondary Inc</u> Water-Sta Sparsely \ Drainage I	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10)	<u>uired)</u> coast) rface (B8)
YDROLO /etland Hydr rimary Indica Surface W (High Wate (Saturation	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3)	or is sufficier	nt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr	eaves (B9) (except N ates (B13)	W coast)	Secondary Inc Water-Sta Sparsely V Drainage F Dry-Seasc	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2)	<u>uired)</u> coast) rface (B8)
VDROLO (etland Hydr rimary Indica Surface W High Wate Saturation Water Mar	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1)	or is sufficier	nt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	eaves (B9) (except N ates (B13) • Odor (C1)	W coast)	Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seaso Saturation	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image	<u>uired)</u> coast) rface (B8) ery (C9)
YDROLO Yetland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	or is sufficier	nt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) (except N ates (B13) • Odor (C1) oheres along Living R	W coast)	Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seasc Saturation Geomorph	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2)	<u>uired)</u> coast) rface (B8) ery (C9)
IYDROLO Ietland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	or is sufficier	nt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	eaves (B9) (except N ates (B13) • Odor (C1) »heres along Living R uced Iron (C4)	W coast) oots (C3)	Secondary Inc Water-Sta Sparsely V Drainage I Dry-Seaso Saturation Geomorph Shallow A	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3)	<u>uired)</u> coast) rface (B8) ery (C9)
Vetland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat d	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	or is sufficier	tt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	eaves (B9) (except N ates (B13) • Odor (C1) oheres along Living R uced Iron (C4) uction in Tilled Soils (W coast) oots (C3) C6)	Secondary Inc Water-Sta Sparsely V Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Hea	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4)	<u>uired)</u> coast) rface (B8) ery (C9)
IYDROLO /etland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat c Iron Depos	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	or is sufficier	tt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) (except N ates (B13) • Odor (C1) • oheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR	W coast) oots (C3) C6) A)	Secondary Inc Water-Sta Sparsely V Drainage F Dry-Seasc Saturation Geomorph Shallow A Frost-Hear X FAC-Neut	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5)	<u>uired)</u> coast) rface (B8) ery (C9)
YDROLO (etland Hydr rimary Indica Surface W Gaturation Water Mar Sediment I Drift Depos Algal Mat c Iron Depos Surface Sc	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6)	or is sufficier	tt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) (except N ates (B13) • Odor (C1) oheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR Remarks)	W coast) oots (C3) C6) A)	Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seasc Saturation Geomorph Shallow Ad Frost-Heat X FAC-Neut	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	<u>uired)</u> coast) rface (B8) ery (C9)
YDROLO retland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Imag	or is sufficier	nt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) (except N ates (B13) • Odor (C1) wheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR Remarks)	W coast) oots (C3) C6) A)	Secondary Inc Water-Sta Sparsely V Drainage R Dry-Seasc Saturation Geomorph Shallow A Frost-Hear X FAC-Neut Raised An	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	<u>uired)</u> coast) rface (B8) ery (C9)
Vetland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Iron Depos Surface Sc Inundation	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial Imag ations:	or is sufficier	tt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) (except N ates (B13) • Odor (C1) oheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR Remarks)	W coast) oots (C3) C6) A)	Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Hear X FAC-Neuti Raised An	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A	<u>uired)</u> coast) rface (B8) ery (C9)
YDROLO Yetland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat c Iron Depos Surface Sc Inundation Surface Wate	GY ology Indicators: tors (any one indicators) ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Imagentiations: ations: or Present? Yes	or is sufficier gery (B7)	nt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in No X D	eaves (B9) (except N ates (B13) • Odor (C1) • oheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR Remarks) epth (inches):	W coast) oots (C3) C6) A)	Secondary Inc Water-Sta Sparsely V Drainage F Dry-Seasc Saturation Geomorph Shallow Ad Frost-Heat X FAC-Neut Raised An	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A	<u>uired)</u> coast) rface (B8) ery (C9)
YDROLO (etland Hydr rimary Indica Surface W (High Wate (Saturation Water Mar Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation ield Observa Surface Wate Vater Table F	GY ology Indicators: tors (any one indicators) ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial Imagentiations: attons: Present? Yes	gery (B7)	tt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in No X Do	eaves (B9) (except N ates (B13) Odor (C1) wheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR Remarks) epth (inches):	W coast) oots (C3) C6) A)	Secondary Inc Water-Sta Sparsely V Drainage F Dry-Seasc Saturation Geomorph Shallow Ar Frost-Hear X FAC-Neut Raised An	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A	uired) coast) rface (B8) ery (C9)
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YDROLO Vetland Hydr Yrimary Indica Surface W High Wate Saturation Water Mar Sediment I Orift Depos Algal Mat o Iron Depos Surface So Inundation ield Observa Surface Wate Vater Table F Saturation Pre includes capi	GY ology Indicators: tors (any one indicator ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial Imag tor Present? Yes Present? Yes esent? Yes esent? Yes llary fringe)	gery (B7)	t) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in No X Du No Du oring well, aerial photo	eaves (B9) (except N ates (B13) • Odor (C1) • oheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR Remarks) epth (inches): epth (inches): s, previous inspection	W coast) oots (C3) C6) A) <u>3"</u> 2"	Secondary Inc Water-Sta Sparsely V Drainage F Dry-Seasc Saturation Geomorph Shallow Ad Frost-Heat X FAC-Neut Raised An Wetland F	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A Hydrology Present? Yes X	<u>uired)</u> coast) rface (B8) ery (C9)
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YDROLO Tetland Hydr rimary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation Teld Observa Surface Water Vater Table F aturation Pre- ncludes capi lescribe Reco Iemarks:	GY ology Indicators: tors (any one indicators) ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Imagentiations: or Present? Yes Present? Yes esent? Yes llary fringe) orded Data (stream g	gery (B7)	tt)Water-Stained LeSalt Crust (B11)Aquatic InvertebrHydrogen SulfideOxidized RhizospPresence of ReduRecent Iron ReduStunted or StressOther (Explain inNoDDNoDDD	eaves (B9) (except N ates (B13) © Odor (C1) oheres along Living R uced Iron (C4) uction in Tilled Soils (sed Plants (D1) (LRR Remarks) epth (inches): epth (inches): s, previous inspection	W coast) oots (C3) C6) A) <u>3"</u> 2"	Secondary Inc Water-Sta Sparsely V Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Hear X FAC-Neuti Raised An Wetland H	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A Hydrology Present? Yes X	<u>uired)</u> coast) rface (B8) ery (C9)
YDROLO etland Hydr imary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation eld Observa Vater Table F aturation Pre ncludes capi Describe Rec	GY rology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial Image ations: r Present? Yes esent? Yes esent? Yes llary fringe) orded Data (stream g	gery (B7)	tt) Water-Stained Le Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in No Du No Du oring well, aerial photo	eaves (B9) (except N ates (B13) • Odor (C1) • oheres along Living R uced Iron (C4) uction in Tilled Soils (ed Plants (D1) (LRR Remarks) epth (inches): epth (inches): s, previous inspection	W coast) oots (C3) C6) A) 3" 2"	Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Hear X FAC-Neuth Raised An Wetland H	licators (2 or more requ ined Leaves (B9) (NW /egetated Concave Sur Patterns (B10) on Water Table (C2) Visible on Aerial Image nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A Hydrology Present? Yes X	<u>uired)</u> coast) rface (B8) ery (C9)

WETLAND DE	TERMINATION DA	TA FORM – W	estern Mountain	s, Valleys and Co	ast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/19/2014
Applicant/Owner: U.S. Army C	Corps of Engineers		State	: Oregon	Sampling Point:	6
Investigator(s): C. Jonas Moiel, Jeff Har	ndley	Sec	tion, Township, Range	: T9N R11W		
Landform (hillslope, terrace, etc.):	low elevation ben	ch	Local relief (c	oncave, convex, none)	: convex Slop	e (%): 2
Subregion (LRR): LRR A		Lat: 46.264	Long	: -123.967	Datum: N	IAD 83 UTM 10N
Soil Map Unit Name: Water				NWI classification	E2USNS	
Are climatic / hydrologic conditions on the	site typical for this time of	of year?	Yes	X No	(If no, explain ir	n Remarks)
Are Vegetation ,Soil	, or Hydrology	si	ignificantly disturbed?	Are "Normal Circ	umstances" present?	
				Yes	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain	any answers in Remarks	s.)
SUMMARY OF FINDINGS – Atta	ch site map showing s	ampling point loc	cations, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Are	а		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	x
Remarks:						
Plot 6 is located on a low-elevation bench Plot 5 (wetland).	near the calculated high	est measured tide	elevation. Plot 6 is app	roximately 60 feet sout	h and 2 feet higher in	elevation than
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test wo	orksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant	Species	
1.				That Are OBL, FACV	V, or FAC:	0 (A)
2.						
3.				Total Number of Don	ninant	
4.				Species Across All S	trata:	1 (B)
То	tal Cover: 0%			-,		()
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominant	Species	
^{1.} Rubus armeniacus	1%	No	FACU	That Are OBL. FACV	V. or FAC: <u>0</u>	<u>%</u> (A/B)
2.				Prevalence Index w	orksheet:	
3.				Total % Cover of	of: Multiply by:	
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
Το	tal Cover: 1%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Levmus mollis	90%	Yes	FACU	UPL species	x 5 =	
2. Cardamine birsuta	5%	No	FACU	Column Totals:	0 (A)	0 (B)
3. Lamium purpureum	5%	No	UPL	Prevalence Ind	lex = B/A =	<u> </u>
4.				Hydrophytic Vegeta	tion Indicators:	
5.				Dominance Test	is >50%	
6.				Prevalence Index	$is \leq 3.0^1$	
7				Morphological Ac	lantations ¹ (Provide s	supporting
8				data in Remai	rks or on a separate s	sheet)
···	tal Covor: 100%			Wetland Non-Var	ecular Plante ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hydr	$\frac{1}{2}$	(Evolain)
1				¹ Indicators of hydric (opinytic vegetation (
2				he present		ology must
Z	hall Querran 200/			Be present.	tion	
10	0%			Broson+2		v
o bare Ground In Herb Stratum	U%			FIESEIIL?	105 NO	<u>^</u>
Remarks:	d was not considered de	minant				
nuous anneniacus nau very iow cover an	u was nut considered do	ninialit.				

Profile Descr							oump	ing rom.	0
	iption: (Describe to	the depth n	eeded to docume	nt the indicator or	confirm the at	sence of indicators	.)	Ŭ	
Depth	Matrix	(Redox F	eatures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Rema	arks
0-16	10YR3/2	100	no redox				sand		
16-24	10YR3/2	97	10YR4/6	3	С	М	sand		
	·								
				. <u> </u>					
				<u> </u>					
			2.						
lype: C=Con	icentration, D=Deplet	ion, RM=Red	uced Matrix. Lo	cation: PL=Pore Li	ning, RC=Root	Channel, M=Matrix.		3	
lydric Soil In	dicators: (Applicabl	e to all LRRs	s, unless otherwis	e noted.)		Indicators for Pro	blematic Hydric Soils	:	
Histosol (A	1)	-	Sandy Redox (S5)		2 cm Muck (A	10) (TEO)		
Histic Epipe	edon (A2)	-	Stripped Matrix	(S6) Minerel (E1) (evened		Red Parent Ma	aterial (TF2)		
BIACK HISTIC	C (A3)	-		Materia (FI) (except	(MLKAI)	Other (Explain	In Remarks)		
Hydrogen a	Sulfide (A4)	-	Loamy Gleyed	Matrix (F2)					
Depieted B	Surface (A12)	-	Depleted Math	x (F3)					
Sandy Muc	Surface (ATZ)	-	Neulox Dark Su	Surface (F7)		³ Indicators of hydro	ophytic vegetation and		
Sandy Glev	ved Matrix (S4)	-	Bedox Depress	sions (F8)		wetland hydrolog	w must be present		
	, ou main (0 1)	-					,,		
Restrictive La	iyer (if present):								
Type:									
Donth (inch	200)					Undria Cail Drago	mt0 Vaa		~
Depth (inch Remarks:	nes):					Hydric Soil Prese	nt? Yes	No	<u> </u>
Depth (inch Remarks: HYDROLO Wetland Hydr	GY					Hydric Soil Prese	nt? Yes	No	<u>x</u>
Depth (inch Remarks: HYDROLO Wetland Hydr Primary Indica	GY Gly Indicators: tors (any one indicato	r is sufficient)				Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of	No	<u> </u>
Depth (inch Remarks: HYDROLO Wetland Hydr Primary Indicat Surface Wi	GY Gy ology Indicators: tors (any one indicato ater (A1)	r is sufficient)	Water-Stained	Leaves (B9) (excer	ot NW coast)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of regetated Concave Surf	No red) coast) ace (B8)	<u> </u>
Depth (inch Remarks: HYDROLO Wetland Hydr Primary Indica Surface Wa High Wate	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2)	r is sufficient	Water-Stained Salt Crust (B11	Leaves (B9) (excep)	ot NW coast)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of 'egetated Concave Surf Patterns (B10)	No red) coast) ace (B8)	<u> </u>
Depth (inch Remarks: HYDROLO Wetland Hydr Primary Indica Surface Wa High Water Saturation	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3)	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte	Leaves (B9) (excep) brates (B13)	ot NW coast)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of 'egetated Concave Surf Patterns (B10) n Water Table (C2)	<u>red)</u> :oast) ace (B8)	
Depth (inch Remarks: HYDROLO Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Marl	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1)	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic	Leaves (B9) (excep) brates (B13) de Odor (C1)	ot NW coast)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image	<u>red)</u> coast) ace (B8)	
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa High Water Saturation Water Mard Sediment I	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin	ot NW coast) g Roots (C3)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of regetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2)	<u>red)</u> coast) ace (B8) ry (C9)	
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa High Water Saturation Water Marl Sediment I Drift Depos	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4)	ot NW coast) g Roots (C3)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of 'egetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3)	<u>red</u>) :coast) ace (B8) ry (C9)	<u> </u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa High Water Saturation Water Mart Sediment I Drift Depos Algal Mat c	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi	pt NW coast) g Roots (C3) ls (C6)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of egetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) re Hummocks (D4)	<u>red)</u> :oast) ace (B8) ry (C9)	<u> </u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wi High Water Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5)	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L	g Roots (C3) Is (C6) RR A)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5)	red) coast) ace (B8) ry (C9)	<u> </u>
Depth (inch Remarks: HYDROLO Wetland Hydr Primary Indica Surface Wa Gurface Wa Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Surface So	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) iil Cracks (B6)	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks)	g Roots (C3) Is (C6) RR A)	Hydric Soil Prese	icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	red) coast) ace (B8) ry (C9)	<u> </u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) iil Cracks (B6) Visible on Aerial Imag	r is sufficient) - - - - - - - - - - - - - - - - - - -	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks)	g Roots (C3) Is (C6) RR A)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of 'egetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) /e Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	<u>red)</u> :oast) ace (B8) ry (C9)	<u></u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation Field Observa	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) iil Cracks (B6) Visible on Aerial Imag titions:	r is sufficient - - - - - - - - - - - - - - - - - - -	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks)	g Roots (C3) Is (C6) RR A)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of egetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) re Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	No red) coast) ace (B8) ry (C9)	<u>x</u>
Depth (inc) Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wi Gaturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Field Observa Surface Wate	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) bil Cracks (B6) Visible on Aerial Imag titions: r Present? Yes	r is sufficient) - - - - - - - - - - - - - - - - - - -	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches):	g Roots (C3) Is (C6) RR A)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) /e Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	No red) coast) ace (B8) ry (C9)	<u> </u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wi Gaturation Water Marl Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Field Observa Surface Wate Water Table F	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) sil Cracks (B6) Visible on Aerial Imag tions: r Present? Yes	r is sufficient) - - - - - - - - - - - - - - - - - - -	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches):	ot NW coast) g Roots (C3) ls (C6) RR A)	Hydric Soil Prese	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) //e Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	red) coast) ace (B8) ry (C9)	<u> </u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa High Water Saturation Water Marl Sediment D Drift Depos Algal Mat c Iron Depos Surface So Inundation Field Observa Surface Wate Water Table F Saturation Pre	GY ology Indicators: tors (any one indicator) ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) sil Cracks (B6) Visible on Aerial Imagentions: r Present? Yes esent? Yes	r is sufficient) - - - - - - - - - - - - - - - - - - -	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches): Depth (inches):	ot NW coast) g Roots (C3) ls (C6) RR A) >24"	Hydric Soil Prese Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Heav FAC-Neutr Raised An	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of 'egetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) ve Hummocks (D4) 'al Test (D5) t Mounds (D6) (LRR A) Hydrology Present? Yes	<u>red</u>) :oast) ace (B8) ry (C9)	x
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation Field Observa Surface Wate Water Table F Saturation Pre (includes capi	GY ology Indicators: tors (any one indicators) ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) wil Cracks (B6) Visible on Aerial Imagentions: r Present? Yes essent? Yes llary fringe)	r is sufficient - - - - - - - - - - - - - - - - - - -	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches): Depth (inches):	pt NW coast) g Roots (C3) ls (C6) RR A)	Hydric Soil Prese Secondary Ind Water-Sta Sparsely W Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Heav FAC-Neutr Raised An	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of 'egetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A) Hydrology Present? Yes	<u>red</u>) :coast) ace (B8) ry (C9)	<u>x</u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Field Observa Surface Wate Water Table F Saturation Pre (includes capi Describe Reco	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) oil Cracks (B6) Visible on Aerial Imag titons: r Present? Yes Present? Yes Present? Yes llary fringe) orded Data (stream g	r is sufficient 	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain No X No X No X	Leaves (B9) (exception) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches): Depth (inches): Depth (inches):	bt NW coast) g Roots (C3) ls (C6) RR A) >24" >24"	Hydric Soil Prese Secondary Ind Water-Sta Sparsely W Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Heav FAC-Neuti Raised An Wetland H ble:	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A) Hydrology Present? Yes	No	<u>x</u>
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wi High Water Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation Field Observa Surface Wate Water Table F Saturation Pre (includes capi Describe Reco	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) bil Cracks (B6) Visible on Aerial Imag titions: r Present? Yes Present? Yes Present? Yes llary fringe) orded Data (stream g	r is sufficient)	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (exception) brates (B13) de Odor (C1) spheres along Living educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches): Depth (inches): Depth (inches):	bt NW coast) g Roots (C3) ls (C6) RR A) >24" >24"	Hydric Soil Prese Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Heav FAC-Neutri Raised An Wetland H ble:	nt? Yes icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) /e Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A) Hydrology Present? Yes	No red) coast) ace (B8) ry (C9)	X
Depth (inch Remarks: HYDROLOO Wetland Hydr Primary Indicat Surface Wa Saturation Water Marl Saturation Drift Depos Algal Mat co Iron Depos Surface So Inundation Field Observa Surface Wate Water Table F Saturation Pre (includes capi Describe Reco	GY ology Indicators: tors (any one indicato ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) sil Cracks (B6) Visible on Aerial Imag tions: r Present? Yes Present? Yes esent? Yes esent? Yes llary fringe) orded Data (stream g	r is sufficient	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (excep) brates (B13) de Odor (C1) spheres along Livin educed Iron (C4) eduction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches): Depth (inches): Depth (inches):	ot NW coast) g Roots (C3) ls (C6) RR A) >24" >24"	Hydric Soil Prese Secondary Ind Water-Sta Sparsely V Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Hear FAC-Neutr Raised An Wetland H ble:	icators (2 or more requi ined Leaves (B9) (NW of Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) //e Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	<u>red)</u> coast) ace (B8) ry (C9)	<u>x</u>
Depth (incl Remarks: HYDROLOO Vetland Hydr Primary Indicat Surface Wa Saturation Water Marl Sediment I Orift Depos Algal Mat c Iron Depos Surface So Inundation Field Observa Surface Wate Water Table F Saturation Pre- (includes capi Describe Reco Remarks: Soils were note	GY ology Indicators: tors (any one indicator ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) wil Cracks (B6) Visible on Aerial Imagentiations: r Present? Yes Present? Yes easent? Yes llary fringe) orded Data (stream g ed to be moist during	r is sufficient, 	Water-Stained Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain No X No X No X ing well, aerial pho	Leaves (B9) (exception) brates (B13) de Odor (C1) spheres along Living duction in Tilled Soi essed Plants (D1) (L in Remarks) Depth (inches): Depth (inches): Depth (inches):	ot NW coast) g Roots (C3) ls (C6) RR A) >24" >24"	Hydric Soil Prese Secondary Ind Water-Sta Sparsely W Drainage F Dry-Seaso Saturation Geomorph Shallow Ad Frost-Heav FAC-Neutr Raised An Wetland H ble:	icators (2 or more requi ined Leaves (B9) (NW of egetated Concave Surf Patterns (B10) n Water Table (C2) Visible on Aerial Image ic Position (D2) quitard (D3) re Hummocks (D4) ral Test (D5) t Mounds (D6) (LRR A)	No red) coast) ace (B8) ry (C9)	<u>x</u>

WETLAND DET	ERMINATION D	ATA FORM – W	estern Mountair	ns, Valleys and C	Coast Region	
Project/Site: East Sand Island		City/County:	Clatsop	-	Sampling Date:	2/19/2014
Applicant/Owner: U.S. Army Co	rps of Engineers		Stat	te: Oregon	Sampling Point:	7
Investigator(s): C. Jonas Moiel, Jeff Hand	lley	Sec	tion, Township, Rang	e: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle depressio	in	Local relief (concave, convex, non	e): concave Slope	(%): 0
Subregion (LRR): LRR A		Lat: 46.264	Lon	ıg: -123.968	Datum: NA	D 83 UTM 10N
Soil Map Unit Name: Water			_	NWI classification	on: E2USNS	
Are climatic / hydrologic conditions on the si	te typical for this time	of year?	Ye	es X No	(If no, explain in F	(emarks)
Are Vegetation,Soil	, or Hydrology	si	gnificantly disturbed?	Are "Normal Ci	rcumstances" present?	
				Y	res <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, expla	in any answers in Remarks.)	
SUMMARY OF FINDINGS – Attac	h site map showing	sampling point loc	ations, transects, in	nportant features, et	с.	
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes X	No	Is the Sampled Ar	ea		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes_	X No	
Remarks: Plot 7 is located in a low-elevation gentle de lower than Plot 8 (upland).	epression, lower in ele	vation than the calc	ulated highest measu	red tide. Plot 7 is appr	oximately 60 feet northea	st and 1 foot
VEGETATION						
Trac Otrature (Dist size: 50.4)	Absolute	Dominant	Indicator	Dominance Test	worksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	int Species	
 Fraxinus latifolia 2 	1%	No	FACW	That Are OBL, FA	CW, or FAC: 3	(A)
3				Tabal New York (D		
4					ominant	
Sapling/Shrub Stratum (Plot size: 25 ft.) 1.				Percent of Domina That Are OBL, FAG Prevalence Index Total % Cove OBL species FACW species	nt Species CW, or FAC: <u>1009</u> worksheet: rr of: <u>Multiply by:</u> x 1 = x 2 =	<u>∞ (</u> A/B) -
Tota	Cover: 0%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Agrostis species	45%	Yes	FAC ?	UPL species	x 5 =	
2. Carex obnupta	30%	Yes	OBL	Column Totals:	0 (A)	0 (B)
3. Juncus effusus	20%	Yes	FACW	Prevalence I	ndex = B/A =	<u> </u>
4. Digitalis purpurea	4%	No	FACU	Hydrophytic Vege	etation Indicators:	
5. Dipsacus fullonum	1%	No	FAC	X Dominance Te	st is >50%	
6.				Prevalence Inc	lex is ≤3.0 ¹	
7.				Morphological	Adaptations ¹ (Provide sur	oporting
8.				data in Rem	narks or on a separate sh	eet)
Tota	Cover: 100%			Wetland Non-\	/ascular Plants ¹	,
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hy	drophytic Vegetation ¹ (E)	xolain)
1.				¹ Indicators of hydri	c soil and wetland hydrold	av must
2.				be present.		ygy maet
Tota	Cover: 0%			Hydrophytic Vege	etation	
% Bare Ground in Herb Stratum 0	%			Present?	Yes X No	
Remarks: Agrostis species was assumed to be FAC of	- or wetter. <i>Fraxinus lati</i>	<i>folia</i> had very low c	over and was not con	sidered a dominant.		

SOIL							Samp	ing Point: 7
Profile Descripti	ion: (Describe to	the dept	n needed to docum	ent the indicator or	confirm the al	bsence of indicate	ors.)	
Depth	Matrix	x		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-6	10YR3/1	100	no redox		•••		sand	
6-24	10YR3/1	97	10YR3/4	3	С	M	sand	
¹ Type: C=Concer	ntration, D=Deplet	ion, RM=R	educed Matrix. ²	ocation: PL=Pore L	ining, RC=Root	Channel, M=Matrix	κ.	
Hydric Soil Indic	ators: (Applicabl	e to all LF	Rs, unless otherw	ise noted.)		Indicators for F	Problematic Hydric Soils	3
Histosol (A1)			X Sandy Redox	(S5)		2 cm Muck	(A10)	
Histic Epipedo	on (A2)		Stripped Matr	ix (S6)		Red Parent	Material (TF2)	
Black Histic (A	A3)		Loamy Mucky	Mineral (F1) (excep	ot MLRA 1)	Other (Expla	ain in Remarks)	
Hydrogen Sulf	ide (A4)		Loamy Gleye	d Matrix (F2)				
Depleted Belo	w Dark Surface (A	A11)	Depleted Mat	rix (F3)				
Thick Dark Su	Irface (A12)		Redox Dark S	Surface (F6)				
Sandy Mucky	Mineral (S1)		Depleted Dar	k Surface (F7)		³ Indicators of hy	drophytic vegetation and	
Sandy Gleyed	Matrix (S4)		Redox Depre	ssions (F8)		wetland hydro	logy must be present.	
Restrictive Layer	r (if present):							
Type:	,							
Depth (inches)):					Hydric Soil Pre	sent? Yes X	No
Remarks:								
nomano.								
HYDROLOGY	,							
Wetland Hydrolo	gy Indicators:					Secondary I	ndicators (2 or more requi	red)
Primary Indicators	(any one indicato	or is sufficie	ent)			Water-S	Stained Leaves (B9) (NW c	oast)
Surface Water	r (A1)		Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely	y Vegetated Concave Surf	ace (B8)
X High Water Ta	able (A2)		Salt Crust (B	1)		Drainag	e Patterns (B10)	
X Saturation (A3	3)		Aquatic Inver	ebrates (B13)		Dry-Sea	son Water Table (C2)	
Water Marks ((B1)		Hydrogen Su	fide Odor (C1)		Saturati	on Visible on Aerial Image	ry (C9)
Sediment Dep	osits (B2)		Oxidized Rhiz	ospheres along Livir	ng Roots (C3)	Geomor	phic Position (D2)	
Drift Deposits	(B3)		Presence of F	Reduced Iron (C4)		Shallow	Aquitard (D3)	
Algal Mat or C	rust (B4)		Recent Iron F	eduction in Tilled So	ils (C6)	Frost-He	eave Hummocks (D4)	
Iron Deposits	(B5)		Stunted or St	ressed Plants (D1) (I	RR A)	X FAC-Ne	utral Test (D5)	
Surface Soil C	cracks (B6)		Other (Explai	n in Remarks)		X Raised	Ant Mounds (D6) (LRR A)	
Inundation Vis	ible on Aerial Ima	gery (B7)						
Field Observatio	ns:							
Surface Water Pr	resent? Yes		No X	Depth (inches):				
Water Table Pres	sent? Yes	х	No	Depth (inches)	10.5"		d Hydroloav Present?	
Saturation Prese	nt? Yes	X	No	Depth (inches):	9.5"	-	Yes X	No
(includes capillar)	y fringe)				0.0	_		
Describe Recorde	ed Data (stream g	auge, mon	itoring well, aerial pl	iotos, previous inspe	ctions), if availa	ble:		
Demender								
Hummocky veget	ation: it was uncle	ar if the hu	mmocks were a res	lt of frost-heaving (Γ	04) or ant mound	ds (D6).		
					,	(/-		
Data critera d la		abachart						
Data entered by:	UJIVI Data (unecked by	, JAH					

	ETERMINATION D	ATA FORM – V	Vestern Mountains	s, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop	-	Sampling Date:	2/19/2014
Applicant/Owner: U.S. Army	Corps of Engineers		State:	Oregon	Sampling Point:	8
Investigator(s): C. Jonas Moiel, Jeff Ha	andley	Se	ction, Township, Range:	T9N R11W	_	
Landform (hillslope, terrace, etc.):	low elevation be	nch	Local relief (co	ncave, convex, none): <u>convex</u> Slope	e (%): <u>0</u>
Subregion (LRR): LRR A		Lat: 46.264	Long:	-123.968	Datum: N	AD 83 UTM 10N
Soil Map Unit Name: Water				NWI classification	n: E2USNS	
Are climatic / hydrologic conditions on the	e site typical for this time	of year?	Yes	X No	(If no, explain in	Remarks)
Are Vegetation,Soil	, or Hydrology	S	ignificantly disturbed?	Are "Normal Circ	cumstances" present?	
				Ye	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	r	aturally problematic?	(If needed, explain	any answers in Remarks	.)
SUMMARY OF FINDINGS – Att	ach site map showing	sampling point lo	cations, transects, imp	ortant features, etc.		
Hydrophytic Vegetation Present?	Yes	No <u>X</u>				
Hydric Soil Present?	Yes	No <u>X</u>	Is the Sampled Area	1		
Wetland Hydrology Present?	Yes	No <u>X</u>	within a Wetland?	Yes	No	<u> </u>
Plot 8 is located on a low-elevation bench VEGETATION	n approximately 60 feet s	outhwest and 1 foc	ot higher than Plot 7 (wet	land).		
	Absolute	Dominant	Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominan	t Species	
1.				That Are OBL, FAC	W, or FAC: 0) (A)
2.						
3.				Total Number of Dor	minant	
4.				Species Across All S	Strata: 1	(B)
T Sapling/Shrub Stratum (Plot size: 25 ft.)	otal Cover: 0%			Percent of Dominan	t Species	
Cytisus scoparius	2%	No	UPL	That Are OBL, FAC	W, or FAC: 0	<u>ڥ (A/B)</u>
3.				Total % Cover	of: Multiply by:	_
4				OBL species	x 1 =	
5				FACW species	x 2 =	
Т	otal Cover: 2%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Leymus mollis	99%	Yes	FACU	UPL species	x 5 =	
2. Cardamine hirsuta	1%	No	FACU	Column Totals:	0 (A)	0 (B)
3				Prevalence In	dex = B/A =	
4.				Hydrophytic Veget	ation Indicators:	
5				Dominance Test	t is >50%	
6				Prevalence Inde	x is ≤3.0 ¹	
7				Morphological A	daptations ¹ (Provide si	upporting
8				data in Rema	arks or on a separate s	heet)
Т	otal Cover: 100%			Wetland Non-Va	ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hyd	Irophytic Vegetation ¹ (I	Explain)
1				¹ Indicators of hydric	soil and wetland hydro	logy must
2				be present.		
Т	otal Cover: 0%			Hydrophytic Veget	ation	
% Bare Ground in Herb Stratum	0%			Present?	Yes No	X

Profile Description: (Describe to the depth needed to document the indicator or confirm t Depth Matrix Redox Features (inches) Color (moist) % Type 0-6 10YR3/2 100 no redox	the absence of indicators.) e ¹ Loc2 Texture Remarks loamy sand sand sand sand sand sand sand sand
Depth Matrix Redox Features (inches) Color (moist) % Type 0-6 10YR3/2 100 no redox	e ¹ Loc2 Texture Remarks loamy sand sand sand sand sand sand sand sand
(inches) Color (moist) % Color (moist) % Type 0-6 10YR3/2 100 no redox	e ¹ Loc2 Texture Remarks loamy sand sand sand sand sand san
0-6 10YR3/2 100 no redox 6-24 10YR3/2 100 no redox	Ioamy sand sand sand sand
6-24 10YR3/2 100 no redox	sand ■
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC= Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	=Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2)) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC= Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	Reoot Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2)) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC= Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	Red Parent Material (TF2) Other (Explain in Remarks) Indicators of hydrophytic vegetation and
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC= Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2)) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC= Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC= Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	 Root Channel, M=Matrix. Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks) ³Indicators of hydrophytic vegetation and
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC= Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	<u>-Root Channel, M=Matrix.</u> Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2)) Other (Explain in Remarks)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	 Red Parent Material (TF2) Other (Explain in Remarks) ³Indicators of hydrophytic vegetation and
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8))Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	Indicators of hydrophytic vegetation and
Sandy Gleyed Matrix (S4) Redox Depressions (F8)	
	wetland hydrology must be present.
HYDROLOGY Water di Hudrala zu Indiantaza	
Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
Curfees Matter (A1) Water Steined Leaves (D0) (event NW ees	water-Stained Leaves (B9) (NW coast)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (BT0)
Aqualic Invertebrates (B13)	Dry-Season Water Table (62)
Hydrogen Sunder Oddr (C1)	C2) Coomorphic Position (D2)
Drift Deposits (B3)	Shallow Aquitard (D3)
Algal Mat or Crust (B4) Becent Iron Beduction in Tilled Soils (C6)	Erost-Heave Hummocks (D4)
Iron Denosits (B5) Stunted or Stressed Plants (D1) (LRR A)	EAC-Neutral Test (D5)
Surface Soil Cracks (B6) Other (Explain in Remarks)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7)	
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches): >24'	Wetland Hydrology Present?
Saturation Present? Yes No X Depth (inches): >24'	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a	available:
Pomarka:	
וופווומוגס.	
Data entered by: CJM Data checked by: JAH	

		ATA FORM – W	estern Mountair	is, Valleys and Co	bast Region		
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date	:	2/20/201
Applicant/Owner: U.S. Army C	Corps of Engineers		Stat	e: Oregon	Sampling Point	:	9
Investigator(s): C. Jonas Moiel, Jeff Ha	Indley	Sec	ction, Township, Rang	e: T9N R11W			
_andform (hillslope, terrace, etc.):	terrace		Local relief (concave, convex, none)	: none S	lope (%):	0
Subregion (LRR): LRR A		Lat: 46.262	Lon	g: <u>-123.980</u>	Datum	: NAD 83	3 UTM 10N
Soil Map Unit Name: Tropopsam	ments, 0-15% slopes			NWI classification	: upland		
Are climatic / hydrologic conditions on the	site typical for this time	of year?	Ye	s <u>X</u> No	(If no, expla	in in Rema	ırks)
Are Vegetation,Soil	, or Hydrology	s	gnificantly disturbed?	Are "Normal Circ	umstances" prese	nt?	
				Ye	s <u>X</u> No		-
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain	any answers in Rem	arks.)	
SUMMARY OF FINDINGS – Atta	ach site map showing	sampling point loo	ations, transects, in	portant features, etc.			
Hydrophytic Vegetation Present?	Yes X	No					
Hydric Soil Present?	Yes	No X	Is the Sampled Ar	ea			
Wetland Hydrology Present?	Yes	No <u>X</u>	within a Wetland?	Yes	No	X	
Remarks:	depression						
for 3 is located in a low-elevation gentle							
FGETATION							
	Absolute	Dominant	Indicator	Dominance Test w	orksheet.		
Free Stratum (Plot size: 50 ft.)	% Cover	Species?	Status	Number of Dominan	t Species		
1. Fravinus latifolia	5%	Ves	FACW		V or FAC:	4	(Δ)
		165	TAOW	That Ale OBE, TAG	N, 011 AC.	4	(A)
3.				Total Number of Der	minant		
1						-	
				Percent of Dominant	Species		
2.				Percent of Dominant That Are OBL, FAC Prevalence Index w	: Species W, or FAC: /orksheet:	<u>80%</u>	(A/B)
2				Percent of Dominant That Are OBL, FAC Prevalence Index v Total % Cover	: Species N, or FAC: /orksheet: of: <u>Multiply by</u>	<u>80%</u>	(A/B)
4.				Percent of Dominant That Are OBL, FAC Prevalence Index w Total % Cover OBL species	: Species <u>N</u> , or FAC: <u>vorksheet:</u> <u>of:</u> <u>Multiply by</u> x 1 =	<u>80%</u> ::	(A/B)
4				Percent of Dominant That Are OBL, FAC Prevalence Index w Total % Cover OBL species FACW species	: Species <i>N</i> , or FAC: /orksheet: <u>of:</u> <u>Multiply by</u> <u>x 1 =</u> <u>x 2 =</u>	<u>80%</u> :	(A/B)
				Percent of Dominant That Are OBL, FACV Prevalence Index w 	: Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 =	<u>80%</u> :	(A/B)
	otal Cover: 0%			Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FAC species FACU species	Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 =	<u>80%</u> :	(A/B)
		 Yes	 FAC ?	Percent of Dominant That Are OBL, FAC1 Prevalence Index w 	Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 =	<u>80%</u>	(A/B)
		 Yes	 	Percent of Dominant That Are OBL, FAC1 Prevalence Index w Total % Cover OBL species FACW species FAC species FACU species UPL species Column Totals:	Species N, or FAC: /orksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A)	<u>80%</u> :	(A/B)
Image: Stratum (Flot Size: 5 ft.) Image: Stratum (Plot size: 5 ft.) Image: Stratum (Plot size: 5 ft.) Image: Poa species Image: Agrostis species Image: Cerastium glomeratum	Dtal Cover: 0% 25% 24% 20%	Yes Yes Yes	FAC ? FAC ? FAC ? FACU	Percent of Dominant That Are OBL, FAC Prevalence Index w Total % Cover OBL species FACW species FAC species FACU species UPL species Column Totals: Prevalence Inc	Species N, or FAC: yorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A =	<u>80%</u>	(A/B)
A poa species Cerastium glomeratum	Dital Cover: 0% 25% 24% 20% 20%	Yes Yes Yes Yes	FAC ? FAC ? FAC ? FACU FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FACU species UPL species UPL species Column Totals: Prevalence Ind Hydrophytic Veget	Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = ation Indicators:	<u>80%</u> :	(A/B)
A grostis species Cerastium glomeratum Description Des	Dtal Cover: 0% 25% 24% 20% 20% 5%	Yes Yes Yes Yes No	FAC ? FAC ? FAC 2 FACU FAC FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FAC species FACU species UPL species Column Totals: Prevalence Int Hydrophytic Vegeta X Dominance Test	Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = ation Indicators: is >50%	<u>80%</u> :	(A/B) (B)
A.	Dital Cover: 0% 25% 24% 20% 20% 5%	Yes Yes Yes Yes No No	FAC ? FAC ? FAC ? FACU FAC FAC OBL	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FAC species FACU species UPL species Column Totals: Prevalence Inde Hydrophytic Veget X Dominance Test	Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is ≤3.01	<u>80%</u> :	(A/B) (B)
Caytonia perfoliata (Field 0.20: 20 Ki) (Dital Cover: 0% 25% 24% 20% 20% 5% 5% 1% 1%	Yes Yes Yes No No No	FAC ? FAC ? FAC ? FACU FAC FAC OBL FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FAC species FAC species UPL species Column Totals: Prevalence Inde Morphological Av	Species N, or FAC: Torksheet: of: X 1 = X 2 = X 3 = X 4 = X 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is $\leq 3.0^1$ (Provid	80%	(A/B)
Image: Second Stratum (Flot 6120: 10 Kl) Image: Second Stratum (Plot size: 5 ft.) Image: Second Stratum <t< td=""><td>Dital Cover: 0% 25% 24% 20% 20% 5% 5% 5% 1%</td><td>Yes Yes Yes Yes No No No</td><td>FAC ? FAC ? FACU FAC FAC FAC OBL FAC</td><td>Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FACU species UPL species Column Totals: Prevalence Inde Morphological Are data in Rema</td><td>Species N, or FAC: Yorksheet: x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = Ation Indicators: is >50% $x is < 3.0^1$ daptations¹ (Provice rks or on a separa</td><td>80% :</td><td>(A/B) (B)</td></t<>	Dital Cover: 0% 25% 24% 20% 20% 5% 5% 5% 1%	Yes Yes Yes Yes No No No	FAC ? FAC ? FACU FAC FAC FAC OBL FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FACU species UPL species Column Totals: Prevalence Inde Morphological Are data in Rema	Species N, or FAC: Yorksheet: x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = Ation Indicators: is >50% $x is < 3.0^1$ daptations ¹ (Provice rks or on a separa	80% :	(A/B) (B)
Agrostis species Agrostis species Cerastium glomeratum Holcus lanatus Holcus lanatus Iris pseudacorus Claytonia perfoliata To	Dital Cover: 0% 25% 24% 20% 20% 5% 5% 5% 1% Dital Cover: 100%	Yes Yes Yes Yes No No No	FAC ? FAC ? FACU FAC FAC FAC OBL FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FACU species UPL species Column Totals: Prevalence Inde Hydrophytic Veget X Dominance Test Prevalence Inde Morphological Ar data in Rema	Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is $\leq 3.0^1$ daptations ¹ (Provice rks or on a separal scular Plants ¹	80% :	(A/B) (B) ting
Agrostis species Agrostis species Cerastium glomeratum Poa annua Documentum Poa annua Documentum Content of the following of	Detal Cover: 0% 25% 24% 20% 20% 5% 5% 1% 1% Detal Cover: 100%	Yes Yes Yes No No No	FAC ? FAC ? FACU FAC FAC FAC OBL FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FACU species UPL species Column Totals: Prevalence Inde Morphological Ar data in Rema Wetland Non-Va Problematic Hyd	Species N, or FAC: rorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is $\leq 3.0^{1}$ daptations ¹ (Provice rks or on a separal scular Plants ¹ rophytic Vegetation	80% :	(A/B)
A.	Detal Cover: 0% 25% 24% 20% 20% 5% 5% 5% 5% 1% 00% Detal Cover: 100%	Yes Yes Yes Yes No No No	FAC ? FAC ? FAC ? FAC FAC FAC OBL FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FAC species FACU species UPL species Column Totals: Prevalence Inte Hydrophytic Vegeta X Dominance Test Prevalence Inde Morphological Are data in Rema Wetland Non-Va Problematic Hydri ¹ Indicators of hydric	Species N, or FAC: rorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is $\leq 3.0^1$ daptations ¹ (Provice rks or on a separa scular Plants ¹ rophytic Vegetation soil and wetland hy	80%	(A/B) (B) ting n) must
Image: Second Contraction (First Order 1998) Image: Second Contraction (First Order 1	Detal Cover: 0% 25% 24% 20% 20% 5% 5% 5% 1% Detal Cover: 100%	Yes Yes Yes No No No	FAC ? FAC ? FAC ? FAC FAC FAC OBL FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FAC species FACU species UPL species Column Totals: Prevalence Inde Hydrophytic Veget: X Dominance Test Prevalence Inde Morphological Au data in Rema Wetland Non-Va Problematic Hydric be present.	Species N, or FAC: rorksheet: of: X 1 = X 2 = X 3 = X 4 = X 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is $\leq 3.0^1$ daptations ¹ (Provice rks or on a separal scular Plants ¹ rophytic Vegetation soil and wetland hy	80%	(A/B) (B) ting n) must
A.	Detal Cover: 0% 25% 24% 20% 20% 5% 5% 5% 1% Detal Cover: 100% Detal Cover: 0%	Yes Yes Yes No No No	FAC ? FAC ? FACU FAC FAC OBL FAC FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FACU species UPL species Column Totals: Prevalence Inde Morphological Ar data in Rema Wetland Non-Va Problematic Hydr Indicators of hydric be present. Hydrophytic Veget:	Species N, or FAC: rorksheet: of: X 1 = X 2 = X 3 = X 4 = X 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is $\leq 3.0^1$ daptations ¹ (Provice rks or on a separal iscular Plants ¹ rophytic Vegetation soil and wetland hy ation	80%	(A/B) (B) ting n) must
A.	Detal Cover: 0% 25% 24% 20% 20% 5% 5% 5% 1% Detal Cover: 100% Detal Cover: 0%	Yes Yes Yes No No No	FAC ? FAC ? FACU FAC FAC OBL FAC	Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover OBL species FACW species FACU species UPL species UPL species Column Totals: Prevalence Inde Morphological Ar data in Rema Wetland Non-Va Problematic Hyde ¹ Indicators of hydric be present. Hydrophytic Vegeta Prevalence Inde	Species N, or FAC: vorksheet: of: Multiply by x 1 = x 2 = x 3 = x 4 = x 5 = 0 (A) dex = B/A = ation Indicators: is >50% x is $\leq 3.0^1$ daptations ¹ (Provice rks or on a separal scular Plants ¹ rophytic Vegetation soil and wetland hy ation Yes X No	80%	(A/B) (B) ting n) must

Profile Descri							Sam	pling Point:	9
•	ption: (Describe to	the depth ne	eded to docum	nent the indicator or	confirm the al	osence of indicators	s.)		
Depth	Matrix	(Redox F	eatures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Rema	arks
0-6	10YR2/2	100	no redox				sandy loam		
6-14	10YR2/1	99	10YR3/4	1	С	М	sandy loam		
14-24	10YR3/2	95	10YR4/6	5	С	M	sand		
	<u> </u>								
Type: C=Conc	centration, D=Depleti	ion, RM=Redu	iced Matrix. ² I	Location: PL=Pore Li	ining, RC=Root	Channel, M=Matrix.			
Hydric Soil Ind	licators: (Applicabl	e to all LRRs	, unless otherw	ise noted.)		Indicators for Pr	oblematic Hydric Soil	s ³ :	
Histosol (A1)		Sandy Redox	x (S5)		2 cm Muck (A	10)		
Histic Epipe	don (A2)		Stripped Matr	rix (S6)		Red Parent M	aterial (TF2)		
Black Histic	(A3)	-	Loamy Mucky	y Mineral (F1) (excep	t MLRA 1)	Other (Explain	n in Remarks)		
Hydrogen S	ulfide (A4)	_	Loamy Gleye	d Matrix (F2)					
Depleted Be	elow Dark Surface (A		Depleted Mat	trix (F3)					
Thick Dark	Surface (A12)	· -	Redox Dark S	Surface (F6)					
Sandy Muck	ky Mineral (S1)	-	Depleted Dar	k Surface (F7)		³ Indicators of hydr	ophytic vegetation and		
Sandy Gleye	ed Matrix (S4)	_	Redox Depre	ssions (F8)		wetland hydrolo	gy must be present.		
								No	v
Depth (incho Remarks:	es):					Hydric Soil Prese	ent? Yes		
Depth (inche Remarks:	es):					Hydric Soil Prese	ent? Yes		
Depth (inch Remarks: HYDROLOG	es): SY					Hydric Soil Prese	ent? Yes	uirod)	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato	es): AY blogy Indicators: brs (any one indicato	r is sufficient)				Hydric Soil Prese	dicators (2 or more req	No	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato	AY Diogy Indicators: Drs (any one indicato	r is sufficient)		d Logyop (B9) (avoar	ot NW coast)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW	uired) coast)	<u> </u>
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water	ES): SY Slogy Indicators: prs (any one indicato tter (A1) Table (A2)	r is sufficient)	Water-Staine	d Leaves (B9) (excep	ot NW coast)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Rattorne (B10)	<u>uired)</u> coast) rface (B8)	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (es): SY blogy Indicators: brs (any one indicato ter (A1) Table (A2) A3)	r is sufficient)	Water-Staine Salt Crust (B	d Leaves (B9) (excep 11)	ot NW coast)	Hydric Soil Press	dicators (2 or more req ained Leaves (B9) (NW Vegetated Concave Su Patterns (B10)	uired) coast) rface (B8)	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (, Water Mark	es): AY blogy Indicators: brs (any one indicato tter (A1) Table (A2) A3) s (B1)	r is sufficient)	Water-Staine Salt Crust (B Aquatic Inver	d Leaves (B9) (excep 11) tebrates (B13)	ot NW coast)	Hydric Soil Press	dicators (2 or more req ained Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2)	uired) coast) rface (B8)	
Depth (incho Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (Water Mark Sediment D	es): Construction of the second state of the	r is sufficient) - - -	Water-Staine Salt Crust (B ⁻ Aquatic Inver Hydrogen Sul	d Leaves (B9) (excep 11) tebrates (B13) Ifide Odor (C1)	ot NW coast)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) o Visible on Aerial Imagonic Regittion (D2)	<u>uired)</u> coast) rface (B8) ery (C9)	
Depth (incho Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (<i>i</i> Water Mark Sediment D Drift Deposi	es): blogy Indicators: brs (any one indicato ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)	r is sufficient) - - -	Water-Staine Salt Crust (B Aquatic Inver Hydrogen Sul Oxidized Rhiz	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Beduced Iron (C4)	pt NW coast) g Roots (C3)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) In Visible on Aerial Imag nic Position (D2) quitard (D3)	<u>uired)</u> coast) rface (B8) ery (C9)	
Depth (incho Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (Water Mark Sediment Do Drift Deposi Algal Mat or	es): Dogy Indicators: prs (any one indicato ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4)	r is sufficient) - - - - - -	Water-Staine Salt Crust (B' Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F	d Leaves (B9) (excep 11) 1fide Odor (C1) zospheres along Livin Reduced Iron (C4)	pt NW coast) g Roots (C3)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) In Visible on Aerial Imag nic Position (D2) quitard (D3) ye Hummocks (D4)	uired) coast) rface (B8) ery (C9)	<u> </u>
Depth (inchu Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment Do Drift Deposi Algal Mat or	es): SY blogy Indicators: brs (any one indicato ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5)	r is sufficient) - - - - - - - - - - - - - - - - - - -	Water-Staine Salt Crust (B ⁻ Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled So ressed Plants (D1) (J	pt NW coast) g Roots (C3) ils (C6) BR A)	Hydric Soil Press	dicators (2 or more req ained Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) a Visible on Aerial Imag nic Position (D2) quitard (D3) ve Hummocks (D4) rel Teet (D5)	uired) coast) rface (B8) ery (C9)	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (, Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Surface Soi	es): blogy Indicators: brs (any one indicators) tter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) L Cracks (B6)	r is sufficient) - - - - - - - - - - - - - - - - - - -	Water-Staine Salt Crust (B ⁻ Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks)	g Roots (C3) ils (C6) .RR A)	Hydric Soil Press	dicators (2 or more req dicators (2 or more req ained Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) n Visible on Aerial Imag nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) th Mounds (D6) (I BB A)	uired) coast) rface (B8) ery (C9)	
Depth (incho Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment Do Drift Deposi Algal Mat or Iron Deposit Surface Soil	es): Diogy Indicators: ors (any one indicators) ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) //sible on Aerial Image	or is sufficient)	Water-Staine Salt Crust (B Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks)	g Roots (C3) ils (C6) .RR A)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) in Visible on Aerial Imag nic Position (D2) quitard (D3) we Hummocks (D4) rral Test (D5) int Mounds (D6) (LRR A	<u>uired)</u> coast) rface (B8) ery (C9)	
Depth (incho Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment Do Drift Deposi Algal Mat or Iron Deposit Surface Soil Inundation V Field Observat	es): Diogy Indicators: prs (any one indicators) ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) /isible on Aerial Image tions:	r is sufficient) - - - - - - - - - - - - - - - - - - -	Water-Staine Salt Crust (B' Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) Ifide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks)	g Roots (C3) ils (C6) .RR A)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) in Visible on Aerial Imag nic Position (D2) quitard (D3) we Hummocks (D4) rral Test (D5) it Mounds (D6) (LRR A	uired) coast) rface (B8) ery (C9)	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (, Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Surface Soil Inundation V Field Observat	es): SY blogy Indicators: brs (any one indicators): ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial Image tions: Present?	or is sufficient) 	Water-Staine Salt Crust (B ⁻ Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks)	g Roots (C3) ils (C6) .RR A)	Hydric Soil Press	dicators (2 or more req ained Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) n Visible on Aerial Imag nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) nt Mounds (D6) (LRR A	uired) coast) rface (B8) ery (C9)	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (Water Mark Sediment Du Drift Deposi Algal Mat or Iron Deposit Surface Soil Inundation N Field Observat	es): Constructions: Construc	pr is sufficient) 	Water-Staine Salt Crust (B ⁻ Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks)	g Roots (C3) ils (C6) .RR A)	Hydric Soil Press	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) in Visible on Aerial Imag nic Position (D2) quitard (D3) we Hummocks (D4) rral Test (D5) it Mounds (D6) (LRR A	uired) coast) rface (B8) ery (C9)	
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation N Field Observat Surface Water Water Table Pri	es): Plogy Indicators: prs (any one indicators): prs (any one indicators): prs (any one indicators): Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial Image tions: Present? Yes resent? Yes	gery (B7)	Water-Staine Salt Crust (B ⁻ Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks) Depth (inches): Depth (inches):	pt NW coast) g Roots (C3) ils (C6) .RR A)	Hydric Soil Press Secondary Ing Water-Sta Sparsely V Drainage Dry-Sease Saturatior Geomorph Shallow A Frost-Hea FAC-Neut Raised Ar Wetland I	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) in Visible on Aerial Imag nic Position (D2) quitard (D3) we Hummocks (D4) rral Test (D5) int Mounds (D6) (LRR A Hydrology Present?	uired) coast) rface (B8) ery (C9)	× ×
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment Du Drift Deposi Algal Mat or Iron Deposit Surface Soil Inundation V Field Observat Surface Water Water Table Po Saturation Pres (includes capill	es): Plogy Indicators: prs (any one indicators): prs (any one indicators): prs (any one indicators): ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) /isible on Aerial Image tions: Present? Yes sent? Yes ary fringe)	gery (B7)	Water-Staine Salt Crust (B Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks) Depth (inches): Depth (inches):	Dt NW coast) g Roots (C3) ils (C6) .RR A)	Hydric Soil Press Secondary Ing Water-Sta Sparsely V Drainage Dry-Sease Saturatior Geomorph Shallow A Frost-Hea FAC-Neut Raised Ar	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) in Visible on Aerial Imag nic Position (D2) quitard (D3) we Hummocks (D4) ral Test (D5) int Mounds (D6) (LRR A Hydrology Present? Yes	uired) coast) rface (B8) ery (C9)	X
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation N Field Observat Surface Water Water Table Ph Saturation Pres (includes capill: Describe Reco	es): Plogy Indicators: prs (any one indicators): prs (any one indicators): prs (any one indicators): ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial Image tions: Present? Yes resent? Yes resent? Yes ary fringe) rded Data (stream generic stream	gery (B7)	Water-Staine Salt Crust (B ⁻ Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks) Depth (inches): Depth (inches): Depth (inches):	Dt NW coast) g Roots (C3) ils (C6) .RR A) >24" >24"	Hydric Soil Press Secondary Ing Water-Sta Sparsely V Drainage Dry-Sease Saturatior Geomorph Shallow A Frost-Hea FAC-Neut Raised Ar Wetland I ble:	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) in Visible on Aerial Imag nic Position (D2) quitard (D3) we Hummocks (D4) rral Test (D5) int Mounds (D6) (LRR A Hydrology Present? Yes	uired) coast) rface (B8) ery (C9)	X
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment Do Drift Deposi Algal Mat or Iron Deposit Surface Soil Inundation N Field Observat Surface Water Water Table Pro Saturation Pres (includes capill Describe Recoo Remarks:	es): Plogy Indicators: prs (any one indicator) ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) /isible on Aerial Image tions: Present? Yes resent? Yes ary fringe) rded Data (stream generic)	pery (B7)	Water-Staine Salt Crust (B' Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks) Depth (inches): Depth (inches): Depth (inches):	Dt NW coast) g Roots (C3) ils (C6) .RR A) >24" >24" ctions), if availa	Hydric Soil Press Secondary Ing Water-Sta Sparsely N Drainage Dry-Sease Saturation Geomorph Shallow A Frost-Hea FAC-Neut Raised Ar Wetland I ble:	dicators (2 or more required Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) in Visible on Aerial Imag nic Position (D2) quitard (D3) we Hummocks (D4) rral Test (D5) it Mounds (D6) (LRR A Hydrology Present? Yes	uired) coast) rface (B8) ery (C9)	x
Depth (inche Remarks: HYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (A Water Mark Sediment De Drift Deposi Algal Mat or Iron Deposit Surface Soil Inundation V Field Observat Surface Water Water Table Pro Saturation Prese (includes capill) Describe Recoor Remarks: Soils were noted	es): Plogy Indicators: prs (any one indicator) ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) r Crust (B4) ts (B5) I Cracks (B6) /isible on Aerial Image tions: Present? Yes resent? Yes ary fringe) rded Data (stream generic)	r is sufficient)	Water-Staine Salt Crust (B Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	d Leaves (B9) (excep 11) tebrates (B13) lfide Odor (C1) zospheres along Livin Reduced Iron (C4) Reduction in Tilled Soi ressed Plants (D1) (L n in Remarks) Depth (inches): Depth (inches): Depth (inches): Depth (inches):	pt NW coast) g Roots (C3) ils (C6) .RR A) >24" >24" ctions), if availa	Hydric Soil Press Secondary Ing Water-Sta Sparsely N Drainage Dry-Sease Saturatior Geomorph Shallow A Frost-Hea FAC-Neut Raised Ar Wetland I ble:	dicators (2 or more req dicators (2 or more req tined Leaves (B9) (NW Vegetated Concave Su Patterns (B10) on Water Table (C2) n Visible on Aerial Imag nic Position (D2) quitard (D3) ve Hummocks (D4) ral Test (D5) nt Mounds (D6) (LRR A Hydrology Present? Yes	uired) coast) rface (B8) ery (C9)	X

WE	TLAND DE	TERMINATION D	ATA FC	DRM – W	/estern Mountain	s, Valleys and Co	ast Region		
Project/Site: East Sand Is	land		Ci	ty/County:	Clatsop	· ·	Sampling Da	ate:	2/20/2014
Applicant/Owner:	U.S. Army C	orps of Engineers			State	: Oregon	Sampling Po	oint:	10
Investigator(s): C. Jonas	Moiel, Jeff Han	ndley	_	Sec	 ction, Township, Range	: T9N R11W			
Landform (hillslope, terrace,	etc.):	slight depressior	n on terra	се	Local relief (c	oncave, convex, none):	concave	Slope (%	<i>б</i>): <u>0</u>
Subregion (LRR):	LRR A		Lat: 46	.262	Long	: -123.979	Dat	um: <u>NAD</u>	83 UTM 10N
Soil Map Unit Name:	Tropopsamm	nents, 0-15% slopes				NWI classification:	upland		
Are climatic / hydrologic con	ditions on the	site typical for this time	of year?		Yes	X No	(If no, ex	plain in Re	marks)
Are Vegetation	,Soil	, or Hydrology		si	ignificantly disturbed?	Are "Normal Circu	umstances" pre	sent?	
						Yes	X No		
Are Vegetation	,Soil	, or Hydrology		n	aturally problematic?	(If needed, explain a	any answers in R	emarks.)	
SUMMARY OF FIND	NGS – Atta	ch site map showing	sampling	g point loc	cations, transects, im	portant features, etc.			
Hydrophytic Vegetation Pre	sent?	Yes	No	Х					
Hydric Soil Present?		Yes	No	Х	Is the Sampled Are	a			
Wetland Hydrology Present	?	Yes	No	Х	within a Wetland?	Yes	No	Х	
Plot 10 is located in a slight	depression on	a low-elevation terrace	e, below t	ne calculat	ed highest measured ti	de elevation.			
VEGETATION		Abaaluta		ominant	Indicator	Dominanaa Taat wa	rkahaati		
Tree Stratum (Plot size: 50	D ft.)	ADSOIULE % Cover	D S	pacias?	Status	Number of Dominant	Species		
1.	/	<u>/8 00ver</u>	<u> </u>		otatus			1	(A)
2.						That Ale OBL, FACE	, of FAG.	I	(A)
3.						Total Number of Dom	inont		
4.							indrit Fratas	0	(D)
	Tot	tal Covor: 0%				Species Across Air S	lidid.	2	(B)
Sapling/Shrub Stratum (Plo	t size: 25 ft.)					Percent of Dominant	Snecies		
1. Lonicora involuorata	,	10/		No	EAC			50%	(A / B)
2.		4 /6	-	INU	TAC	Prevalence Index w	orksheet:	0070	(A/D)
3.						Total % Cover of	of Koneet.	by:	
4						OBL species	x 1 =		
5.						FACW species	x 2 =		
	Tot	tal Cover: 4%				FAC species	x 3 =		_
Herb Stratum (Plot size: 5 f	t.)					FACU species	x 4 =		_
1. Poa species		50%		Yes	FAC ?	UPL species	x 5 =		
2. Cerastium glomeratum		20%		Yes	FACU	Column Totals:	0 (A)	0	(B)
3. Agrostis species		10%		No	FAC ?	Prevalence Ind	ex = B/A =		_ ` `
4. Clavtonia perfoliata		10%		No	FAC	Hydrophytic Vegeta	tion Indicator	s:	
5. Holcus lanatus		5%		No	FAC	Dominance Test	is >50%		
6. Senecio vulgaris		5%		No	FACU	Prevalence Index	is ≤3.0 ¹		
7.						Morphological Ad	aptations ¹ (Pro	vide supp	orting
8.						data in Remar	ks or on a sepa	arate shee	et)
	Tot	tal Cover: 100%				Wetland Non-Vas	scular Plants ¹		,
Woody Vine Stratum (Plot	Size: 5 ft.)					Problematic Hydr	ophytic Vegeta	tion ¹ (Exp	lain)
1.						¹ Indicators of hydric s	oil and wetland	l hydrolog	y must
2.			_			be present.		,	
	Tot	tal Cover: 0%	_			Hydrophytic Vegeta	tion		
% Bare Ground in Herb Stra	tum (0%				Present?	Yes	No X	

SOIL							San	pling Point:	10
Profile Descri	iption: (Describe to	the depth i	needed to document	t the indicator or	confirm the al	bsence of indicators	s.)		
Depth	Matrix	x		Redox F	eatures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Rema	arks
0-3	10YR3/2	100	no redox				loamy sand	some org.	mat.
3-24	10YR3/2	99	10YR3/3	1	С	M	sand		
				<u> </u>					
			.						
	· ·								
T			dura d Matrice 21 a		ning DO Deat	Ohannal M. Matrix			
Type: C=Con	centration, D=Deplet	ion, RIVI=Rec	duced Matrix. Loc	ation: PL=Pore Li	ning, RC=Root	Channel, M=Matrix.		3	
nyaric Soli ind	dicators: (Applicabl	ie to all LRR	s, unless otherwise	notea.)		Indicators for Pro	blematic Hydric Sol	IS":	
HISTOSOI (A	1) adap (40)		Sandy Redox (S	5)		2 cm Muck (A	IU)		
HISTIC EDIDE	edon (A2)		Stripped Matrix (50) inoral (E1) (oxcon		Red Parent Mi	aterial (TF2)		
	S(A3)			latrix (E2)			III nelliarks)		
Depleted B	elow Dark Surface (A	11)	Depleted Matrix	(E3)					
Depieted B	Surface (A12)	.)	Bedox Dark Surf	(F6)					
Sandy Muc	ky Mineral (S1)		Depleted Dark S	urface (F7)		³ Indicators of hydro	ophytic vegetation and	d	
Sandy Glev	ved Matrix (S4)		Redox Depressio	ons (F8)		wetland hydrolog	y must be present.		
Bootrictivo Lo	vor (if propert)		·	()		, ,			
	yer (ii present).								
Dopth (inch						Hydric Soil Bross	nt? Voc	No	Y
Somo organic i	matorial located at th	o 0 3 inch da	onth						
oome organic i			eptil.						
	GV								
Wetland Hydro	ology Indicators:					Secondary Ind	licators (2 or more rec	uired)	
Primary Indicat	tors (any one indicate	or is sufficient	t)			Water-Sta	ined Leaves (B9) (NV	/ coast)	
Surface Wa	ater (A1)		Water-Stained L	eaves (B9) (excer	ot NW coast)	Sparsely \	/egetated Concave Si	urface (B8)	
High Water	Table (A2)		Salt Crust (B11)			Drainage I	Patterns (B10)		
Saturation	(A3)		Aquatic Inverteb	rates (B13)		Drv-Seaso	n Water Table (C2)		
Water Mark	(s (B1)		Hydrogen Sulfide	e Odor (C1)		Saturation	Visible on Aerial Ima	perv (C9)	
Sediment D	Deposits (B2)		Oxidized Rhizosi	oheres along Livin	a Roots (C3)	Geomorph	ic Position (D2)	5 - 3 ()	
Drift Depos	its (B3)		Presence of Red	uced Iron (C4)	g · · · · · · (· ·)	Shallow A	quitard (D3)		
Algal Mat o	r Crust (B4)		Recent Iron Red	uction in Tilled So	ls (C6)	Frost-Hear	ve Hummocks (D4)		
Iron Deposi	its (B5)		Stunted or Stress	sed Plants (D1) (L	RR A)	FAC-Neut	ral Test (D5)		
Surface So	il Cracks (B6)		Other (Explain in	Remarks)	,	Raised An	t Mounds (D6) (LRR	A)	
Inundation	Visible on Aerial Ima	gery (B7)		,					
Field Observa	tions:								
Surface Water	r Present? Yes		No X D	epth (inches).					
Water Table P	Present? Yes		No X D	epth (inches):	>24"		lvdrology Present?		
Saturation Pre	esent? Yes			epth (inches):	>24"	_	Yes	No	х
(includes capil	llary fringe)				221	-	100	· ····	
Describe Reco	orded Data (stream g	auge, monito	oring well, aerial photo	os, previous inspe	ctions), if availa	ble:			
		-							
Remarks:									
_									
Data entered b	by: CJM Data	checked by:	JAH						

WETLAND	DETERMINATION [DATA FORM – W	estern Mountains	Valleys and C	oast Region	
Project/Site: East Sand Island		City/County:	: Clatsop	-	Sampling Date:	2/20/2014
Applicant/Owner: U.S. Ar	my Corps of Engineers		State	Oregon	Sampling Point:	11
Investigator(s): C. Jonas Moiel, Jet	ff Handley	Se	ection, Township, Range:	T9N R11W		
Landform (hillslope, terrace, etc.):	depression or	terrace	Local relief (con	cave, convex, none)	: concave Slo	ope (%): <u>1</u>
Subregion (LRR): LRR A		Lat: 46.262	Long:	-123.979	Datum:	NAD 83 UTM 10N
Soil Map Unit Name: Tropop	samments, 0-15% slopes			NWI classification	: upland	
Are climatic / hydrologic conditions or	n the site typical for this tir	ne of year?	Yes	X No	(If no, explain	in Remarks)
Are Vegetation,Soil	, or Hydrology	<u> </u> ٤	significantly disturbed?	Are "Normal Ci	rcumstances" prese	ent?
				Yes	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	rr	naturally problematic?	(If needed, explai	n any answers in Rem	arks.)
SUMMARY OF FINDINGS -	Attach site map showin	ig sampling point lo	cations, transects, imp	ortant features, etc	o.	
Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area			
Hydric Soll Present?	Yes X	No	within a Wetland?		V No	
Wetland Hydrology Present?	Yes A	N0	Within a Wethand.	Yes	<u> </u>	
Plot 11 is located in a low-elevation d	epression. It is approxima	tely 25 feet northeast	t and 3 feet lower than Pl	ot 43 (upland).		
	Absolute	Dominant	Indicator	Dominance Test v	vorksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	Status	Number of Domina	nt Species	
^{1.} Alnus rubra	40%	Yes	FAC	That Are OBL, FAC	CW, or FAC:	2 (A)
2.						
3.				Total Number of Do	ominant	
4.				Species Across All	Strata:	2 (B)
	Total Cover: 40%					
Sapling/Shrub Stratum (Plot size: 25	ft.)			Percent of Dominal	nt Species	
^{1.} Malus fusca	40%	Yes	FACW	That Are OBL, FAC	CW, or FAC: <u>1</u>	<u>100%</u> (A/B)
^{2.} Rubus armeniacus	10%	No	FACU	Prevalence Index	worksheet:	
^{3.} Lonicera involucrata	5%	No	FAC	Total % Cove	r of: Multiply by:	
4. Sambucus racemosa	3%	No	FACU	OBL species	x 1 =	
5				FACW species	x 2 =	
	Total Cover: 58%	_		FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1.				UPL species	x 5 =	
2				Column Totals:	0 (A)	<u>0</u> (B)
3				Prevalence Inc	lex = B/A =	
4.				Hydrophytic Vege	tation Indicators:	
5.				X Dominance Les	st is >50%	
б				Prevalence Ind	ex is ≤3.0'	
7				Morphological /	Adaptations' (Provid	de supporting
8				data in Rem	arks or on a separa	ate sneet)
Weeder Vine Chroterer (Diet Ciner 5 ft	Total Cover: 0%	-		Wetland Non-V	'ascular Plants'	1 (=
Woody vine Stratum (Plot Size: 5 ft.	.)			Problematic Hy	drophytic Vegetatio	n' (Explain)
1				Indicators of hydric	c soil and wetland h	ydrology must
۲. 	Total Osuraria 00/			Hydrophytic Voro	tation	
% Baro Ground in Harb Stratum	100%	-		Present?		
	100 /0					
No herbaceous layer due to heavy sh	ade and leaf debris. Iris p	seudacorus and Urtic	<i>ca diocia</i> were observed	in close proximity to	the plot.	

SOIL							San	npling Point: 11
Profile Descripti	ion: (Describe to	the depth ne	eded to docum	ent the indicator or	r confirm the at	osence of indicators	s.)	
Depth	Matrix	(Redox I	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-4	10YR2/1	100	no redox				loamy sand	some org. mat.
4-8	10YR3/2	97	10YR3/6	3	С	М	loamy sand	
8-10	2.5YR2.5/3	100	no redox				loamy sand	
10-24	10YR3/2	97	10YR3/4	3	С	М	sand	
								<u></u>
¹ Type: C=Concer	ntration, D=Depleti	ion, RM=Redu	ced Matrix. ² l	ocation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		2
Hydric Soil Indic	ators: (Applicabl	e to all LRRs,	unless otherw	ise noted.)		Indicators for Pro	oblematic Hydric S	oils°:
Histosol (A1)		X	Sandy Redox	(S5)		2 cm Muck (A	10)	
Histic Epipedo	on (A2)	_	Stripped Matr	ix (S6)		Red Parent M	aterial (TF2)	
Black Histic (A	(3)	_	Loamy Mucky	Mineral (F1) (excep	ot MLRA 1)	Other (Explain	n in Remarks)	
Hydrogen Sulf	ide (A4)	_	Loamy Gleye	d Matrix (F2)				
Depleted Belo	w Dark Surface (A	.11)	Depleted Mat	rix (F3)				
Thick Dark Su	rface (A12)		Redox Dark S	Surface (F6)		3		
Sandy Mucky	Mineral (S1)		Depleted Dar	k Surface (F7)		Indicators of hydr	ophytic vegetation a	nd
Sandy Gleyed	Matrix (S4)		Redox Depres	ssions (F8)		wetland hydrolog	gy must be present.	
Restrictive Layer	r (if present):							
Туре:								
Depth (inches)):		_			Hydric Soil Prese	ent? Yes X	No
Remarks:								
Some organic mat	terial located within	n 0 to 4 inches	in depth.					
HYDROLOGY	1							
Wetland Hydrolo	gy Indicators:					Secondary Inc	<u>dicators (2 or more r</u>	<u>equired)</u>
Primary Indicators	any one indicato	r is sufficient)				Water-Sta	ained Leaves (B9) (N	IW coast)
Surface Water	r (A1)	_	Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely \	Vegetated Concave	Surface (B8)
High Water Ta	able (A2)	_	Salt Crust (B1	1)		Drainage	Patterns (B10)	
Saturation (A3	3)	_	Aquatic Inver	ebrates (B13)		Dry-Seaso	on Water Table (C2)	
Water Marks ((B1)	_	Hydrogen Sul	fide Odor (C1)		Saturation	Visible on Aerial Im	agery (C9)
Sediment Dep	osits (B2)		Oxidized Rhiz	ospheres along Livir	ng Roots (C3)	X Geomorph	nic Position (D2)	
Drift Deposits	(B3)		Presence of F	Reduced Iron (C4)		Shallow A	quitard (D3)	
Algal Mat or C	rust (B4)	_	Recent Iron F	eduction in Tilled So	ils (C6)	Frost-Hea	ve Hummocks (D4)	
Iron Deposits ((B5)	_	Stunted or St	ressed Plants (D1) (I	_RR A)	X FAC-Neut	ral Test (D5)	
Surface Soil C	racks (B6)		Other (Explain	n in Remarks)		Raised Ar	nt Mounds (D6) (LRF	R A)
Inundation Vis	ible on Aerial Imag	gery (B7)						
Field Observatio	ns:							
Surface Water Pr	resent? Yes	Ν	lo X	Depth (inches):				
Water Table Pres	sent? Yes	Ν	lo X	Depth (inches):	>24"	Wetland I	Hydrology Present	?
Saturation Preser	nt? Yes	N	lo X	Depth (inches):	>24"	_	Yes X	No
(includes capillary	y fringe)			-				
Describe Recorde	ed Data (stream g	auge, monitori	ng well, aerial ph	iotos, previous inspe	ctions), if availa	ble:		
Remarks:								
Data entered by:	CIM Data d	checked by	АН					
	Data C							

WETLAND D	ETERMINATION DA	TA FORM – W	estern Mountains	, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/20/2014
Applicant/Owner: U.S. Army	Corps of Engineers	_	State	: Oregon	Sampling Point:	12
Investigator(s): C. Jonas Moiel, Jeff H	Handley	Sec		: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle slope		Local relief (cor	ncave, convex, none)	: concave Slope	(%): 1
Subregion (LRR): LRR A	<u> </u>	Lat: 46.262	Long	j: -123.978	Datum: NA	D 83 UTM 10N
Soil Map Unit Name: Tropopsar	mments, 0-15% slopes		_	NWI classification	: upland	
Are climatic / hydrologic conditions on th	he site typical for this time of	of year?	Yes	X No	(If no, explain in I	Remarks)
Are Vegetation,Soil	, or Hydrology	si	ignificantly disturbed?	Are "Normal Ci	rcumstances" present?	?
				Yes	S <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explai	n any answers in Remark	s.)
SUMMARY OF FINDINGS - At	ttach site map showing s	ampling point loo	cations, transects, im	portant features, etc	.	
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	X No	
Remarks:						
VEGETATION	J X					,
	Absolute	Dominant	Indicator	Dominance Test v	vorksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	nt Species	
1.				That Are OBL, FAC	CW, or FAC: 4	(A)
2.				,	·	
3.				Total Number of Do	ominant	
4.				Species Across All	Strata: 5	(B)
	Total Cover: 0%				<u> </u>	(=)
Sapling/Shrub Stratum (Plot size: 25 ft.))			Percent of Domina	nt Species	
1. Sambucus racemosa	15%	Yes	FACIL	That Are OBL FAC	CW or FAC: 80%	% (A/B)
2. Lonicera involucrata	10%	Yes	FAC	Prevalence Index	worksheet:	_ (///2)
3. Bubus spectabilis	5%	<u> </u>	FAC	Total % Cove	r of: <u>Multiply by:</u>	_
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
	Total Cover: 30%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Agrostis species	50%	Yes	FAC 2	UPL species	x 5 =	
2. Iris pseudacorus	30%	Yes	OBL	Column Totals:	0 (A)	0 (B)
3. Holcus lanatus	20%	Yes	FAC	Prevalence Ind	lex = B/A =	<u> </u>
4.				Hydrophytic Vege	tation Indicators:	
5.				X Dominance Tes	st is >50%	
6.				Prevalence Ind	ex is ≤3.0 ¹	
7.				Morphological	Adaptations ¹ (Provide s	supporting
8				data in Rem	arks or on a separate	sheet)
	Total Cover: 100%			Wetland Non-V	/ascular Plants ¹	0.1000)
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hy	drophytic Vegetation ¹	(Explain)
1				¹ Indicators of hydric	soil and watland bud	ology must
2				be present	Son and wettand Hydr	ology must
				Hydronbytic Vege	tation	
% Baro Ground in Harb Stratum				Present?	Ves X No	
	U %				1 C3 <u>V</u> 110	
Hemarks:	AC or wetter					

SOIL							Sampl	ing Point: 12
Profile Descri	ption: (Describe to	the depth	needed to docume	ent the indicator o	r confirm the ab	sence of indicators	s.)	
Depth	Matrix			Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-3	10YR2/1	100	no redox				silt loam	
3-24	10YR3/2	80	10YR4/6	20	С	М	silt loam	
			_					
			_					
			_					
			_					
¹ Type: C=Conc	centration, D=Depleti	on, RM=Re	educed Matrix. ² L	ocation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		
Hydric Soil Ind	licators: (Applicable	e to all LR	Rs, unless otherwi	se noted.)		Indicators for Pro	oblematic Hydric Soil	ls³:
Histosol (A1)		Sandy Redox	(S5)		2 cm Muck (A	10)	
Histic Epipe	don (A2)		Stripped Matri	x (S6)		Red Parent Ma	aterial (TF2)	
Black Histic	(A3)		Loamy Mucky	Mineral (F1) (excep	ot MLRA 1)	Other (Explain	in Remarks)	
Hydrogen S	ulfide (A4)		Loamy Gleyed	Matrix (F2)				
Depleted Be	elow Dark Surface (A	.11)	Depleted Matr	ix (F3)				
Thick Dark	Surface (A12)		X Redox Dark S	urface (F6)				
Sandy Muck	ky Mineral (S1)		Depleted Dark	Surface (F7)		³ Indicators of hydro	ophytic vegetation and	l
Sandy Gleye	ed Matrix (S4)		Redox Depres	sions (F8)		wetland hydrolog	gy must be present.	
Type: Depth (inche	es):					Hydric Soil Prese	ent? Yes X	No
Remarks:						•		
HYDROLOG	θY							
Wetland Hydro	ology Indicators:					Secondary Ind	licators (2 or more req	<u>uired)</u>
Primary Indicate	ors (any one indicato	r is sufficie	nt)			Water-Sta	ined Leaves (B9) (NW	coast)
Surface Wa	ter (A1)		Water-Stained	Leaves (B9) (exce	pt NW coast)	Sparsely V	egetated Concave Su	Irface (B8)
X High Water	Table (A2)		Salt Crust (B1	1)		Drainage F	Patterns (B10)	
X Saturation (A3)		Aquatic Inverte	ebrates (B13)		Dry-Seaso	on Water Table (C2)	
Water Mark	s (B1)		Hydrogen Sulf	ide Odor (C1)		Saturation	Visible on Aerial Imag	ery (C9)
Sediment D	eposits (B2)		Oxidized Rhize	ospheres along Livi	ng Roots (C3)	Geomorph	ic Position (D2)	
Drift Deposi	ts (B3)		Presence of R	educed Iron (C4)		Shallow A	quitard (D3)	
Algal Mat or	Crust (B4)		Recent Iron Re	eduction in Tilled So	oils (C6)	Frost-Heav	ve Hummocks (D4)	
Iron Deposit	ts (B5)		Stunted or Str	essed Plants (D1) (LRR A)	FAC-Neut	ral Test (D5)	
Surface Soi	l Cracks (B6)		Other (Explain	in Remarks)		X Raised An	t Mounds (D6) (LRR A	A)
Inundation \	/isible on Aerial Imag	gery (B7)						
Field Observat	tions:							
Surface Water	Present? Yes		No X	Depth (inches):		_		
Water Table P	resent? Yes	Х	No	Depth (inches):	1"	Wetland H	Hydrology Present?	
Saturation Pres (includes capill	sent? Yes_ ary fringe)	Х	_No	Depth (inches):	to surface	_	Yes X	No
Describe Reco	rded Data (stream ga	auge, moni	toring well, aerial ph	otos, previous inspe	ections), if availat	ble:		
Remarks:								
Hummocky veg	etation; it was unclea	ar if the hur	nmocks were a resu	It of frost-heaving (I	D4) or ant mound	ls (D6).		
Data entered by	v: C.IM Data d	hecked by	. IAH					

WETLAND DETER	MINATION DAT	A FORM – W	estern Mountains	s, Valleys and Co	ast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/20/2014
Applicant/Owner: U.S. Army Corps	s of Engineers	_	State	: Oregon	Sampling Point:	13
Investigator(s): C. Jonas Moiel, Jeff Handle	у	Sec	ction, Township, Range	e: T9N R11W	-	
Landform (hillslope, terrace, etc.):	terrace		Local relief (cor	ncave, convex, none):	none Slo	pe (%): <u>0</u>
Subregion (LRR): LRR A		Lat: 46.262	Long	g: <u>-123.978</u>	Datum:	NAD 83 UTM 10N
Soil Map Unit Name: Tropopsamment	s, 0-15% slopes			NWI classification:	upland	
Are climatic / hydrologic conditions on the site	typical for this time o	f year?	Yes	s <u>X</u> No	(If no, explain	in Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Cir	cumstances" prese	nt?
				Yes	<u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain	n any answers in Rem	arks.)
SUMMARY OF FINDINGS – Attach s	site map showing s	ampling point loo	cations, transects, im	portant features, etc	•	
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	<u>X</u>
Plot 13 is located approximately 10 feet northv	vest of the south sho	reline top-of-bank.	It is approximately 80	feet south and 4 feet	higher than Plot 12	(wetland).
	Absolute	Dominant	Indicator	Dominance Test w	orksheet.	
Tree Stratum (Plot size: 50 ft.)	% Cover	Species?	Status	Number of Dominar	nt Species	
1.	<u></u>		<u></u>	That Are OBL EAC	W or FAC:	2 (A)
2.						(
3.				Total Number of Do	minant	
4.				Species Across All	Strata:	4 (B)
 Total (Cover: 0%					<u> </u>
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominar	t Species	
1. Lonicera involucrata	30%	Yes	FAC	That Are OBL, FAC	W. or FAC:	50% (A/B)
2. Rubus spectabilis	25%	Yes	FAC	Prevalence Index	worksheet:	(
3. Sambucus racemosa	15%	Yes	FACU	Total % Cover	of: Multiply by:	
4. Ulex europaeus	4%	No	FACU	OBL species	x 1 =	
5. Rubus armeniacus	1%	No	FACU	FACW species	x 2 =	
Total C	Cover: 75%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1 Cardamine hirsuta	20%	Yes	FACU	UPL species	x 5 =	
2. Cerastium glomeratum	20%	Yes	FACU	Column Totals:	0 (A)	0 (B)
3. Agrostis species	10%	No	FAC ?	Prevalence Ind	ex = B/A =	
4. Plantago species	9%	No	OBL to UPL	Hydrophytic Vege	tation Indicators:	
5. Poa annua	3%	No	FAC	Dominance Tes	t is >50%	
6. Rumex acetosella	1%	No	FACU	Prevalence Inde	ex is ≤3.0 ¹	
7. Rumex crispus	1%	No	FAC	Morphological A	daptations ¹ (Provid	le supporting
8.				data in Rema	arks or on a separa	te sheet)
 Total C	Cover: 64%			Wetland Non-V	ascular Plants ¹	,
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hvo	drophytic Vegetatio	n ¹ (Explain)
1.				¹ Indicators of hydric	soil and wetland h	ydrology must
2.				be present.		,
Total (Cover: 0%			Hydrophytic Vege	tation	
% Bare Ground in Herb Stratum 36%				Present?	Yes No	x
						<i>/</i> \

SOIL							Sam	oling Point: 13
Profile Descrip	otion: (Describe to	the depth ne	eded to docume	ent the indicator or	r confirm the ab	sence of indicators.	.)	
Depth	Matrix	ĸ		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-4	10YR3/2	100	no redox				loamy sand	
4-24	10YR4/2	80	7.5YR4/6	20	С	М	silt loam	
	·			<u> </u>				
1- 0.0			2.					
Type: C=Conce	entration, D=Deplet	ion, RM=Redu	ced Matrix. L	ocation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		3
Hydric Soil Indi	icators: (Applicabl	e to all LRRs,	unless otherwi	se noted.)		Indicators for Pro	blematic Hydric Sc	oils":
Histosol (A1))	_	Sandy Redox	(S5)		2 cm Muck (A1	0)	
	don (A2)	_	Stripped Matri	x (S6) Mineral (E1) (average		Red Parent Ma	iterial (TF2)	
Black Histic	(A3)	-		Mineral (FI) (excep	(MLRAI)	Other (Explain	In Remarks)	
Hydrogen St		(11) <u> </u>	_ Loamy Gleyed	(F2)				
Thick Dark S	IOW Dark Surface (F	<u>^</u>	_ Depleted Matr	IX (F3)				
Sandy Muck	v Mineral (S1)	-	Neoleted Dark	Surface (F7)		³ Indicators of hydro	phytic vegetation ar	ıd
Sandy Gleve	od Matrix (S4)	_	Bedox Depres	sions (F8)		wetland hydrolog	v must be present	
							y made bo procont.	
Restrictive Lay	er (if present):							
Type:						Hudria Cail Draaa	at 2 Vac V	Na
Deptil (inche						Hydric Soli Presel		
Remarks:								
	Y							
Wetland Hydro	logy Indicators:					Secondary Indi	cators (2 or more re	<u>auired)</u>
Primary Indicato	rs (any one indicato	or is sufficient)				Water-Stair	ned Leaves (B9) (N	N coast)
Surface Wat	er (A1)		Water-Stained	Leaves (B9) (exce	pt NW coast)	Sparsely V	egetated Concave S	Surface (B8)
High Water	Table (A2)	_	- Salt Crust (B1	1)		Drainage P	atterns (B10)	
Saturation (A	43)	_	Aquatic Inverte	ebrates (B13)		Dry-Seasor	n Water Table (C2)	
Water Marks	s (B1)	-	Hydrogen Sulf	ide Odor (C1)		Saturation	Visible on Aerial Ima	igery (C9)
Sediment De	eposits (B2)	-	Oxidized Rhize	ospheres along Livir	ng Roots (C3)	Geomorphi	c Position (D2)	
Drift Deposit	s (B3)	_	Presence of R	educed Iron (C4)		Shallow Aq	uitard (D3)	
Algal Mat or	Crust (B4)		Recent Iron Re	eduction in Tilled Sc	ils (C6)	Frost-Heav	e Hummocks (D4)	
Iron Deposits	s (B5)		Stunted or Stre	essed Plants (D1) (I	RR A)	FAC-Neutra	al Test (D5)	
Surface Soil	Cracks (B6)		Other (Explain	in Remarks)		Raised Ant	Mounds (D6) (LRR	A)
Inundation V	isible on Aerial Imag	gery (B7)						
Field Observati	ions:							
Surface Water	Present? Yes	Ν	o X	Depth (inches):				
Water Table Pr	esent? Yes	N	o X	Depth (inches):	>24"	Wetland H	ydrology Present?	
Saturation Pres	ent? Yes	N	0 X	Depth (inches):	>24"		Yes	No X
(includes capilla	ary fringe)							
Describe Recor	ded Data (stream g	auge, monitori	ng well, aerial ph	otos, previous inspe	ctions), if availal	ble:		
Remarks:								
Soils were noted	d to be slightly moist	t at the time of	sampling.					
Data entered by	CJM Data	checked by: J	AH					

WETLAND DE	TERMINATION DA	ATA FORM – W	estern Mountains	, Valleys and C	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop	· •	Sampling Date:	2/20/2014
Applicant/Owner: U.S. Army (Corps of Engineers		State	: Oregon	Sampling Point:	14
Investigator(s): C. Jonas Moiel, Jeff Ha	Indley	Sec	tion, Township, Range	: T9N R11W		
Landform (hillslope, terrace, etc.):	hillslope		Local relief (con	cave, convex, none)	concave Slope	(%): 3
Subregion (LRR): LRR A		Lat: 46.262	Long	: -123.977	Datum: NA	D 83 UTM 10N
Soil Map Unit Name: Tropopsam	ments, 0-15% slopes			NWI classification	: upland	
Are climatic / hydrologic conditions on the	site typical for this time	of year?	Yes	X No	(If no, explain in F	Remarks)
Are Vegetation,Soil	, or Hydrology	si	ignificantly disturbed?	Are "Normal C	ircumstances" present?	
				Ye	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, expla	in any answers in Remarks	s.)
SUMMARY OF FINDINGS – Atta	ach site map showing	sampling point loc	cations, transects, im	portant features, et	с.	
Hydrophytic Vegetation Present?	Yes X	No		_		
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	<u>X</u> No	
Remarks:						
is in close proximity to the calculated high	ear drainage feature (ur lest measured tide eleva	ation.	is approximately 45 fee	et southeast and 4 fe	et lower than Plot 15 (L	ipiano). Piot 14
VEGETATION						
Trop Stratum (Plot size: 50 ft.)	Absolute	Dominant	Indicator	Dominance Test	worksheet:	
	<u>% Cover</u>	Species?	Status	Number of Domina	ant Species	
2				That Are OBL, FA	CW, or FAC: 2	(A)
3				T		
۵. 				Total Number of D	ominant	
···				Species Across Al	Strata: 2	(B)
Sapling/Shrub Stratum (Plot size: 25 ft.)	Dial Cover:			Porcent of Domina	nt Spacias	
1.				That Are ORL EA	100°	% (A /P)
2.				Provalence Index	workshoot:	<u>a</u> (A/B)
3.				Total % Cove	er of: Multiply by:	
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
T	otal Cover: 0%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1 Agrostis capillaris	55%	Yes	FAC	UPL species	x 5 =	
2. Iris pseudacorus	30%	Yes	OBL	Column Totals:	0 (A)	0 (B)
3. Cardamine hirsuta	10%	No	FACU	Prevalence Inc	dex = B/A =	
4. Digitalis purpurea	3%	No	FACU	Hydrophytic Vege	etation Indicators:	
5. Lotus corniculatus	2%	No	FAC	X Dominance Te	st is >50%	
6.				Prevalence Inc	lex is ≤3.0 ¹	
7.				Morphological	Adaptations ¹ (Provide s	upporting
8.				data in Ren	narks or on a separate s	sheet)
Т	otal Cover: 100%			Wetland Non-	/ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hy	drophytic Vegetation ¹ (Explain)
1				¹ Indicators of hydri	c soil and wetland hydro	ology must
2.				be present.		
Тс	otal Cover: 0%			Hydrophytic Vege	etation	
% Bare Ground in Herb Stratum	0%			Present?	Yes X No	
 Remarks:				•		

SOIL							San	npling Point: 14
Profile Descri	ption: (Describe to	the depth	needed to docume	nt the indicator o	r confirm the at	sence of indicators	.)	
Depth	Matrix	c		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-4	10YR2/2	100	no redox				sandy loam	
4-24	10YR4/2	85	7.5YR4/6	15	С	М	silt loam	with some sand
	·							<u>.</u>
								<u> </u>
								<u> </u>
ļ								
	contration D Doplat	on PM Bo	duced Matrix ² Le	action: Pl. Para I	ining PC Poot	Chappel M. Matrix		<u> </u>
Hydric Soil Inc	dicators: (Applicabl		duced Mainx. Lo	callon. PL=Pore L	Ining, RC=Rool		blomatic Uvdvia C	oilo ³ .
			Sondy Podoy (2 om Muck (A:	ION	olis :
Histic Enine	i) don (A2)		Sanuy Redux ((S6)		2 CIT MUCK (A	to)	
Black Histic	(A3)		Loamy Mucky M	(30) Aineral (E1) (exce i	of MI BA 1)	Other (Explain	in Remarks)	
Hydrogen S	Sulfide (A4)		Loamy Gleved	Matrix (F2)			in nemana)	
Depleted Be	elow Dark Surface (A	(11)	X Depleted Matrix	(F3)				
Thick Dark	Surface (A12)	,	Redox Dark Su	rface (F6)				
Sandy Mucl	ky Mineral (S1)		Depleted Dark	Surface (F7)		³ Indicators of hydro	ophytic vegetation a	Ind
Sandy Gley	ed Matrix (S4)		Redox Depress	ions (F8)		wetland hydrolog	y must be present.	
Restrictive Lav	ver (if present):							
Type:								
Depth (inch	es):					Hydric Soil Prese	nt? Yes X	No
Remarks:								
HYDROLOG	GY							
Wetland Hydro	ology Indicators:	. "				Secondary Ind	icators (2 or more re	<u>equired)</u>
Primary Indicate	ors (any one indicato	r is sufficier	it)			Water-Sta	ined Leaves (B9) (N	IW coast)
Surface Wa	ater (A1)		Water-Stained	Leaves (B9) (exce	pt NW coast)	Sparsely V	egetated Concave	Surface (B8)
High Water	Table (A2)		Salt Crust (B11)		X Drainage F	Patterns (B10)	
Saturation ((A3)		Aquatic Invertel	prates (B13)		Dry-Seaso	n Water Table (C2)	
Water Mark	(B1)		Hydrogen Sulfic	le Odor (C1)		Saturation	Visible on Aerial Im	agery (C9)
Sediment D	eposits (B2)		Oxidized Rhizos	spheres along Livi	ng Roots (C3)	Geomorph	ic Position (D2)	
	ITS (B3)		Presence of Re	duced Iron (C4)		Shallow Ad	quitard (D3)	
Aigai Mat of	to (P5)		Recent from Rec	sod Plants (D1) (
Surface Soi	is (BS) il Cracks (B6)		Other (Explain i	n Remarks)		A FAC-Neuli Raised An	t Mounds (D6) (I BE	R Δ)
	Visible on Aerial Imag	nerv (B7)		in hemains)				· · ·)
Field Observat	tions:	Joi J (127)						
Surface Water	Brocont? Vec		No V	Death (inches);				
Water Table P	resent? Yes	v		Depth (inches).	20"	Watland b	hudrology Procent	0
Saturation Pro	cont? Voc			Depth (inches):	18"			r No
(includes capill	lary fringe)	~		Deptil (inches).	10	-		
Describe Reco	orded Data (stream g	auge, monit	oring well, aerial pho	tos, previous inspe	ections), if availal	ble:		
Demonstra								
Remarks: Vegetation hum	mocks observed in a	close proxim	nity to plot.					
Data entered b	v: C.IM Data (checked by:	JAH					
Data ontorod D			V , 11 1					

WETLAND	DETERMINATION DA	TA FORM – W	/estern Mountains	, Valleys and C	Coast Region	
Project/Site: East Sand Island		City/County	: Clatsop	•	Sampling Date:	2/20/2014
Applicant/Owner: U.S. Ar	my Corps of Engineers		State	: Oregon	Sampling Point:	15
Investigator(s): C. Jonas Moiel, Jet	ff Handley	Se	ection, Township, Range	: T9N R11W	_	
Landform (hillslope, terrace, etc.):	terrace		Local relief (con	cave, convex, none): none Slope	(%): 1
Subregion (LRR): LRR A		Lat: 46.262	Long	: -123.977	Datum: N	AD 83 UTM 10N
Soil Map Unit Name: Tropop	samments, 0-15% slopes			NWI classification	n: upland	
Are climatic / hydrologic conditions or	n the site typical for this time	of year?	Yes	X No	(If no, explain in	Remarks)
Are Vegetation,Soil	, or Hydrology	s	significantly disturbed?	Are "Normal C	Circumstances" present	?
				Ye	es <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	ı	naturally problematic?	(If needed, expla	ain any answers in Remark	(S.)
SUMMARY OF FINDINGS –	Attach site map showing	sampling point lo	cations, transects, imp	oortant features, e	tc.	
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No <u>X</u>	Is the Sampled Are	а		
Wetland Hydrology Present?	Yes	No <u>X</u>	within a Wetland?	Yes	<u> </u>	
Remarks:	ono onnrovimatoly dE fact no	where and 4 fact	higher in alguation than	Diet 14 (wetland)		
Flot 15 is located at the top of a millisit	ope approximately 45 leet no	onnwest and 4 leet	nigher in elevation than	Piol 14 (welland).		
				1		
Trop Stratum (Plot size: 50 ft.)	Absolute	Dominant	Indicator	Dominance Test	worksheet:	
1	<u>% Cover</u>	Species?	Status	Number of Domina	ant Species	<i></i>
2				That Are OBL, FA	CW, or FAC: 0	(A)
3				Tabal Manakara (F		
4				Total Number of L	Dominant	
·				Species Across A	Il Strata: 2	(B)
Sapling/Shrub Stratum (Plot size: 25	ft)			Dereent of Domin	ant Chaoling	
	05%	N ₁ -	FAOL	The Aut ODL 54	ant Species	
Rubus armeniacus	25%	Yes	FACU	That Are OBL, FA	CW, or FAC: <u>U</u>	<u>o</u> (A/B)
3	2%	INO	FAGU	Total % Cove	er of Multiply by	
4				OBL species		
5				FACW species	x 2 =	
···	Total Cover: 27%			FAC species		
Herb Stratum (Plot size: 5 ft)				FACU species	x 4 =	
	100%	Vec	FACU			
2	10078	163	1,400	Column Totals	(A)	(B)
3				Prevalence In	(,,,,,	(2)
4.				Hydrophytic Veg	etation Indicators:	
5.				Dominance Te	est is >50%	
6.				Prevalence In	dex is $\leq 3.0^1$	
7.				Morphological	Adaptations ¹ (Provide	supporting
8.				data in Rer	marks or on a separate	sheet)
	Total Cover: 100%			Wetland Non-	Vascular Plants ¹	,
Woody Vine Stratum (Plot Size: 5 ft.	.)			Problematic H	vdrophytic Vegetation ¹	(Explain)
1.	,			¹ Indicators of hydr	ic soil and wetland hvd	rology must
2.				be present.		
	Total Cover			Hydrophytic Vea	etation	
% Bare Ground in Herb Stratum	0%			Present?	Yes No	х
Remarks:				1		
L						

SOIL							Samp	ing Point:	15
Profile Descrip	tion: (Describe to	o the depth n	eeded to docur	nent the indicator o	or confirm the ab	sence of indicators	.)		
Depth	Matri	x		Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Rema	ırks
0-2	10YR2/2	100	no redox				loamy sand		
2-24	10YR3/2	100	no redox				sand		
17 0.0									
Type: C=Conce	entration, D=Deplet	tion, RM=Redu	iced Matrix.	Location: PL=Pore	Lining, RC=Root	Channel, M=Matrix.		3	
Hydric Soli Indi	cators: (Applicab	le to all LRRS	, unless otherv	vise noted.)		Indicators for Pro	blematic Hydric Sol	IS':	
HISTOSOI (A1)		-	Sandy Redo	x (55)		2 cm Muck (A1	IU)		
HISTIC EPIPEO	ion (A2)	-	Stripped Mat	:FIX (S6)	nt MI DA 1)	Red Parent Ma	in Demorke)		
		-		Motrix (E2)			III Remarks)		
Doploted Bol	linde (A4)	- •	Doploted Ma	trix (E2)					
Thick Dark S	Surface (A12)	-	Depieted Ma	Surface (E6)					
Sandy Mucky	w Mineral (S1)	-	Depleted Da	rk Surface (F7)		³ Indicators of hydro	phytic vegetation and	l	
Sandy Gleve	d Matrix (S4)	-	Bedox Depre	essions (F8)		wetland hydroloc	v must be present		
Beetrictive Lev		-					,		
	er (il present):								
Depth (inche	c).					Hydric Soil Prese	nt? Vee	No	Y
Deptil (inche						Thyunc Son Trese			~
nemarks.									
HYDROLOG	Y								
Wetland Hydrol	logy Indicators:					Secondary Ind	icators (2 or more req	uired)	
Primary Indicator	rs (any one indicate	or is sufficient)				Water-Stai	ned Leaves (B9) (NW	coast)	
Surface Wate	er (A1)		Water-Staine	ed Leaves (B9) (exc	ept NW coast)	Sparsely V	egetated Concave Su	Irface (B8)	
High Water 1	Table (A2)	-	Salt Crust (B	511)		Drainage F	Patterns (B10)		
Saturation (A	(3)	_	Aquatic Inve	rtebrates (B13)		Dry-Seaso	n Water Table (C2)		
Water Marks	s (B1)	_	Hydrogen Su	ulfide Odor (C1)		Saturation	Visible on Aerial Imag	ery (C9)	
Sediment De	posits (B2)		Oxidized Rhi	zospheres along Liv	ing Roots (C3)	Geomorph	ic Position (D2)		
Drift Deposits	s (B3)	_	Presence of	Reduced Iron (C4)		Shallow Ac	quitard (D3)		
Algal Mat or	Crust (B4)	_	Recent Iron	Reduction in Tilled S	oils (C6)	Frost-Heav	ve Hummocks (D4)		
Iron Deposits	s (B5)	_	Stunted or S	tressed Plants (D1)	(LRR A)	FAC-Neutr	al Test (D5)		
Surface Soil	Cracks (B6)	_	Other (Expla	in in Remarks)		Raised An	t Mounds (D6) (LRR /	A)	
Inundation Vi	isible on Aerial Ima	igery (B7)							
Field Observati	ons:								
Surface Water F	Present? Yes	I	No <u>X</u>	Depth (inches):					
Water Table Pre	esent? Yes	I	No X	Depth (inches):	>24"	Wetland H	lydrology Present?		
Saturation Pres	ent? Yes	I	No X	Depth (inches):	>24"		Yes	No	Х
(includes capilla	ry fringe)								
Describe Record	ded Data (stream g	gauge, monitor	ing well, aerial p	hotos, previous insp	ections), if availat	ole:			
Remarks:									

WE	TLAND DETER	RMINATION	DATA FORM -	Western Mountains	s, Valleys and Coast Region
Project/Site: East Sand I	sland		City/Count	ty: Clatsop	Sampling Date: 2/20/20
Applicant/Owner:	U.S. Army Corp	s of Engineers		State	e: Oregon Sampling Point: 16
Investigator(s): C. Jonas	Moiel, Jeff Handle	y		Section, Township, Range	e: T9N R11W
Landform (hillslope, terrace	e, etc.):	gentle hillslo	ре	Local relief (co	ncave, convex, none): concave Slope (%): 1
Subregion (LRR):	LRR A		Lat: 46.262	Long	g: <u>-123.976</u> Datum: NAD 83 UTM 10
Soil Map Unit Name:	Tropopsamment	ts, 0-15% slope	s		NWI classification: upland
Are climatic / hydrologic co	nditions on the site	typical for this t	time of year?	Ye	s X No (If no, explain in Remarks)
Are Vegetation	,Soil	, or Hydrolog	ау <u> </u>	significantly disturbed?	Are "Normal Circumstances" present?
				_	Yes <u>X</u> No
Are Vegetation	,Soil	, or Hydrolog	ду	naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FIND	INGS - Attach	site map show	ing sampling point	locations, transects, im	nportant features, etc.
Hydrophytic Vegetation Pr	esent?	Yes X	No		
Hydric Soil Present?		Yes X	No	Is the Sampled Are	ea
Wetland Hydrology Preser	nt?	Yes X	No	within a Wetland?	Yes X No
Remarks: Plot 16 is located in close p	proximity to linear d	rainage feature	and is approximately	20 feet northwest and 2	feet lower than Plot 17 (upland).
VEGETATION					
		Absolut	e Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 5	50 ft.)	<u>% Cove</u>	er <u>Species?</u>	<u>Status</u>	Number of Dominant Species
1					That Are OBL, FACW, or FAC: 1 (A)
2.					
3.					Total Number of Dominant
4.					Species Across All Strata: 1 (B)
	Total C	Cover: 0%			
Sapling/Shrub Stratum (Ple	ot size: 25 ft.)				Percent of Dominant Species
1. Sambucus racemosa		4%	No	FACU	That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. Lonicera involucrata		3%	No	FAC	Prevalence Index worksheet:
3.					Total % Cover of: Multiply by:
4.					OBL species x 1 =
5.					FACW species x 2 =
	Total C	Cover: 7%			FAC species x 3 =
Herb Stratum (Plot size: 5	<u>ft.)</u>		_		FACU species x 4 =
1 Agrostis species		99%	Yes	FAC ?	UPL species x 5 =
2. Vicia americana		1%	No	FAC	Column Totals: 0 (A) 0 (B)
3.					Prevalence Index = B/A =
4.					Hydrophytic Vegetation Indicators:
5.					X Dominance Test is >50%
6.					Prevalence index is $\leq 3.0^{1}$
7					Morphological Adaptations ¹ (Provide supporting
8					data in Bemarks or on a separate sheet)
	Total	20vor: 100%			Wetland Non Vascular Plants ¹
	rolard t Sizo: 5 ft)	Jover. 100%			
Woody Vine Stratum (Plot					
Woody Vine Stratum (Plot	,				Indiantara of hydria and motional hydrology
Woody Vine Stratum (Plot	,				Indicators of hydric soil and wetland hydrology must
<u>Woody Vine Stratum</u> (Plot 1 2				·	Indicators of hydric soil and wetland hydrology must be present.
Woody Vine Stratum (Plot 1 2	Total (Cover: 0%			Indicators of hydric soil and wetland hydrology must be present. Hydrophytic Vegetation

SOIL							Sampl	ing Point: 16
Profile Description	on: (Describe to	the depth ne	eded to docur	nent the indicator o	or confirm the ab	sence of indicate	ors.)	0
Depth	Matrix	(Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-4	10YR2/2	100	no redox				silt loam	
4-24	10YR3/2	90	7.5YR4/6	10	С	М	silt loam	
	<u> </u>							
1				, _				
'Type: C=Concent	ration, D=Depleti	on, RM=Redu	iced Matrix.	Location: PL=Pore	Lining, RC=Root	Channel, M=Matri	х.	2
Hydric Soil Indica	tors: (Applicable	e to all LRRs	, unless otherv	vise noted.)		Indicators for	Problematic Hydric Soil	s°:
Histosol (A1)		-	Sandy Redo	x (S5)		2 cm Muck	(A10)	
Histic Epipedor	n (A2)	-	Stripped Mat	rix (S6)		Red Parent	Material (TF2)	
Black Histic (A3	3)	-	Loamy Muck	y Mineral (F1) (exce	pt MLRA 1)	Other (Expl	ain in Remarks)	
Hydrogen Sulfic	de (A4)		Loamy Gleye	ed Matrix (F2)				
Depleted Below	/ Dark Surface (A	(11)	Depleted Ma	trix (F3)				
Trick Dark Sur		<u>_</u>	Redox Dark	Surface (F6)		³ Indicators of h	drophytic vegetation and	
Sandy Mucky N	Motrix (S1)	-	Depieted Da			wetland bydro		
	Vialitix (34)	-				wetiand hydro	nogy must be present.	
Restrictive Layer	(if present):							
Type:							N N N	
Depth (inches):						Hydric Soil Pre	esent? Yes X	NO
Remarks:								
Wetland Hydrolog	v Indicators:					Secondary	Indicators (2 or more requ	uired)
Primary Indicators	(any one indicato	r is sufficient)				Water-9	Stained Leaves (B9) (NW	coast)
Surface Water	(A1)		Water-Stain	ed Leaves (B9) (exc	ent NW coast)	Sparsel	v Vegetated Concave Su	rface (B8)
High Water Tak	ole (A2)	-	Salt Crust (F	(11)	op:	X Drainac	e Patterns (B10)	
Saturation (A3)	510 (<i>i</i> i <u></u>)	-	Aquatic Inve	rtebrates (B13)		Drv-Sea	ason Water Table (C2)	
Water Marks (E	31)	-	Hydrogen Si	ulfide Odor (C1)		Saturati	ion Visible on Aerial Imag	erv (C9)
Sediment Depo	, sits (B2)	-	Oxidized Rhi	zospheres along Liv	ina Roots (C3)	Geomo	rphic Position (D2)	
Drift Deposits (B3)	-	Presence of	Reduced Iron (C4)	0 ()	Shallow	/ Aquitard (D3)	
Algal Mat or Cr	ust (B4)	-	Recent Iron	Reduction in Tilled S	oils (C6)	Frost-H	eave Hummocks (D4)	
Iron Deposits (B	35)	-	Stunted or S	tressed Plants (D1)	(LRR A)	FAC-Ne	eutral Test (D5)	
Surface Soil Cr	acks (B6)	_	Other (Expla	in in Remarks)		X Raised	Ant Mounds (D6) (LRR A	A)
Inundation Visit	ole on Aerial Imag	gery (B7)				_		
Field Observation	IS:							
Surface Water Pre	esent? Yes		No X	Depth (inches):				
Water Table Prese	ent? Yes		No X	Depth (inches):	>24"		d Hydrology Present?	
Saturation Presen	t? Yes	Х	No	Depth (inches):	16"	_	Yes X	No
(includes capillary	fringe)			,		_		
Describe Recorde	d Data (stream ga	auge, monitor	ing well, aerial p	hotos, previous insp	ections), if availat	ole:		
Bemarka:								
No free-water was	observed in pit at	fter 5 minutes	. We assume th	at the vegetation hu	nmocks observed	I were a result of F	Raised Ant Mounds (D6),	but they could also
be a result of Frost	-Heave (D4).			-			. /	-
Data entered by: 0	CJM Data d	checked by:	JAH					

WETLAND DE	TERMINATION DA	TA FORM – W	estern Mountains	, Valleys and C	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/20/2014
Applicant/Owner: U.S. Army	Corps of Engineers		State	: Oregon	Sampling Point:	17
Investigator(s): C. Jonas Moiel, Jeff H	andley	Sec		: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle hillslope		Local relief (cor	cave, convex, none)	: none Slop	be (%): 1
Subregion (LRR): LRR A		Lat: 46.262	Long	: -123.976	Datum: I	VAD 83 UTM 10N
Soil Map Unit Name: Tropopsan	nments, 0-15% slopes		_	NWI classification	: upland	
Are climatic / hydrologic conditions on th	e site typical for this time	of year?	Yes	X No	(If no, explain	in Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Ci	rcumstances" preser	nt?
				Yes	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explai	in any answers in Rema	arks.)
SUMMARY OF FINDINGS - At	tach site map showing	sampling point loo	cations, transects, im	portant features, etc	c.	
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes X	No	Is the Sampled Are	а		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X
Remarks:						
Plot 17 is located approximately 20 feet	southeast and 2 feet high	er than Plot 16 (we	tland).			
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test v	worksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	nt Species	
1.				That Are OBL, FAC	CW, or FAC:	2 (A)
2.						
3.				Total Number of De	ominant	
4				Species Across All	Strata:	<u>4</u> (B)
T	otal Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Domina	nt Species	
1. Lonicera involucrata	40%	Yes	FAC	That Are OBL, FAC	CW, or FAC: 5	<u>.0%</u> (A/B)
^{2.} Sambucus racemosa	30%	Yes	FACU	Prevalence Index	worksheet:	
3				I otal % Cove	r of: <u>Multiply by:</u>	
4				OBL species	x 1 =	
5				FACW species	x 2 =	
Т	otal Cover: 70%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Holcus lanatus	30%	Yes	FAC	UPL species	x 5 =	
2. Cardamine hirsuta	20%	Yes	FACU	Column Totals:	0 (A)	<u>0</u> (B)
3. Epilobium ciliatum	5%	No	FACW	Prevalence Inc	dex = B/A =	
4. Digitalis purpurea	3%	No	FACU	Hydrophytic Vege	etation Indicators:	
5				Dominance Te	st is >50%	
6				Prevalence Ind	lex is ≤3.0 ¹	
7				Morphological	Adaptations ¹ (Provid	e supporting
8				data in Rem	narks or on a separat	e sheet)
Т	otal Cover: 58%			Wetland Non-V	ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hy	drophytic Vegetatior	¹ (Explain)
1				¹ Indicators of hydric	c soil and wetland hy	drology must
2				be present.		
Т	otal Cover: 0%			Hydrophytic Vege	etation	
% Bare Ground in Herb Stratum	42%			Present?	Yes No	X
Remarks:				•		
Bareground in herb stratum is covered b	y moss.					

SOIL							Sam	oling Point: 17
Profile Descr	iption: (Describe to	o the depth ne	eded to docume	ent the indicator or	r confirm the at	osence of indicators	.)	
Depth	Matrix	x		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-14	10YR3/2	95	10YR4/4	5	С	М	silt loam	
14-24	10YR3/1	85	10YR4/4	15	С	M	silt loam	
				<u> </u>				
17 0.0	<u> </u>		2	·				
Type: C=Con	centration, D=Deplet	tion, RM=Redu	ced Matrix. Lo	ocation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		3
		ie to all LRRS,				Indicators for Pro	Diematic Hydric So	
HISTOSOI (A	1) adap (4 2)	—	Sandy Redox ((55)		2 cm Muck (Al	U)	
Block Histic		—	_Stripped Matrix	((56) Minoral (E1) (ovcor		Red Parent Ma	in Romarka)	
	C (AS) Sulfido (A4)	_	Loamy Gloved	Matrix (E2)			in nemarks)	
Depleted B	elow Dark Surface (A	Δ11) —	Depleted Matri	v (E3)				
Thick Dark	Surface (A12)	x (1)	Bedox Dark Si	rface (F6)				
Sandy Muc	kv Mineral (S1)	<u></u>	Depleted Dark	Surface (F7)		³ Indicators of hydro	phytic vegetation an	d
Sandy Glev	ved Matrix (S4)	_	Redox Depres	sions (F8)		wetland hydrolog	v must be present.	
Pootrictivo Lo	wor (if propert).			X 7		, ,		
	iyer (il present).							
Depth (inch						Hydric Soil Prese	nt? Ves X	No
Remarks.								
HYDROLO	GY							
Wetland Hydr	ology Indicators:					Secondary Ind	icators (2 or more re	quired)
Primary Indicat	tors (any one indicate	or is sufficient)				Water-Stai	ned Leaves (B9) (N	V coast)
Surface Wa	ater (A1)		Water-Stained	Leaves (B9) (exce	pt NW coast)	Sparsely V	egetated Concave S	urface (B8)
High Water	r Table (A2)	—	Salt Crust (B1	1)		Drainage F	atterns (B10)	
Saturation	(A3)		Aquatic Inverte	ebrates (B13)		Dry-Seaso	n Water Table (C2)	
Water Marl	ks (B1)		Hydrogen Sulfi	de Odor (C1)		Saturation	Visible on Aerial Ima	gery (C9)
Sediment D	Deposits (B2)		Oxidized Rhizo	spheres along Livir	ng Roots (C3)	Geomorph	ic Position (D2)	
Drift Depos	sits (B3)	_	Presence of R	educed Iron (C4)		Shallow Ac	quitard (D3)	
Algal Mat c	or Crust (B4)	_	Recent Iron Re	eduction in Tilled Sc	oils (C6)	Frost-Heav	ve Hummocks (D4)	
Iron Depos	its (B5)	_	Stunted or Stre	essed Plants (D1) (I	LRR A)	FAC-Neutr	al Test (D5)	
Surface So	il Cracks (B6)	_	Other (Explain	in Remarks)		Raised Ant	t Mounds (D6) (LRR	A)
Inundation	Visible on Aerial Ima	gery (B7)						
Field Observa	ntions:							
Surface Wate	r Present? Yes	N	o X	Depth (inches):				
Water Table F	Present? Yes	N	o X	Depth (inches):	>24"	Wetland H	lydrology Present?	
Saturation Pre	esent? Yes	N	o X	Depth (inches):	>24"		Yes	No <u>X</u>
(includes capi	llary fringe)							
Describe Reco	orded Data (stream g	jauge, monitorii	ng well, aerial pho	otos, previous inspe	ections), if availa	ble:		
Remarks:								
Data entered b	oy: CJM Data	checked by: J	AH					

WETLAND	DETERMINAT	ION DA	TA FORM – W	estern Mountains	, Valleys and Co	oast Region	
Project/Site: East Sand Island			City/County:	Clatsop	•	Sampling Date:	2/20/2014
Applicant/Owner: U.S. A	rmy Corps of Engin	eers		State	: Oregon	Sampling Point:	18
Investigator(s): C. Jonas Moiel, Je	ff Handley		Sec		: T9N R11W		
Landform (hillslope, terrace, etc.):	depres	sion		Local relief (con	cave, convex, none)	: concave Slop	e (%): 0
Subregion (LRR): LRR A			Lat: 46.263	Long	: -123.974	Datum: N	IAD 83 UTM 10N
Soil Map Unit Name: Tropop	samments, 0-15%	slopes		_	NWI classification	: PEMCS	
Are climatic / hydrologic conditions o	n the site typical fo	r this time	of year?	Yes	X No	(If no, explain ir	n Remarks)
Are Vegetation,Soil	, or Hy	drology	s	ignificantly disturbed?	Are "Normal Ci	rcumstances" presen	t?
					Yes	s <u>X</u> No	
Are Vegetation,Soil	, or Hy	drology	n	aturally problematic?	(If needed, explai	n any answers in Rema	rks.)
SUMMARY OF FINDINGS -	Attach site map	showing	sampling point loo	cations, transects, imp	oortant features, etc	.	
Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area	а		
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	X No	
Plot 18 is located in a low-elevation o	depression, below t	he calcula	ted highest measur	ed tide. It is approximat	ely 30 feet north and	3 feet lower than Plo	ot 19 (upland).
VEGETATION					I		
Tree Stratum (Plot size: 50 ft)	A	bsolute	Dominant	Indicator	Dominance Test v	vorksheet:	
1	<u>%</u>	Cover	Species?	Status	Number of Domina	nt Species	
2	<u> </u>				That Are OBL, FAC	CW, or FAC:	2(A)
	<u> </u>				T		
4					Total Number of Do	ominant	- (-)
···					Species Across All	Strata:	2(B)
Sapling/Shrub Stratum (Plot size: 25	ft)	0%			Percent of Domina	at Spaciae	
	,,	100/	Mar	54014/	The Aut ODL FAC		
2 Salix nookerlana		10%	Yes	FAGW	That Are OBL, FAC	W, OF FAC: <u>10</u>	<u>(A/B)</u>
3					Total % Cove	r of Multiply by	
4						<u> </u>	
4							
····	Total Cavari	109/			FAC species	× 3 -	
Herb Stratum (Plot size: 5 ft)		10%			FACLI species	× 4 -	
		0.5%	Vaa	EACIM			
2 Cordomino birouto	<u> </u>	20/	No	EACU	Column Totals:	(A)	0 (B)
3 Epilopium ciliatum	<u> </u>	1%	No		Prevalence Inc	$B_{\rm ex} = B/A =$	<u> </u>
	<u> </u>	1 %	No	FAC	Hydrophytic Vege	tation Indicators:	
5		1 /0	110	TAC	X Dominance Tes	st is $>50\%$	
6	<u> </u>				Prevalence Ind	$ex is < 3.0^{1}$	
7					Morphological	ex is ⊒0.0 Adaptations ¹ (Provide	supporting
8	<u> </u>				data in Rem	arks or on a separate	sheet)
···	Total Covor:	00%			Wetland Non-W	and of on a separate	5 511001)
Woody Vine Stratum (Plot Size: 5 ft		3378			Problematic Hy	drophytic Vegetation	¹ (Explain)
1)				¹ Indicators of hydrid	coll and wetland by	
2					be present	son and wettand rive	arology must
	Total Covor:	0%			Hydrophytic Vege	tation	
% Bare Ground in Herb Stratum	1%	0 /0			Present?	Yes X No	
	1 /0					<u></u>	
nemarks.							

SOIL							Sampli	ng Point: 18
Profile Descr	iption: (Describe to	the depth n	eeded to document	t the indicator o	r confirm the ab	sence of indicators	5.)	0
Depth	Matrix	ĸ		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-4	10YR2/1	100	no redox				loamy sand	
4-24	10YR3/1	95	10YR4/4	5	С	М	sand	
	·							
	· ·							
	· ·							
1	· <u> </u>		2.					
'Type: C=Con	centration, D=Deplet	ion, RM=Red	uced Matrix. ² Loc	ation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		2
Hydric Soil In	dicators: (Applicabl	e to all LRRs	s, unless otherwise	noted.)		Indicators for Pro	oblematic Hydric Soil	s°:
Histosol (A	1)	-	X Sandy Redox (S	5)		2 cm Muck (A	10)	
Histic Epipe	edon (A2)	-	Stripped Matrix (S6)		Red Parent M	aterial (TF2)	
Black Histic	c (A3)	-	Loamy Mucky M	ineral (F1) (excer	ot MLRA 1)	Other (Explain	i in Remarks)	
Hydrogen S	Sulfide (A4)	-	Loamy Gleyed N	latrix (F2)				
Depleted B	elow Dark Surface (A		Depleted Matrix	(F3)				
Eandy Mus	Surface (A12)	-	Redox Dark Suri	ace (F6)		³ Indicators of hydr	onhytic vegetation and	
Sandy Muc	vod Motrix (S4)	-	Depieted Dark S			wotland bydrolog		
	veu mainx (34)	-		JIIS (FO)			gy must be present.	
Restrictive La	yer (if present):							
Type:							· · · · · · · · · · · · · · · · · · ·	
Depth (inch	nes):					Hydric Soil Prese	ent? Yes X	No
Remarks:								
	01/							
Wetland Hydr	ology Indicators:					Socondary Inc	licators (2 or more reg	uirod)
Primary Indicat	tors (any one indicato	or is sufficient)				Water Sta	incators (2 or more requ	
Surface W/	rator(A1)		Water-Stained L		nt NW coast)	Sparsoly \		rface (BR)
V High Water	aler (AT)	-	Solt Cruct (P11)	eaves (B9) (exce	pr ww coast)	Sparsely \	Petterne (P10)	
X Saturation	$(\Delta 3)$	-	Aquatic Inverteb	rates (B13)		Drainage i	rallerns (BTU)	
Water Mark	(7.6) (s (B1)	-	Hydrogen Sulfide	A Odor (C1)		Saturation	Visible on Aerial Imag	erv (C9)
Sediment [)enosits (B2)	-	Oxidized Bhizosi	oheres along Livi	na Boots (C3)	Geomorph	nic Position (D2)	
Drift Depos	aits (B3)	-	Presence of Red	luced Iron (C4)		Shallow A	quitard (D3)	
Algal Mat o	r Crust (B4)	-	Recent Iron Red	uction in Tilled So	oils (C6)	Frost-Hear	ve Hummocks (D4)	
Iron Depos	its (B5)	-	Stunted or Stress	sed Plants (D1) (X FAC-Neut	ral Test (D5)	
Surface So	il Cracks (B6)	-	Other (Explain in	Remarks)	,	Raised An	it Mounds (D6) (LRR A)
Inundation	Visible on Aerial Imag	gery (B7)		,		—	. , .	, ,
Field Observa	tions:							
Surface Wate	r Present? Ves		No X F	enth (inches):				
Water Table F	Present? Yes	X		epth (inches):	6.5"		- 	
Saturation Pre	sent? Yes	X	Νο <u> </u>	enth (inches):	5.5"		Yes X	No
(includes capil	llary fringe)				0.0	_	<u> </u>	
Describe Reco	orded Data (stream g	auge, monitor	ring well, aerial photo	os, previous inspe	ections), if availal	ole:		
Domorke								
Hemarks:								
Data entered h	v: C.IM Deta	checked by:	IAH					
Data CITCICU L	Jy. Colvi Dala	meened by.						

WETLAND DET	ERMINATION DAT	TA FORM – W	estern Mountains	, Valleys and Co	ast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/20/2014
Applicant/Owner: U.S. Army C	orps of Engineers		State:	Oregon	Sampling Point:	19
Investigator(s): C. Jonas Moiel, Jeff Har	ndley	See	ction, Township, Range:	T9N R11W		
Landform (hillslope, terrace, etc.):	hillslope		Local relief (con	cave, convex, none):	none Slope	(%): 2
Subregion (LRR): LRR A		Lat: 46.263	Long:	-123.974	Datum: NA	AD 83 UTM 10N
Soil Map Unit Name: Tropopsamm	nents, 0-15% slopes			NWI classification:	upland	
Are climatic / hydrologic conditions on the	site typical for this time o	of year?	Yes	X No	(If no, explain in	Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Circ	cumstances" present	?
				Yes	X No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain	any answers in Remark	(S.)
SUMMARY OF FINDINGS – Atta	ch site map showing s	ampling point lo	cations, transects, imp	oortant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area	3		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	<u> </u>	
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominan	t Species	
1				That Are OBL, FAC	W, or FAC: 0	(A)
2						
3				Total Number of Do	minant	
4.				Species Across All S	Strata: 1	(B)
То	tal Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominan	t Species	
1. Rubus armeniacus	3%	No	FACU	That Are OBL, FAC	W, or FAC: <u>0</u> 9	<u>(A/B)</u>
2. Malus fusca	2%	No	FACW	Prevalence Index v	vorksheet:	
^{3.} Lonicera involucrata	1%	No	FAC	I otal % Cover	of: <u>Multiply by:</u>	_
4				OBL species	x 1 =	
5				FACW species	x 2 =	
То	tal Cover: 6%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Ammophila breviligulata	62%	Yes	UPL		x 5 =	
2. Holcus lanatus	10%	No	FAC	Column Totals:	0 (A)	0 (B)
3. Rumex acetosella	5%	No	FACU	Prevalence Inde	ex = B/A =	
4. Digitalis purpurea	2%	No	FACU			
5. Lotus corniculatus	1%	No	FAC		uia <0.0 ¹	
8				Prevalence Inde	x is ≤3.0°	
·				Morphological A	daptations (Provide	supporting
o	tal Oauan000/				and of off a separate	Sheel)
10 Woody Vino Stratum (Plot Sizo: 5 ft.)	tal Cover: 80%				Iscular Plants	(Evalaia)
				Problematic Hyd	rophytic vegetation	(Explain)
2				he present	son and wetland hyd	rology must
L				Hydronhytic Veget	ation	
10				Invarophytic veget		
V Baro Ground in Horb Stratum	20%			Present?	Ves No	Y

SOIL							Samp	ling Point: 19
Profile Descri	ption: (Describe to	o the depth ne	eded to docun	nent the indicator of	or confirm the ab	sence of indicators	s.)	3
Depth	Matri	ix		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-1	10YR2/2	100	no redox				loamy sand	
1-24	10YR3/2	100	no redox				sand	
							·	
	ontration D Doplor	tion PM Podu	and Matrix ²	Loootion: DL Doro	Lining PC Poot	Channel M. Matrix		
Hydric Soil Ind	ientration, D=Depie		unloss othorn		Lining, RC=ROOL		hlomotic Hudric Coi	1o ³ .
Historol (A1			Sandy Bodo			2 om Muck (A		15 :
Histosol (A1	$\frac{1}{2}$		Stripped Mat	riv (S6)		2 CIII Muck (A	TU)	
Black Histic	(A3)	_	Loamy Muck	v Mineral (F1) (exce	pt MLRA 1)	Other (Explain	in Remarks)	
Hydrogen S	ulfide (A4)		Loamy Gleve	d Matrix (F2)	pt in 2104 17		in nemanoj	
Depleted Be	elow Dark Surface (A11)	Depleted Ma	trix (F3)				
Thick Dark	Surface (A12)		Redox Dark	Surface (F6)				
Sandy Muck	y Mineral (S1)		Depleted Dar	k Surface (F7)		³ Indicators of hydro	ophytic vegetation and	I
Sandy Gleye	ed Matrix (S4)		Redox Depre	ssions (F8)		wetland hydrolog	gy must be present.	
Restrictive Lav	ver (if present):							
Type:								
Depth (inche	es):					Hydric Soil Prese	ent? Yes	No X
Remarks:								
HYDROLOG	àΥ							
Wetland Hydro	logy Indicators:					Secondary Ind	licators (2 or more req	<u>uired)</u>
Primary Indicate	ors (any one indicati	or is sufficient)				Water-Sta	ined Leaves (B9) (NW	coast)
Surface Wa	ter (A1)	_	Water-Staine	d Leaves (B9) (exc	ept NW coast)	Sparsely V	egetated Concave Su	ırface (B8)
High Water	Table (A2)	_	Salt Crust (B	11)		Drainage F	Patterns (B10)	
Saturation (A3)	_	Aquatic Inver	tebrates (B13)		Dry-Seaso	n Water Table (C2)	
Water Mark	s (B1)	_	Hydrogen Su	lfide Odor (C1)		Saturation	Visible on Aerial Imag	jery (C9)
Sediment D	eposits (B2)	_	Oxidized Rhi	zospheres along Liv	ing Roots (C3)	Geomorph	ic Position (D2)	
Drift Deposi	ts (B3)		Presence of	Reduced Iron (C4)	- 1. (00)	Shallow A	quitard (D3)	
Algai Mat or	Crust (B4)	_	Recent Iron H	reduction in Tilled S		Frost-Heav	ve Hummocks (D4)	
Surface Soil	S (DD) Cracks (B6)		Othor (Evolution	in in Pomarke)		FAC-Neut	t Mounds (D6) (I BB /	N)
	/isible on Aerial Ima			in in nemarks)		Thaised Air		(
Field Observat	ione:							
	Dresent?		N N	Death (leaker)				
Surface Water	Present? Yes	N		Depth (inches):	. 04"	Wetlend b		
Seturation Bro	resent? Yes	N		Depth (inches):	>24	wetland r	yarology Present?	No. Y
(includes capill	ary fringe)	N	0 <u> </u>	Depth (inches).	>24	-	res	
Describe Reco	rded Data (stream g	gauge, monitorii	ng well, aerial p	hotos, previous insp	ections), if availat	ble:		
<u> </u>		-		•				
Remarks: Soils were note	d to be slightly mois	st at the time of	sampling					
	a to be enginity mold		9.					
Data optorod b		chockod by:	лц					
Data efficience D	y. Ojivi Data	checked by: J.						

WETLAND	DETERMINATION DA	TA FORM – W	estern Mountains	, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/25/2014
Applicant/Owner: U.S. Ar	rmy Corps of Engineers		State	: Oregon	Sampling Point:	20
Investigator(s): C. Jonas Moiel, Je	ff Handley	Sec		: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle hillslope		Local relief (cor	cave, convex, none):	none Slope	(%): 1
Subregion (LRR): LRR A		Lat: 46.262	Long	: -123.976	Datum: NA	AD 83 UTM 10N
Soil Map Unit Name: Tropop	samments, 0-15% slopes		_	NWI classification:	upland	
Are climatic / hydrologic conditions or	n the site typical for this time	of year?	Yes	X No	(If no, explain in	Remarks)
Are Vegetation ,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Cir	rcumstances" present	?
				Yes	<u>X No</u>	
Are Vegetation ,Soil	, or Hydrology	n	aturally problematic?	(If needed, explai	n any answers in Remark	(S.)
SUMMARY OF FINDINGS -	Attach site map showing	sampling point loo	cations, transects, im	portant features, etc).	
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	X No	
Remarks:						
Plot 20 is located on a gentle hillslope	e approximately 40 feet sout	hwest and 1 foot lov	wer than Plot 21 (upland	d).		
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test w	vorksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominar	nt Species	
1.				That Are OBL, FAC	W, or FAC: 3	(A)
2.						
3.				Total Number of Do	ominant	
4.				Species Across All	Strata: 3	(B)
	Total Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25	5 ft.)			Percent of Dominar	nt Species	
1. Lonicera involucrata	40%	Yes	FAC	That Are OBL FAC	W or FAC: 100	<u>%</u> (A/B)
2. Sambucus racemosa	5%	No	FACU	Prevalence Index	worksheet:	(///2/)
3.				Total % Cover	r of: Multiply by:	_
4.				OBL species	x 1 =	
5				FACW species		
·	Total Cover: 15%			FAC species		
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
	50%	Vec	OBI			
2 Agrostis species	30%	Vos		Column Totals:	(A)	0 (B)
3 Holous Ispatus	10%	No		Prevalence Ind	$B/\Delta =$	0 (5)
4 Cardamino hirsuta	10/6	No	EACU	Hydrophytic Vege	tation Indicators:	
5 Enilobium oiliotum	4/0	<u></u> No		X Dominance Tes	at is $>50\%$	
6	1 70	110	FAGW	Brovalanco Inde	$\frac{1}{2} = \frac{1}{2} = \frac{1}{2}$	
7				Morphological	ex is 20.0 Adoptationa ¹ (Provide)	oupporting
/				data in Rom	arks or on a sonarate	supporting
···	Tatal Osuari OE0/				and of on a separate	Sileet)
Weedy Vine Stratum (Dist Size, Eft	Total Cover: 95%			wetland Non-V	ascular Plants	(F)
Woody Vine Stratum (Flot Size: 5 It)			Problematic Hy	dropnytic vegetation	(Explain)
·				indicators of hydric	soil and wetland hydi	rology must
^{2.}				be present.	4-41	
	I otal Cover: 0%			nyaropnytic vege		
% Bare Ground in Herb Stratum	5%			Present?	res X No	
Remarks:						
Agrostis species was assumed to be	FAC or wetter.					

SOIL								Sampl	ing Point:	20
Profile Descrip	otion: (Describe to	o the depth nee	eded to docum	ent the indicator o	or confirm the ab	osence of ir	ndicators.)			
Depth	Matrix	х		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	L	oc2 1	Fexture	Rem	narks
0-6	10YR2/2	97	7.5YR4/6	3	С		M silt lo	am		
6-24	10YR3/2	85	7.5YR4/6	15	С		M silt lo	am		
L	·									
¹ T			21		Lining DO Deet	Observal M				
Type: C=Conc	entration, D=Deplet	tion, RIVI=Reduc	ved Matrix.	Location: PL=Pore	Lining, RC=Root C	Channel, M	=Matrix.		_ 3	
Hydric Soli Ind		ie to all LRRS,				Indicator	rs for Problemat	ic Hyaric Soli	S:	
HISTOSOI (A1) dara (A O)	_	_Sandy Redox	(55)		2 cm	MUCK (A10)			
Block Histic		_	_Stripped Muck	IX (56) Minoral (E1) (avca	nt MI RA 1)	Red I	Parent Material (1	rko)		
	(AS) ulfida (A4)	—		Matrix (E2)		Othe		ains)		
Doploted Bo	unide (A4) Jow Dark Surface (/	<u> </u>	Doploted Mat	riv (E2)						
Thick Dark S	Surface (A12)	x (1)	Bedox Dark S	Surface (E6)						
Sandy Muck	v Mineral (S1)	<u></u>	Depleted Dark	Surface (F7)		³ Indicator	s of hydrophytic v	vegetation and		
Sandy Gleve	ed Matrix (S4)	_	Bedox Denre	ssions (F8)		wetland	t hydrology must l	he present		
							, a. e. e. gyee .			
Restrictive Lay	er (if present):									
Type:						Liveluie C	ail Dracant?	(aa X	No	
Deptil (inche			_			Hyune S	on Fresent?			
Remarks:										
	Y									
Wetland Hydro	logy Indicators:					Seco	ndary Indicators (2 or more req	uired)	
Primary Indicato	ors (any one indicato	or is sufficient)				v	Vater-Stained Lea	aves (B9) (NW	coast)	
Surface Wat	ter (A1)		Water-Staine	d Leaves (B9) (exce	ept NW coast)	s	parsely Vegetate	d Concave Su	rface (B8)	
High Water	Table (A2)	_	Salt Crust (B1	1)	•		rainage Patterns	(B10)	. ,	
Saturation (A	43)	_	Aquatic Invert	ebrates (B13)		D	ory-Season Water	Table (C2)		
Water Marks	s (B1)		Hydrogen Sul	fide Odor (C1)		s	aturation Visible	on Aerial Imag	ery (C9)	
Sediment De	eposits (B2)		Oxidized Rhiz	ospheres along Livi	ing Roots (C3)		eomorphic Positi	on (D2)		
Drift Deposit	ts (B3)		Presence of F	Reduced Iron (C4)		s	hallow Aquitard (D3)		
Algal Mat or	Crust (B4)		Recent Iron F	eduction in Tilled S	oils (C6)	F	rost-Heave Humr	nocks (D4)		
Iron Deposit	s (B5)		Stunted or St	ressed Plants (D1) ((LRR A)	XF	AC-Neutral Test	(D5)		
Surface Soil	Cracks (B6)	_	Other (Explain	n in Remarks)		XF	aised Ant Mound	s (D6) (LRR A	()	
Inundation V	isible on Aerial Ima	igery (B7)								
Field Observat	ions:									
Surface Water	Present? Yes	Ν	o X	Depth (inches):						
Water Table Pr	resent? Yes	N	0 X	Depth (inches):	>24"	v	Vetland Hydrolog	gy Present?		
Saturation Pres	sent? Yes	N	o X	Depth (inches):	>24"	-		/es X	No	
(includes capilla	ary fringe)					_			—	
Describe Recor	rded Data (stream g	gauge, monitorir	ng well, aerial ph	iotos, previous insp	ections), if availab	ble:				
Pomarka:										
We assume that	t the vegetation hun	nmocks observ	ed were a result	of Raised Ant Mou	nds (D6), but they	y could also	be a result of Fro	st-Heave (D4)	. Soils were	e noted to
We assume that be moist at the t	t the vegetation hun time of sampling.	mmocks observ	ed were a result	of Raised Ant Mou	nds (D6), but they	y could also	be a result of Fro	ost-Heave (D4)	. Soils were	e noted to

WETLAN		ATION DA	TA FC	DRM – W	estern Mountains	, Valleys and Co	oast Region		
Project/Site: East Sand Island			С	ity/County:	Clatsop	-	Sampling Dat	e:	2/25/2014
Applicant/Owner: U.S	. Army Corps of En	gineers			States	Oregon	Sampling Poir	ıt:	21
Investigator(s): C. Jonas Moiel,	, Jeff Handley			Se		T9N R11W	-		
Landform (hillslope, terrace, etc.):	terra	ace			Local relief (con	cave, convex, none)	none S	Slope (%)	: 0
Subregion (LRR): LRF	R A		Lat: 4	6.262	Long	-123.976	Datur	n: <u>NAD 8</u>	3 UTM 10N
Soil Map Unit Name: Tro	popsamments, 0-15	5% slopes			_	NWI classification	upland		
Are climatic / hydrologic condition	s on the site typical	for this time	of year?	>	Yes	X No	(If no, expl	ain in Rem	arks)
Are Vegetation,Soi	il, or	Hydrology		s	ignificantly disturbed?	Are "Normal Ci	rcumstances" pre	sent?	
						Yes	<u>X</u> No		_
Are Vegetation,Soi	il, or	Hydrology		n	aturally problematic?	(If needed, explai	n any answers in R	emarks.)	
SUMMARY OF FINDINGS	- Attach site ma	ap showing	samplir	ng point lo	cations, transects, imp	ortant features, etc			
Hydrophytic Vegetation Present?	Yes		No	Х					
Hydric Soil Present?	Yes	Х	No		Is the Sampled Area	3			
Wetland Hydrology Present?	Yes		No	Х	within a Wetland?	Yes	No	Х	_
Remarks: Plot 21 is located approximately 4	0 feet northeast an	d 1 foot high	er than I	Plot 20 (wet	tland).				
VEGETATION						1			
Tree Stratum (Dist size: 50 ft)		Absolute	[Dominant	Indicator	Dominance Test v	vorksheet:		
		<u>% Cover</u>		Species?	Status	Number of Domina	nt Species		
1			_			That Are OBL, FAC	CW, or FAC:	0	_(A)
2.									
3. 						Total Number of Do	ominant		
4.			_			Species Across All	Strata:	2	_(B)
	Total Cover:	0%							
Sapling/Shrub Stratum (Plot size	: 25 ft.)					Percent of Dominal	nt Species		
1. Sambucus racemosa		70%		Yes	FACU	That Are OBL, FAC	CW, or FAC:	<u>0%</u>	(A/B)
2. Lonicera involucrata		10%		No	FAC	Prevalence Index	worksheet:		
3						I otal % Cover	r of: <u>Multiply b</u>	<u>y:</u>	
4						OBL species	x 1 =		_
5						FACW species	x 2 =		_
	Total Cover:	80%				FAC species	x 3 =		_
Herb Stratum (Plot size: 5 ft.)						FACU species	x 4 =		_
1. Cardamine hirsuta		55%	_	Yes	FACU	UPL species	x 5 =		_
2. Agrostis species		15%	_	No	FAC ?	Column Totals:	0 (A)	0	(B)
3. Holcus lanatus		10%	_	No	FAC	Prevalence Ind	ex = B/A =		
4						Hydrophytic Vege	tation Indicator	s:	
5			_			Dominance Tes	st is >50%		
6						Prevalence Ind	ex is ≤3.0 ¹		
7			_			Morphological A	Adaptations ¹ (Pro	vide supp	porting
8						data in Rem	arks or on a sepa	arate she	et)
	Total Cover:	80%				Wetland Non-V	ascular Plants ¹		
Woody Vine Stratum (Plot Size:	5 ft.)					Problematic Hy	drophytic Vegeta	tion ¹ (Exp	olain)
1			_			¹ Indicators of hydric	soil and wetland	ł hydrolog	gy must
2.						be present.			
	Total Cover:	0%				Hydrophytic Vege	tation		
% Bare Ground in Herb Stratum	20%					Present?	Yes N	lo_X	_
Remarks:									
Agrostis species was assumed to	be FAC or wetter.	Most of the	bargrour	nd areas wit	thin the herb stratum we	re covered by moss.			

SOIL							Sam	oling Point: 21
Profile Descrip	otion: (Describe to	o the depth ne	eded to docum	ent the indicator o	r confirm the ab	sence of indicators.)	<u> </u>
Depth	Matrix	x		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-4	10YR2/2	100	no redox				silt loam	
4-26	10YR3/2	93	7.5YR4/6	7	С	М	silt loam	
						_		
1					_			
'Type: C=Conce	entration, D=Deplet	ion, RM=Redu	ced Matrix. ² I	Location: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		2
Hydric Soil Ind	icators: (Applicabl	le to all LRRs	unless otherw	ise noted.)		Indicators for Prol	blematic Hydric So	ils°:
Histosol (A1))	-	Sandy Redox	: (S5)		2 cm Muck (A1	0)	
Histic Epiped	don (A2)	-	Stripped Matr	ix (S6)		Red Parent Ma	terial (TF2)	
Black Histic	(A3)	-	Loamy Mucky	/ Mineral (F1) (excep	ot MLRA 1)	Other (Explain	in Remarks)	
Hydrogen Su	ulfide (A4)	_	Loamy Gleye	d Matrix (F2)				
Depleted Be	low Dark Surface (A		Depleted Mat	rix (F3) Surface (E6)				
Sandy Muck	v Minoral (S1)	<u></u>	Doploted Dark	k Surface (F0)		³ Indicators of hydro	nhytic vegetation an	d
Sandy Gleve	d Matrix (S1)	-	Beday Depre	scions (E8)		wetland bydrology	/ must be present	4
		-				wettand nydrology	must be present.	
Restrictive Lay	er (if present):							
l ype:						Libudaia Cail Daaaaa		Na
Depth (Inche	es):					Hydric Soli Preser		NO
Remarks:								
	v							
Wetland Hydro	logy Indicators:					Secondary Indi	cators (2 or more re	quired)
Primary Indicato	ors (any one indicato	or is sufficient)				Water-Stair	ned Leaves (B9) (NV	V coast)
Surface Wat	er (A1)		Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely Ve	egetated Concave S	urface (B8)
High Water	Table (A2)	-	Salt Crust (B	(, (11)	,	Drainage P	atterns (B10)	4.1400 (20)
Saturation (A	A3)	_	Aquatic Inver	tebrates (B13)		Drv-Seasor	Water Table (C2)	
Water Marks	s (B1)	-	Hydrogen Sul	lfide Odor (C1)		Saturation	visible on Aerial Ima	gery (C9)
Sediment De	eposits (B2)	-	Oxidized Rhiz	zospheres along Livir	ng Roots (C3)	Geomorphi	c Position (D2)	
Drift Deposit	s (B3)	-	Presence of F	Reduced Iron (C4)		 Shallow Aq	uitard (D3)	
Algal Mat or	Crust (B4)	_	Recent Iron F	Reduction in Tilled Sc	oils (C6)	Frost-Heav	e Hummocks (D4)	
Iron Deposits	s (B5)	-	Stunted or St	ressed Plants (D1) (I	LRR A)	FAC-Neutra	al Test (D5)	
Surface Soil	Cracks (B6)		Other (Explai	n in Remarks)		Raised Ant	Mounds (D6) (LRR	A)
Inundation V	isible on Aerial Ima	gery (B7)						
Field Observati	ions:							
Surface Water	Present? Yes	Ν	lo X	Depth (inches):				
Water Table Pr	esent? Yes	N	lo X	Depth (inches):	>26"	Wetland H	vdrology Present?	
-	ant ² Vaa	N	lo X	Depth (inches):	>26"	- `	Yes	No X
Saturation Pres	ient? res							
Saturation Pres (includes capilla	ary fringe)	'				_		
Saturation Pres (includes capilla Describe Recor	ary fringe) ded Data (stream g	auge, monitori	ng well, aerial pł	notos, previous inspe	ections), if availal	ble:		
Saturation Pres (includes capilla Describe Recor Remarks:	ary fringe) rded Data (stream g	' Jauge, monitori	ng well, aerial ph	notos, previous inspe	ections), if availal	ble:		
Saturation Pres (includes capilla Describe Recor Remarks: Soils were noted	ary fringe) ded Data (stream g	auge, monitori time of samplir	ng well, aerial ph ng.	notos, previous inspe	ections), if availal	ble:		
Saturation Pres (includes capilla Describe Recor Remarks: Soils were noted	ded Data (stream g	auge, monitori	ng well, aerial ph	notos, previous inspe	ections), if availal	ble:		
WETLAND	DETERMINATION D	ATA FORM – W	estern Mountains	, Valleys and C	oast Region			
--	--------------------------------	-----------------------	-------------------------	----------------------------------	----------------------------------	--------------------------		
Project/Site: East Sand Island		City/County:	Clatsop	, ,	Sampling Date:	2/25/2014		
Applicant/Owner: U.S. Arr	my Corps of Engineers		State	: Oregon	Sampling Point:	22		
Investigator(s): C. Jonas Moiel, Jef	f Handley	Sec		: T9N R11W				
Landform (hillslope, terrace, etc.):	terrace		Local relief (con	cave, convex, none)	: concave Slo	pe (%): 0		
Subregion (LRR): LRR A		Lat: 46.263	Long	: -123.974	Datum:	NAD 83 UTM 10N		
Soil Map Unit Name: Tropops	samments, 0-15% slopes			NWI classification	: PEMCS			
Are climatic / hydrologic conditions on	the site typical for this time	e of year?	Yes	X No	(If no, explain	in Remarks)		
Are Vegetation ,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Ci	rcumstances" prese	nt?		
				Ye	s <u>X</u> No			
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, expla	in any answers in Rema	arks.)		
SUMMARY OF FINDINGS -	Attach site map showing	sampling point loo	cations, transects, imp	oortant features, et	с.			
Hydrophytic Vegetation Present?	Yes X	No						
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a				
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	X No			
Remarks: Plot 22 is located within a high(er) ele	vation gentle depression. I	t is approximately 30	feet southeast and 4 fe	et lower than Plot 2	3 (upland).			
	<u> </u>				,			
VEGETATION				1				
	Absolute	Dominant	Indicator	Dominance Test	worksheet:			
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	int Species			
^{1.} Salix lucida (lasiandra)	40%	Yes	FACW	That Are OBL, FA	CW, or FAC:	2 (A)		
^{2.} Alnus rubra	5%	No	FAC					
3				Total Number of D	ominant			
4.				Species Across All	Strata:	3 (B)		
	Total Cover: 45%							
Sapling/Shrub Stratum (Plot size: 25	ft.)			Percent of Domina	nt Species			
1. Rubus spectabilis	20%	Yes	FAC	That Are OBL, FA	CW, or FAC:	<u>57%</u> (A/B)		
2. <u>Sambucus racemosa</u>	10%	Yes	FACU	Prevalence Index	worksheet:			
^{3.} Rubus armeniacus	5%	No	FACU	Total % Cove	r of: <u>Multiply by:</u>			
4				OBL species	x 1 =			
5.				FACW species	x 2 =			
	Total Cover: 35%			FAC species	x 3 =			
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =			
1				UPL species	x 5 =			
2.				Column Totals:	0 (A)	0 (B)		
3.				Prevalence Inc	dex = $B/A =$			
4.				Hydrophytic Vege	etation Indicators:			
5.				X Dominance Te	st is >50%			
6.				Prevalence Inc	lex is ≤3.0 ¹			
7.				Morphological	Adaptations ¹ (Provid	le supporting		
8.				data in Rem	narks or on a separa	te sheet)		
	Total Cover: 0%			Wetland Non-\	/ascular Plants ¹			
Woody Vine Stratum (Plot Size: 5 ft.)			Problematic Hy	drophytic Vegetatio	n ¹ (Explain)		
1.				¹ Indicators of hydri	c soil and wetland hy	drology must		
2.				be present.				
	Total Cover: 0%			Hydrophytic Vege	etation			
% Bare Ground in Herb Stratum	100%			Present?	Yes X No			
 Remarks:								
Bareground in herb stratum covered b	oy leaf debris.							

SOIL							Sam	pling Point: 22
Profile Descri	ption: (Describe to	the depth r	needed to documen	t the indicator or	confirm the ab	sence of indicators	5.)	
Depth	Matrix			Redox F	eatures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-2	10YR2/2	100	no redox	<u> </u>			silt loam	
2-10	10YR3/1	85	7.5YR4/6	15	С	М	silt loam	
10-26	10YR3/1	80	7.5YR4/6	20	С	M	silt loam	some sand
				<u> </u>				
				<u> </u>				
	contration D-Doplati	on PM_Rod	ucod Matrix ² Loc	ation: PL_Poro Li	ning PC-Poot	Channol M-Matrix		
Hydric Soil Inc	dicators: (Applicable		s unless otherwise	noted)			blomatic Hydric S	oile ³ .
Histosol (A1			Sandy Bedox (S	5)		2 cm Muck (A		
Histic Enine	(A2)		Stripped Matrix	(56)		2 cm Muck (A	aterial (TE2)	
Black Histic	(A3)		L oamy Mucky M	ineral (F1) (excep	t MLRA 1)	Other (Explain	in Remarks)	
Hydrogen S	Sulfide (A4)		Loamy Gleved M	Matrix (F2)	•		in nomano)	
Depleted Be	elow Dark Surface (A	11)	Depleted Matrix	(F3)				
Thick Dark	Surface (A12)	,	X Redox Dark Sur	face (F6)				
Sandy Mucl	ky Mineral (S1)		Depleted Dark S	Surface (F7)		³ Indicators of hydr	ophytic vegetation a	nd
Sandy Gley	ed Matrix (S4)		Redox Depressi	ons (F8)		wetland hydrolog	gy must be present.	
Restrictive La	ver (if present):							
Type:	J oi (p							
Depth (inch	es):					Hydric Soil Prese	ent? Yes X	No
Remarks:	·							
. to mainter								
HYDROLOG	GY							
Wetland Hydro	ology Indicators:					Secondary Inc	licators (2 or more re	equired)
Primary Indicate	ors (any one indicato	r is sufficient)			Water-Sta	ined Leaves (B9) (N	W coast)
Surface Wa	ater (A1)		Water-Stained L	eaves (B9) (excep	ot NW coast)	Sparsely \	/egetated Concave	Surface (B8)
X High Water	Table (A2)		Salt Crust (B11)			Drainage	Patterns (B10)	
X Saturation ((A3)		Aquatic Inverteb	rates (B13)		Dry-Seaso	on Water Table (C2)	
Water Mark	s (B1)		Hydrogen Sulfid	e Odor (C1)		Saturation	Visible on Aerial Im	agery (C9)
Sediment D	eposits (B2)		Oxidized Rhizos	pheres along Livin	g Roots (C3)	Geomorph	nic Position (D2)	
Drift Deposi	its (B3)		Presence of Rec	duced Iron (C4)		Shallow A	quitard (D3)	
Algal Mat or	r Crust (B4)		Recent Iron Red	uction in Tilled So	ils (C6)	Frost-Hea	ve Hummocks (D4)	
Iron Deposi	ts (B5)		Stunted or Stres	sed Plants (D1) (L	.RR A)	FAC-Neut	ral Test (D5)	
Surface Soi	l Cracks (B6)		Other (Explain ir	n Remarks)		Raised An	it Mounds (D6) (LRF	A A)
Inundation	Visible on Aerial Imag	jery (B7)						
Field Observa	tions:							
Surface Water	Present? Yes		No <u>X</u>	Depth (inches):		_		
Water Table P	resent? Yes	Х	No [Depth (inches):	4.5"	Wetland H	Hydrology Present	?
Saturation Pre-	sent? Yes	Х	No [Depth (inches):	1"	_	Yes X	No
(Includes capil	rdod Doto (otroom or	ugo monito	ring well aprial phot		ationa) if availab			
Describe Reco	nueu Dala (Slieain ga	auge, monito	nny wen, aenai photo	os, previous irispe	uons), ii avallat	אכ.		
Remarks:								
Data entered b	y: CJM Data c	hecked by:	JAH					

			estern wountains	, valleys allu Gu	ast negion	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/25/2014
Applicant/Owner: U.S. Army	Corps of Engineers	_	State:	Oregon	Sampling Point:	23
Investigator(s): C. Jonas Moiel, Jeff H	andley	Sec		T9N R11W		
Landform (hillslope, terrace, etc.):	hillslope		Local relief (con	cave, convex, none):	convex Slop	be (%): <u>3</u>
Subregion (LRR): LRR A		Lat: 46.263	Long:	-123.974	Datum: N	NAD 83 UTM 10N
Soil Map Unit Name: Tropopsan	nments, 0-15% slopes			NWI classification:	PEMCS	
Are climatic / hydrologic conditions on th	e site typical for this time o	of year?	Yes	X No	(If no, explain i	in Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Cire	cumstances" preser	nt?
				Yes	X No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain	any answers in Rema	arks.)
SUMMARY OF FINDINGS – At	tach site map showing s	ampling point loo	cations, transects, imp	ortant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area	3		
Wetland Hydrology Present?	Yes	No <u>X</u>	within a Wetland?	Yes	No	<u>X</u>
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominan	t Species	
 Salix lucida (lasiandra) 2. 	50%	Yes	FACW	That Are OBL, FAC	W, or FAC:	<u>1</u> (A)
3.				Total Number of Do	minant	
4.				Species Across All S	Strata:	4 (B)
T <u>Sapling/Shrub Stratum</u> (Plot size: 25 ft.) ^{1.} Sambucus racemosa	otal Cover: <u>50%</u> 15%	Yes	FACU	Percent of Dominan That Are OBL, FAC	t Species W, or FAC: <u>2</u>	2 <u>5%</u> (A/B)
^{2.} Ribes lacustre	5%	No	FAC	Prevalence Index v	worksheet:	
^{3.} Rubus armeniacus	5%	No	FACU	Total % Cover	of: Multiply by:	
4. Ilex aquifolium	1%	No	FACU	OBL species	x 1 =	
5.				FACW species	x 2 =	
T Herb Stratum (Plot size: 5 ft.)	otal Cover: 26%			FAC species	x 3 = x 4 =	
1. Digitalis purpurea	20%	Yes	FACU	UPL species	x 5 =	
2. Cardamine hirsuta	15%	Yes	FACU	Column Totals:	0 (A)	0 (B)
3. Agrostis species	10%	No	FAC ?	Prevalence Inde	ex = B/A =	
4. Holcus lanatus	5%	No	FAC	Hydrophytic Veget	ation Indicators:	
5. Hypericum androsaemum	5%	No	UPL	Dominance Test	t is >50%	
6.				Prevalence Inde	ex is ≤3.0 ¹	
7.				Morphological A	daptations ¹ (Provid	e supporting
8.				data in Rema	arks or on a separat	te sheet)
1	otal Cover: 55%			Wetland Non-Va	ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hyd	drophytic Vegetation	1 ¹ (Explain)
1	<u> </u>			¹ Indicators of hydric	soil and wetland hy	drology must
2.				be present.		
1	otal Cover: 0%			Hydrophytic Veget	ation	
% Bare Ground in Herb Stratum	45%			Present?	Yes No	X
Remarks: Agrostis species was assumed to be FA	C or wetter. The ID is tent	ative on the <i>H. and</i>	drosaemum.	•		

SOIL							San	npling Point:	23
Profile Description	on: (Describe to	the depth ne	eded to docum	ent the indicator o	r confirm the al	bsence of indicators	5.)		
Depth	Matrix	(Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remar	'ks
0-24	10YR3/2	97	10YR3/6	3	С	М	silt loam	some sand	
1- 0.0			2.						
'Type: C=Concen	tration, D=Depleti	ion, RM=Redu	ced Matrix. ²	Location: PL=Pore L	ining, RC=Root.	Channel, M=Matrix.		3	
Hydric Soil Indica	ators: (Applicable	e to all LRRs	, unless otherw	ise noted.)		Indicators for Pro	oblematic Hydric S	oils':	
Histosol (A1)		-	Sandy Redox	(S5)		2 cm Muck (A	10)		
Histic Epipedo	n (A2)	-	Stripped Matr	ix (S6)		Red Parent M	aterial (TF2)		
Black Histic (A	(3)	_	Loamy Mucky	Mineral (F1) (excep	ot MLRA 1)	Other (Explain	i in Remarks)		
Hydrogen Sulfi	ide (A4)	_	Loamy Gleye	d Matrix (F2)					
Depleted Below	w Dark Surface (A	.11)	Depleted Mat	rix (F3)					
Thick Dark Su	rface (A12)	-	Redox Dark S	Surface (F6)		3			
Sandy Mucky I	Mineral (S1)	-	Depleted Darl	k Surface (F7)		Indicators of hydro	ophytic vegetation a	ind	
Sandy Gleyed	Matrix (S4)	_	Redox Depres	ssions (F8)		wetland hydrolog	gy must be present.		
Depth (inches) Remarks:):		_			Hydric Soil Prese	ent? Yes	No	X
l									
HYDROLOGY	,								
Wetland Hydrolog	gy Indicators:					Secondary Inc	licators (2 or more r	equired)	
Primary Indicators	(any one indicato	r is sufficient)				Water-Sta	ined Leaves (B9) (N	IW coast)	
Surface Water	r (A1)		Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely \	/egetated Concave	Surface (B8)	
High Water Ta	able (A2)		Salt Crust (B1	1)		Drainage I	Patterns (B10)		
Saturation (A3)	3)		Aquatic Invert	tebrates (B13)		Dry-Seaso	on Water Table (C2)		
Water Marks (B1)		Hydrogen Sul	fide Odor (C1)		Saturation	Visible on Aerial Im	agery (C9)	
Sediment Depo	osits (B2)		Oxidized Rhiz	ospheres along Livir	ng Roots (C3)	Geomorph	nic Position (D2)		
Drift Deposits ((B3)		Presence of F	Reduced Iron (C4)		Shallow A	quitard (D3)		
Algal Mat or C	rust (B4)		Recent Iron F	eduction in Tilled Sc	oils (C6)	Frost-Hea	ve Hummocks (D4)		
Iron Deposits ((B5)		Stunted or St	ressed Plants (D1) (I	LRR A)	FAC-Neut	ral Test (D5)		
Surface Soil C	racks (B6)	_	Other (Explain	n in Remarks)		Raised An	t Mounds (D6) (LRF	R A)	
Inundation Visi	ible on Aerial Imag	gery (B7)							
Field Observatio	ns:								
Surface Water Pr	resent? Yes	١	No X	Depth (inches):					
Water Table Pres	sent? Yes	N	No X	Depth (inches):	>24"	Wetland H	Hydrology Present	?	
Saturation Preser	nt? Yes	١	No X	Depth (inches):	>24"	_	Yes	No	Х
(includes capillary	y fringe)								
Describe Recorde	ed Data (stream ga	auge, monitori	ng well, aerial ph	notos, previous inspe	ections), if availa	able:			
Remarks:									
Soils were noted to	o be slightly moist	at the time of	sampling.						
Data anti-us dib	0 IM D-2								
Data entered by:	CJM Data c	checked by: J	IAH						

WETLAND DE	ETERMINATION DA	TA FORM – W	estern Mountains	, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/25/2014
Applicant/Owner: U.S. Army	Corps of Engineers		State	: Oregon	Sampling Point:	24
Investigator(s): C. Jonas Moiel, Jeff H	andley	See	ction, Township, Range	: T9N R11W		
Landform (hillslope, terrace, etc.):	terrace		Local relief (con	cave, convex, none):	none Slop	be (%): 0
Subregion (LRR): LRR A		Lat: 46.263	Long	: -123.973	Datum:	NAD 83 UTM 10N
Soil Map Unit Name: Tropopsan	nments, 0-15% slopes			NWI classification:	PEMCS	
Are climatic / hydrologic conditions on th	e site typical for this time	of year?	Yes	X No	(If no, explain i	in Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Cir	cumstances" preser	nt?
				Yes	X No	
Are Vegetation,Soil	, or Hydrology	n	naturally problematic?	(If needed, explain	n any answers in Rema	arks.)
SUMMARY OF FINDINGS – At	tach site map showing	sampling point loo	cations, transects, im	portant features, etc		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	is the Sampled Are	а		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	<u>X</u>
VEGETATION	south of the northshore to	op-of-bank. It is app	proximately 25 feet north	west and 6 inches hig	gher than Plot 25 (w	vetland).
	Absolute	Dominant	Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 50 ft.)	% Cover	Species?	Status	Number of Dominar	nt Species	
1.				That Are OBL. FAC	W. or FAC:	0 (A)
2.						<u> </u>
3.				Total Number of Do	ominant	
4.				Species Across All	Strata:	2 (B)
T <u>Sapling/Shrub Stratum</u> (Plot size: 25 ft.) 1. Sambucus racemosa	otal Cover:45%	Yes	FACU	Percent of Dominar That Are OBL, FAC	nt Species W, or FAC:	(A/B)
^{2.} Lonicera involucrata	10%	No	FAC	Prevalence Index	worksheet:	
^{3.} Rubus armeniacus	10%	No	FACU	Total % Cover	of: Multiply by:	
4. Rubus spectabilis	10%	No	FAC	OBL species	x 1 =	
5. <u>Salix hookeriana</u>	10%	No	FACW	FACW species	x 2 =	
Т	Total Cover: 85%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. <u>Cardamine hirsuta</u>	10%	Yes	FACU	UPL species	x 5 =	
2. Agrostis species	1%	No	FAC ?	Column Totals:	0 (A)	<u>0</u> (B)
3. Epilobium ciliatum	1%	No	FACW	Prevalence Inde	ex = B/A =	
4. <u>Digitalis purpurea</u>	1%	No	FACU	Hydrophytic Vege	tation Indicators:	
5. Juncus effusus	1%	No	FACW	Dominance Tes	it is >50%	
6				Prevalence Inde	ex is ≤3.0'	
7.				Morphological A	Adaptations' (Provid	e supporting
8				data in Rema	arks or on a separat	te sheet)
1	Total Cover: 14%			Wetland Non-V	ascular Plants'	1
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hyd	drophytic Vegetatior	n' (Explain)
1				Indicators of hydric	soil and wetland hy	drology must
2				be present.		
1	Total Cover: 0%			Hydrophytic Vege		v
% Bare Ground in Herb Stratum	86%			Present?	Yes No	<u>x</u>
Remarks: Agrostis species was assumed to be FA	C or wetter.					

SOIL							Sar	npling Point:	24
Profile Description	n: (Describe to	the depth nee	eded to docun	nent the indicator or	confirm the a	bsence of indicators	:.)	1 3 4	
Depth	Matrix	<		Redox	Features				
(inches) C	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remark	s
0-14	10YR3/3	97	10YR3/6	3	С	М	sand		
Depth Matrix Redox Feature (inches) Color (moist) % T 0-14 10YR3/3 97 10YR3/6 3 14-27 10YR3/1 85 5YR4/6 15			С	М	silt loam	with some sa	and		
	L file Description: (Describe to the depth needed to document the indicator or confirming performance) Depth Matrix Redox Feature Orld 10YR3/3 97 10YR3/6 3 14-27 10YR3/1 85 5YR4/6 15 14-27 10XR3/1 Sandy Redox (S5) 15 15 10XIntrastreet (S1) 10XIntrastreet (S6) 10XIntrastreet (S6) 16 Stardace (A12) <th< td=""><td></td><td></td><td></td><td></td><td></td></th<>								
								<u></u>	
¹ Type: C-Concentr	ration D-Depleti	ion RM-Reduc	ed Matrix ²	location: PL-Pore L	ining BC-Boot	Channel M-Matrix		·	
Hydric Soil Indicat	tors: (Applicabl	e to all LBBs.	unless otherw	vise noted.)	ining, 110–11001	Indicators for Pro	blematic Hydric S	oils ³ .	
Histosol (A1)		• • • • • • • • • • • • • • • • • • •	Sandy Redox	(S5)		2 cm Muck (A			
Histic Epipedon	(A2)		Stripped Mat	rix (S6)		Bed Parent M	aterial (TE2)		
Black Histic (A3))		Loamv Muck	v Mineral (F1) (excep	ot MLRA 1)	Other (Explain	in Remarks)		
Hydrogen Sulfid	, e (A4)		Loamy Gleve	ed Matrix (F2)					
Depleted Below	Dark Surface (A		Depleted Ma	trix (F3)					
Thick Dark Surfa	ace (A12)		Redox Dark	Surface (F6)					
Sandy Mucky M	ineral (S1)		Depleted Dar	rk Surface (F7)		³ Indicators of hydro	ophytic vegetation a	nd	
Sandy Gleyed N	latrix (S4)		Redox Depre	essions (F8)		wetland hydrolog	gy must be present.		
HYDROLOGY Wetland Hydrology	v Indicators:					Secondary Ind	liaatara (2 ar mara r	oquirod)	
Primary Indicators (any one indicato	or is sufficient)				Water-Sta	ined Leaves (B9) (IW coast)	
Surface Water (A1)		Water-Staine	ed Leaves (B9) (exce	pt NW coast)	Sparsely \	regetated Concave	Surface (B8)	
High Water Tab	le (A2)		Salt Crust (B	11)		Drainage F	Patterns (B10)		
Saturation (A3)			Aquatic Inver	rtebrates (B13)		Dry-Seaso	n Water Table (C2)		
Water Marks (B	1)		Hydrogen Su	Ilfide Odor (C1)		Saturation	Visible on Aerial Im	agery (C9)	
Sediment Depos	sits (B2)		Oxidized Rhi	zospheres along Livir	ng Roots (C3)	Geomorph	ic Position (D2)		
Drift Deposits (E	33)		Presence of	Reduced Iron (C4)		Shallow A	quitard (D3)		
Algal Mat or Cru	ıst (B4)		Recent Iron F	Reduction in Tilled So	ils (C6)	Frost-Heav	ve Hummocks (D4)		
Iron Deposits (B	5)		Stunted or St	tressed Plants (D1) (I	_RR A)	FAC-Neut	ral Test (D5)		
Surface Soil Cra	acks (B6)		Other (Explai	in in Remarks)		Raised An	t Mounds (D6) (LRI	R A)	
Inundation Visib	le on Aerial Imag	gery (B7)							
Field Observations	s:								
Surface Water Pres	sent? Yes	N	о <u> </u>	Depth (inches):		_			
Water Table Prese	nt? Yes	No	о <u> </u>	Depth (inches):	>27"	Wetland H	lydrology Present	?	
Saturation Present (includes capillary f	? Yes_	No	о <u>Х</u>	Depth (inches):	>27"	-	Yes	No	X
Describe Recorded	l Data (stream g	auge, monitorin	g well, aerial p	hotos, previous inspe	ctions), if availa	able:			
Bemarks:									
Soils were noted to	be moist at the t	time of sampling	g.						
Data and the F									
Data entered by: C	JIVI Data d	cnecked by: JA	λН						

WETLAND	DETERMINATION D	ATA FORM – W	estern Mountains	, Valleys and (Coast Region	
Project/Site: East Sand Island		City/County:	Clatsop	-	Sampling Date:	2/25/2014
Applicant/Owner: U.S. Ar	my Corps of Engineers		State	: Oregon	Sampling Point:	25
Investigator(s): C. Jonas Moiel, Jef	f Handley	Sec		: T9N R11W	_	
Landform (hillslope, terrace, etc.):	terrace		Local relief (cor	ncave, convex, none	e): none Slope	(%): 0
Subregion (LRR): LRR A		Lat: 46.263	Long	g: <u>-123.973</u>	Datum: NA	AD 83 UTM 10N
Soil Map Unit Name: Tropop	samments, 0-15% slopes			NWI classificatio	on: PEMCS	
Are climatic / hydrologic conditions or	the site typical for this time	e of year?	Yes	X No	(If no, explain in	Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal (Circumstances" present	?
				Y	es <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, expl	lain any answers in Remark	is.)
SUMMARY OF FINDINGS -	Attach site map showing	sampling point loo	cations, transects, im	portant features, e	etc.	
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	<u>X</u> No	
Remarks:						
Plot 25 is located approximately 25 fe	et southeast and 6 inches l	ower than Plot 24 (u	pland).			
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test	worksheet:	
Iree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domin	ant Species	
1.				That Are OBL, FA	ACW, or FAC: 3	(A)
2.						
3.				Total Number of I	Dominant	
4				Species Across A	All Strata: 3	(B)
	Total Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25	ft.)			Percent of Domin	ant Species	
^{1.} Lonicera involucrata	60%	Yes	FAC	That Are OBL, FA	ACW, or FAC: <u>100</u>	<u>%</u> (A/B)
^{2.} Rubus spectabilis	10%	No	FAC	Prevalence Inde	x worksheet:	
^{3.} Sambucus racemosa	10%	No	FACU	Total % Cov	ver of: Multiply by:	_
4				OBL species	x 1 =	
5				FACW species	x 2 =	
	Total Cover: 80%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Agrostis species	40%	Yes	FAC ?	UPL species	x 5 =	
2. Juncus effusus	30%	Yes	FACW	Column Totals:	(A)	(B)
3. Holcus lanatus	5%	No	FAC	Prevalence Ir	ndex = B/A =	
4				Hydrophytic Veg	getation Indicators:	
5				X Dominance T	est is >50%	
6				Prevalence In	ndex is $\leq 3.0^1$	
7				Morphologica	Adaptations ¹ (Provide	supporting
8				data in Re	marks or on a separate	sheet)
	Total Cover: 75%			Wetland Non-	-Vascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.	.)			Problematic H	Hydrophytic Vegetation ¹	(Explain)
1				¹ Indicators of hyd	ric soil and wetland hydi	rology must
2				be present.		
	Total Cover: 0%			Hydrophytic Veg	getation	
% Bare Ground in Herb Stratum	25%			Present?	Yes X No	
Remarks:	-					
Agrostis species was assumed to be	FAC or wetter.					

SOIL							Sampl	ling Point: 25
Profile Descr	iption: (Describe to	the depth	needed to documen	t the indicator o	r confirm the at	osence of indicators	.)	
Depth	Matrix	(Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-8	10YR3/2	90	10YR4/6	10	С	М	silt loam	
8-26	10YR3/2	85	10YR4/6	15	С	M	loamy sand	
				<u> </u>				
				·				
				·				
				<u> </u>				
	contration D-Deplet	ion BM-Be	duced Matrix ² Loc	ation: PI -Pore I	ining BC-Boot	Channel M-Matrix		
Hydric Soil In	dicators: (Applicabl	e to all LRF	Rs. unless otherwise	noted.)		Indicators for Pro	blematic Hydric Soil	le ³ .
Histosol (A	1)		Sandy Bedox (S	5)		2 cm Muck (A1		
Histic Enin	edon (A2)		Stripped Matrix	(S6)		Bed Parent Ma	aterial (TE2)	
Black Histi	c (A3)		Loamy Mucky M	lineral (F1) (excer	ot MLRA 1)	Other (Explain	in Remarks)	
Hydrogen S	Sulfide (A4)		Loamy Gleved N	/atrix (F2)			in ternance)	
Depleted B	elow Dark Surface (A	(11)	Depleted Matrix	(F3)				
Thick Dark	Surface (A12)	,	X Redox Dark Sur	face (F6)				
Sandy Muc	ky Mineral (S1)		Depleted Dark S	Surface (F7)		³ Indicators of hydro	ophytic vegetation and	I
Sandy Gley	yed Matrix (S4)		Redox Depressi	ons (F8)		wetland hydrolog	y must be present.	
Restrictive La	ver (if present):							
Type:	J = (p = = = =, .							
Depth (inch	nes):					Hydric Soil Prese	nt? Yes X	No
Remarks:								
HYDROLO	GY							
Wetland Hydr	ology Indicators:					Secondary Ind	icators (2 or more req	<u>uired)</u>
Primary Indica	tors (any one indicate	r is sufficien	t)			Water-Stai	ined Leaves (B9) (NW	coast)
Surface W	ater (A1)		Water-Stained L	eaves (B9) (exce	pt NW coast)	Sparsely V	egetated Concave Su	ırface (B8)
X High Wate	r Table (A2)		Salt Crust (B11)			Drainage F	Patterns (B10)	
X Saturation	(A3)		Aquatic Inverteb	orates (B13)		Dry-Seaso	n Water Table (C2)	
Water Mar	ks (B1)		Hydrogen Sulfid	e Odor (C1)		Saturation	Visible on Aerial Imag	jery (C9)
Sediment [Deposits (B2)		Oxidized Rhizos	pheres along Livir	ng Roots (C3)	Geomorph	ic Position (D2)	
Drift Depos	sits (B3)		Presence of Rec	duced Iron (C4)		Shallow Ac	quitard (D3)	
Algal Mat c	or Crust (B4)		Recent Iron Rec	luction in Tilled Sc	oils (C6)	Frost-Heav	ve Hummocks (D4)	
Iron Depos	its (B5)		Stunted or Stres	sed Plants (D1) (I	LRR A)	X FAC-Neutr	al Test (D5)	
Surface Sc	oll Cracks (B6)	(57)	Other (Explain II	n Remarks)		Raised An	t Mounds (D6) (LRR #	A)
Inundation	Visible on Aerial Imag	gery (B7)						
Field Observa	itions:							
Surface Wate	r Present? Yes		No <u>X</u>	Depth (inches):		_		
Water Table F	Present? Yes	Х	_No [Depth (inches):	8"	Wetland H	lydrology Present?	
Saturation Pre	esent? Yes	Х	_No [Depth (inches):	6"	_	Yes X	No
Describe Bec	nary mige) orded Data (stream a	auge monit	oring well perial phot		octions) if availa	ble:		
	Sideo Dala (Sileani y	aago, moniit			availa			
Remarks:								
Data entered b	oy: CJM Data	checked by:	JAH					

WETLAND DE	TERMINATION DA	TA FORM – W	estern Mountains	, Valleys and C	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop	· •	Sampling Date:	2/25/2014
Applicant/Owner: U.S. Army	Corps of Engineers		State	: Oregon	Sampling Point:	26
Investigator(s): C. Jonas Moiel, Jeff Ha	andley	See		: T9N R11W		
Landform (hillslope, terrace, etc.):	terrace		Local relief (cor	cave, convex, none)	: none Slop	e (%): 0
Subregion (LRR): LRR A		Lat: 46.263	Long	: -123.972	Datum: N	IAD 83 UTM 10N
Soil Map Unit Name: Tropopsam	ments, 0-15% slopes			NWI classification	: PEMCS	
Are climatic / hydrologic conditions on the	e site typical for this time	of year?	Yes	X No	(If no, explain ir	n Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Ci	rcumstances" presen	t?
				Yes	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	naturally problematic?	(If needed, expla	in any answers in Rema	rks.)
SUMMARY OF FINDINGS - Att	ach site map showing	sampling point lo	cations, transects, im	portant features, et	с.	
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	X No	
Remarks:		with an Dist 07 (unla				
Plot 26 is located approximately 55 feet s	southeast and 1 foot lowe	er than Plot 27 (upla	and). It was in close pro	ximity to an unimprov	/ed pedestrian trail.	
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test v	worksheet:	
(Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	nt Species	
1.				That Are OBL, FAC	CW, or FAC:	4 (A)
2.						
3.				Total Number of D	ominant	
4.				Species Across All	Strata:	4 (B)
T	otal Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Domina	nt Species	
Lonicera involucrata	85%	Yes	FAC	That Are OBL, FAC	CW, or FAC: <u>10</u>	<u>0%</u> (A/B)
^{2.} <u>Salix hookeriana</u>	2%	No	FACW	Prevalence Index	worksheet:	
S. Rubus armeniacus	1%	No	FACU		<u>. iviuitipiy by.</u>	
4. <u>Sambucus racemosa</u>	1%	No	FACU	OBL species	X 1 =	
5				FACW species	X 2 =	
T	otal Cover: 89%			FAC species	× 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	X 4 =	
1. Poa species	30%	Yes	FAC ?	UPL species	x 5 =	(D)
2. Holcus lanatus	20%	Yes	FAC	Column Totals:	0 (A)	<u>0</u> (B)
3. Juncus effusus	20%	Yes	FACW	Prevalence inc	dex = B/A =	
4. Lotus corniculatus	5%	No	FAC	Hydropnytic vege	etation indicators:	
5. Agrostis species	4%	No	FAC ?	X Dominance Te	st IS >50%	
6. Epilobium ciliatum	1%	No	FACW	Prevalence Ind	ex is ≤3.0'	
7				Morphological	Adaptations' (Provide	e supporting
8				data in Rem	arks or on a separate	e sneet)
	otal Cover: 80%			Wetland Non-V	ascular Plants	1
Voody Vine Stratum (Plot Size: 5 ft.)				Problematic Hy	drophytic Vegetation	(Explain)
1				Indicators of hydri	c soil and wetland hyd	drology must
2				be present.		
Т	otal Cover: 0%			riyarophytic Vege		
% Bare Ground in Herb Stratum	20%			Present?	Yes X No	
Remarks:						
Poa and Agrostis species were assumed	a to be FAC or wetter.					

SOIL							Sam	pling Point: 26
Profile Descri	ption: (Describe to	the depth r	needed to documen	t the indicator or	confirm the ab	sence of indicators	.)	
Depth	Matrix			Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-4	10YR3/2	97	10YR3/6	3	С	М	silt loam	with some sand
4-8	10YR3/2	95	10YR4/6	5	С	М	sand	
8-24	10YR3/1	85	7.5YR4/6	15	С	М	silt loam	with some sand
	·			·				
	<u> </u>							
			. <u> </u>					
1						<u> </u>		
'Type: C=Cond	centration, D=Depleti	on, RM=Rec	luced Matrix. ² Loc	ation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		3
Hydric Soll Inc	icators: (Applicable	e to all LRR	s, unless otherwise	noted.)		Indicators for Pro	blematic Hydric S	oils":
Histosol (A1			X Sandy Redox (S	5)		2 cm Muck (A	10)	
Histic Epipe	edon (A2)		Stripped Matrix ((S6) in anal (E1) (ava an		Red Parent Ma	aterial (TF2)	
Black Histic	(A3)		Loamy Mucky M	ineral (F1) (excep	MLRA 1)	Other (Explain	in Remarks)	
Hydrogen S	Suifide (A4)		Loamy Gleyed N	(atrix (F2)				
Depleted Be	elow Dark Surface (A	11)	Depleted Matrix	(F3) (F3)				
I nick Dark	Surface (A12)		X Redox Dark Sur	Tace (F6)		³ Indicators of bydr	aphytic vocatation a	nd
Sandy Much	ky Mineral (ST)		Depleted Dark S					nu
Sandy Gley	ed Matrix (54)		Redox Depress				jy must be present.	
Restrictive Lay	yer (if present):							
Type:			<u> </u>				V V	
Depth (inch	es):					Hydric Soil Prese	nt? Yes X	No
Remarks:								
	27							
Wetland Hydro	a Y blogy Indicators:					Secondary Ind	iaatara (2 ar mara r	auirod)
Primary Indicate	ors (anv one indicato	r is sufficient	t)			Water Sta	inad Lagyas (B9) (N	W coast)
Surface Wa	tor (A1)		Water-Stained I	eaves (B9) (exce	nt NW coast)	Sparsely V	(egetated Concave)	Surface (B8)
Y High Water	Table (A2)		Solt Cruct (B11)	eaves (D3) (exce			Pattorne (B10)	Surface (BO)
X Saturation (Δ3)		Aquatic Inverteb	rates (B13)		Drainage 1	n Water Table (C2)	
Water Mark	s (B1)		Hydrogen Sulfid	e Odor (C1)		Saturation	Visible on Aerial Im	agery (C9)
Sediment D	enosits (B2)		Oxidized Bhizos	nheres along Livir	a Boots (C3)	Geomorph	ic Position (D2)	
Drift Deposi	its (B3)		Presence of Rec	fuced Iron (C4)	ig 110013 (00)	Shallow A	nuitard (D3)	
Algal Mat or	r Crust (B4)		Becent Iron Bed	luction in Tilled Sc	ils (C6)	Erost-Hear	ve Hummocks (D4)	
Iron Deposi	ts (B5)		Stunted or Stres	sed Plants (D1) (I	-RR A)	X FAC-Neut	ral Test (D5)	
Surface Soi	l Cracks (B6)		Other (Explain in	n Remarks)		Raised An	t Mounds (D6) (LRF	R A)
Inundation \	visible on Aerial Imac	ery (B7)		,		—		,
Field Observat	tions:							
Surface Water	Present? Ves		No X I	Penth (inches):				
Water Table P	resent? Ves	x		Depth (inches):	10.5"	Wetland H	wdrology Present	0
Saturation Pres	cont? Vec	X	No [Depth (inches):	8"	_ Wettand I	Vee X	No
(includes capill	ary fringe)	Λ			0	-		
Describe Reco	rded Data (stream ga	auge, monito	oring well, aerial photo	os, previous inspe	ctions), if availat	ole:		
Domortica								
Hemarks:								
Data entorod h		hocked by:						
Data efficied D	y. Julia Data C	neckeu by:	JAN					

WETLAND D	DETERMINATION DA	ATA FORM – W	estern Mountains	, Valleys and C	oast Regio	on		
Project/Site: East Sand Island		City/County:	Clatsop	•	Sampling	Date:		2/25/2014
Applicant/Owner: U.S. Arm	y Corps of Engineers		State	: Oregon	Sampling	Point:		27
Investigator(s): C. Jonas Moiel, Jeff	Handley	See		: T9N R11W		_		
Landform (hillslope, terrace, etc.):	terrace		Local relief (cor	ncave, convex, none): none	Slop	pe (%):	0
Subregion (LRR): LRR A		Lat: 46.263	Long	: -123.972	D	atum: I	NAD 83	3 UTM 10N
Soil Map Unit Name: Tropopsa	amments, 0-15% slopes		_	NWI classification	n: PEMCS			
Are climatic / hydrologic conditions on	the site typical for this time	of year?	Yes	X No	(If no,	explain	in Rema	arks)
Are Vegetation,Soil	, or Hydrology	S	ignificantly disturbed?	Are "Normal C	ircumstances'	preser	nt?	
				Ye	es <u>X</u> N	lo		-
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, expla	ain any answers	in Rema	arks.)	
SUMMARY OF FINDINGS –	Attach site map showing	sampling point loo	cations, transects, im	portant features, et	tc.			
Hydrophytic Vegetation Present?	Yes	No X						
Hydric Soil Present?	Yes X	No	Is the Sampled Are	a				
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	N	o	Х	-
Plot 27 is located approximately 55 fee	t northwest and 1 foot high	ner than Plot 26 (we	tland).					
VEGETATION				1				
Tree Stratum (Dist size: 50 ft)	Absolute	Dominant	Indicator	Dominance Test	worksheet:			
	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	ant Species			
2				That Are OBL, FA	CW, or FAC:		1	(A)
2. 								
3.				Total Number of D	ominant			
4.				Species Across Al	I Strata:		4	(B)
Cooling/Shrub Stratum (Blot aize: 25 f	Total Cover: 0%							
Sapling/Shrub Stratum (Plot size: 25 h	l.)			Percent of Domina	ant Species			
^{1.} Salix hookeriana	40%	Yes	FACW	That Are OBL, FA	CW, or FAC:	2	<u>25%</u>	(A/B)
^{2.} Sambucus racemosa	25%	Yes	FACU	Prevalence Index	worksheet:	alu bu		
^{3.} Rubus armeniacus	20%	Yes	FACU			ny Dy.	—	
4. Lonicera involucrata	15%	No	FAC		X1 =	-		-
5				FACW species	x 2 =	-		-
	Total Cover: 100%			FAC species	x 3 =	-		-
Herb Stratum (Plot size: 5 ft.)				FACU species	X 4 =	-		-
1. Cardamine hirsuta	5%	Yes	FACU	UPL species	x 5 =	-		-
2. Agrostis species	1%	No	FAC ?	Column I otals:	0 (A)	-	0	(B)
3. Polystichum munitum	1%	No	FACU	Prevalence In	dex = $B/A =$			
4.				Hydrophytic Veg	etation Indica	itors:		
5.				Dominance Te	est is >50%			
6.				Prevalence Inc	dex is ≤3.0'			
7.				Morphological	Adaptations'	(Provid	e supp	orting
8				data in Rer	narks or on a	separat	te shee	t)
	Total Cover: 7%			Wetland Non-	Vascular Plant	.s'		
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic H	ydrophytic Veo	jetatior	ו' (Exp	lain)
1				¹ Indicators of hydr	ic soil and wet	land hy	/drolog	y must
2				be present.				
	Total Cover: 0%			Hydrophytic Veg	etation			
% Bare Ground in Herb Stratum	93%			Present?	Yes	No	X	-
Remarks: <i>Agrostis</i> species was assumed to be F	AC or wetter.							

SOIL							Samp	ling Point: 2	7
Profile Descriptio	n: (Describe to	the depth nee	ded to docum	ent the indicator or	confirm the al	osence of indicator	rs.)		
Depth	Matrix	ĸ		Redox I	eatures				
(inches) C	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	3
0-3	10YR2/2	100	no redox				silt loam		
3-22	10YR3/2	98	7.5YR4/6	2	С	М	loamy sand		
22-26	0-3 10YR2/2 100 no redox 3-22 10YR3/2 98 7.5YR4/6 2 C 22-26 10YR3/2 95 7.5YR4/6 5 C			М	sand				
1	<u> </u>								
'Type: C=Concentr	ration, D=Depleti	ion, RM=Reduce	ed Matrix.	Location: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		2	
Hydric Soil Indicat	tors: (Applicabl	e to all LRRs, u	inless otherw	ise noted.)		Indicators for P	roblematic Hydric Soi	ls":	
Histosol (A1)		<u>X</u>	Sandy Redox	(S5)		2 cm Muck (#	A10)		
Histic Epipedon	(A2)		Stripped Mati	ix (S6)		Red Parent N	Material (TF2)		
Black Histic (A3	3)		Loamy Mucky	/ Mineral (F1) (excep	t MLRA 1)	Other (Explai	n in Remarks)		
Hydrogen Sulfid	le (A4)		Loamy Gleye	d Matrix (F2)					
Depleted Below	Dark Surface (A	A11)	Depleted Mat	rix (F3)					
Thick Dark Surf	ace (A12)		_Redox Dark S	Surface (F6)		3			
Sandy Mucky M	lineral (S1)		Depleted Dar	k Surface (F7)		Indicators of hyd	rophytic vegetation and	2	
Sandy Gleyed N	Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) estrictive Layer (if present): Type: Depth (inches): estrictive Layer (If present)					wetland hydrold	ogy must be present.		
Remarks:									
HYDROLOGY									
Wetland Hydrolog	y Indicators:					Secondary In	dicators (2 or more req	<u>uired)</u>	
Primary Indicators (any one indicato	or is sufficient)				Water-St	ained Leaves (B9) (NW	/ coast)	
Surface Water ((A1)		Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely	Vegetated Concave Su	urface (B8)	
High Water Tab	ole (A2)		Salt Crust (B	11)		Drainage	Patterns (B10)		
Saturation (A3)			Aquatic Inver	tebrates (B13)		Dry-Seas	on Water Table (C2)		
Water Marks (B	51)		_Hydrogen Su	fide Odor (C1)		Saturatio	n Visible on Aerial Imag	gery (C9)	
Sediment Depos	sits (B2)		Oxidized Rhiz	cospheres along Livin	ig Roots (C3)	Geomorp	hic Position (D2)		
Drift Deposits (E	33)		Presence of I	Reduced Iron (C4)		Shallow A	Aquitard (D3)		
Algal Mat or Cru	ust (B4)		Recent Iron F	Reduction in Tilled So	ils (C6)	Frost-Hea	ave Hummocks (D4)		
Iron Deposits (B	35)		Stunted or St	ressed Plants (D1) (L	.RR A)	FAC-Neu	tral Test (D5)		
Surface Soil Cra	acks (B6)		_Other (Explai	n in Remarks)		Raised A	nt Mounds (D6) (LRR /	A)	
Inundation Visib	ble on Aerial Imag	gery (B7)							
Field Observation:	s:								
Surface Water Pres	sent? Yes	Nc) X	Depth (inches):		_			
Water Table Prese	ent? Yes	Nc	<u> X </u>	Depth (inches):	>26"	Wetland	Hydrology Present?		-
Saturation Present (includes capillary f	? Yes_ fringe)	Nc	<u> </u>	Depth (inches):	>26"	_	Yes	No)	(
Describe Recorded	d Data (stream g	auge, monitoring	g well, aerial pl	notos, previous inspe	ctions), if availa	ble:			
Remarks: Soils were noted to	be moist at the t	time of sampling	J.						
-									
Data entered by: C	JM Data o	checked by: JA	H						

WETLAND D	ETERMINATION DA	TA FORM – W	estern Mountains	, Valleys and C	Coast Region	
Project/Site: East Sand Island		City/County:	Clatsop	Sampling Date:		2/25/2014
Applicant/Owner: U.S. Arm	y Corps of Engineers		State	: Oregon	Sampling Point:	28
Investigator(s): C. Jonas Moiel, Jeff I	Handley	Sec		ge: T9N R11W		
Landform (hillslope, terrace, etc.):	terrace		Local relief (cor	cave, convex, none	e): none Slo	pe (%): 0
Subregion (LRR): LRR A		Lat: 46.263	Long	: -123.971	Datum:	NAD 83 UTM 10N
Soil Map Unit Name: Tropopsa	mments, 0-15% slopes		_	NWI classificatio	n: PEMCS	
Are climatic / hydrologic conditions on t	he site typical for this time	of year?	Yes	X No	(If no, explain	in Remarks)
Are Vegetation ,Soil	, or Hydrology	si	ignificantly disturbed?	Are "Normal C	Circumstances" prese	nt?
				Ye	es <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, expl	ain any answers in Rema	arks.)
SUMMARY OF FINDINGS - A	ttach site map showing	sampling point loo	cations, transects, im	portant features, e	tc.	
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes X	No	Is the Sampled Are	а		
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes	<u>X</u> No	
Remarks:						
Plot 28 is located approximately 12 feet	t southwest and 3 feet low	er than Plot 29 (upla	and).			
VEGETATION				•		
	Absolute	Dominant	Indicator	Dominance Test	worksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domin	ant Species	
^{1.} Alnus rubra	5%	Yes	FAC	That Are OBL, FA	ACW, or FAC:	3 (A)
2.						
3.				Total Number of I	Dominant	
4.				Species Across A	II Strata:	4 (B)
	Total Cover: 5%					
Sapling/Shrub Stratum (Plot size: 25 ft	.)			Percent of Domin	ant Species	
1. Lonicera involucrata	20%	Yes	FAC	That Are OBL, FA	ACW, or FAC:	<u>′5%</u> (A/B)
^{2.} Sambucus racemosa	15%	Yes	FACU	Prevalence Index	x worksheet:	
3. Rubus armeniacus	1%	No	FACU	Total % Cov	er of: Multiply by:	
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
	Total Cover: 36%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Holcus lanatus	45%	Yes	FAC	UPL species	x 5 =	
2. Juncus effusus	35%	Yes	FACW	Column Totals:	0 (A)	0 (B)
3. Agrostis species	15%	No	FAC ?	Prevalence Ir	dex = B/A =	
4. Cardamine hirsuta	5%	No	FACU	Hydrophytic Veg	etation Indicators:	
5.				X Dominance T	est is >50%	
6.				Prevalence In	ldex is ≤3.0 ¹	
7.				Morphological	I Adaptations ¹ (Provid	e supporting
8.				data in Re	marks or on a separa	te sheet)
	Total Cover: 100%			Wetland Non-	Vascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic H	lydrophytic Vegetation	n ¹ (Explain)
1.				¹ Indicators of hydr	ric soil and wetland hy	/drology must
2.				be present.		
	Total Cover: 0%			Hydrophytic Veg	jetation	
% Bare Ground in Herb Stratum	0%			Present?	Yes X No	
Remarks:				1		
Agrostis species was assumed to be F	AC or wetter.					

SOIL							Sam	pling Point: 2	
Profile Description	on: (Describe to	the depth	needed to docume	ent the indicator or	confirm the a	bsence of indicators	.)		
Depth	Matrix			Redox F	eatures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-6	10YR3/2	90	7.5YR4/6	10	С	5%M,5%RC	silty clay loam	ORC	
6-14	10YR3/2	90	7.5YR4/6	10	С	M	loamy sand		
14-24	10YR3/2	95	7.5YR4/6	5	С	М	sand		
			_						
Turney C. Conson			duced Metrix ² L		ning DC Deat	Channel M. Matrix			
Type: C=Concen	ators: (Applicable	to all L P	Be upless otherwin	ocation: PL=Pore Li	ning, RC=Root	Indicators for Dra	hlomotic Uvduic C	-ilo ³ .	
			V Sondy Bodoy			2 om Muck (At			
	n (A O)			(33)		2 CITI MUCK (A	TU)		
HISTIC Epipedoi	n (A2)		Stripped Matri	X (50) Minoral (E1) (avaan		Red Parent Ma	in Domorko)		
Black Histic (A	(3)				(WILKA I)	Other (Explain	in Remarks)		
Hydrogen Sulfi	Ide (A4)		Loamy Gleyed	Matrix (F2)					
Depleted Below	w Dark Surface (A	11)	Depleted Matr	IX (F3)					
I NICK Dark Sui	mace (A12)		X Redox Dark S			³ Indicators of hydro	aphytic vegetation of	ad	
Sandy Mucky	Mineral (S1)		indicators of hydrophytic vegetation and						
Sandy Gleyed	Matrix (54)		Redox Depres	SIONS (F8)		wetland hydrolog	gy must be present.		
Restrictive Layer	(if present):								
Туре:									
Depth (inches)						Hydric Soil Prese	nt? Yes X	No	
HYDROLOGY Wetland Hydrolog	gy Indicators:					Secondary Ind	icators (2 or more re	auired)	
Primary Indicators	(any one indicator	is sufficie	nt)			Water-Stai	ined Leaves (B9) (N	W coast)	
Surface Water	· (A1)		Water-Stained	Leaves (B9) (excer	ot NW coast)	Sparsely V	egetated Concave S	Surface (B8)	
High Water Ta	able (A2)		Salt Crust (B1	1)	,	Drainage F	Patterns (B10)	(-)	
Saturation (A3))		Aquatic Inverte	, ebrates (B13)		Drv-Seaso	n Water Table (C2)		
Water Marks (I	, B1)		Hvdrogen Sulf	ide Odor (C1)		Saturation Visible on Aerial Imagery (C9)			
Sediment Depo	osits (B2)		X Oxidized Rhizo	ospheres along Livin	a Roots (C3)	Geomorph	ic Position (D2)		
Drift Deposits ((B3)		Presence of R	educed Iron (C4)	5 ()	Shallow Ad	puitard (D3)		
Algal Mat or Cr	rust (B4)		Recent Iron Re	eduction in Tilled Soi	ls (C6)	Frost-Heav	ve Hummocks (D4)		
Iron Deposits ((B5)		Stunted or Stre	essed Plants (D1) (L	RR A)	FAC-Neutr	al Test (D5)		
Surface Soil C	racks (B6)		Other (Explain	in Remarks)	,	Raised An	t Mounds (D6) (LRR	A)	
Inundation Visi	ible on Aerial Imag	ery (B7)		,				,	
- ield Observation	ns:								
Surface Water Pro	resent? Yes		No X	Depth (inches):					
Water Table Pres	sent? Vec	x		Depth (inches):	21"		vdrology Present?	,	
Saturation Presen	nt? Yes	X	 No	Depth (inches):	20"		Yes X	No	
(includes capillary	/ fringe)					-			
Describe Recorde	ed Data (stream ga	uge, moni	toring well, aerial pho	otos, previous inspec	ctions), if availa	able:			
Remarks:									
Oxidized Rhizosph	neres along Living	Roots (C3) were observed betw	ween 0 to 6 inches ir	depth.				
Data entered by:	CJM Data c	hecked by	: JAH						

WETLAND D	ETERMINATION DA	TA FORM – W	estern Mountains	, Valleys and C	oast Region	
Project/Site: East Sand Island		City/County: Clatsop			Sampling Date:	2/25/2014
Applicant/Owner: U.S. Army	Corps of Engineers		State: Oregon			29
Investigator(s): C. Jonas Moiel, Jeff H	landley	Se	 ction, Township, Range	: T9N R11W		
Landform (hillslope, terrace, etc.):	hillslope (berm)		Local relief (con	cave, convex, none)	: convex Slo	ope (%): 2
Subregion (LRR): LRR A		Lat: 46.263	Long	: -123.971	Datum:	NAD 83 UTM 10N
Soil Map Unit Name: Tropopsar	mments, 0-15% slopes			NWI classification	: PEMCS	
Are climatic / hydrologic conditions on th	ne site typical for this time	of year?	Yes	X No	(If no, explain	in Remarks)
Are Vegetation ,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Ci	ircumstances" prese	ent?
				Yes	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explai	in any answers in Rem	arks.)
SUMMARY OF FINDINGS - A	ttach site map showing s	sampling point lo	cations, transects, imp	oortant features, etc	с.	
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X
Remarks:			- I		<u> </u>	
Plot 29 is located on a berm approximat	ely 12 feet northeast and 3	3 feet higher than F	Plot 28 (wetland).			
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test v	worksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	ant Species	
1				That Are OBL, FAC	CW, or FAC:	2 (A)
2.						
3.				Total Number of De	ominant	
4.				Species Across All	Strata:	4 (B)
	Total Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25 ft.)			Percent of Domina	nt Species	
^{1.} Rubus armeniacus	30%	Yes	FACU	That Are OBL, FAC	CW, or FAC:	<u>50%</u> (A/B)
2.				Prevalence Index	worksheet:	
3.				Total % Cove	er of: Multiply by:	
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
	Total Cover: 30%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Digitalis purpurea	30%	Yes	FACU	UPL species	x 5 =	
2. Schedonorus arundinaceus	30%	Yes	FAC	Column Totals:	0 (A)	0 (B)
3. Agrostis species	25%	Yes	FAC ?	Prevalence Inc	dex = $B/A =$	
4. Holcus lanatus	15%	No	FAC	Hydrophytic Vege	etation Indicators:	
5.				Dominance Te	st is >50%	
6.				Prevalence Ind	lex is ≤3.0 ¹	
7.				Morphological	Adaptations ¹ (Provid	de supporting
8.				data in Rem	narks or on a separa	ate sheet)
	Total Cover: 100%			Wetland Non-V	/ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hy	drophytic Vegetatio	on ¹ (Explain)
1.				¹ Indicators of hydrid	c soil and wetland h	ydrology must
2.				be present.	-	
	Total Cover: 0%			Hydrophytic Vege	etation	
% Bare Ground in Herb Stratum	0%			Present?	Yes No	Х
Remarks:				1		
Agrostis species was assumed to be FA	AC or wetter.					

SOIL							Samp	ling Point: 29	
Profile Descrip	ption: (Describe to	the depth ne	eded to docun	nent the indicator o	or confirm the ab	sence of indicators	.)		
Depth	Matrix	x		Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-25	10YR3/3	100	no redox			_	sandy loam		
25-28	10YR3/3	100	no redox				sand		
	<u> </u>				1				
17 0.0	<u> </u>		2						
Type: C=Cond	centration, D=Deplet	ion, RM=Redu	ced Matrix.	Location: PL=Pore	Lining, RC=Root	Channel, M=Matrix.		. 3	
Hyaric Soli ina	(Applicabl	e to all LRRS	, unless otherw	vise noted.)		Indicators for Pro	blematic Hydric Sol	IS':	
Histosol (A1) dag (A O)	_	Sandy Redox	((S5)		2 cm Muck (A1	U) starial (TEO)		
	don (A2)	_	Stripped Muck	rix (56) Wineral (E1) (exec		Red Parent Ma	in Demarka)		
		-		y Milleral (F1) (exce			in Remarks)		
Doploted Bo	unide (A4)		Doploted Ma:	triv (E2)					
Thick Dark 9	Surface (A12)		Bedox Dark 3	Surface (E6)					
Sandy Muck	w Mineral (S1)	_	Depleted Dar	k Surface (F7)		³ Indicators of hydro	phytic vegetation and	ł	
Sandy Gleve	ed Matrix (S4)	-		essions (F8)		wetland hydrolog	v must be present.		
Bestrictive Lev	() () () () () () () () () () () () () (-				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		
	er (il present):								
Depth (inch	oc).					Hydric Soil Prese	nt? Ves	No X	
						ingune oon integer			
nemarks.									
HYDROLOG	λΥ								
Wetland Hydro	logy Indicators:					Secondary Indi	icators (2 or more rec	uired)	
Primary Indicato	ors (any one indicato	or is sufficient)				Water-Stai	ned Leaves (B9) (NV	/ coast)	
Surface Wa	ter (A1)		Water-Staine	ed Leaves (B9) (exc	ept NW coast)	Sparsely V	egetated Concave Si	urface (B8)	
High Water	Table (A2)	_	Salt Crust (B	11)		Drainage Patterns (B10)			
Saturation (A3)	-	Aquatic Inver	tebrates (B13)		Dry-Season Water Table (C2)			
Water Marks	s (B1)		Hydrogen Su	lfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)			
Sediment De	eposits (B2)		Oxidized Rhi	zospheres along Liv	ing Roots (C3)	Geomorphi	ic Position (D2)		
Drift Deposit	ts (B3)	_	Presence of	Reduced Iron (C4)		Shallow Ac	uitard (D3)		
Algal Mat or	Crust (B4)		Recent Iron F	Reduction in Tilled S	oils (C6)	Frost-Heav	e Hummocks (D4)		
Iron Deposit	ts (B5)		Stunted or St	tressed Plants (D1)	(LRR A)	FAC-Neutr	al Test (D5)		
Surface Soil	l Cracks (B6)	_	Other (Explai	in in Remarks)		Raised Ant	Mounds (D6) (LRR	A)	
Inundation V	isible on Aerial Ima	gery (B7)							
Field Observat	ions:								
Surface Water	Present? Yes	1	No <u>X</u>	Depth (inches):					
Water Table Pr	resent? Yes	1	No X	Depth (inches):	>28"	Wetland H	ydrology Present?		
Saturation Pres	sent? Yes	1	No X	Depth (inches):	>28"		Yes	No <u>X</u>	
(includes capilla	ary fringe)								
Describe Reco	rded Data (stream g	auge, monitor	ng well, aerial p	hotos, previous insp	ections), if availat	ble:			
Remarks:									
Data entered by	y: CJM Data	checked by:	IAH						

WETLAN	D DETERMINA		TA FORM – W	estern Mountains,	Valleys and Co	oast Region	
Project/Site: East Sand Island			City/County: Clatsop			Sampling Date:	2/26/2014
Applicant/Owner: U.S.	Army Corps of Eng	ineers		State:	Oregon	Sampling Point:	30
Investigator(s): C. Jonas Moiel,	Jeff Handley		Sec	tion, Township, Range:	T9N R11W		
Landform (hillslope, terrace, etc.):	terra	се		Local relief (conc	ave, convex, none):	none Slop	be (%): 0
Subregion (LRR): LRR	A		Lat: 46.263	Long:	-123.971	Datum: N	NAD 83 UTM 10N
Soil Map Unit Name: Trop	opsamments, 0-159	% slopes			NWI classification:	upland	
Are climatic / hydrologic conditions	on the site typical f	for this time	of year?	Yes	X No	(If no, explain i	n Remarks)
Are Vegetation,Soil	, or H	Hydrology	si	gnificantly disturbed?	Are "Normal Cir	rcumstances" preser	nt?
					Yes	X No	
Are Vegetation,Soil	, or I	Hydrology	n	aturally problematic?	(If needed, explain	n any answers in Rema	urks.)
SUMMARY OF FINDINGS	 Attach site map 	p showing	sampling point loo	cations, transects, imp	ortant features, etc	2.	
Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	<u>X</u> No	
Plot 30 is located at the eastern er	nd of Wetland F, ap	proximately	20 feet south and 1	foot lower than Plot 31	(upland).		
		Absolute	Dominant	Indicator	Dominance Test w	vorksheet:	
Tree Stratum (Plot size: 50 ft.)		% Cover	Species?	Status	Number of Dominar	nt Species	
1.					That Are OBL. FAC	W. or FAC:	2 (A)
2.					, -		()
3.					Total Number of Do	ominant	
4.					Species Across All	Strata:	2 (B)
	Total Cover:	0%					
Sapling/Shrub Stratum (Plot size:	25 ft.)				Percent of Dominar	nt Species	
1. Lonicera involucrata		3%	No	FAC	That Are OBL, FAC	W, or FAC: <u>10</u>	<u>)0%</u> (A/B)
2.					Prevalence Index	worksheet:	
3.					Total % Cover	r of: <u>Multiply by:</u>	
4.					OBL species	x 1 =	
5.					FACW species	x 2 =	
	Total Cover:	3%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)	_				FACU species	x 4 =	
1. Agrostis species		50%	Yes	FAC ?	UPL species	x 5 =	
2. Juncus effusus		35%	Yes	FACW	Column Totals:	0 (A)	0 (B)
3. Holcus lanatus		10%	No	FAC	Prevalence Ind	ex = B/A =	
4. Digitalis purpurea		5%	No	FACU	Hydrophytic Vege	tation Indicators:	
5					X Dominance Tes	st is >50%	
6					Prevalence Inde	ex is ≤3.0 ¹	
7					Morphological A	Adaptations ¹ (Provide	e supporting
8					data in Rem	arks or on a separat	e sheet)
	Total Cover:	100%			Wetland Non-V	ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5	5 ft.)				Problematic Hy	drophytic Vegetatior	¹ (Explain)
1					¹ Indicators of hydric	soil and wetland hy	drology must
2					be present.		
	Total Cover:	0%			Hydrophytic Vege	tation	
% Bare Ground in Herb Stratum	0%				Present?	Yes X No	
Remarks: Agrostis species was assumed to	be FAC or wetter. I	. involucra	ta had low cover and	d was not considered do	minant.		

SOIL							San	npling Point: 30
Profile Description	on: (Describe to	the depth n	eeded to docume	ent the indicator or	r confirm the ab	sence of indicators	.)	
Depth	Matrix			Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-8	10YR2/2	95	7.5YR4/6	5	С	2%M,3%RC	sandy loam	ORC
8-24	10YR3/2	90	5YR3/4	10	С	M	sand	
1 			2	<u> </u>				· · · · · · · · · · · · · · · · · · ·
Type: C=Concen	ntration, D=Depletic	on, RM=Redu	iced Matrix. L	ocation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		
Hydric Soli Indica	ators: (Applicable	e to all LRRS	, unless otherwi	se noted.)		Indicators for Pro	blematic Hydric S	oils":
Histosol (A1)	(10)	-	Sandy Redox	(85)		2 cm Muck (A1	0)	
Histic Epipedo	n (A2)	-	Stripped Matri	x (S6) Mineral (E1) (average		Red Parent Ma	aterial (TF2)	
Black Histic (A	(3)	-		Mineral (F1) (excep	DT MLRA 1)	Other (Explain	in Remarks)	
Hydrogen Sulfi	ide (A4)		Loamy Gleyed	Matrix (F2)				
Depleted Belov	w Dark Surface (A	¹¹⁾	Depleted Matr	IX (F3)				
Thick Dark Sul	mace (A12)	-	K Redox Dark S			³ Indiantors of hydro	phytic vocatation of	nd
Sandy Mucky I	Mineral (S1)	-	Depleted Dark	Surface (F7)			phylic vegetation a	inu
Sandy Gleyed	Matrix (54)	-	Redox Depres	SIONS (F8)		wetland hydrolog	y must be present.	
Restrictive Layer	(if present):							
Туре:								
Depth (inches)):		_			Hydric Soil Prese	nt? Yes X	No
HYDROLOGY	av Indicators:					Secondary Ind	iontoro (2 or moro r	oquirod)
Primary Indicators	(any one indicator	is sufficient)				Secondary Ind	red Leevee (PO) (
Surface Water	· (A1)		Water-Stainer		nt NW coast)	Sparsoly V	fied Leaves (B9) (I	Surface (B8)
Ligh Water Ta		-	Solt Cruct (B1	1)	prive coast)	Oparsely V	Pattorne (B10)	Surface (BO)
Saturation (A3)		-	Aquatic Invert) abrates (B13)		Drainage P	n Water Table (C2)	
Water Marks ('' B1)	-	Hydrogen Sulf	ide Odor (C1)		Dry-Oeaso	Visible on Aerial Im	agery (C9)
Sediment Dep	osite (B2)	-	X Oxidized Bhiz	ospheres along Livir	na Boots (C3)	Geomorphi	ic Position (D2)	
Drift Deposits ((B3)	-	Presence of B	educed Iron (C4)	ig 10013 (00)	Shallow Ac	uitard (D3)	
Algal Mat or Ci	rust (B4)	-	Becent Iron B	eduction in Tilled Sc	oils (C6)	Erost-Heav	e Hummocks (D4)	
Iron Deposits ((B5)	-	Stunted or Str	essed Plants (D1) (I		X FAC-Neutr	al Test (D5)	
Surface Soil C	racks (B6)	-	Other (Explain	in Remarks)	,	X Raised Ant	t Mounds (D6) (LRF	R A)
Inundation Visi	ible on Aerial Imag	ery (B7)		,		—		,
Field Observation	ns:							
Surface Water Pr	resent? Ves	,	No X	Depth (inches):				
Water Table Pres	sent? Yes	'		Depth (inches):	18"	— Wetland H	lydrology Present	2
Saturation Preser	nt? Yee	<u> </u>	No.	Depth (inches):	16"		Yes X	No
(includes capillary	/ fringe)			2 3041 (110100).	10	-	<u>.</u>	
Describe Recorde	ed Data (stream ga	uge, monitor	ing well, aerial ph	otos, previous inspe	ections), if availal	ble:		
-	_							
Remarks:	he vegetation hum	mocke obeer	ved were a rocult	of Baised Apt Mour	ide (D6) but the	v could also be a recu	Ilt of Frost-Hoove (A) Oxidizad
Rhizospheres alor	ng Living Roots (C3	3) were obser	rved between 0 a	nd 8 inches in depth		y 55010 also be a 1850	In or i rost-rieave (I	
	0.114			•				
Data entered by:	CJM Data c	hecked by:	JAH					

WETLAND DE	FERMINATION D	ATA FORM – V	Vestern Mounta	ins, Valleys and Coast Region
Project/Site: East Sand Island		City/County:	Clatsop	Sampling Date: 2/26/20
Applicant/Owner: U.S. Army Co	orps of Engineers		Sta	te: Oregon Sampling Point: 31
Investigator(s): C. Jonas Moiel, Jeff Han	dley	Sec	tion, Township, Rang	ge: T9N R11W
Landform (hillslope, terrace, etc.):	terrace		Local relief ((concave, convex, none): none Slope (%): 0
Subregion (LRR): LRR A		Lat: 46.263	Lor	ng: -123.971 Datum: NAD 83 UTM 101
Soil Map Unit Name: Tropopsamm	ents, 0-15% slopes		—	NWI classification: upland
Are climatic / hydrologic conditions on the s	site typical for this time	e of year?	Ye	es X No (If no, explain in Remarks)
Are Vegetation,Soil	, or Hydrology	s	ignificantly disturbed?	? Are "Normal Circumstances" present?
				Yes <u>X</u> No
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attac	ch site map showing	sampling point lo	cations, transects, in	mportant features, etc.
Hydrophytic Vegetation Present?	Yes X	No		
Hydric Soil Present?	Yes	No X	is the Sampled Al	rea
Wetland Hydrology Present?	Yes	No X	within a wetland	Yes NoX
Plot 31 is located approximately 20 feet not	rth and 1 foot higher t	han Plot 30 (wetland	d).	
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 50 ft.)	% Cover	Species?	Status	Number of Dominant Species
1.		<u> </u>		That Are OBL, FACW, or FAC: 3 (A)
2.				
3.				Total Number of Dominant
4.				Species Across All Strata: 5 (B)
Tota	al Cover: 0%			
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominant Species
1. Cytisus scoparius	25%	Yes	UPL	That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species x 1 =
5				FACW species x 2 =
Tota	al Cover: 25%			FAC species x 3 =
Herb Stratum (Plot size: 5 ft.)				FACU species x 4 =
1. Digitalis purpurea	30%	Yes	FACU	UPL species x 5 =
2. Holcus lanatus	30%	Yes	FAC	Column Totals: <u>0</u> (A) <u>0</u> (B)
3. Agrostis species	20%	Yes	FAC ?	Prevalence Index = B/A =
4. Equisetum hyemale	20%	Yes	FACW	Hydrophytic Vegetation Indicators:
5				X Dominance Test is >50%
6				Prevalence Index is ≤3.0 ¹
7				Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
Tota	al Cover: 100%			Wetland Non-Vascular Plants ¹
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hydrophytic Vegetation ¹ (Explain)
1				¹ Indicators of hydric soil and wetland hydrology must
2				be present.
Tota	al Cover: 0%			Hydrophytic Vegetation
% Bare Ground in Herb Stratum 0	%			Present? Yes X No
Remarks:				
ngroono species was assumed to de FAC				

SOIL							Sam	bling Point: 31		
Profile Descri	ption: (Describe t	to the depth	needed to docum	ent the indicator or	r confirm the ab	sence of indicators.)		<u> </u>		
Depth	Matr	ix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks		
0-3	10YR2/2	100	no redox				sandy loam			
3-12	10YR3/3	98	10YR3/6	2	С	М	loamy sand			
12-24	10YR3/2	95	10YR4/6	5	С	М	sand			
¹ Type: C=Cond	centration, D=Deple	etion, RM=Re	duced Matrix. 2	Location: PL=Pore I	_ining, RC=Root	Channel, M=Matrix.		0		
Hydric Soil Ind	licators: (Applicat	ole to all LRF	s, unless otherw	ise noted.)		Indicators for Prob	lematic Hydric Soils	j ³ :		
Histosol (A1	1)		Sandy Redox	(S5)		2 cm Muck (A10)			
Histic Epipe	edon (A2)		Stripped Matr	ix (S6)		Red Parent Mate	erial (TF2)			
Black Histic	: (A3)		Loamy Mucky	Mineral (F1) (exce	ot MLRA 1)	Other (Explain in	n Remarks)			
Hydrogen S	Sulfide (A4)		Loamy Gleye	d Matrix (F2)						
Depleted Be	elow Dark Surface	(A11)	Depleted Mat	rix (F3)						
Thick Dark	Surface (A12)		Redox Dark S	Surface (F6)		31	1. P			
Sandy Mucl	ky Mineral (S1)		Depleted Dar	k Surface (F7)		Indicators of hydrop	nytic vegetation and			
Sandy Gley	ed Matrix (S4)		Redox Depres	ssions (F8)		wetland hydrology	must be present.			
Remarks:								X		
HYDROLOG	GY									
Wetland Hydro	ology Indicators:					Secondary Indic	ators (2 or more requ	lired)		
Primary Indicate	ors (any one indica	tor is sufficie	nt)			Water-Stain	ed Leaves (B9) (NW	coast)		
Surface Wa	ater (A1)		Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely Vegetated Concave Surface (B8)				
High Water	Table (A2)		Salt Crust (B1	1)		Drainage Patterns (B10)				
Saturation ((A3)		Aquatic Invert	ebrates (B13)		Dry-Season Water Table (C2)				
Water Mark	s (B1)		Hydrogen Sul	fide Odor (C1)		Saturation Visible on Aerial Imagery (C9)				
Sediment D	eposits (B2)		Oxidized Rhiz	ospheres along Livi	ng Roots (C3)	Geomorphic	Position (D2)			
Drift Deposi	its (B3)		Presence of F	Reduced Iron (C4)		Shallow Aqu	itard (D3)			
Algal Mat or	r Crust (B4)		Recent Iron F	eduction in Tilled So	oils (C6)	Frost-Heave	Hummocks (D4)			
Iron Deposi	ts (B5)		Stunted or Str	essed Plants (D1) (I	LRR A)	FAC-Neutra	Test (D5)			
Surface Soi	il Cracks (B6)		Other (Explain	n in Remarks)		Raised Ant I	Mounds (D6) (LRR A)		
Inundation \	Visible on Aerial Im	agery (B7)								
Field Observat	tions:									
Surface Water	Present? Yes		No X	Depth (inches):		_				
Water Table P	resent? Yes		No <u>X</u>	Depth (inches):	>24"	Wetland Hy	drology Present?			
Saturation Pres	sent? Yes		No X	Depth (inches):	>24"	-	Yes	No <u>X</u>		
Describe Reco	orded Data (stream	daude moni	toring well aerial p	hotos previous insp	ections) if availa	able:				
2000/1001/1000		34690, mom								
Remarks: Soils were note	ed to be moist at the	e time of sam	pling.							
Data entered b	v: CIM Data	checked by:	JAH							
Jaia chiereu D	J. John Dala	shooked by.	0/111							

WETLAND DE	TERMINATION D	ATA FORM – \	Vestern Mounta	ins, Valleys and Coast Region	
Project/Site: East Sand Island		City/County:	Clatsop	Sampling Date:	2/26/2014
Applicant/Owner: U.S. Army Co	orps of Engineers		Sta	te: Oregon Sampling Point:	32
Investigator(s): C. Jonas Moiel, Jeff Han	dley	Sec	tion, Township, Ran	ge: T9N R11W	
Landform (hillslope, terrace, etc.):	terrace		Local relief	(concave, convex, none): <u>concave</u> Slope	e (%): 0
Subregion (LRR): LRR A		Lat: 46.262	Lo	ng: -123.971 Datum: N	AD 83 UTM 10N
Soil Map Unit Name: Tropopsamm	nents, 0-15% slopes			NWI classification: PEMCS	
Are climatic / hydrologic conditions on the	site typical for this time	e of year?	Y	es X No (If no, explain in	Remarks)
Are Vegetation,Soil	, or Hydrology	S	ignificantly disturbed	? Are "Normal Circumstances" present?	
				Yes X No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain any answers in Remarks	.)
SUMMARY OF FINDINGS – Attac	ch site map showing	sampling point lo	cations, transects, i	mportant features, etc.	
Hydrophytic Vegetation Present?	Yes X	No			
Hydric Soil Present?	Yes X	No	Is the Sampled A	rea	
Wetland Hydrology Present?	Yes X	No	within a Wetland	? Yes <u>X</u> No	
Plot 32 is located in a slight depression ap	proximately 10 feet no	orth of the southern	shoreline top-of-bank	Χ.	
	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species	
1.				That Are OBL, FACW, or FAC:	4 (A)
2.					
3.				Total Number of Dominant	
4.				Species Across All Strata:	5 (B)
Tota	al Cover: 0%				
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominant Species	
^{1.} Salix hookeriana	20%	Yes	FACW	That Are OBL, FACW, or FAC: 80	<u>)%</u> (A/B)
2. Sambucus racemosa	10%	Yes	FACU	Prevalence Index worksheet:	
3				Total % Cover of: Multiply by:	
4				OBL species x 1 =	
5				FACW species x 2 =	
Tota	al Cover: <u>30%</u>			FAC species x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species x 4 =	
1. Holcus lanatus	30%	Yes	FAC	UPL species x 5 =	
2. Juncus effusus	25%	Yes	FACW	Column Totals: 0 (A)	<u>0</u> (B)
3. Iris pseudacorus	20%	Yes	OBL	Prevalence Index = B/A =	
4. Agrostis species	5%	No	FAC ?	Hydrophytic Vegetation Indicators:	
5. Digitalis purpurea	5%	No	FACU	X Dominance Test is >50%	
6				Prevalence Index is $\leq 3.0^{1}$	
7				Morphological Adaptations ¹ (Provide s	upporting
8				data in Remarks or on a separate s	sheet)
Tota	al Cover: 85%			Wetland Non-Vascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hydrophytic Vegetation ¹ (Explain)
1				¹ Indicators of hydric soil and wetland hydro	ology must
				be present.	
2.					
2 Tota	al Cover: 0%			Hydrophytic Vegetation	

SOIL							San	pling Point: 32		
Profile Descri	ption: (Describe to	o the depth n	eeded to docum	ent the indicator or	confirm the ab	sence of indicators.)				
Depth	Matriz	x		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks		
0-2	10YR2/2	100	no redox				sandy loam			
2-18	10YR3/2	80	5YR3/4	20	С	15%M,5%RC	sand	ORC		
18-26	10YR3/1	70	5YR3/4	30	С	М	sand			
	·									
								<u></u>		
¹ Type: C=Conc	entration, D=Deple	tion, RM=Rec	luced Matrix. 2	Location: PL=Pore L	ining, RC=Root	Channel, M=Matrix.				
Hydric Soil Ind	icators: (Applicab	le to all LRR	s, unless otherw	ise noted.)		Indicators for Probl	ematic Hydric Soi	ls³:		
Histosol (A1)	-	X Sandy Redox	(S5)		2 cm Muck (A10))			
Histic Epipe	Histic Epipedon (A2) Stripped Matrix (S6)						erial (TF2)			
Black Histic	(A3)	-	Loamy Mucky	Mineral (F1) (excep	ot MLRA 1)	Other (Explain in	Remarks)			
Hydrogen S	ulfide (A4)	-	Loamy Gleye	d Matrix (F2)						
Depleted Be	elow Dark Surface (A11) -	Depleted Mat	rix (F3)						
Thick Dark S	Surface (A12)	-	Redox Dark S	Surface (F6)		3				
Sandy Muck	ky Mineral (S1)	-	Depleted Dar	k Surface (F7)		Indicators of hydrop	hytic vegetation and			
Sandy Gleye	ed Matrix (S4)	-	Redox Depre	ssions (F8)		wetland hydrology	must be present.			
Restrictive Lay	ver (if present):									
Type:										
Depth (inche	es):					Hydric Soil Present	? Yes <u>X</u>	No		
Remarks:										
	λΥ Nogy Indiactory									
Primary Indicate	ors (any one indicat	or is sufficien	r)			Secondary Indica	ators (2 or more rec			
Curfage Ma		or is sufficient	Matar Otaina				ed Leaves (B9) (NV	(Coast)		
Surface wa	ter (AI)	-	Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely Vegetated Concave Surface (B8)				
High Water	Table (A2)	-	Salt Crust (B1	1)		Drainage Patterns (B10)				
Saturation (A3)	-	Aquatic Inver	tebrates (B13)		Dry-Season Water Table (C2)				
	S (D1)	-	Hydrogen Su	nde Odor (CT)			Sible on Aeriai Ima	Jery (C9)		
Drift Denesi		-		Cospheres along Livir	Ig Rools (C3)	Geomorphic Shallow Agu	Position (D2)			
Algol Mat or	Cruct (P4)	-	Presence of P	Reduced Iron (C4)		Shallow Aqui	Hummooko (D4)			
Algai Mat Or	Clust (D4)	-	Necent non P	requirements (D1) (I			Taat (DE)			
Surface Soil	IS (DD)	-	Other (Evelai	n in Romarks)	.nn A)	AC-Neulial	Test (D5)	•		
Inundation \	/isible on Aprial Ima	-		TIII Heiliaiks)				•)		
		igery (D7)								
Field Observat	ions:									
Surface Water	Present? Yes		No <u>X</u>	Depth (inches):						
Water Table Pr	resent? Yes		No <u>X</u>	Depth (inches):	>26"	Wetland Hyd	drology Present?			
Saturation Pres	sent? Yes		No <u>X</u>	Depth (inches):	>26"	-	Yes X	N0		
Describe Beco	rded Data (stream o	nauge monito	oring well aerial n	hotos previous insp	ections) if avail	able:				
Remarks:										
Oxidized Rhizos	spheres along Livin	g Hoots (C3)	were observed fr	om 2 to 18 inches in	depth. Soils wer	e noted to be very moi	st at the time of san	npling.		
Data entered by	y: CJM Data	checked by:	JAH							

WETLAND DE	TERMINATION D	ATA FORM – V	Vestern Mounta	ains, Valleys and Coast Region
Project/Site: East Sand Island		City/County:	Clatsop	Sampling Date: 2/26/201
Applicant/Owner: U.S. Army Co	orps of Engineers		Sta	ate: Oregon Sampling Point: 33
Investigator(s): C. Jonas Moiel, Jeff Han	dley	Sec	tion, Township, Ran	ge: T9N R11W
Landform (hillslope, terrace, etc.):	terrace		Local relief	(concave, convex, none): none Slope (%): 0
Subregion (LRR): LRR A		Lat: 46.262	Lo	ng: -123.973 Datum: NAD 83 UTM 10N
Soil Map Unit Name: Tropopsamm	ents, 0-15% slopes			NWI classification: PEMCS
Are climatic / hydrologic conditions on the	site typical for this time	e of year?	Y	Yes X No (If no, explain in Remarks)
Are Vegetation ,Soil	, or Hydrology	si	gnificantly disturbed	? Are "Normal Circumstances" present?
				Yes X No
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attac	ch site map showing	sampling point loo	cations, transects, i	important features, etc.
Hydrophytic Vegetation Present?	Yes X	No		
Hydric Soil Present?	Yes X	No	Is the Sampled A	Irea
Wetland Hydrology Present?	Yes X	No	within a Wetland	? Yes X No
Remarks:			•	
Plot 33 is located approximately 5 feet nort	th of the southern sho	reline top-of-bank.		
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 4 (A)
2.				
3.				Total Number of Dominant
4.				Species Across All Strata: 5 (B)
Tota	al Cover: 0%			
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominant Species
1. Sambucus racemosa	20%	Yes	FACU	That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. Lonicera involucrata	5%	Yes	FAC	Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4				OBL species x 1 =
5				FACW species x 2 =
Tota	al Cover: 25%			FAC species x 3 =
Herb Stratum (Plot size: 5 ft.)				FACU species x 4 =
1. Iris pseudacorus	30%	Yes	OBL	UPL species x 5 =
2. Juncus effusus	30%	Yes	FACW	Column Totals: 0 (A) 0 (B)
3. Lotus corniculatus	20%	Yes	FAC	Prevalence Index = B/A =
4. Agrostis species	14%	No	FAC ?	Hydrophytic Vegetation Indicators:
5. Holcus lanatus	5%	No	FAC	X Dominance Test is >50%
6. Cardamine hirsuta	1%	No	FACU	Prevalence Index is $\leq 3.0^{1}$
7				Morphological Adaptations ¹ (Provide supporting
8	<u> </u>			data in Remarks or on a separate sheet)
Tota	al Cover: 100%			Wetland Non-Vascular Plants ¹
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hydrophytic Vegetation ¹ (Explain)
1.				¹ Indicators of hydric soil and wetland hydrology must
2.				be present.
Tota	al Cover: 0%			Hydrophytic Vegetation
% Bare Ground in Herb Stratum)%			Present? Yes X No
Remarks:				
Agrostis species was assumed to be FAC	or wetter.			

SOIL							Sam	oling Point: 33	
Profile Descri	ption: (Describe to	the depth	needed to docume	ent the indicator or	r confirm the at	sence of indicators.)			
Depth	Matriz	x		Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-2	10YR2/2	100	no redox				sandy loam		
2-10	10YR4/2	93	7.5YR4/6	7	С	5%M,2%RC	silty clay loam	ORC	
10-24	10YR4/1	85	7.5YR4/6	15	С	M	silty clay loam	with some sand	
¹ Type: C=Con	centration, D=Deple	tion, RM=Re	duced Matrix. ² L	ocation: PL=Pore I	_ining, RC=Root	Channel, M=Matrix.			
Hydric Soil Inc	dicators: (Applicab	le to all LRR	s, unless otherwi	se noted.)		Indicators for Prob	lematic Hydric Soils	s ³ :	
Histosol (A	1)		Sandy Redox	(S5)		2 cm Muck (A10)		
Histic Epipe	edon (A2)		Stripped Matri	x (S6)		Red Parent Mate	erial (TF2)		
Black Histic	c (A3)		Loamy Mucky	ot MLRA 1)	Other (Explain in	n Remarks)			
Hydrogen S	Sulfide (A4)		Loamy Gleyed	Matrix (F2)					
Depleted B	elow Dark Surface (A11)	Depleted Matr	ix (F3)					
Thick Dark	Surface (A12)		X Redox Dark S	urface (F6)		2			
Sandy Muc	ky Mineral (S1)		Depleted Dark	Surface (F7)		"Indicators of hydrop	hytic vegetation and		
Sandy Gley	ed Matrix (S4)		Redox Depres	sions (F8)		wetland hydrology	must be present.		
Remarks:									
HYDROLOG	GY								
Wetland Hydro	ology Indicators:					Secondary Indic	ators (2 or more requ	uired)	
Primary Indicat	ors (any one indicate	or is sufficier	it)			Water-Staine	ed Leaves (B9) (NW	coast)	
Surface Wa	ater (A1)		Water-Stained	Leaves (B9) (exce	pt NW coast)	Sparsely Ve	getated Concave Su	rface (B8)	
High Water	Table (A2)		Salt Crust (B1	1)		Drainage Patterns (B10)			
Saturation ((A3)		Aquatic Inverte	ebrates (B13)		Dry-Season	Water Table (C2)		
Water Mark	(B1)		Hydrogen Sulf	ide Odor (C1)		Saturation V	isible on Aerial Imag	ery (C9)	
Sediment D	eposits (B2)		X Oxidized Rhize	ospheres along Livi	ng Roots (C3)	Geomorphic	Position (D2)		
Drift Depos	its (B3)		Presence of R	educed Iron (C4)		Shallow Aqu	itard (D3)		
Algal Mat o	r Crust (B4)		Recent Iron Re	eduction in Tilled So	oils (C6)	Frost-Heave	Hummocks (D4)		
Iron Deposi	its (B5)		Stunted or Stre	essed Plants (D1) (I	LRR A)	X FAC-Neutral	Test (D5)		
Surface So	il Cracks (B6)		Other (Explain	in Remarks)		Raised Ant M	Nounds (D6) (LRR A)	
Inundation	Visible on Aerial Ima	gery (B7)							
Field Observa	tions:								
Surface Water	Present? Yes		No <u>X</u>	Depth (inches):		_			
Water Table P	resent? Yes		No <u>X</u>	Depth (inches):	>24"	Wetland Hy	drology Present?		
Saturation Pre	sent? Yes		No X	Depth (inches):	>24"		Yes X	No	
(includes capil	lary fringe)								
Describe Reco	orded Data (stream g	gauge, monit	oring well, aerial pł	iotos, previous insp	ections), if avail	able:			
Remarks: Oxidized Rhizo	spheres along Livin	g Roots (C3)	observed betweer	2 and 10 inches in	depth.				
Data entered b	y: CJM Data	checked by:	JAH						

WETLAND	DETERMINATION D		I – Western Mounta	ains, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/Co	unty: Clatsop	•	Sampling Date:	2/26/2014
Applicant/Owner: U.S. Art	my Corps of Engineers		Sta	ate: Oregon	Sampling Point:	34
Investigator(s): C. Jonas Moiel, Jef	ff Handley		Section, Township, Ran	ge: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle hillslope		Local relief	(concave, convex, none)	: none Slope	e (%): <u>1</u>
Subregion (LRR): LRR A		Lat: 46.263	Lo	ng: -123.969	Datum: N	AD 83 UTM 10N
Soil Map Unit Name: Tropops	samments, 0-15% slopes			NWI classification	: upland	
Are climatic / hydrologic conditions or	n the site typical for this time	of year?	Y	'es X No	(If no, explain in	Remarks)
Are Vegetation Yes ,Soil	, or Hydrology		significantly disturbed	? Are "Normal Circ	umstances" present?	
				Yes	3 <u>X</u> No	
Are Vegetation,Soil	, or Hydrology		naturally problematic?	? (If needed, explain a	any answers in Remarks.	.)
SUMMARY OF FINDINGS –	Attach site map showing	sampling poi	nt locations, transects,	important features, etc.		
Hydrophytic Vegetation Present?	Yes	No X	le the Sempled A			
Hydric Soil Present?	Yes	No X	within a Watland	area		
Wetland Hydrology Present?	Yes	No X		Yes	No	<u> </u>
Remarks: Plot 34 is located in an un-vegetated It is located near the top of this un-ve	area (sand) that was histori getated slope.	cally used as a	a dredge material depositi	ional area, and is now use	ed by Caspian terns f	or nesting habitat.
VEGETATION						
	Absolute	Domina	ant Indicator	Dominance Test wo	rksheet:	
Iree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	<u>Specie</u>	<u>s?</u> <u>Status</u>	Number of Dominant	Species	
1.				That Are OBL, FACW	/, or FAC: 0) (A)
2.						
3.				Total Number of Dom	ninant	
4				Species Across All S	trata: 0)(B)
Cooling/Chrub Stratum (Distaires OF	Total Cover:				- ·	
Sapling/Shrub Stratum (Plot Size: 25	n.)			Percent of Dominant	Species	
2				That Are OBL, FACW	I, or FAC: C) (A/B)
2				Total % Cover of	orksheet:	
					<u></u>	_
4					x 1 =	
5.					x 2 =	
Llowh Ctratium (Distaire) 5 ft)	Total Cover: 0%			FAC species	x 3 =	
	10/		540		X 4 =	
	1%	No	FAC	OPL species	= c x =	(D)
2				Brovelence Inc	<u> </u>	<u> (</u> (
3				Hudrophytic Vogete		
4						
5					15 > 50%	
7				Prevalence index	∴IS ≤3.0 Jantationa ¹ (Dravida a	unnerting
/				data in Roman	aplations (Provide s	upporting
o					ks of off a separate s	neet)
Weady Vina Stratum (Plat Siza: 5 ft	I otal Cover: 1%			Drebland Non-Vas	scular Plants	True le in)
	.)			Problematic Hydr	opnytic vegetation (i	Explain)
1				indicators of hydric s	soli and wetland hydro	biogy must
۲. 	Tatal Cayor: 00/			Hydrophytic Vocate	tion	
% Para Cround in Llash Otrature				Procont?		v
	33%			FIESCIIL?		<u>^</u>
Remarks: Area is mostly un-vegetated sand. Ve	egetation is likely being heav	vily grazed by	birds.			

SOIL							Samp	ling Point: 34
Profile Descri	ption: (Describe to	o the depth	needed to documen	t the indicator o	r confirm the at	osence of indicators.)		
Depth	Matri	х	<u> </u>	Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-12	10YR3/2	99	10YR4/6	1	С	M	sand	
12-30	10YR3/1	80	7.5YR4/6	20	С	M	fine sand	
				<u> </u>				
¹ Type: C=Cond	entration, D=Deple	tion. RM=Re	duced Matrix. ² Lo	cation: PL=Pore	Linina. RC=Root	Channel, M=Matrix.		
Hydric Soil Ind	icators: (Applicab	le to all LRF	s, unless otherwise	noted.)		Indicators for Probl	ematic Hvdric Soils	³ .
Histosol (A1)		Sandy Redox (S	5)		2 cm Muck (A10))	
Histic Epipe	, don (A2)		Stripped Matrix	(S6)		Red Parent Mate	erial (TF2)	
Black Histic	(A3)		Loamy Mucky M	lineral (F1) (exce	pt MLRA 1)	Other (Explain in	Remarks)	
Hydrogen S	ulfide (A4)		Loamy Gleyed N	Aatrix (F2)			,	
Depleted Be	low Dark Surface (A11)	Depleted Matrix					
Thick Dark S	Surface (A12)		Redox Dark Sur	face (F6)				
Sandy Muck	ky Mineral (S1)		Depleted Dark S	Surface (F7)		³ Indicators of hydrop	hytic vegetation and	
Sandy Gleyed Matrix (S4) Redox Depressions (F8)						wetland hydrology	must be present.	
Restrictive Lay	ver (if present):							
Type:								
Depth (inche	es):					Hydric Soil Present	? Yes	No X
Remarks:								
Sand is very co	mpacted. Many she	ells and bone	s on surface from bir	d use.				
HYDROLOG	âΥ							
Wetland Hydro	logy Indicators:	. "				Secondary Indica	ators (2 or more requ	ired)
Primary Indicato	ors (any one indicat	or is sufficier	nt)			Water-Staine	ed Leaves (B9) (NW o	coast)
Surface Wa	ter (A1)		Water-Stained L	eaves (B9) (exce	pt NW coast)	Sparsely Veg	getated Concave Sur	face (B8)
High Water	Table (A2)		Salt Crust (B11)			Drainage Pat	tterns (B10)	
Saturation (A3)		Aquatic Inverteb	orates (B13)		Dry-Season	Water Table (C2)	
Water Marks	s (B1)		Hydrogen Sulfid	e Odor (C1)		Saturation Vi	sible on Aerial Image	ry (C9)
Sediment D	eposits (B2)		Oxidized Rhizos	pheres along Livi	ng Roots (C3)	Geomorphic	Position (D2)	
Drift Deposi	ts (B3)		Presence of Rec	duced Iron (C4)	-il- (OC)	Shallow Aqui	tard (D3)	
Algai Mat or	Crust (B4)		Recent Iron Rec	and Plants (D1)		Frost-Heave	Hummocks (D4)	
Iron Deposit	IS (BD)		Other (Evolution in		LRR A)	FAC-Neutral		
Inundation \	/isible on Aerial Ima	agery (B7)		i neillaiks)		Haised Ant N		
Field Observet		igery (D7)						
Field Observat	ions:							
Surface Water	Present? Yes		<u>No X</u> L	Depth (inches):	0.0"			
Water Table Pr	resent? Yes		No <u>X</u> L	Depth (inches):	>30"	Wetland Hyd	drology Present?	N. V
(includes capill	sent? Yes arv fringe)			Depth (Inches):	>30"	-	Yes	NO <u>A</u>
Describe Reco	rded Data (stream of	gauge, monit	oring well, aerial pho	tos, previous insp	ections), if avail	able:		
	(;		3 : , prio	,	····, ····			
Remarks:	d to be maint at the	time of						
Solis were note	u to be moist at the	une or sam	ung.					
	-							
Data entered by	y: CJM Data	checked by:	JAH					

WETLAND	DETERMINATION D	ATA FORM – V	Vestern Mountair	ns, Valleys and Co	ast Region	
Project/Site: East Sand Island		City/County:	Clatsop	, ,	Sampling Date:	2/26/2014
Applicant/Owner: U.S. Arm	y Corps of Engineers	_	State	: Oregon	Sampling Point:	35
Investigator(s): C. Jonas Moiel, Jeff	Handley	Sec	tion, Township, Range	: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle hillslope		Local relief (c	oncave, convex, none):	none Slope (S	%): 1
Subregion (LRR): LRR A		Lat: 46.263	Long	ı: -123.968	Datum: NAD	83 UTM 10N
Soil Map Unit Name: Tropopsa	amments, 0-15% slopes			NWI classification:	E2USPS	
Are climatic / hydrologic conditions on	the site typical for this time	of year?	Yes	X No	(If no, explain in Re	emarks)
Are Vegetation Yes ,Soil	, or Hydrology	si	gnificantly disturbed?	Are "Normal Circur	mstances" present?	
				Yes	X No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain an	y answers in Remarks.)	
SUMMARY OF FINDINGS - A	Attach site map showing	sampling point loc	cations, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No X	
Remarks: Plot 35 is located in an un-vegetated a It is located near the middle of this un-v	rea (sand) that was histori vegetated slope, approxim	cally used as a drec ately 6 feet lower th	dge material depositior an Plot 34.	nal area, and is now used	d by Caspian terns for	nesting habitat.
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test worl	(sheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant S	Species	
1.				That Are OBL, FACW,	or FAC: 0	(A)
2.						
3.				Total Number of Domi	nant	
4.				Species Across All Str	ata: 0	(B)
	Total Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25 ft	i.)			Percent of Dominant S	pecies	
1.				That Are OBL FACW	or FAC: 0	(A/B)
2.				Prevalence Index wor	ksheet:	(775)
3.				Total % Cover of:	Multiply by:	
4				OBL species	x 1 =	
5.				FACW species	x 2 =	
	Total Covor: 0%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft)				FACIL species		
	10/	No	EAC			
2	1 /6	INO	TAC	Column Totals:	(A)	(B)
3				Prevalence Inde	(A)	(D)
0.					on Indicatora	
1				Hydronhytic Vocatati		
4.				Hydrophytic Vegetati		
4. 5.				Dominance Test is	>50%	
4. 5. 6.				Hydrophytic Vegetati Dominance Test is Prevalence Index i	>50% s ≤3.0 ¹	- orting
4. 5. 6. 7.				Hydrophytic Vegetati Dominance Test is Prevalence Index i Morphological Ada	>50% s $\leq 3.0^1$ ptations ¹ (Provide sup	porting
4. 5. 6. 7. 8.				Hydrophytic Vegetati Dominance Test is Prevalence Index i Morphological Ada data in Remark	>50% s ≤3.0 ¹ ptations ¹ (Provide sup s or on a separate she	porting et)
45678777	Total Cover: 1%			Hydrophytic Vegetati Dominance Test is Prevalence Index i Morphological Ada data in Remark Wetland Non-Vaso	>50% s $\leq 3.0^1$ ptations ¹ (Provide sup s or on a separate she cular Plants ¹	porting et)
4	Total Cover: 1%			Hydrophytic Vegetati Dominance Test is Prevalence Index i Morphological Ada data in Remark Wetland Non-Vasc Problematic Hydro	>50% s $\leq 3.0^1$ ptations ¹ (Provide sup s or on a separate she sular Plants ¹ phytic Vegetation ¹ (Ex	porting et) plain)
4	Total Cover: 1%			Hydrophytic Vegetati Dominance Test is Prevalence Index i Morphological Ada data in Remark Wetland Non-Vasc Problematic Hydro	>50% s ≤3.0 ¹ ptations ¹ (Provide sup s or on a separate she cular Plants ¹ phytic Vegetation ¹ (Exp il and wetland hydrolog	porting et) olain) gy must
4	Total Cover: 1%			Hydrophytic Vegetati Dominance Test is Prevalence Index i Morphological Ada data in Remark Wetland Non-Vasc Problematic Hydro	>50% >50% s ≤3.0 ¹ ptations ¹ (Provide sup s or on a separate she sular Plants ¹ phytic Vegetation ¹ (Exp il and wetland hydrolog	porting et) olain) gy must
4	Total Cover: Total Cover:			Hydrophytic Vegetati Dominance Test is Prevalence Index i Morphological Ada data in Remark Wetland Non-Vasc Problematic Hydro ¹ Indicators of hydric so be present. Hydrophytic Vegetati	>50% >50% s ≤3.0 ¹ ptations ¹ (Provide sup s or on a separate she sular Plants ¹ phytic Vegetation ¹ (Exp phytic Vegetation ¹ (Exp il and wetland hydrologen on	porting et) olain) gy must

SOIL							Samp	oling Point: 35	
Profile Descri	iption: (Describe t	o the depth	needed to documer	nt the indicator or	r confirm the ab	sence of indicators.)	· · · · · · · · · · · · · · · · · · ·	-	
Depth	Matri	х		Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-18	10YR3/2	99	10YR3/4	1	С	M	sand		
18-29	10YR3/2	95	10YR4/4	5	С	M	sand		
¹ Turnet C. Com	agentration D. Dopla	tion DM Do	duced Metrix ² Le	action: DL Dara	ining DC Deat	Channel M. Matrix			
Type: C=Con	disators: (Applicab	lo to all I PP	duced Matrix. Lo	cation: PL=Pore I	_ining, RC=Root	Channel, M=Matrix.	matia Uvduja Caila	3.	
			Sandy Podoy (S			2 om Muck (A10)	ematic Hydric Solis		
Histosol (A	(A2)		Sanuy Redux (S	(56)		2 CITI MUCK (ATO)			
			Supped Matrix	(30) linoral (E1) (avca r		Red Parent Mater	Romarka)		
	Sulfido (A4)			Antrix (E2)			nemarks)		
Doploted P	olow Dark Surface (A11)	Loany Gleyeur	(E2)					
Thick Dark	Surface (A12)	ATT)	Depieted Matrix	(F3) face (F6)					
Sandy Muc	Surface (ATZ)		Nedux Dark Sur	Surface (F7)		³ Indicators of hydroph	vtic vegetation and		
Sandy Glev	ed Matrix (S1)		Beday Depressi	ions (F8)		wetland bydrology r	nust be present		
						weitand nydrology i			
Restrictive La	yer (if present):								
Type:									
Depth (Inch	ies):					Hydric Soll Present	r res		
Remarks:	d hanaa an aurfaaa	from bird up	-						
Many Shelis an	iu bories on surface		3.						
	CV								
Wetland Hydro	ology Indicators:					Secondary Indica	tors (2 or more requ	ired)	
Primary Indicat	tors (any one indicat	or is sufficier	nt)			Water-Staine	d Leaves (B9) (NW)	coast)	
Surface Wa	ater (A1)		Water-Stained I	eaves (B9) (exce	nt NW coast)	Sparsely Veg	etated Concave Sur	face (B8)	
High Water	Table (A2)		Salt Crust (B11)			Drainage Pat	erns (B10)	1000 (20)	
Saturation	(A3)		Aquatic Inverteb	orates (B13)		Dry-Season V	Vater Table (C2)		
Water Mark	(s (B1)		Hydrogen Sulfid	e Odor (C1)		Saturation Vis	sible on Aerial Image	erv (C9)	
Sediment D	Peposits (B2)		Oxidized Bhizos	spheres along Livi	na Boots (C3)	Geomorphic	Position (D2)		
Drift Depos	its (B3)		Presence of Re	duced Iron (C4)	g 1 10010 (00)	Shallow Aquit	ard (D3)		
Algal Mat o	r Crust (B4)		Recent Iron Rec	luction in Tilled Sc	oils (C6)	Frost-Heave	Hummocks (D4)		
Iron Deposi	its (B5)		Stunted or Stres	sed Plants (D1) (I		FAC-Neutral	Test (D5)		
Surface So	il Cracks (B6)		Other (Explain in	n Remarks)	,	Raised Ant M	ounds (D6) (LRR A))	
Inundation	Visible on Aerial Ima	agery (B7)		,		—			
Field Observa	tions:								
Surface Water	r Present? Ves		No X [Penth (inches):					
Water Table P	Present? Ves			Depth (inches):	<u>~20"</u>		rology Present?		
Saturation Pre	esent? Ves			Depth (inches):	>29"		Ves	No X	
(includes capil	llary fringe)				220	-	103		
Describe Reco	orded Data (stream	gauge, monit	oring well, aerial pho	tos, previous insp	ections), if availa	able:			
L									
Remarks: Soils were note	ed to be moist at the	time of same	olina						
		and of barry							
Data antono (1)		ab a al c							
Data entered b	by: CJIVI Data	спескеа ру:	JAH						

WEILAND L				ns, valleys and Co	Sampling Date:	2/26/201
Applicant/Ownor:	Corps of Engineers		Stat	o: Orogon	Sampling Date.	2/20/201
Application owner. 0.3. Army			Julion Township Bong		Sampling Folint.	30
andform (billolong, torrage, etc.)		380				- (9()+ O
Landform (hillslope, terrace, etc.):	base of hillslop		Local relief (C	concave, convex, none):	none Siope	e (%): <u>U</u>
Subregion (LRR): LRR A		Lat: 46.264	Long	g: <u>-123.968</u>		AD 83 UTM 10N
Soil Map Unit Name: Tropopsar	nments, 0-15% slopes			NWI classification:	E2USNS	
Are climatic / hydrologic conditions on th	ne site typical for this tim	e of year?	Ye	s <u>X</u> No	(If no, explain in	Remarks)
Are Vegetation Yes ,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Circu	umstances" present?	
				Yes	s <u>X</u> No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain a	any answers in Remarks	.)
SUMMARY OF FINDINGS – A	ttach site map showing	sampling point lo	cations, transects, in	nportant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes X	No	is the Sampled Ard	ea		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	<u>× </u>
t is located near the bottom of this un-vide elevation.	egetated slope, approxi	nately 2 feet lower t	han Plot 35. Plot 36 is	located slightly lower the	an the calculated hig	hest measured
	Abaaluta	Dominant	Indiaator	Dominanaa Taat wa	rkahaati	
ree Stratum (Plot size: 50 ft)	Absolute % Cover	Dominant Species?	Status	Number of Dominant	Species	
	<u>% Cover</u>	<u>Species :</u>	Status		Species	
·				That Are OBL, FACW	, or FAC:	<u>)</u> (A)
·				Total Number of Dom	ninant	
+				Species Across All St	trata:	0 (B)
1	otal Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25 ft.)			Percent of Dominant	Species	
				That Are OBL, FACW	I, or FAC:	0 (A/B)
				Prevalence Index we	orksheet:	
3				Total % Cover o	f: Multiply by:	_
				OBL species	x 1 =	
				FACW species	x 2 =	
1	otal Cover: 0%			FAC species	x 3 =	
lerb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
· Poa annua	1%	Yes	FAC	UPL species	x 5 =	
				Column Totals:	0 (A)	0 (B)
				Prevalence Inc	lex = B/A =	
				Hydrophytic Vegeta	tion Indicators:	
				Dominance Test	is >50%	
				Prevalence Index	: is ≤3.0 ¹	
				Morphological Ad	aptations ¹ (Provide s	upporting
				data in Remar	ks or on a senarate s	sheet)
	Total Cover: 1%			Wetland Non-Vas	scular Plante ¹	,
Noody Vine Stratum (Plot Size: 5 ft)				Problematic Hude	onhytic Vegetation ¹	Evolain)
					opinytic vegetation (LAPIAIII)
				ha propert	on and wetland hydro	biogy must
/				be present.		
				Ll., alu a m la	liam	
2	Total Cover: 0%			Hydrophytic Vegeta	tion Non	v

SOIL							Sampl	ing Point: 36
Profile Descri	ption: (Describe t	o the depth	needed to documen	t the indicator o	r confirm the ab	sence of indicators.)	
Depth	Matri	x		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-22	10YR3/2	98	10YR3/4	2	С	М	sand	
22-31	10YR3/2	99	10YR3/4	1	С	М	sand	
¹ Type: C=Cond	centration, D=Deple	tion, RM=Re	duced Matrix. ² Lo	cation: PL=Pore	Lining, RC=Root	Channel, M=Matrix.	2	
Hydric Soil Inc	licators: (Applicab	le to all LRF	ls, unless otherwise	noted.)		Indicators for Prot	plematic Hydric Soils	:
Histosol (A1	1)		X Sandy Redox (S	5)		2 cm Muck (A10	0)	
Histic Epipe	edon (A2)		Stripped Matrix (S6)		Red Parent Mat	terial (TF2)	
Black Histic	: (A3)		Loamy Mucky M	ineral (F1) (exce	pt MLRA 1)	Other (Explain i	n Remarks)	
Hydrogen S	Sulfide (A4)		Loamy Gleyed N	latrix (F2)				
Depleted Be	elow Dark Surface (A11)	Depleted Matrix	(F3)				
Thick Dark	Surface (A12)		Redox Dark Sur	face (F6)		3		
Sandy Muc	ky Mineral (S1)		Depleted Dark S	Surface (F7)		Indicators of hydro	phytic vegetation and	
Sandy Gley	red Matrix (S4)		Redox Depressi	ons (F8)		wetland hydrology	/ must be present.	
Remarks:								
HYDROLOG	GY							
Wetland Hydro	ology Indicators:					Secondary India	cators (2 or more requi	red)
Primary Indicat	ors (any one indicat	or is sufficie	nt)			Water-Stair	ned Leaves (B9) (NW c	oast)
Surface Wa	ater (A1)		Water-Stained L	eaves (B9) (exce	ept NW coast)	Sparsely Ve	egetated Concave Surf	ace (B8)
High Water	Table (A2)		Salt Crust (B11)			Drainage Pa	atterns (B10)	
Saturation ((A3)		Aquatic Inverteb	rates (B13)		Dry-Season	Water Table (C2)	
Water Mark	s (B1)		Hydrogen Sulfid	e Odor (C1)		Saturation \	isible on Aerial Imager/	ry (C9)
Sediment D	eposits (B2)		Oxidized Rhizos	pheres along Livi	ing Roots (C3)	Geomorphic	c Position (D2)	
Drift Depos	its (B3)		Presence of Rec	duced Iron (C4)		Shallow Aqu	uitard (D3)	
Algal Mat or	r Crust (B4)		Recent Iron Red	uction in Tilled S	oils (C6)	Frost-Heave	e Hummocks (D4)	
Iron Deposi	ts (B5)		Stunted or Stres	sed Plants (D1) (LRR A)	FAC-Neutra	al Test (D5)	
Surface Soi	il Cracks (B6)		Other (Explain ir	n Remarks)		Raised Ant	Mounds (D6) (LRR A)	
Inundation	Visible on Aerial Ima	agery (B7)						
Field Observat	tions:							
Surface Water	Present? Yes		No <u>X</u>	Depth (inches):		_		
Water Table P	resent? Yes		No <u>X</u>	Depth (inches):	>31"	Wetland Hy	vdrology Present?	
Saturation Pre	sent? Yes		No <u>X</u>	Depth (inches):	>31"	_	Yes	No <u>X</u>
(Includes capil	lary fringe)		toring wall parial pho	too provious inor	ootiona) if ovoils	blo		
Describe Reco	nueu Dala (stream)	yauye, moni	toring well, aerial pho	ios, previous insp	rections), if availa	101 0 .		
Remarks: Soils were note	ed to be moist at the	time of sam	pling.					
Data entered b	y: CJM Data	checked by:	JAH					

	ETERMINATION D	ATA FORM – V	Vestern Mountai	ns, Valleys and Coast Region	
Project/Site: East Sand Island		City/County:	Clatsop	Sampling Date: 2/	26/201
Applicant/Owner: U.S. Army C	Corps of Engineers		State	e: Oregon Sampling Point: 37	
Investigator(s): C. Jonas Moiel, Jeff Ha	undley	Sec	tion, Township, Range	e: T9N R11W	
Landform (hillslope, terrace, etc.):	terrace		Local relief (c	oncave, convex, none): <u>concave</u> Slope (%): <u>0</u>	
Subregion (LRR): LRR A		Lat: 46.263	Long	g: <u>-123.974</u> Datum: NAD 83 UTM	/I 10N
Soil Map Unit Name: Tropopsami	ments, 0-15% slopes			NWI classification: PEMCS	
Are climatic / hydrologic conditions on the	site typical for this time	e of year?	Ye	S X No (If no, explain in Remarks)	
Are Vegetation,Soil	, or Hydrology	si	gnificantly disturbed?	Are "Normal Circumstances" present?	
				Yes X No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Atta	ach site map showing	sampling point loc	cations, transects, in	portant features, etc.	
Hydrophytic Vegetation Present?	Yes X	No			
Hydric Soil Present?	Yes X	No	Is the Sampled Are	28	
Wetland Hydrology Present?	Yes X	No	within a Wetland?	Yes X No	
Remarks:			•		
VECETATION					
VEGETATION	A hoolest-	Dominant	Indiantar	Dominance Test workshoet	
Tree Stratum (Plot size: 50 ft.)	Absolute	Dominant	Indicator	Dominance Test worksneet:	
1	<u>% Cover</u>	<u>Species ?</u>	Status	Number of Dominant Species	
2				That Are OBL, FACW, or FAC: 2 (A)	
2 					
4				I otal Number of Dominant	
				Species Across All Strata: <u>3</u> (B)	
0 Sapling/Shrub Stratum (Plot size: 25 ft.)	ital Cover: 0%				
				Percent of Dominant Species	
Sambucus racemosa	40%	Yes	FACU	That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
^{2.} Lonicera involucrata	15%	Yes	FAC	Prevalence Index worksheet:	
^{3.} Salix hookeriana	5%	No	FACW	Total % Cover of: Multiply by:	
				OBL species x 1 =	
4.					
4 5				FACW species x 2 =	
4 5 	ital Cover: 60%			FACW species x 2 = FAC species x 3 =	
4	ital Cover: 60%			FACW species x 2 = FAC species x 3 = FACU species x 4 =	
4. 5. To <u>Herb Stratum (Plot size: 5 ft.)</u> 1. <u>Ranunculus repens</u>	otal Cover: 60%	Yes	FAC	FACW speciesx 2 =FAC speciesx 3 =FACU speciesx 4 =UPL speciesx 5 =	
4. 5. To Herb Stratum (Plot size: 5 ft.) 1. <u>Ranunculus repens</u> 2. <u>Cardamine hirsuta</u>	otal Cover: 60% 55% 15%	Yes No	FAC FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals:00(A)0(B)	
 4. 5. To Herb Stratum (Plot size: 5 ft.) 1. Ranunculus repens 2. Cardamine hirsuta 3. Digitalis purpurea 	11al Cover: 60% 55% 15% 15%	Yes No No	FAC FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals:00(A)00	
 4	ntal Cover: 60% 55% 15% 15% 2%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals:0PrevalenceIndex = B/A =Hydrophytic Vegetation Indicators:	
 4	otal Cover: 60% 55% 15% 15% 2%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals:00(A)00Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%	
 4. 5. To Herb Stratum (Plot size: 5 ft.) 1. Ranunculus repens 2. Cardamine hirsuta 3. Digitalis purpurea 4. Cirsium vulgare 5. 6. 	atal Cover: 60% 55% 15% 15% 2%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals:00(A)0Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is $\leq 3.0^1$	
4. 5. To Herb Stratum (Plot size: 5 ft.) 1. Ranunculus repens 2. Cardamine hirsuta 3. Digitalis purpurea 4. Cirsium vulgare 5. 6. 7.	otal Cover: 60% 55% 15% 15% 2%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals:00(A)0Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is <3.01	
4. 5. To Herb Stratum (Plot size: 5 ft.) 1. Ranunculus repens 2. Cardamine hirsuta 3. Digitalis purpurea 4. Cirsium vulgare 5. 6. 7. 8.	otal Cover: 60% 55% 15% 15% 2%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: 0 (A) 0 (B)Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is $\leq 3.0^1$ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. 5. To Herb Stratum (Plot size: 5 ft.) 1. Ranunculus repens 2. Cardamine hirsuta 3. Digitalis purpurea 4. Cirsium vulgare 5. 6. 7. 8. To	tal Cover: 60% 55% 15% 2% tal Cover: 87%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: 0 (A) 0 (B)Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is $\leq 3.0^1$ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)Wetland Non-Vascular Plants ¹	
4	tal Cover: 60% 55% 15% 2% tal Cover: 87%	Yes No No No	FAC FACU FACU FACU	FACW speciesx 2 =FAC speciesx 3 =FACU speciesx 4 =UPL speciesx 5 =Column Totals:00(A)0Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is $\leq 3.0^1$ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
4	tal Cover: 60%	Yes No No No	FAC FACU FACU FACU	FACW speciesx 2 =FAC speciesx 3 =FACU speciesx 4 =UPL speciesx 5 =Column Totals:00(A)0Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is $\leq 3.0^1$ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must	
4.	otal Cover: 60% 55% 15% 2% 	Yes No No No	FAC FACU FACU FACU	FACW speciesx 2 =FAC speciesx 3 =FACU speciesx 4 =UPL speciesx 5 =Column Totals:00(A)0Prevalence Index = $B/A =$ Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is <3.01	
4. 5. To Herb Stratum (Plot size: 5 ft.) 1. Ranunculus repens 2. Cardamine hirsuta 3. Digitalis purpurea 4. Cirsium vulgare 5. 6. 7. 8. Woody Vine Stratum (Plot Size: 5 ft.) 1. 2. To	btal Cover: 60% 55% 15% 15% 2% 116% 2% 116% 2% 116% 2% 116% 2% 116% 2% 116% 2% 116% 2% 116% 2% 116% 2% 116% 2% 116%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals:00(A)0Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is <3.01	
4. 5. To Herb Stratum (Plot size: 5 ft.) 1. Ranunculus repens 2. Cardamine hirsuta 3. Digitalis purpurea 4. Cirsium vulgare 5. 6. 7. 8. Woody Vine Stratum (Plot Size: 5 ft.) 1. 2. 5. 5. 6. 7. 8. To Woody Vine Stratum (Plot Size: 5 ft.) 1. 2. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5	btal Cover: 60% 55% 15% 15% 2% 2% 15% 2% 14 Cover: 87% 13% 0%	Yes No No No	FAC FACU FACU FACU	FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: 0 (A) 0 (B)Prevalence Index = B/A =Hydrophytic Vegetation Indicators:XDominance Test is >50%Prevalence Index is $\leq 3.0^1$ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.Hydrophytic VegetationPresent?YesYesXNo	

							Samp	oling Point: 37
Profile Descript	otion: (Describe to	the depth n	eded to docume	nt the indicator or	confirm the at	osence of indicators.)	·	
Depth	Matrix	(Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-2	10YR2/2	100	no redox				silt loam	
2-24	10YR3/1	85	5YR4/6	15	С	10%M, 5%RC	silty clay loam	ORC
'Type: C=Conce	entration, D=Deplet	ion, RM=Red	uced Matrix. ² Lo	ocation: PL=Pore L	ining, RC=Root	t Channel, M=Matrix.		2
Hydric Soil Indic	cators: (Applicabl	e to all LRRs	, unless otherwise	e noted.)		Indicators for Probl	ematic Hydric Soils	j°:
Histosol (A1))	-	Sandy Redox (S	S5)		2 cm Muck (A10)		
Histic Epiped	don (A2)	_	Stripped Matrix	(S6)		Red Parent Mate	rial (TF2)	
Black Histic ((A3)	_	Loamy Mucky N	/lineral (F1) (excep	ot MLRA 1)	Other (Explain in	Remarks)	
Hydrogen Su	ulfide (A4)	-	Loamy Gleyed I	Matrix (F2)				
Depleted Belo	low Dark Surface (A	A11)	Depleted Matrix	(F3)				
Thick Dark Si	Surface (A12)	<u>></u>	Redox Dark Su	rface (F6)		3 malianters of burdens		
Sandy Mucky	y Mineral (S1)	_	Depleted Dark	Surface (F7)		indicators of hydrop	nytic vegetation and	
Sandy Gleyed	d Matrix (S4)	-	Redox Depress	ions (F8)		wetland hydrology	must be present.	
Restrictive Laye	er (if present):							
Type:								
Depth (inches	s):		_			Hydric Soil Present	? Yes <u>X</u>	No
Remarks:								
HYDROLOG	Y							
Wetland Hydrold	logy indicators:					Secondary Indica	ators (2 or more requ	<u>iired)</u>
Primary indicator	rs (any one indicato	or is sumcient)			Water-Staine	d Leaves (B9) (NW	coast)
Surface Wate	er (A1)	_	Water-Stained I	Leaves (B9) (exce	pt NW coast)	Sparsely Veg	etated Concave Sur	face (B8)
High Water T	Table (A2)	-	Salt Crust (B11))		Drainage Pat	terns (B10)	
Saturation (A	(3)	-	Aquatic Inverte	orates (B13)		Dry-Season	Water Table (C2)	
Water Marks	s (B1)	-	Hydrogen Sulfic	de Odor (C1)		Saturation Vi	sible on Aerial Image	ery (C9)
Sediment De	eposits (B2)	-	X Oxidized Rhizos	spheres along Livi	ng Roots (C3)	Geomorphic	Position (D2)	
Drift Deposits	s (B3)	_	Presence of Re	duced Iron (C4)		Shallow Aqui	tard (D3)	
Algal Mat or 0	Crust (B4)	_	Recent Iron Rec	duction in Tilled Sc	ils (C6)	Frost-Heave	Hummocks (D4)	
Iron Deposits	s (B5)	_	Stunted or Stres	ssed Plants (D1) (I	_RR A)	FAC-Neutral	Test (D5)	
Surface Soil (Cracks (B6)	_	Other (Explain i	n Remarks)		Raised Ant M	lounds (D6) (LRR A))
Inundation Vi	isible on Aerial Ima	gery (B7)						
Field Observation	ons:							
1	Present? Yes	11	No <u>X</u>	Depth (inches):		_		
Surface Water F	-		L. Y.	Depth (inches):	>24"	Wetland Hyd	Irology Present?	
Surface Water F Water Table Pre	esent? Yes	11	NO X					
Surface Water F Water Table Pre Saturation Prese	esent? Yes ent? Yes	1 1	No <u>X</u> No <u>X</u>	Depth (inches):	>24"	_	Yes X	No
Surface Water F Water Table Pres Saturation Prese (includes capilla	esent? Yes ent? Yes ary fringe)	11	NO <u>X</u> NO <u>X</u>	Depth (inches):	>24"	_	Yes X	No
Surface Water F Water Table Pre Saturation Prese (includes capilla Describe Record	esent? Yes ent? Yes ary fringe) ded Data (stream g	n n Jauge, monito	No <u>X</u> No <u>X</u> ring well, aerial pho	Depth (inches):	>24" ections), if avail	able:	Yes X	No
Surface Water F Water Table Pre Saturation Prese (includes capilla Describe Record Remarks:	esent? Yes ent? Yes ary fringe) ded Data (stream g	r n gauge, monito	NO <u>X</u> NO <u>X</u> ring well, aerial pho	Depth (inches):	>24" ections), if avail	able:	Yes X	No
Surface Water F Water Table Pre Saturation Prese (includes capilla Describe Record Remarks: Oxidized Rhizosp	esent? Yes ent? Yes ary fringe) ded Data (stream g pheres along Living	gauge, monito	No X	Depth (inches):	>24" ections), if avail s in depth. Soils	able:	Yes X	No
Surface Water F Water Table Pre Saturation Prese (includes capilla Describe Record Remarks: Oxidized Rhizosp	esent? Yes ent? Yes ary fringe) ded Data (stream g pheres along Living	gauge, monito	No X	Depth (inches):	>24" ections), if avail s in depth. Soils	able:	Yes X	No

WETLAND DET	ERMINATION D	ATA FORM – V	Vestern Mountain	s, Valleys and Co	ast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/26/2014
Applicant/Owner: U.S. Army Cor	ps of Engineers	_	State:	Oregon	Sampling Point:	38
Investigator(s): C. Jonas Moiel, Jeff Hand	ley	Sec	tion, Township, Range:	T9N R11W		
Landform (hillslope, terrace, etc.):	hillslope (artificia	al berm)	Local relief (co	oncave, convex, none):	none Slope (%): 3
Subregion (LRR): LRR A		Lat: 46.263	Long	-123.974	Datum: NAD	0 83 UTM 10N
Soil Map Unit Name: Tropopsamme	ents, 0-15% slopes		_	NWI classification:	PEMCS	
Are climatic / hydrologic conditions on the s	te typical for this time	e of year?	Yes	X No	(If no, explain in R	emarks)
Are Vegetation,Soil	, or Hydrology	si	gnificantly disturbed?	Are "Normal Circu	mstances" present?	
				Yes	X No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain a	ny answers in Remarks.)	
SUMMARY OF FINDINGS - Attac	h site map showing	sampling point loo	cations, transects, imp	portant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes X	No	Is the Sampled Area	a		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	<u>No X</u>	
Remarks:	bitata da baran Aribita a			States and a Dist of ()	D	
Plot 38 is located at the base of a hillslope (historic berm). It is a	proximately 20 feet	southeast and 2 feet h	iigher than Plot 37 (weti	and).	
VEGETATION				1		
	Absolute	Dominant	Indicator	Dominance Test wor	ksheet:	
Iree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	Status	Number of Dominant	Species	
1.				That Are OBL, FACW	or FAC: 1	(A)
2.						
3.				Total Number of Domi	nant	
4.				Species Across All Str	ata: 4	(B)
Total	Cover: 0%					
Sapling/Shrub Stratum (Plot size: 25 ft.)				Percent of Dominant S	Species	
1. Sambucus racemosa	40%	Yes	FACU	That Are OBL, FACW	, or FAC: <u>25%</u>	(A/B)
2. Salix hookeriana	25%	Yes	FACW	Prevalence Index wo	rksheet:	
3. Rubus armeniacus	5%	No	FACU	Total % Cover of	<u>Multiply by:</u>	
4. Rubus spectabilis	5%	No	FAC	OBL species	x 1 =	
5				FACW species	x 2 =	
Total	Cover: 75%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Cardamine hirsuta	10%	Yes	FACU	UPL species	x 5 =	
2. Rubus ursinus	5%	Yes	FACU	Column Totals:	0 (A) 0	(B)
3				Prevalence Inde	ex = B/A =	
4				Hydrophytic Vegetat	ion Indicators:	
5				Dominance Test is	s >50%	
6				Prevalence Index	is ≤3.0 ¹	
7				Morphological Ada	aptations ¹ (Provide sup	porting
8				data in Remark	s or on a separate she	et)
Total	Cover: 15%			Wetland Non-Vas	cular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hydro	phytic Vegetation ¹ (Ex	plain)
				¹ Indicators of hydric so	oil and wetland hydrolo	gy must
1				he present		
1 2				be present.		
1. 2. Total	Cover: 0%			Hydrophytic Vegetat	ion	
1. 2	Cover: 0%			Hydrophytic Vegetat Present?	ion Yes No _)	(

SOIL							Sam	oling Point: 38
Profile Descrip	ption: (Describe t	o the depth	needed to docume	nt the indicator o	r confirm the ab	sence of indicators.)		
Depth	Matri	x		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-6	10YR2/2	100	no redox			_	silt loam	some sand
6-24	10YR3/2	90	7.5YR4/6	10	С	M	silty clay loam	
17	D_ Derla	tion DM De	durand Matuin 21 a			Ohannal M. Matrix		
Type: C=Cond	ientration, D=Deple	lo to all I PE	educed Matrix. Lo	cation: PL=Pore	Lining, RC=Root	Channel, M=Matrix.	lamatia Ukuduia Cailu	_3_
Hydric Soli Ind		ie to all LRF	s, unless otherwise	e notea.)		Indicators for Prob	ematic Hydric Solis	5:
HISTOSOI (A1)		Sandy Redox (55) (CC)		2 cm Muck (A10) 	
			Stripped Matrix	(50) Ainerel (E1) (exec		Red Parent Mate	Prial (TF2)	
				Matrix (E2)			nemarks)	
Depleted Be	alow Dark Surface (Δ11)	Depleted Matrix	(F3)				
Thick Dark S	Surface (A12)	<u>, , , , , , , , , , , , , , , , , , , </u>	X Bedox Dark Su	rface (E6)				
Sandy Muck	w Mineral (S1)		Depleted Dark	Surface (F7)		³ Indicators of hydrop	hytic vegetation and	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleved Matrix (S4) Bedox Depressions (F8)						wetland hydrology	must be present.	
Bestvietive Lev	· · · · · · · · · · · · · · · · · · ·		<u> </u>					
Restrictive Lay	er (if present):							
Type.	20):					Hudria Sail Brasant		No
Deptil (inche						Tryunc Soli Freseni		
Remarks:								
	2V							
Wetland Hydro	logy Indicators:					Secondary Indic	ators (2 or more requ	uired)
Primary Indicato	ors (any one indicat	or is sufficie	nt)			Water-Staine	ed Leaves (B9) (NW	coast)
Surface Wa	ter (A1)		Water-Stained	Leaves (B9) (exce	ept NW coast)	Sparsely Ve	getated Concave Su	rface (B8)
High Water	Table (A2)		Salt Crust (B11))	• •	Drainage Pa	tterns (B10)	
Saturation (/	A3)		Aquatic Invertel	orates (B13)		Dry-Season	Water Table (C2)	
Water Marks	s (B1)		Hydrogen Sulfic	le Odor (C1)		Saturation V	isible on Aerial Imag	ery (C9)
Sediment De	eposits (B2)		Oxidized Rhizo:	spheres along Livi	ing Roots (C3)	Geomorphic	Position (D2)	
Drift Deposit	ts (B3)		Presence of Re	duced Iron (C4)		Shallow Aqu	itard (D3)	
Algal Mat or	Crust (B4)		Recent Iron Re	duction in Tilled S	oils (C6)	Frost-Heave	Hummocks (D4)	
Iron Deposit	ts (B5)		Stunted or Stree	ssed Plants (D1) (LRR A)	FAC-Neutral	Test (D5)	
Surface Soil	l Cracks (B6)		Other (Explain i	n Remarks)		Raised Ant M	lounds (D6) (LRR A)
Inundation V	isible on Aerial Ima	agery (B7)						
Field Observat	ions:							
Surface Water	Present? Yes		No X	Depth (inches):				
Water Table Pr	resent? Yes		No X	Depth (inches):	>24"	Wetland Hy	drology Present?	
Saturation Pres	sent? Yes		No X	Depth (inches):	>24"	,	Yes	No X
(includes capill	ary fringe)			1 、 ,		-		
Describe Reco	rded Data (stream	gauge, moni	toring well, aerial pho	otos, previous insp	pections), if availa	able:		
Remarks:								
Soils were note	d to be slightly mois	st at the time	of sampling.					
Data entered by	v: CJM Data	checked by:	JAH					
	J. Som Dala	shooked by.	V. 11 1					

WETLAI	ND DETERMINATION D	ATA FORM – V	Vestern Mountain	s, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop	, ,	Sampling Date:	2/28/2014
Applicant/Owner: U.S.	Army Corps of Engineers		State	Oregon	Sampling Point:	39
Investigator(s): Jeff Handley		Sec	tion, Township, Range:	T9N R11W		
Landform (hillslope, terrace, etc.):	low elevation be	ench	Local relief (co	oncave, convex, none):	concave Slope	e (%): 0
Subregion (LRR): LRR	A	Lat: 46.262	Long	-123.983	Datum: N	AD 83 UTM 10N
Soil Map Unit Name: Trop	opsamments, 0-15% slopes		_	NWI classification:	upland	
Are climatic / hydrologic conditions	s on the site typical for this time	e of year?	Yes	- X No	(If no, explain in	Remarks)
Are Vegetation,Soil	, or Hydrology	si	gnificantly disturbed?	Are "Normal Circu	umstances" present?	,
				Yes	X No	
Are Vegetation,Soil	, or Hydrology	n	aturally problematic?	(If needed, explain a	ny answers in Remarks.)
SUMMARY OF FINDINGS	- Attach site map showing	sampling point loo	cations, transects, imp	portant features, etc.		
Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area	a		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	<u> </u>
Remarks:						
VEGETATION	AL	Deviced	L. P L	D		
Tree Stratum (Plot cizo: 50 ft)	Absolute	Dominant	Indicator	Dominance Test wo	rksneet:	
1	<u>% Cover</u>	Species?	Status	Number of Dominant	Species	
ο Σ				That Are OBL, FACW	, or FAC: 0	(A)
				Total Number of Dom	inant	
				Species Across All St	rata: ((B)
Sanling/Shrub Stratum (Plot size:	I otal Cover: 0%			Demonst of Demissrat	On a sin a	
1	23 11.)			Percent of Dominant	Species	
2				That Are OBL, FACW	, or FAC: <u>0</u>	<u>(A/B)</u>
3				Total % Cover of	f Multiply by:	
1					<u>. Watipiy by.</u>	—
+					X 1 =	
				FACW species	X 2 =	
Jorb Stratum (Plat aiza: 5 ft.)	Total Cover: 0%			FAC species	X 3 =	
					X 4 =	
ו. 					× 3 =	(P)
				Provalance Ind	$\underline{U}_{(A)}$	0 (D)
J				Hydrophytic Vocate	$d_{A} = D/A =$	
·					s >50%	
					5 > 30%	
7					IS ≥3.U	upporting
۰ ۶				data in Roman	apialions (Provide S	upporung heet)
J.	Tetel Covers 0%				no ul ul a separate s	neetj
Woody Vine Stratum (Plot Sizo: P	5 ft)			Problematic Lude	ophytic Vocatation ^{1 //}	Evolain)
(FIUL SIZE, C	5 m.j			¹ Indicators of hydric a	opinytic vegetation (I	
··				ha present	on and welland hydro	nogy must
<u> </u>				Hydronhytic Vegeta	tion	
% Bare Ground in Herb Stratum	100%			Present?	Yes No	х
Remarks:						
No vegetation present.						

SOIL							Sam	pling Point: 39	
Profile Descri	ption: (Describe to	the depth	needed to document	the indicator o	r confirm the ab	sence of indicators.)			
Depth	Matri	x		Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-4	10YR2/1	100	no redox				sand		
4-13	10YR3/2	100	no redox				sand	*some organic m	nat.
13-24	10YR3/2	99	7.5YR4/6	1	С	М	sand		
			<u> </u>						
	<u> </u>								
¹ Type: C=Conc	centration, D=Deple	tion, RM=Re	duced Matrix. ² Loc	ation: PL=Pore	Lining, RC=Root	Channel, M=Matrix.			
Hydric Soil Ind	licators: (Applicab	le to all LRR	s, unless otherwise	noted.)		Indicators for Probl	ematic Hydric Soil	s ³ :	
Histosol (A1)		Sandy Redox (S5	5)		2 cm Muck (A10)		
Histic Epipe	don (A2)		Stripped Matrix (S	56)		Red Parent Mate	erial (TF2)		
Black Histic	(A3)		Loamy Mucky Mi	neral (F1) (exce	pt MLRA 1)	Other (Explain in	Remarks)		
Hydrogen S	Sulfide (A4)		Loamy Gleyed M	atrix (F2)					
Depleted Be	elow Dark Surface (A11)	Depleted Matrix (F3)					
Thick Dark S	Surface (A12)		Redox Dark Surfa	ace (F6)		3			
Sandy Muck	ky Mineral (S1)		Depleted Dark Su	urface (F7)		Indicators of hydrop	hytic vegetation and		
Sandy Gley	ed Matrix (S4)		Redox Depressio	ons (F8)		wetland hydrology	must be present.		
Restrictive Lay	ver (if present):								
Type:									
Depth (inch	es):					Hydric Soil Present	? Yes	<u>No X</u>	
Remarks:									
*Some undecor	nposed small-wood	material wa	s observed between 4	to 8 inches in d	epth.				
HYDROLOG	<u>3Y</u>								
Primary Indicate	ors (any one indicat	or is sufficier	nt)			Secondary Indica	ators (2 or more req	uired)	
						Water-Staine	d Leaves (B9) (NW	coast)	
Surface wa	iter (A1)		Water-Stained Le	eaves (B9) (exce	ept NW coast)	Sparsely Veg	getated Concave Su	nace (B8)	
High Water	Table (A2)		Salt Crust (B11)			Drainage Pa	tterns (B10)		
Saturation (A3)		Aquatic Invertebr	ates (B13)		Dry-Season	water lable (C2)		
	S(DT)				ing Deate (C2)		Sible on Aeriai Imag	ery (C9)	
Sediment D			Oxidized Rhizosp	oneres along Liv	ing Roots (C3)	Geomorphic Shallow Agui	Position (D2)		
Algal Mat or	Cruct (B4)		Presence of Red	uceu Iron (C4)		Shallow Aqui	Hummooks (D4)		
Aigai Mat Or	to (B5)		Stunted or Stress	ed Plants (D1) (EAC Noutral	Toot (D5)		
Surface Soi	l Cracks (B6)		Other (Explain in	Bemarks)		Baised Ant N	I est (D3) Iounds (D6) (I BB A	u l	
	/isible on Aerial Ima	aery (B7)		riemano)				•)	
Field Observat		(gor) (Er)							
	Discourt?								
Surface water	Present? Yes			eptn (inches):	0.4"	-			
Water Table Pl	resent? Yes		No X De	epth (inches):	>24"	Wetland Hyd	drology Present?	N. V	
(includes capill	sent? Yes			eptn (inches):	>24"	-	Yes	NO <u>A</u>	
Describe Reco	orded Data (stream of	nauge, monit	oring well, aerial photo	os, previous inst	pections), if availa	able:			
		JJ .,	3 . ,						
Remarks:									
D 1 1 1									
Data entered by	y: CJM Data	cnecked by:	JAH						
W	ETLAND D	ETERMINATION I	DATA	FORM -	Western Mountair	ns, Valleys and Coast Region	n		
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Project/Site: East Sand	l Island			City/County:	Clatsop	Sampling D	ate:	2/28/2014	
Applicant/Owner:	U.S. Army	Corps of Engineers			State	: Oregon Sampling P	oint:	40	
Investigator(s): Jeff Ha	ndley			Se	ction, Township, Range	: T9N R11W			
Landform (hillslope, terrad	ce, etc.):	low elevation b	ench		Local relief (c	oncave, convex, none): <u>concave</u>	Slope (%	s): <u>0</u>	
Subregion (LRR):	LRR A		Lat:	46.263	Long	: <u>-123.987</u> Dai	um: NAD	83 UTM 10N	
Soil Map Unit Name:	Tropopsam	ments, 0-15% slopes				NWI classification: upland			
Are climatic / hydrologic c	conditions on the	e site typical for this tim	ne of yea	ar?	Yes	X No (If no, et	kplain in Rer	marks)	
Are Vegetation	,Soil	, or Hydrology		s	ignificantly disturbed?	Are "Normal Circumstances" pre	esent?		
						Yes <u>X</u> No			
Are Vegetation	,Soil	, or Hydrology		r	naturally problematic?	(If needed, explain any answers in R	emarks.)		
SUMMARY OF FINI	DINGS – Att	tach site map showing	g samp	ling point lo	cations, transects, im	portant features, etc.			
Hydrophytic Vegetation F	Present?	Yes	No	Х					
Hydric Soil Present?		Yes X	No		Is the Sampled Are	a			
Wetland Hydrology Prese	ent?	Yes	No	X	within a Wetland?	Yes No	<u> </u>		
Plot 40 is located on a lov	w elevation ben	ch, below the calculate	d highe:	st measured	tide elevation.				
VEGETATION						1			
		Absolute		Dominant	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size:	: 50 ft.)	<u>% Cover</u>	-	Species?	<u>Status</u>	Number of Dominant Species			
1						That Are OBL, FACW, or FAC:	0	(A)	
2.			-						
3.			-			Total Number of Dominant			
4.			-			Species Across All Strata:	1	(B)	
	То	otal Cover: 0%							
Sapling/Shrub Stratum (F	Plot size: 25 ft.)					Percent of Dominant Species			
^{1.} Rubus armeniacus		1%	-	No	FACU	That Are OBL, FACW, or FAC:	<u>0%</u>	(A/B)	
^{2.} Salix hookeriana		<1%		No	FACW	Prevalence Index worksheet:			
3.			-			Total % Cover of: Multiply	<u>/ by:</u>		
4.						OBL species x 1 =			
5			-			FACW species x 2 =			
	То	otal Cover: 1%				FAC species x 3 =			
Herb Stratum (Plot size:	<u>5 ft.)</u>					FACU species x 4 =			
1. Senecio vulgaris		6%	-	Yes	FACU	UPL species x 5 =			
2. <u>Poa annua</u>		3%	-	No	FAC	Column Totals: 0 (A)	0	(B)	
3. Agrostis species		1%	-	No	FAC ?	Prevalence Index = B/A =			
4. Cardamine hirsuta		1%	-	No	FACU	Hydrophytic Vegetation Indicator	s:		
5. Sedum or Rhodiola sp	pecies	1%	-	No	FACU to UPL	Dominance Test is >50%			
6			-			Prevalence Index is ≤3.0 ¹			
7			-			Morphological Adaptations ¹ (Pro	ovide supp	orting	
8						data in Remarks or on a sep	arate shee	et)	
	То	otal Cover: 12%				Wetland Non-Vascular Plants ¹			
Woody Vine Stratum (PI	lot Size: 5 ft.)					Problematic Hydrophytic Vegeta	ation ¹ (Exp	lain)	
1			-			¹ Indicators of hydric soil and wetlan	d hydrolog	y must	
2.			-			be present.			
	То	otal Cover: 0%				Hydrophytic Vegetation			
% Bare Ground in Herb S	Stratum	88%				Present? Yes	No X		
Remarks:						-			

Agrostis species was assumed to be FAC or wetter. Poa annua was not considered a dominant because it had low cover (<5%).

SOIL							Sam	ling Point:	40	
Profile Descripti	ion: (Describe t	to the depth n	eeded to docu	ment the indicator o	r confirm the ab	sence of indicators.)		0		
Depth	Matr	ix		Redox	Features					
(inches)	Color (moist)	%	Color (mois	t) %	Type ¹	Loc2	Texture	Remark	ks	
0-5	10YR3/2	100	no redox				sand			
5-12	10YR3/2	98	7.5YR5/6	6 2	С	М	sand			
12-24	10YR3/2	99	7.5YR5/6	6 1	С	М	loamy sand	*some wood i	mat.	
'Type: C=Concer	ntration, D=Deple	etion, RM=Red	uced Matrix.	² Location: PL=Pore	Lining, RC=Root	Channel, M=Matrix.		2		
Hydric Soil Indic	ators: (Applicat	ble to all LRRs	, unless other	wise noted.)		Indicators for Prob	lematic Hydric Soils	°:		
Histosol (A1)			X Sandy Red	ox (S5)		2 cm Muck (A10)			
Histic Epipedon (A2)			Stripped Ma	atrix (S6)		Red Parent Mate	erial (TF2)			
Black Histic (A	43)	-	Loamy Muc	ky Mineral (F1) (exce	pt MLRA 1)	Other (Explain in	n Remarks)			
Hydrogen Sulf	fide (A4)	-	Loamy Gley	ved Matrix (F2)						
Depleted Belo	w Dark Surface	(A11)	Depleted M	atrix (F3)						
Thick Dark Su	Irface (A12)	-	Redox Dark	Surface (F6)		31	1. P			
Sandy Mucky	Mineral (S1)	-	Depleted D	ark Surface (F7)		indicators of hydrop	nytic vegetation and			
Sandy Gleyed	Matrix (S4)	-	Redox Dep	ressions (F8)		wetland hydrology must be present.				
Restrictive Layer	r (if present):									
Туре:										
Depth (inches):					Hydric Soil Present	t? Yes X	No		
Remarks:										
*Some undecomp	oosed small-wood	d material was	observed betw	een 12 to 20 inches ir	ı depth.					
HYDROLOGY	1									
Wetland Hydrolo	ogy Indicators:	"	、 、			Secondary Indic	ators (2 or more requ	<u>iired)</u>		
Primary Indicators	s (any one indica	tor is sufficient)			Water-Staine	ed Leaves (B9) (NW	coast)		
Surface Water	r (A1)	-	Water-Stained Leaves (B9) (except NW coast)			Sparsely Vegetated Concave Surface (B8)				
High Water Ta	able (A2)	-	Salt Crust (B11)		Drainage Patterns (B10)				
Saturation (A3	3)	-	Aquatic Invo	ertebrates (B13)		Dry-Season Water Table (C2)				
Water Marks ((B1)	-	Hydrogen S	Sulfide Odor (C1)		Saturation V	isible on Aerial Image	ery (C9)		
Sediment Dep	oosits (B2)	-	Oxidized RI	nizospheres along Livi	ng Roots (C3)	Geomorphic	Position (D2)			
Drift Deposits	(B3)	-	Presence o	f Reduced Iron (C4)		Shallow Aqu	itard (D3)			
Algal Mat or C	Crust (B4)	-	Recent Iron	Reduction in Tilled So	oils (C6)	Frost-Heave	Hummocks (D4)			
Iron Deposits	(B5)	-	Stunted or S	Stressed Plants (D1) (LRR A)	FAC-Neutral	Test (D5)			
Surface Soil C	Cracks (B6)	-	Other (Expl	ain in Remarks)		Raised Ant N	Mounds (D6) (LRR A)		
Inundation Vis	sible on Aerial Ima	agery (B7)								
Field Observatio	ns:									
Surface Water Pr	resent? Yes	I	No <u>X</u>	Depth (inches):		_				
Water Table Pres	sent? Yes	I	No <u>X</u>	Depth (inches):	>24"	Wetland Hy	drology Present?			
Saturation Prese	nt? Yes	. <u> </u>	No <u>X</u>	Depth (inches):	>24"	_	Yes	No	Х	
(includes capillar	y fringe)									
Describe Record	ed Data (stream	gauge, monito	ring well, aeria	photos, previous insp	ections), if availa	able:				
Remarks:										
Soils were noted t	to be moist at the	e time of sampl	ing.							

WET	LAND DET	ERMINA		TA FC	RM – W	estern Mountains	, Valleys and Co	oast Region		
Project/Site: East Sand Isl	land			С	ity/County:	Clatsop	•	Sampling Da	te:	2/28/2014
Applicant/Owner:	U.S. Army Co	orps of Eng	jineers			State	: Oregon	Sampling Poi	int:	41
Investigator(s): Jeff Handl	ey				Sec		: T9N R11W	-		
Landform (hillslope, terrace,	etc.):	gentl	le hillslope			Local relief (con	icave, convex, none):	convex	Slope (%)	: 3
Subregion (LRR):	LRR A			Lat: 4	6.263	Long	: -123.988	Datu	m: <u>NAD 8</u>	3 UTM 10N
Soil Map Unit Name:	Tropopsamm	ients, 0-15	% slopes				NWI classification:	upland		
Are climatic / hydrologic cond	ditions on the s	site typical	for this time	of year?)	Yes	X No	(If no, exp	olain in Rem	arks)
Are Vegetation	,Soil	, or H	Hydrology		s	ignificantly disturbed?	Are "Normal Cir	cumstances" pr	esent?	
							Yes	X No		_
Are Vegetation	,Soil	, or I	lydrology		n	aturally problematic?	(If needed, explain	n any answers in F	Remarks.)	
SUMMARY OF FINDIN	NGS – Attac	ch site ma	p showing	samplir	ig point loo	cations, transects, im	portant features, etc			
Hydrophytic Vegetation Pres	sent?	Yes	X	No						
Hydric Soil Present?		Yes	X	No		Is the Sampled Are	a			
Wetland Hydrology Present	?	Yes		No	X	within a Wetland?	Yes	No	Х	_
Plot 41 is located on a gentle	e hillslope, sligt	htly higher	in elevation	than the	calculated	highest measured tide.				
TEGETATION			Absoluto	г	Ominant	Indicator	Dominance Test w	orkshoot:		
Tree Stratum (Plot size: 50) ft.)		% Cover		Species?	Status	Number of Dominar	nt Species		
1.	,		/0 00101		<u>. speciec</u>		That Are OBL EAC	W or EAC:	1	(Δ)
2.				-			That Are OBE, I AC			_(//)
3.				-			Total Number of Do	minant		
4.				-			Species Across All	Strata:	1	(B)
	Tot	al Cover:	0%				opecies / cross / in	-	1	_(0)
Sapling/Shrub Stratum (Plot	t size: 25 ft.)	ai 00vei.	070				Percent of Dominar	nt Species		
1. Rubus armeniacus			1%		No	FACIL	That Are OBL EAC	W or FAC:	100%	(Δ/R)
2.			170		110	17,00	Prevalence Index	worksheet:		(//////
3.							Total % Cover	of: <u>Multiply</u>	by:	
4.							OBL species	x 1 =		
5.							FACW species	x 2 =		_
	Tot	al Cover	1%	-			FAC species	x 3 =		-
Herb Stratum (Plot size: 5 ft	i.)		.,.				FACU species	x 4 =		-
1. Poa annua	-		25%		Yes	FAC	UPL species	x 5 =		-
2. Senecio vulgaris			1%	-	No	FACU	Column Totals:	0 (A)	0	(B)
3. Taraxacum officinale			1%		No	FACU	Prevalence Ind	ex = B/A =		
4.							Hydrophytic Vege	tation Indicato	rs:	
5.				-			X Dominance Tes	it is >50%		
6.				-			Prevalence Inde	ex is ≤3.0 ¹		
7.				_			Morphological A	daptations ¹ (Pr	ovide sup	porting
8.				-			data in Rem	arks or on a sep	oarate she	et)
	Tot	al Cover:	27%				Wetland Non-V	ascular Plants ¹		
Woody Vine Stratum (Plot 9	Size: 5 ft.)						Problematic Hy	drophytic Veget	ation ¹ (Exp	olain)
1.							¹ Indicators of hydric	soil and wetlan	d hydrolog	y must
2.							be present.		, · · · ·	
	Tota	al Cover:	0%				Hydrophytic Vege	tation		
1								Vee V		
% Bare Ground in Herb Strat	tum 7	3%					Present?	res A	NO	

SOIL							Samp	ling Point: 41	
Profile Descrip	tion: (Describe to	the depth nee	eded to docum	ent the indicator or	r confirm the ab	sence of indicators	s.)	-	
Depth	Matrix	(Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-2	10YR3/2	100	no redox				sand		
2-6	10YR3/2	98	7.5YR4/6	2	С	M	loamy sand		
6-24	10YR3/2	100	no redox				sand		
ļ	<u> </u>								
		on DM Dodus	ad Matrix ²		ining DC Deat	Channel M. Matrix			
Hydric Soil Indi	cators: (Applicable		unless otherw	ise noted)	Ining, RC=ROOL	Indicators for Pr	oblomatic Hydric Sai	10 ³ .	
Histocol (A1)			Sandy Podov	(95)		2 om Muck (A		15.	
Histic Epipod	$lop(\Lambda 2)$	<u>^</u>	- Strippod Matr	(33) iv (S6)		2 Chi Muck (A	latorial (TE2)		
Black Histic ((A3)		Loamy Mucky	(SO) Mineral (F1) (excer	MIRA 1)		nalenal (TFZ)		
Hydrogen Su	ulfide (A1)			d Matrix (F2)			rin nemarks/		
Depleted Bel	ow Dark Surface (A	.11)	 Depleted Mat	rix (F3)					
Thick Dark S	ow Dank Ganace (A		- Bedox Dark S	Surface (E6)					
Sandy Mucky	/ Mineral (S1)		Depleted Dar	k Surface (F7)		³ Indicators of hydr	ophytic vegetation and	I	
Sandy Gleve	d Matrix (S4)		- Redox Depre	ssions (F8)		wetland hydrolo	av must be present.		
Bestrictive Law	or (if procent):			()		T			
	er (in present).								
Denth (inches):						Hydric Soil Press	ent? Ves X	No	
Demorkey			_						
nemarks.									
HYDROLOG	Y								
Wetland Hydrol	ogy Indicators:					Secondary Inc	dicators (2 or more req	uired)	
Primary Indicator	rs (any one indicato	r is sufficient)				Water-Sta	ained Leaves (B9) (NW	coast)	
Surface Wate	er (A1)		Water-Staine	d Leaves (B9) (exce	pt NW coast)	Sparsely Vegetated Concave Surface (B8)			
High Water T	Table (A2)		Salt Crust (B	1)		Drainage Patterns (B10)			
Saturation (A	(3)	_	Aquatic Inver	tebrates (B13)		Dry-Season Water Table (C2)			
Water Marks	(B1)		Hydrogen Sul	fide Odor (C1)		Saturation Visible on Aerial Imagery (C9)			
Sediment De	posits (B2)		Oxidized Rhiz	ospheres along Livir	ng Roots (C3)	Geomorphic Position (D2)			
Drift Deposits	s (B3)		Presence of F	Reduced Iron (C4)		Shallow A	quitard (D3)		
Algal Mat or	Crust (B4)		Recent Iron F	eduction in Tilled So	ils (C6)	Frost-Hea	ve Hummocks (D4)		
Iron Deposits	s (B5)	_	Stunted or St	ressed Plants (D1) (I	RR A)	FAC-Neut	tral Test (D5)		
Surface Soil	Cracks (B6)		Other (Explai	n in Remarks)		Raised Ar	nt Mounds (D6) (LRR A	A)	
Inundation Vi	isible on Aerial Imag	gery (B7)							
Field Observation	ons:								
Surface Water F	Present? Yes	N	о <u> </u>	Depth (inches):		_			
Water Table Pre	esent? Yes	N	о <u> </u>	Depth (inches):	>24"	Wetland	Hydrology Present?		
Saturation Pres	ent? Yes	N	о <u> </u>	Depth (inches):	>24"	_	Yes	No <u>X</u>	
(includes capilla	ry fringe)			<u> </u>					
Describe Record	ded Data (stream ga	auge, monitorin	ig well, aerial pr	iotos, previous inspe	ctions), it availal	DIE:			
Remarks:									
Soils were noted	I to be moist during	the time of san	pling.						
Data entered by	: CJM Data c	checked by: JA	АH						

WETLAND	DETERMINATION DA	TA FORM – W	estern Mountains	. Valleys and Co	ast Region	
Project/Site: East Sand Island		Citv/County:	Clatsop	, 	Sampling Date:	2/28/2014
Applicant/Owner: U.S. A	Army Corps of Engineers		State	: Oregon	Sampling Point:	42
Investigator(s): Jeff Handley)	Se	ction. Township. Bange	: T9N R11W		
Landform (hillslope, terrace, etc.):	gentle hillslope		Local relief (con	cave. convex. none):	none Slope	(%): 2
Subregion (LRR): LRR A	<u></u>	Lat: 46.262	Long	: -123.991	Datum: NA	D 83 UTM 10N
Soil Map Unit Name: Tropo	psamments. 0-15% slopes		_ 0	NWI classification:	E1UBL	
Are climatic / hvdrologic conditions c	on the site typical for this time	of vear?	Yes	X No	(If no. explain in F	Remarks)
Are Vegetation .Soil	, or Hydrology	s	significantly disturbed?	Are "Normal Cir	cumstances" present?	,
,	, , , , , , , , , , , , , , , , ,		3,	Yes	X No	
Are Vegetation ,Soil	, or Hydrology	r	naturally problematic?	(If needed, explair	any answers in Remarks	s.)
SUMMARY OF FINDINGS	- Attach site map showing	sampling point lo	cations, transects, imp	portant features, etc	•	
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes	No X	Is the Sampled Are	а		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No X	
Remarks:						
Plot 42 is located on a gentle hillslop	be near the top of western jett	у.				
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominar	nt Species	
1				That Are OBL, FAC	W, or FAC: 1	(A)
2.						
3.				Total Number of Do	minant	
4.				Species Across All	Strata: 1	(B)
	Total Cover: 0%					
Sapling/Shrub Stratum (Plot size: 2	5 ft.)			Percent of Dominan	t Species	
1.				That Are OBL, FAC	W, or FAC: <u>100</u>	‰ (A/B)
2.				Prevalence Index	worksheet:	
3.				Total % Cover	of: Multiply by:	-
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
	Total Cover: 0%			FAC species	x 3 =	
Herb Stratum (Plot size: 5 ft.)				FACU species	x 4 =	
1. Poa annua	60%	Yes	FAC	UPL species	x 5 =	
2.				Column Totals:	0 (A)	0 (B)
3.				Prevalence Inde	ex = B/A =	
4.				Hydrophytic Veget	ation Indicators:	
5.				X Dominance Tes	t is >50%	
6.				Prevalence Inde	ex is ≤3.0 ¹	
7.				Morphological A	daptations ¹ (Provide s	supporting
8.				data in Rema	arks or on a separate :	sheet)
	Total Cover: 60%			Wetland Non-Va	ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 f				Problematic Hyd	drophytic Vegetation ¹ (Explain)
1.				¹ Indicators of hydric	soil and wetland hydro	ology must
2.				be present.		
	Total Cover: 0%			Hydrophytic Veget	ation	
% Bare Ground in Herb Stratum	40%			Present?	Yes X No	
Remarks:				1		
L						

SOIL							Sam	pling Point:	42
Profile Descri	iption: (Describe to	the depth n	eeded to documer	nt the indicator of	or confirm the at	sence of indicators	s.)		
Depth	Matrix	(Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Rem	narks
0-13	10YR3/2	100	no redox				sand	*refusal a	t 13"
	. <u> </u>								
	· ·								
	· ·								
	· ·								
17			21						
Type: C=Con	centration, D=Depieti	on, RIVI=Real	Iced Matrix. Lo	cation: PL=Pore	Lining, RC=Root	Channel, M=Matrix.	h han a star handada oo		
Hydric Soli ind	dicators: (Applicabi	e to all LRRS	, unless otherwise	e noted.)		Indicators for Pro	blematic Hydric S	DIIS":	
HISTOSOI (A	1) adam (AQ)	-	Sandy Redox (55) (CC)		2 cm Muck (A	10) starial (TEO)		
HISTIC EPIPE	Histic Epipedon (A2)Stripped Ma			(S6) Ainerel (E1) (exec	nt MI DA 1)	Red Parent M	aterial (TF2)		
	C(A3)	-		Motrix (E2)			in Remarks)		
Doploted B	olow Dark Surface (A	-	Loanly Gleyeu I	(F2)					
Thick Dark	Surface (A12)		Bedox Dark Su	rface (E6)					
Sandy Muc	ky Mineral (S1)	-	Depleted Dark \$	Surface (E7)		³ Indicators of hvdr	ophytic vegetation a	nd	
Sandy Glev	ved Matrix (S4)	-	Bedox Depress	ions (F8)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present			
		-					,,		
Hestrictive La	yer (if present):								
Type.	200):					Hudria Sail Broom	nt? Voo	No	v
Deptil (incli	ies).					Hyunc Son Prese			^
Remarks:	at 13 inches likely du	e to buried ro	ck (rin-ran) Some	partially decompo	sed wood was no	ted throughout the s	oil profile		
/ lagor rorada									
	GY								
Wetland Hydro	ology Indicators:					Secondary Inc	licators (2 or more re	auired)	
Primary Indicat	tors (any one indicato	r is sufficient)				Water-Sta	ined Leaves (B9) (N	W coast)	
Surface Wa	ater (A1)		Water-Stained	Leaves (B9) (exc	ept NW coast)	Sparselv \	egetated Concave	Surface (B8)	
High Water	Table (A2)	-	Salt Crust (B11)		Drainage Patterns (B10)			
Saturation	(A3)	-	Aquatic Inverte	, prates (B13)		Drv-Season Water Table (C2)			
Water Mark	ks (B1)	-	Hydrogen Sulfic	le Odor (C1)		Saturation	Visible on Aerial Im	agery (C9)	
Sediment D	Deposits (B2)	-	Oxidized Rhizos	spheres along Liv	ring Roots (C3)	Geomorph	ic Position (D2)		
Drift Depos	sits (B3)	-	Presence of Re	duced Iron (C4)		Shallow A	quitard (D3)		
Algal Mat o	r Crust (B4)		Recent Iron Rec	duction in Tilled S	Soils (C6)	Frost-Hea	ve Hummocks (D4)		
Iron Deposi	its (B5)		Stunted or Stree	ssed Plants (D1)	(LRR A)	FAC-Neut	ral Test (D5)		
Surface So	il Cracks (B6)	_	Other (Explain i	n Remarks)		Raised An	t Mounds (D6) (LRR	A)	
Inundation	Visible on Aerial Imag	gery (B7)							
Field Observa	tions:								
Surface Water	r Present? Yes	I	No X	Depth (inches):					
Water Table P	Present? Yes		No X	Depth (inches):	>13"	Wetland H	lydrology Present?	•	
Saturation Pre	esent? Yes	I	No X	Depth (inches):	>13"	_	Yes	No	Х
(includes capil	llary fringe)					_			
Describe Reco	orded Data (stream g	auge, monitor	ing well, aerial phot	tos, previous insp	ections), if availa	ble:			
Remarke:									
Soils were note	ed to be moist at the t	time of sampli	ng.						
Data entered h	ov: CJM Data o	checked by: .	JAH						
	,								

WETLAND D	ETERMINATION DA	TA FORM – W	estern Mountains	, Valleys and Co	oast Region	
Project/Site: East Sand Island		City/County:	Clatsop		Sampling Date:	2/28/2014
Applicant/Owner: U.S. Army	Corps of Engineers		State	: Oregon	Sampling Point:	43
Investigator(s): Jeff Handley		See		: T9N R11W		
Landform (hillslope, terrace, etc.):	terrace		Local relief (con	cave, convex, none):	none Slope	e (%): 0
Subregion (LRR): LRR A		Lat: 46.262	Long	: -123.979	Datum: N	AD 83 UTM 10N
Soil Map Unit Name: Tropopsar	mments, 0-15% slopes		_	NWI classification:	upland	
Are climatic / hydrologic conditions on th	e site typical for this time	of year?	Yes	X No	(If no, explain in	n Remarks)
Are Vegetation ,Soil	, or Hydrology	s	ignificantly disturbed?	Are "Normal Cir	cumstances" present	t?
				Yes	X No	
Are Vegetation ,Soil	, or Hydrology	n	aturally problematic?	(If needed, explair	n any answers in Remar	′ks.)
SUMMARY OF FINDINGS - A	tach site map showing	sampling point lo	cations, transects, im	portant features, etc		
Hydrophytic Vegetation Present?	Yes X	No				
Hydric Soil Present?	Yes	No X	Is the Sampled Are	a		
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	x
Remarks:						
Plot 43 is located approximately 25 feet	southwest and 4 feet high	ner than Plot 11 (we	etland).			
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test w	vorksheet:	
Tree Stratum (Plot size: 50 ft.)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominar	nt Species	
1.				That Are OBL, FAC	W, or FAC:	2 (A)
2.						
3.				Total Number of Do	ominant	
4.				Species Across All	Strata:	3 (B)
	Total Cover: 0%					(2)
Sapling/Shrub Stratum (Plot size: 25 ft.))			Percent of Dominar	nt Species	
1. Sambucus racemosa	35%	Vec	FACU		W or EAC: 67	7% (A/B)
2. Bubus ameniacus	5%	No	FACU	Prevalence Index	worksheet:	
3.	578	110	1 400	Total % Cover	of: Multiply by:	
<u>ــــــــــــــــــــــــــــــــــــ</u>				OBL species	x 1 –	_
5					x 2 -	
······				FAC species	×3-	
Horb Stratum (Plot size: 5 ft.)				EACU species		
	CO 0/	Vee	E40.0		×5	
Poa species	03%	fes			× 3 =	(P)
2. Hoicus ianatus	20%	Yes		Drevelence Ind		<u> </u>
	15%	INO			$e_A = D/A =$	
	1%		FACU			
o. Epilobium ciliatum	1%	No	FACW	A Dominance res	a is >50%	
o				Prevalence Inde	ex is ≤3.0°	
7				Morphological A	Adaptations' (Provide	supporting
8				data in Rema	arks or on a separate	e sheet)
-	Total Cover: 100%			Wetland Non-V	ascular Plants ¹	
Woody Vine Stratum (Plot Size: 5 ft.)				Problematic Hyd	drophytic Vegetation	(Explain)
1				¹ Indicators of hydric	soil and wetland hyd	drology must
2				be present.		
-	Total Cover: 0%			Hydrophytic Vege	tation	
% Bare Ground in Herb Stratum	0%			Present?	Yes X No	
Remarks: <i>Poa</i> species was assumed to be FAC o	r wetter.					

SOIL							Sampli	ng Point: 43	3		
Profile Descrip	otion: (Describe to	the depth	needed to document	t the indicator or	r confirm the at	sence of indicators	s.)	5			
Depth	Matri	x		Redox	Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	;		
0-2	10YR2/2	100	no redox				loamy sand				
2-24	10YR3/2	99	7.5YR3/4	1	С	М	sand				
	·		<u> </u>								
1											
'Type: C=Conc	entration, D=Deplet	tion, RM=Red	duced Matrix. ² Loc	ation: PL=Pore L	ining, RC=Root	Channel, M=Matrix.		2			
Hydric Soil Ind	icators: (Applicab	le to all LRR	is, unless otherwise	noted.)		Indicators for Pro	blematic Hydric Soil	s°:			
Histosol (A1))		Sandy Redox (S	5)		2 cm Muck (A	10)				
Histic Epipedon (A2)			Stripped Matrix (S6)		Red Parent Ma	aterial (TF2)				
Black Histic	(A3)		Loamy Mucky M	neral (F1) (excep	ot MLRA 1)	Other (Explain	in Remarks)				
Hydrogen St	ulfide (A4)		Loamy Gleyed N	latrix (F2)							
Depieted Be	low Dark Surface (A	411)	Depleted Matrix	(F3)							
Sandy Muck	v Minoral (S1)		Neulox Daik Suit	ace (F0)		³ Indicators of hydro	onhytic vegetation and				
Sandy Nuck	ad Matrix (S4)		Depleted Dark 3	(F8)		wetland hydrolog	av must be present				
				513 (1 0)			gy must be present.				
Restrictive Lay	er (if present):										
Type:	2).					Hudrie Ceil Drees	anto Vee		,		
Depth (inche						Hydric Soli Prese			*		
Remarks:											
	Y										
Wetland Hydro	logy Indicators:					Secondary Ind	licators (2 or more requ	uired)			
Primary Indicato	ors (any one indicate	or is sufficien	t)			Water-Sta	Water-Stained Leaves (B9) (NW coast)				
Surface Wat	ter (A1)		Water-Stained L	eaves (B9) (exce	pt NW coast)	Sparsely Vegetated Concave Surface (B8)					
High Water	Table (A2)		Salt Crust (B11)			Drainage Patterns (B10)					
Saturation (A	43)		Aquatic Inverteb	rates (B13)		Dry-Season Water Table (C2)					
Water Marks	s (B1)		Hydrogen Sulfide	e Odor (C1)		Saturation	Visible on Aerial Image	ery (C9)			
Sediment De	eposits (B2)		Oxidized Rhizos	oheres along Livir	ng Roots (C3)	Geomorph	ic Position (D2)				
Drift Deposit	is (B3)		Presence of Red	uced Iron (C4)		Shallow Ad	quitard (D3)				
Algal Mat or	Crust (B4)		Recent Iron Red	uction in Tilled So	oils (C6)	Frost-Heav	ve Hummocks (D4)				
Iron Deposits	s (B5)		Stunted or Stress	sed Plants (D1) (I	LRR A)	FAC-Neuti	ral Test (D5)				
Surface Soil	Cracks (B6)		Other (Explain in	Remarks)		Raised An	t Mounds (D6) (LRR A)			
Inundation V	isible on Aerial Ima	gery (B7)									
Field Observat	ions:										
Surface Water	Present? Yes		No <u>X</u>	epth (inches):		_					
Water Table Pr	esent? Yes		No <u>X</u> D	epth (inches):	>24"	Wetland H	lydrology Present?				
Saturation Pres	ent? Yes		No <u>X</u> E	epth (inches):	>24"	_	Yes	No <u>X</u>	{		
(includes capilla	ary fringe)										
Describe Recor	ded Data (stream g	auge, monito	oring well, aerial photo	os, previous inspe	ections), if availa	ble:					
Remarks:											
Soils were noted	d to be moist at the	time of samp	oling.								

APPENDIX C

Ground-Level Color Photographs

Photographic Documentation:











PP12 NW: Displays Wetland C; yellow iris, black twinberry and red elderberry. PP13 SE: Displays an area with recent erosion and Wetland C in the distance.











APPENDIX D

Waters Comparison Transect Photographs

Waters Comparison Transect Photos:







APPENDIX E List of Observed Plant Species

List of Observed Plant Species:

		Wetland		Where Found-
Common Name	Scientific Name	Indicator	Nativity	Wetland (WL) or
		Status		Upland (UP)
common yarrow	Achillea millefolium	FACU	native/non-native	UP
colonial bentgrass	Agrostis capillaris	FAC	non-native	WL, UP
bentgrass	Agrostis species	FAC ?	-	WL, UP
red alder	Alnus rubra	FAC	native	WL, UP
European beachgrass	Ammophila arenaria	FACU	non-native	UP
American beach grass	Ammophila breviligulata	UPL	native-eastern US	UP
Pacific silverweed	Argentina anserina	OBL	native	WL
brome	Bromus species	FAC to UPL	-	UP
hairy bittercress	Cardamine hirsuta	FACU	non-native	WL, UP
slough sedge	Carex obnupta	OBL	native	WL, UP
sticky chickweed	Cerastium glomeratum	FACU	non-native	WL, UP
bull thistle	Cirsium vulgare	FACU	non-native	WL, UP
miner's lettuce	Claytonia perfoliata	FAC	native	WL, UP
poison hemlock	Conium maculatum	FAC	non-native	UP
red-osier dogwood	Cornus sericea (alba)	FACW	native	WL
Scotch broom	Cytisus scoparius	UPL	non-native	UP
Queen Anne's lace	Daucus carota	FACU	non-native	UP
tufted hairgrass	Deschampsia cespitosa	FACW	native	WL, UP
foxglove	Digitalis purpurea	FACU	non-native	WL, UP
teasel	Dipsacus fullonum	FAC	non-native	WL, UP
Watson's willow-herb	Epilobium ciliatum	FACW	native	WL, UP
common scouring-rush	Equisetum hyemale	FACW	native	UP
filaree	Erodium cicutarium	UPL	non-native	UP
cascara	Frangula purshiana	FAC	native	WL
Oregon ash	Fraxinus latifolia	FACW	native	WL, UP
salal	Gaultheria shallon	FACU	native	UP
cow parsnip	Heracleum maximum	FAC	native	WL, UP
common velvetgrass	Holcus lanatus	FAC	non-native	WL, UP
tutsan	Hypericum androsaemum	UPL	non-native	UP
English holly	Ilex aquifolium	FACU	non-native	UP
yellow iris	Iris pseudacorus	OBL	non-native	WL
Baltic rush	Juncus balticus	FACW	native	WL
soft rush	Juncus effusus	FACW	native	WL. UP
red dead-nettle	Lamium purpureum	UPL	non-native	UP
American dunegrass	Levmus mollis	FACU	native	UP
black twinberry	Lonicera involucrata	FAC	native	WL. UP
birdsfoot-trefoil	Lotus corniculatus	FAC	non-native	WL. UP
lupine	Lupinus species	FAC to UPL	-	UP
western crabapple	Malus fusca	FACW	native	WL, UP
sweet-clover	Melilotus officinalis	FACU	non-native	UP
mint	Mentha species	OBL to FACW	-	WL
reed canarygrass	Phalaris arundinacea	FACW	native*	WL
common reed	Phraemites australis ssp. Americanus	FACW	native	UP
Pacific ninebark	Physocarnus canitatus	FACW	native	WL
Sitka spruce	Picea sitchensis	FAC	native	UP
English nlantain	Plantago lanceolata	FACU	non-native	UP
common plantain	Plantago major	EAC	non-native	
common prantalli		ГАU	non-nauve	Ur

List of Observed Plant Species (continued):

Common Name	Scientific Name	Wetland Indicator Status	Nativity	Where Found- Wetland (WL) or Upland (UP)
plantain	Plantago species	OBL to UPL		UP
annual bluegrass	Poa annua	FAC	non-native	WL, UP
bluegrass	Poa species	FAC ?	-	WL, UP
western sword fern	Polystichum munitum	FACU	native	UP
black cottonwood	Populus balsamifera	FAC	native	WL
English laurel	Prunus laurocerasus	UPL	non-native	
creeping buttercup	Ranunculus repens	FAC	non-native	WL
Japanese knotweed	Reynoutria japonica	FACU	non-native	UP
prickly currant	Ribes lacustre	FAC	native	UP
Himalayan blackberry	Rubus armeniacus	FACU	non-native	WL, UP
evergreen blackberry	Rubus laciniatus	FACU	non-native	UP
salmonberry	Rubus spectabilis	FAC	native	WL, UP
Pacific blackberry	Rubus ursinus	FACU	native	UP
sheep sorrel	Rumex acetosella	FACU	non-native	UP
curly dock	Rumex crispus	FAC	non-native	WL, UP
Hooker willow	Salix hookeriana	FACW	native	WL, UP
Pacific willow	Salix lucida (lasiandra)	FACW	native	WL, UP
red elderberry	Sambucus racemosa	FACU	native	WL, UP
tall fescue	Schedonorus arundinaceus	FAC	non-native	UP
California figwort	Scrophularia californica	FAC	native	WL, UP
stonecrop	Sedum or Rhodiola species	FACU to UPL	-	UP
tansy ragwort	Senecio jacobaea (Jacobaea vulgaris)	FACU	non-native	WL, UP
common groundsel	Senecio vulgaris	FACU	non-native	UP
common chickweed	Stellaria media	FACU	non-native	UP
common snowberry	Symphoricarpos albus	FACU	native	UP
coastal tansy	Tanacetum camphoratum	UPL	native	UP
common dandelion	Taraxacum officinale	FACU	native/non-native	UP
western red cedar	Thuja plicata	FAC	native	UP
gorse	Ulex europaeus	FACU	non-native	UP
stinging nettle	Urtica dioica	FAC	native/non-native	WL
evergreen huckleberry	Vaccinium ovatum	FACU	native	UP
common mullein	Verbascum thapsus	FACU	non-native	UP
American speedwell	Veronica americana	OBL	native	WL
American vetch	Vicia americana (ID tentative)	FAC	native	WL

Notes: * 1) Although the PLANTS database lists *Phalaris arundinacea* as "native", this is controversial and most jurisdictions consider this an invasive species in wetlands. 2) "Upland" habitats on East Sand Island include some dunal areas below the "highest measured tide" and thus are also considered "waters". 3) The Wetland Indicator Statuses (WIS) listed above are from the 2013 U.S. Army Corps of Engineers (Corps) NWPL Final Ratings for Western Mountains, Valleys and Coast, U.S. Army Corps Of Engineers, Cold Regions Research And Engineering Laboratory (CRREL). In most cases the nomenclature matches that from the Corps' list. A few names have been updated to match the USDA PLANTS database (http://plants.usda.gov/java/). In cases where the latest nomenclature is different than that listed in the new Corps WIS list (at the species level), the name used in the Corps' list, or closest synonomy is in parentheses. 4) This list was compiled by Green Banks; we teamed with Forest Service botanists Scott Riley and Lynda Moore regarding the identification of a few species. 5) Unidentified bentgrass (*Agrostis sp.*) or bluegrass (*Poa sp.*) in this part of Oregon are generally considered to be FAC (or wetter). 6) Although the PLANTS database does not show *Scrophulaia californica* occuring in Oregon, numerous other sources including Hitchcock & Cronquist (1974) and Kozloff (2005) indicate that it is present in Oregon.

APPENDIX F

References

References

Adamus, Paul, Ph.D. Adamus Resource Assessment, Inc. 2006. Hydrogeomorphic (HGM) Assessment Guidebook for Tidal Wetlands of the Oregon Coast-Part 1: Rapid Assessment Method. produced by Coos Watershed Association, funded by U.S. Environmental Protection Agency Grant #CB9702800-1 to the Oregon Department of State Lands, Salem, OR.

Adamus, P.R. and D. Field. 2001. Guidebook for Hydrogeomorphic (HGM)–based Assessment of Oregon Wetland and Riparian Sites. I. Willamette Valley Ecoregion, Riverine Impounding and Slope/Flats Subclasses. Volume IA: Assessment Methods. Oregon Division of State Lands, Salem, OR.

Audubon Society of Portland. 2014. East Sand Island. On-line article, accessed in January 2014. URL: <u>http://audubonportland.org/local-birding/iba/iba-map/eastsand</u>

Bing Maps (Aerial Imagery). <u>http://www.bing.com/maps</u>. Photograph captured in 2011.

Clatsop County, Oregon. Tax lot map T9N R11W WM (October 21, 2013). Accessed online from Oregon Maps in January 2014 at URL <u>http://www.ormap.net/index.cfm?opt=maplist</u>

Cowardin, L.M., V. Carter, F.C. Golet and E.T LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service. FWS/OBS-79/31. December 1979. Reprinted 1992.

Darby, Melissa, MA. Archaeologist, Lower Columbia Research & Archaeology. 2014. Draft History of Sand Island. Prepared for the U.S. Army Corps of Engineers.

Google Earth. 2014. Source for on-line aerial photograph from 2012.

National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS). National Weather Service Forecast Office-Portland. Local daily and monthly data from the NWS Astoria, Oregon Weather Station. Accessed various dates in 2014. URL: <u>http://www.nws.noaa.gov/climate/index.php?wfo=pqr</u>

Munsell Color. 2009. Munsell Soil-Color Charts. 2009 Revised. 2009 Production.

Oregon State Archives. 2014. Oregon Administrative Rules (OARS), Division 90 (141-85-0515, and 141-90-0005 through 141-90-0055). Administrative Rules for Wetland Delineation Report Requirements and for Jurisdictional Determinations for the Purpose of Regulating Fill and Removal within Waters of the State. Accessed online in 2014 at URL: http://arcweb.sos.state.or.us/pages/rules/oars_100/oar_141/141_090.html

Oregon Department of State Lands (DSL). 2010. Using Tidal Data to Determine Highest Measured Tide (HMT). This document provides tabular data from the NOAA NOS website, and from DSL's 1989 document Heads of Tide for Coastal Streams in Oregon. Accessed online via URL: www.oregon.gov/dsl/PERMITS/using_tidal_data_for_hmt.doc

Roby, D. D., K. Collis, D. E. Lyons, J. Y. Adkins, Y. Suzuki, P. Loschl, T. Lawes, K. Bixler, A. Peck-Richardson, A. Patterson, S. Collar, N. Banet, K. Dickson, G. Gasper, L. Kreinsieck, K. Atkins, L. Drizd, J. Tennyson, A. Mohoric, A. Evans, B. Cramer, M. Hawbecker, N. Hostetter, J. Zamon, and D. Kuligowski. 2013. Research, monitoring, and evaluation of avian predation on Salmonid smolts in the Lower and Mid-Columbia River. Draft 2012 annual report. Bird Research Northwest. Available on-line at URL <u>www.birdresearchnw.org</u>.

Ryan, Peter. Wetlands Specialist, PWS. Oregon Department of State Lands. 2014. Personal communication with C. Jonas Moiel via e-mail regarding DSL's jurisdiction of wetlands below HMT. February 20, 2014.

Teed, Tina. Environmental Resource Specialist., Portland District Army Corps of Engineers, Environmental Branch. 2014. Personal communication with C. Jonas Moiel via e-mail regarding the Corps' jurisdiction of wetlands below the high tide line. February 12, 2014.

U.S. Army Corps of Engineers (Corps). 2014. Double-crested Cormorant Management Plan to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary- Draft Environmental Impact Statement. Not for Publc Distribution.

U.S. Army Corps of Engineers (Corps). 2013. Oregon 2013 State Wetland Plant List from R.W. Lichvar, 2013 : *The National Wetland Plant List*. Phytoneuron 2013-49. 1-241. U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory (CRREL)

U.S. Army Corps of Engineers (USACE). 2012. Columbia River Channel Improvements Project, Biological Assessment. U.S. Army Corps of Engineers, Portland District, Portland, OR.

U.S. Army Corps of Engineers (Corps). 2010. Wetlands Regulatory Assistance Program ERDC/EL TR-10-3. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).* May 2010.

U.S. Army Corps of Engineers Environmental Laboratory (Corps). 1987. Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1. US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). Web Soil Survey. Accessed online in January 2014 at URL <u>http://websoilsurvey.nrcs.usda.gov/app/</u>

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2014. WETS Table for Astoria, Oregon WETS Station OR224, located at the Astoria Regional Airport. Start yr. -1971 End yr. –2000 Accessed on-line in January 2014 at URL: <u>http://agacis.rcc-acis.org/41007/wets</u>

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2007. Clatsop County, Oregon Hydric Soils List- All Components. Survey Area Version: 6 Survey Area Version Date: 12/22/2006. Accessed online in January 2014 at URL: <u>ftp://ftp-fc.sc.egov.usda.gov/MO1/hydric_pdf/oregon/OR007_hydric.pdf</u> U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS). 1988. Soil Survey of Clatsop County, Oregon.

U.S. Fish and Wildlife Service. (USFWS). 2014. U.S. Fish and Wildlife Service National Wetlands Inventory Map. Map accessed online in January 2014 at URL: <u>http://www.fws.gov/wetlands/Data/Mapper.html</u> -The online mapper indicates the wetland polygons in the area were mapped from true color aerials at a scale of "digital or greater than 1:40K".

U.S. Geological Survey. (USGS). 1949, photo-revised 1984, bathymetry added 1984. Chinook, Washington 7.5 minute topographic quadrangle map.