

# AQUATIC RESOURCES DELINEATION REPORT

141 Cove Point East, Shelter Cove, 95589, Humboldt County, CA

Assessor Parcel Number (APN):

111-221-012 & 111-161-068



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**Certification** I certify that the information and conclusions presented in this wetland delineation and aquatic resources report are based on my direct observations, data collection, and professional analysis, and are true and correct to the best of my knowledge, judgment, and belief.

X

A handwritten signature in cursive script, appearing to read "Mason London".

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## Section 1 Executive Summary

Naiad Biological Consulting (NBC) conducted a formal wetland and aquatic resources delineation for the property located at 141 Cove Point East, Shelter Cove, Humboldt County, California (APNs 111-221-012 and 111-161-068). This assessment was requested by the County of Humboldt Planning and Building Department to support a Coastal Development Permit (CDP) application for proposed residential development within the California Coastal Zone.

The purpose of this delineation was to determine the presence, extent, and regulatory status of any wetland features or other jurisdictional waters subject to the California Coastal Act, the Clean Water Act (Sections 401 and 404), and the Porter-Cologne Water Quality Control Act. Given the property's location within the Coastal Zone, delineation was conducted using both the federal three-parameter approach (hydrophytic vegetation, hydric soils, and wetland hydrology) and the Coastal Commission's one-parameter definition.

Fieldwork was conducted on June 25, 2025, under seasonally appropriate conditions. Four delineation plots (P1–P4) were established across the 0.76-acre study area to evaluate variations in topography, soil type, vegetation, and hydrology. The site contains moderately sloping terrain with a mix of native forest and disturbed non-native grassland. A topographic depression previously labeled a “swale” was specifically assessed to determine if it qualified as a wetland or watercourse.

No areas within the study boundary met the criteria for jurisdictional wetlands under federal or Coastal Zone definitions. None of the plots exhibited hydric soils, wetland hydrology, or a dominance of hydrophytic vegetation. The central “swale” feature lacked channel morphology and hydrologic indicators, and is best characterized as a vegetated valley floor rather than a watercourse or wetland.

As such, no wetlands or other jurisdictional aquatic resources were identified within the proposed project area. These findings will inform permitting requirements, setbacks, and avoidance measures as the County evaluates the proposed development. This report is intended to support agency review and may require verification by the appropriate regulatory authorities.

## Section 2 Introduction, Background, and Project Understanding

### 2.1 Purpose and Need

The purpose of this wetland and aquatic resources delineation is to identify and map all jurisdictional wetland features and other waters of the United States or State of California that may occur within the boundaries of Assessor's Parcel Numbers (APNs) 111-221-012 and 111-161-068, located at 141 Cove Point East in Shelter Cove, Humboldt County, California. This delineation was requested by the County of Humboldt Planning and Building Department in support of a Coastal Development Permit (CDP) application for residential development within the Coastal Zone.

The delineation is required to determine whether the proposed project would impact any features subject to regulation under the California Coastal Act, the Clean Water Act (Sections 401 and 404), and the Porter-Cologne Water Quality Control Act. Specifically, the County of Humboldt and the California Coastal Commission require that wetlands be identified using the one-parameter definition for Coastal Zone wetlands, as outlined in the Coastal Act and Humboldt County's certified Local Coastal Program. These criteria differ from the three-parameter approach typically used by the U.S. Army Corps of Engineers (USACE).

The need for this study stems from prior biological reporting that indicated the presence of potentially suitable habitat for wetland or riparian features but did not include a formal delineation or accurately reflect Coastal Zone wetland criteria. As a result, the County has requested that a qualified professional complete a formal delineation to determine the presence, extent, and regulatory status of any wetland features on site, and to inform permit conditions, setbacks, and required avoidance or mitigation measures.

### 2.2 Delineator's Qualifications

The aquatic resource delineation described in this report was conducted by Mason London. Mr. London holds an M.Sc. in Biology with a specialization in aquatic ecology from Cal Poly Humboldt (formerly Humboldt State University) and serves as the Principal Biologist at Naiad Biological Consulting (NBC). He has over 18 years of professional experience spanning wildlife biology, botany, aquatic ecology, and university-level instruction. His prior roles include wildlife biologist with The Nature Conservancy, botanist with the Bureau of Land Management in Medford, Oregon, and aquatic research scientist with the HSU River Institute. Mr. London has worked extensively on CEQA and NEPA projects, conducting protocol-level surveys for special-status species such as willow flycatcher, Swainson's hawk, California red-legged frog, foothill yellow-legged frog, and western pond turtle, as well as botanical surveys across a variety of upland and aquatic habitats. He also has significant experience in pre-construction and compliance monitoring surveys focused on amphibians, reptiles, nesting birds, and mammals throughout California. In addition, Mr. London has over five years of experience conducting wetland delineations and has completed a 40-hour Introduction to Wetland Delineation course taught by Joe Seney, a Certified Professional Soil Scientist (#243) and retired USDA-NRCS and USDI-NPS Soil Scientist. Mr. London is currently an instructor with the Wetland Training Institute and assistants with leading wetland delineations courses in Northern California.

## 2.3 Study Area Description and Geographic Setting

The Study Area encompasses two contiguous parcels (Assessor's Parcel Numbers (APNs) 111-161-068-000 and 111-221-012-000) located at 141 Cove Point East in Shelter Cove, an unincorporated community in southwestern Humboldt County, California. Shelter Cove is situated along the Lost Coast, a geophysically active segment of California's North Coast characterized by steep coastal bluffs, limited infrastructure, and minimal coastal development. The site lies within the Coastal Zone and is subject to regulation under the California Coastal Act and Humboldt County's certified Local Coastal Program. (Figure 1 & Figure 2)

Combined, the parcels comprise approximately 0.76 acres based on GIS-derived acreage calculations (0.45 acres for APN 111-161-068-000 and 0.31 acres for APN 111-221-012-000). The site is located on a west-facing coastal bluff, with elevations ranging from approximately 485 feet above mean sea level (AMSL) at the upper boundary to approximately 445 feet AMSL at the lower extent, based on elevation data from Google Earth Pro (2025). The topography is moderately sloping, and the site contains a mosaic of cleared areas and vegetated patches, with adjacent residential development and undeveloped open space. (Figure 2 & Figure 3)

Regionally, the Study Area falls within the U.S. Geological Survey (USGS) Hydrologic Unit Code (HUC) 12 watershed Big Flat Creek–Frontal Pacific Ocean (HUC 180101070402), which encompasses small, direct-draining coastal catchments along this portion of the North Coast. Although locally situated within the Humboldt Creek drainage, the site does not contribute flow to the Mattole River watershed, which is delineated separately under HUC 180101070201.

The Study Area occurs within Major Land Resource Area (MLRA) 4 – Northern California Coastal Forest, part of Land Resource Region A (LRR-A). This MLRA is characterized by a cool, moist, maritime climate with high precipitation, frequent fog, and steep, landslide-prone terrain. The broader geographic setting includes the King Range subunit of the Coast Ranges geomorphic province, underlain by complexly deformed sedimentary and metamorphic lithologies of the Franciscan Complex. These factors contribute to the region's high ecological sensitivity and the need for site-specific resource assessments under both state and federal regulatory frameworks.

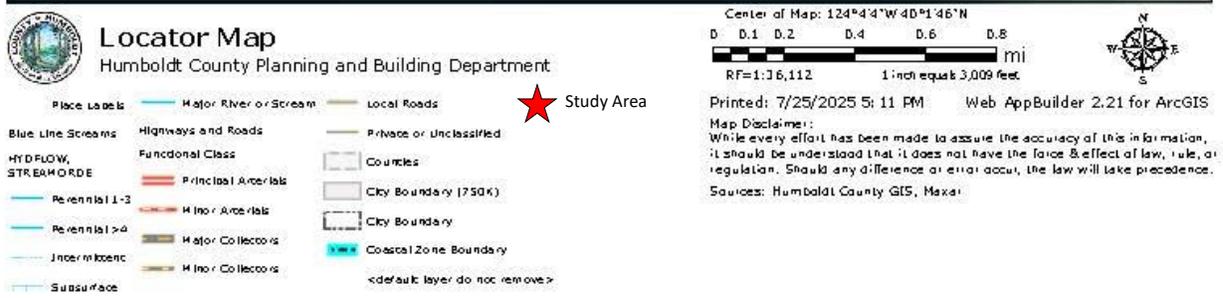
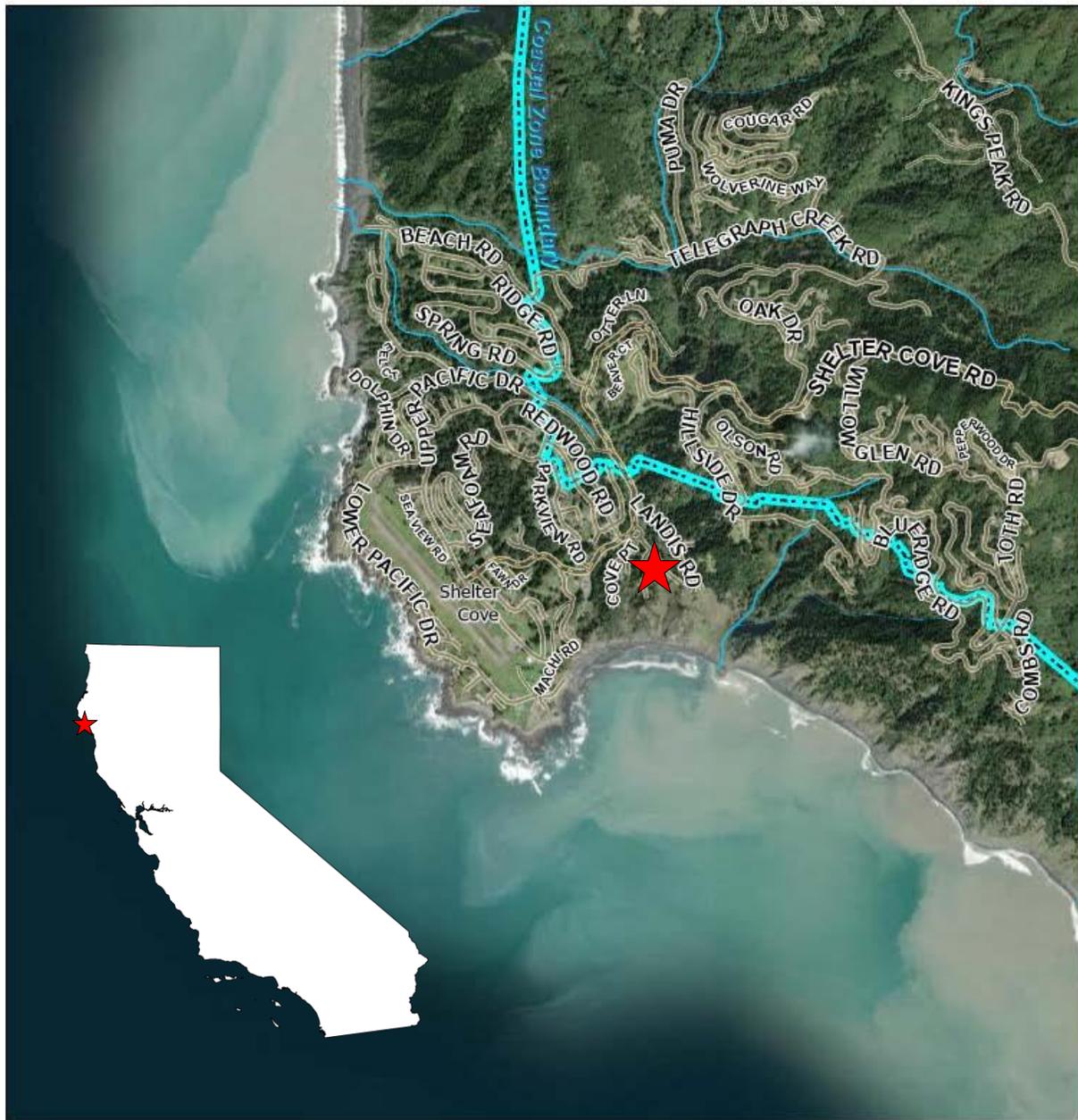


Figure 1. Study Area Locator Map



**Figure 2.** Study Area, extent outlined in red, in proximity to Shelter Cove and the Pacific Ocean. (The parcel lines shown in this map is approximated and any errors within these boundaries are a result of errors in Humboldt County's GIS database.)



**Figure 3.** Study Area extent outlined in red with individual APNs labeled. (The parcel lines shown in this map is approximated and any errors within these boundaries are a result of errors in Humboldt County's GIS database.)

## Section 3 Regulatory Framework

This section provides an overview of the federal, state, and local regulatory context relevant to wetland and aquatic resource delineation at the Study Area located in Shelter Cove, Humboldt County, California. Due to the property's location within the California Coastal Zone, it is subject to a combination of federal Clean Water Act provisions, state water quality regulations, and Coastal Act policies.

### 3.1 Federal Regulatory Framework

At the federal level, the regulation of Waters of the United States (WOTUS) is governed by Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA). These regulations apply to a variety of aquatic features, including Traditional Navigable Waters (TNWs), their tributaries, lakes, ponds, impoundments, and wetlands that are adjacent to those waters.

The U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) share authority for enforcing these regulations. The USACE is responsible for issuing permits and conducting jurisdictional determinations (JDs)—formal decisions that identify whether a water feature meets the criteria for federal jurisdiction. The EPA provides oversight and retains the authority to veto permits when necessary.

The current regulatory interpretation is guided by the “Revised Definition of Waters of the United States”, which became effective on September 8, 2023. Under this rule, a wetland or other aquatic feature may qualify as jurisdictional if it exhibits a persistent surface hydrologic connection to a TNW or another qualifying waterbody. Wetlands must meet the three-parameter criteria—hydrophytic vegetation, hydric soils, and wetland hydrology—to be considered for jurisdiction, and must also demonstrate an appropriate physical or functional connection to jurisdictional waters. Features such as ephemeral drainages, isolated depressions, or disconnected artificial channels may be excluded from federal jurisdiction under this framework.

Projects proposing the discharge of dredged or fill material into WOTUS—including jurisdictional wetlands, streams, or other surface waters—must obtain approval from the USACE, typically through either a Nationwide Permit (NWP) or an Individual Permit (IP), depending on the scope and potential environmental impacts of the activity. A formal wetland delineation and a jurisdictional determination are generally required to support the permitting process and to define the extent of federally regulated waters at a given site.

### 3.2 California State and Regional Regulatory Framework

#### 3.2.1 California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) exercises jurisdiction over stream and lakebeds under Section 1600–1607 of the California Fish and Game Code. Any project that may alter the bed, bank, or channel of a river, stream, or lake—including ephemeral or intermittent watercourses—requires the project proponent to submit a Lake and Streambed Alteration (LSA) Notification. If CDFW determines that the activity may substantially impact fish or wildlife resources, an LSA Agreement with enforceable conditions must be executed prior to construction.

CDFW also implements the California Endangered Species Act (CESA), which prohibits the unauthorized “take” of state-listed threatened or endangered species. If such species are present or potentially impacted by a project, appropriate avoidance, minimization, or incidental take permits must be obtained.

### **3.2.2 North Coast Regional Water Quality Control Board**

The Study Area lies within the jurisdiction of the North Coast Regional Water Quality Control Board (RWQCB) (Region 1), which enforces state water quality laws through the Porter-Cologne Water Quality Control Act. This includes regulation of “Waters of the State,” which encompasses all surface and groundwater, including wetlands regardless of federal jurisdiction status.

Projects discharging dredged or fill material into wetlands or other waters may require Waste Discharge Requirements (WDRs) or certification under Section 401 of the CWA. The State Water Resources Control Board’s (SWRCB) “State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State” (Dredge and Fill Procedures), effective May 28, 2020, establishes consistent requirements for wetland delineation and impact analysis. These procedures define wetlands using the federal three-parameter method, while also allowing the State to assert jurisdiction over features excluded from federal regulation.

### **3.2.3 California Coastal Commission and Coastal Zone Jurisdiction**

The entire Study Area is located within the California Coastal Zone (Figure 1 & Figure 2) and is subject to oversight by the California Coastal Commission (CCC) and Humboldt County’s certified Local Coastal Program (LCP). Development within the Coastal Zone generally requires a Coastal Development Permit (CDP) and must conform to Coastal Act policies, including those pertaining to environmentally sensitive habitat areas (ESHA) and wetlands.

Under the Coastal Act, wetlands are defined using a “one-parameter” approach, meaning that the presence of just one of the three federal wetland indicators (hydrophytic vegetation, hydric soils, or wetland hydrology) is sufficient for classification. As a result, areas that may not qualify as wetlands under federal or state criteria could still be regulated as wetlands under the Coastal Act.

Given the property’s location within the certified LCP boundary, wetland delineation and development proposals must be reviewed for consistency with both federal/state wetland regulations and the Coastal Act’s more protective definitions. Delineation results will inform the County’s CDP review and any necessary agency consultations.

## Section 4 Methods

### 4.1 Pre-Site Visit Data Compilation and Preparation

Prior to conducting the field delineation, Mason London performed a comprehensive desktop review utilizing multiple data sources. These included aerial imagery, topographic mapping, existing preliminary wetland and stream delineations, watershed boundaries, and Natural Resources Conservation Service (NRCS) soil survey data for both the Study Area and surrounding landscape (Appendix A and Appendix B). Additionally, the review incorporated findings from the *Coastal Biological Resources Evaluation* prepared by Timberland Resource Consultants in February 2025. This comprehensive analysis aided in characterizing the site, identifying any potentially jurisdictional Waters on a preliminary basis, and providing guidance for the on-site survey. Subsequently, background imagery along with the Study Area boundary were uploaded onto a professional GPS device (Trimble GeoXH 6000) to facilitate navigation and mapping during fieldwork.

The Wetland Ecosystem Technical Standard (WETS) table was generated prior to the infield delineation to determine relative site conditions prior to the site visit (Table 1). The WETS table is generated using the Antecedent Precipitation Tool (APT) v2.0.0, a tool developed jointly by the NRCS and the USACE (Appendix C). The table is calculated by analyzing historical precipitation data from nearby weather stations to establish monthly precipitation normals and compare them with actual precipitation for the period of interest. APT evaluates conditions as "normal," "wetter than normal," or "drier than normal" based on deviation from long-term averages, using statistical thresholds set by NRCS guidelines. This analysis helps determine hydrologic conditions relevant to wetland assessments. Precipitation in the region follows a very strong seasonal pattern of a wet season (October to April) and a dry season (May to September).

**Table 1.** WETS Table Analysis for the June 25<sup>th</sup>, 2025 Survey

Precipitation Data from the Last 30 Years (1995 – 2025) <sup>1</sup>			Recent Field Conditions Compared to Precipitation Data from the Last 30 Years, and Analysis <sup>1</sup>						
Date	30 <sup>th</sup> Percentile (inches)	70 <sup>th</sup> Percentile (inches)	Date	Recorded Rainfall (inches)	Rainfall Condition Compared to Previous 30 years <sup>2</sup>	Numeric Condition Value <sup>3</sup>	Weighting Factor <sup>4</sup>	Product of Condition Value and Weighting Factor <sup>5</sup>	
Jun	0.16	0.79	Jun 25 2025	0.00	Dry	1	3	3	
May	1.00	2.50	May 26 2025	0.95	Dry	1	2	2	
Apr	2.53	4.89	Apr 26 2025	3.79	Normal	2	1	2	
<sup>1</sup> All precipitation data is obtained from Weather Station: SCOTIA, SCOTIA 0.0 W FORTUNA 0.9 SSW, FORTUNA 1.3 S, FORTUNA 0.1 NW, FORTUNA 1.5 NW, PETROLIA 0.6 SSE, GRIZZLY CREEK SP, SHELTER COVE AVIATION <sup>2</sup> Below 30th percentile = dry; between 30th and 70th percentile = normal; above 70th percentile = wet. <sup>3</sup> Relative rainfall conditions are then translated to a numeric condition value, as follows: dry = 1, normal = 2, wet = 3. <sup>4</sup> Greater weight is given to the most recent month as this would most likely influence what hydrologic or vegetative characteristics are observed. <sup>5</sup> The numeric condition value is then multiplied by the weighting factor, then the subtotals are added to get the total value. Total value equivalents: 6-9 = dry; 10-14 = normal; 15-18 = wet								<b>TOTAL <sup>5</sup></b>	7, or Dry

## 4.2 Field Survey

A wetland delineation of the Study Area was conducted on June 25, 2025, by NBC Principal Biologist Mason London. During the site visit, Mr. London traversed accessible portions of the property to assess vegetation, soils, and hydrologic indicators in accordance with both federal and state regulatory standards, including the USACE three-parameter approach and the CCC’s one-parameter definition applicable within the Coastal Zone.

Multiple delineation plots (P#) were established to document site characteristics, and representative photographs were taken to illustrate key habitat features and environmental conditions. The timing of the visit—during the active growing season and within the 2025 water year—enabled accurate identification of hydrophytic vegetation, hydric soil indicators, and wetland hydrology.

Data collection followed the protocols outlined in Version 2.0 of the USACE’s Western Mountains, Valleys, and Coast Regional Supplement (USACE, 2010) and the Routine Determination Method described in the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory, 1987). For purposes of CCC compliance, areas meeting any one of the three wetland criteria (hydrophytic vegetation, hydric soils, or wetland hydrology) were also identified and evaluated.

Spatial data were collected using a Trimble GeoXH 6000 handheld GPS unit with sub-foot nominal precision to document the location and extent of any potential jurisdictional wetlands and aquatic features within the Study Area. Detailed methodologies for vegetation, soils, and hydrology assessments are provided in the sections below.

### 4.2.1 Soils

At each data point, soil profile pits were excavated using a rounded drain spade shovel, and an examination was conducted to identify positive hydric soil indicators. These indicators are characteristic features resulting from anaerobic conditions and persist in the soil during both saturated (reduced) and dry (oxidized) states within the upper 12 inches of soil. Examples include mottled color patterns from iron or manganese reduction and reoxidation, and the accumulation of organic matter due to saturated environments promoting slow decomposition rates. Hydric soil field indicators exhibit distinct morphologies due to the accumulation or loss of iron, manganese, sulfur, or carbon compounds in anaerobic conditions. These indicators include assessing features such as low matrix chromas, redox features, gleys, and the presence of iron and manganese concretions. Detailed records of soil color and texture encountered at each layer were documented on delineation forms. Soil color was determined using a Munsell soil color chart (Kollmorgen, 2000), while soil texture was assessed using a standardized chart endorsed by the California Native Plant Society (CNPS), adapted from Brewer and McCann (1982). Prior to assessment, all soil samples were moistened. Soil map units were cross-referenced with both the California hydric soils list (SCS, 1993) and the national hydric soils list (SCS, 1991). Determination of whether the hydric soil criterion was met followed guidelines outlined by the National Technical Committee for Hydric Soils and the 2010 Regional Supplement: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010). Typically, soils with a matrix chroma of 1, and mottled soils with a matrix chroma of 2 or less, are considered to meet hydric soil criteria. Additionally, soils not exhibiting low matrix chromas but experiencing inundation or saturation within 12 inches of the surface for at least 5 percent of the growing season (14 consecutive days) are also classified as hydric.

### 4.2.2 Hydrology

Indicators of wetland hydrology were noted at each data point, such as the presence of surface water, surface soil cracks, saturated soil, water-stained vegetation, drainage patterns, and sediment deposits. Hydrological connectivity was investigated throughout the study area and surrounding habitats. Although wetland hydrology indicators are important in delineating wetlands, they are the least credible compared to soil and vegetation indicators due to variability of seasonal and local weather patterns that influence hydrology. Wetland hydrology exists at a site when it is flooded (A1), ponded (A1), or has groundwater within 12 inches of the ground surface (A2) for 14 or more consecutive days during the growing season in at least 5 out of 10 years. Wetland hydrology is the most seasonal and transitory of the three parameters. The USACE manual describes primary and secondary wetland hydrology “Indicators” that allow delineators to evaluate hydrology throughout the growing season, even late in the dry season when saturation in the upper part of the soil may no longer be present. Examples of primary indicators include surface water (A1), a high-water table (A2) (groundwater within 12 inches of soil surface), saturated soil (A3), oxidized iron along live root channels or on live root surfaces (C3), sparsely vegetated concave surfaces (B8), water-stained leaves (B9), sediment deposits (B2), stunted vegetation or stressed plants (D1) or drainage patterns (B10). Examples of secondary indicators include presence of a “dry season water table” between 12 and 24 inches below the ground surface (C2), a shallow aquitard (D3), a dense layer within 24 inches of the soil surface, the FAC Neutral Test (D5), and “geomorphic position” (D2) of the site (e.g., toe slopes, drainageways, depressions, and swales). The presence of one primary or two secondary indicators confirms wetland hydrology.

The delineation was conducted during and throughout the wet season with “normal” precipitation and therefore normal potential wetland conditions (Table 1).

### 4.2.3 Vegetation

At each delineation data point, all herbaceous plant species within a five-foot radius were identified and a visual estimate of percent coverage for each species was recorded. Additionally, shrub species, when present, were identified within a five-foot radius, and trees species, when present, were identified within a twenty-five-foot radius at all delineation data points. Plant species cover estimations were calibrated using CNPS percent cover templates – see the following website:

[http://www.cnps.org/cnps/vegetation/pdf/percent\\_cover\\_diag-cnps.pdf](http://www.cnps.org/cnps/vegetation/pdf/percent_cover_diag-cnps.pdf).

The indicator status of each species was then checked using the most recent USACE National Wetland Plant List—Version 3.5 (USACE, 2020).

Indicator status categories are as follows:

- OBL = obligate wetland; >99% probability of occurring in a wetland
- FACW = facultative wetland; 67%-99% probability of occurring in a wetland
- FAC = facultative; 33%-67% probability of occurring in a wetland
- FACU = facultative upland; 1%-33% probability of occurring in a wetland
- UPL = obligate upland; <1% probability of occurring in a wetland
- NI = no indicator (plants not listed in the 2020 ACOE National Wetland Plant List—Version 3.5)

The wetland vegetation criterion is met when the dominant plants pass the dominance test, showing that over 50 percent of these species are designated as OBL, FACW, or FAC wetland indicators. Dominant plant species collectively account for 50 percent of the total cover within their stratum (tree, sapling/shrub/subshrub, herb, or woody vine), listed in descending order of percent cover. Additionally, any species with at least 20 percent coverage within a stratum are always considered dominant. Plant names follow Baldwin et al. (2012) and/or the Calflora database (2019). If the dominance test is not met, vegetation may still be considered hydrophytic if it meets the prevalence index, morphological adaptations, or addresses problematic wetland situations (USACE 2008).

## Section 5 Results

### 5.1 Aquatic Resources

A wetland delineation was conducted on June 25, 2025, by Principal Biologist Mason London of Naiad Biological Consulting. Four delineation plots (P1–P4) were established to assess the presence or absence of aquatic resources subject to federal and Coastal Zone jurisdiction (Figure 5, Photo 1 – 8, & Appendix D). Sampling was conducted using the Routine Determination Method as outlined in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.

Plot sizes were stratified by vegetation layer and adjusted slightly from the standard USACE protocol to accommodate spatial limitations and vegetation structure observed in the field. The tree stratum was assessed over 314 m<sup>2</sup> (10 m radius), sapling/shrub and woody vine strata over 78.5 m<sup>2</sup> (5 m radius), and the herbaceous stratum over 12.57 m<sup>2</sup> (2 m radius). Although these do not precisely align with the standard plot sizes prescribed in the Regional Supplement, they were deemed appropriate for the microtopographic and spatial constraints of the site, allowing representative sampling without incorporating uncharacteristic adjacent habitat. This approach supports accurate ecological interpretation and wetland boundary determination.

Several species encountered during the delineation, including tanoak (*Notholithocarpus densiflorus*), coyote brush (*Baccharis pilularis*), greater quaking-grass (*Briza maxima*), and rough dog's-tail (*Cynosurus echinatus*), were assigned an NI (No Indicator Status) designation, as they were not listed in the 2020 USACE National Wetland Plant List for the Western Mountains, Valleys, and Coast region (Appendix D: P1 & P2). Based on field experience and available literature, these species were treated as upland species due to their ecological association with drier, non-wetland habitats.

Data Point P3 was strategically placed within the feature labeled as a swale in the Timberland Resource Consultants *Coastal Biological Resources Evaluation (2025)* to verify its wetland or watercourse status (Photo 5 & 9). The results of the delineation are detailed in the following subsections.

#### 5.1.1 Watercourses

No watercourses, seeps, springs, or other surface hydrology features were observed within the Study Area during the June 25, 2025 site visit. A topographic depression referred to as a “swale” in the *Coastal Biological Resources Evaluation* was evaluated in detail. This feature originates approximately 400 feet southeast of the property and trends northwest but showed no signs of channel morphology, such as defined bed and banks, sediment deposition, or flow paths. Vegetation within this feature was undisturbed, and no indicators of episodic flow or scour were observed (Photo 9 & Figure ).

Field indicators did not meet criteria for a Class III ephemeral channel under California Forest Practice Rules, nor did they support classification as a watercourse by CDFW or USACE. This feature is better characterized as a vegetated valley floor. Even if considered a seasonal wetland, it falls outside the County's 50-foot Streamside Management Area setback and does not intersect the proposed development footprint.



## 5.1.2 Wetlands

Four delineation plots (P1–P4) were established across the Study Area to assess the three wetland indicators: hydric soils, hydrology, and hydrophytic vegetation (Photo 1 – 8). Plot locations were strategically selected to capture representative variation in topography, vegetation composition, and potential disturbance. Plots P1 and P2 were placed in the upper western portion of the site, adjacent to the county road and within the proposed development footprint (Photo 10 & 11); P3 was located within the central valley floor “swale” (Photo 9); and P4 was situated along the steep, east-facing hillslope. None of the plots met the criteria for jurisdictional wetlands under either USACE or CCC standards.

**Table 2.** Wetland Plot Summary (Datasheets Provided in Appendix D)

Plot	Soils	Hydrology	Vegetation	Wetland Status
P1	-	-	-	Non-Wetland
P2	-	-	-	Non-Wetland
P3	-	-	-	Non-Wetland
P4	-	-	-	Non-Wetland

### 5.1.2.1 Soils

Soil pits were excavated to depths ranging from 3 to 18 inches across the delineation plots, with 18 inches as the target depth. However, Plots P1 and P2 encountered restrictive gravel layers that prevented deeper excavation. The Study Area lies within the *Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes*, as mapped by the NRCS (2024). This complex occurs on benches and mountain slopes and consists primarily of well-drained loam soils derived from colluvium of sandstone and mudstone. The dominant components—Northbear (40%), Caperidge (30%), and Capetown (20%)—are all classified as non-hydric soils under NRCS criteria (Appendix A).

- **P1 and P2**, located near the county road and within the proposed development footprint, had shallow loam soils underlain by compacted gravel fill, consistent with historical disturbance. These gravel layers limited excavation depth to approximately 3 to 4 inches. The soil profiles lacked any hydric indicators such as gleying, redox concentrations, or saturation features and are characteristic of Northbear or Caperidge soils, which are well-drained with high permeability (Ksat: 0.60 to 2.00 in/hr).
- **P3**, placed in the valley floor “swale”, was excavated to a full depth of 18 inches and exhibited a uniform 10YR 4/3 loam throughout the profile, with gravels appearing around 8 inches. No gleying, depleted matrices, redoximorphic features, or saturation lines were observed. Additionally, no surface ponding, or evidence thereof, or wetland vegetation was present at this location during the survey. While this site occupies a lower topographic position, the absence of hydric soil indicators suggests that any hydrologic expression is likely brief and insufficient to support wetland soil development.
- **P4**, located on a steep east-facing hillslope, consisted of a dark loam surface layer with a Munsell color of 10YR 2/2. While this color falls within the acceptable range for the F7 (Depleted Dark Surface) indicator, no redoximorphic features were present within the upper 6 inches of the profile. As a result, the F7 indicator was not met, and no other hydric soil indicators were observed. The steep slope and rapid drainage likely prevent saturation from persisting for the minimum 14-day

duration required to satisfy wetland hydrology criteria. The soil profile is consistent with the well-drained Capetown or Caperidge series, both mapped within the area. This plot was included primarily to characterize sloped upland habitat for purposes of vegetation assessment, particularly in the context of CCC one-parameter wetland determinations, which can be based solely on hydrophytic vegetation in the absence of hydric soils or hydrology.

Although the broader mapping unit includes minor components such as the Oceanhouse series (5%), which is considered hydric, no evidence of this component was encountered within the delineation plots.

### 5.1.2.2 Hydrology

The Antecedent Precipitation Tool (APT) indicated drier-than-average conditions in the weeks leading up to the June 25, 2025 survey (Table 1), although the broader 2024–2025 water year was considered seasonally typical. No indicators of wetland hydrology—such as surface water, saturation within the upper 12 inches, water-stained leaves, oxidized rhizospheres, hydrogen sulfide odor, or iron deposits—were observed at any of the delineation plots.

Plot P3, located within the topographic depression identified as a “swale” in the Timberland Resource Consultants *Coastal Biological Resources Evaluation* (2025), was specifically established to evaluate potential hydrologic expression within that feature. However, no evidence of surface water, ponding, saturation, runoff, or any other indicators of wetland hydrology was observed during the site visit, nor was there any indication that such conditions had occurred recently.

As such, none of the four delineation plots (P1–P4) exhibited wetland hydrology, and this criterion was not met at any location within the Study Area.

### 5.1.2.3 Vegetation

Vegetation across the Study Area consisted of mixed conifer forest and disturbed non-native annual grassland. Plots P1 and P2, located near the county road within the proposed development footprint, were dominated by upland and facultative upland species including *Bromus diandrus*, *Hypochaeris radicata*, and *Briza maxima*. These plots did not support sufficient hydrophytic vegetation to pass the Dominance Test or meet the Prevalence Index threshold.

Plot P3, situated within the topographic depression mapped as a “swale,” supported a variety of native herbaceous species, including *Stachys rigida*, *Tellima grandiflora*, *Galium triflorum*, *Dicentra formosa*, *Rubus parviflorus*, *Polystichum munitum*, and *Heracleum maximum*. While *Heracleum maximum* is classified as FAC, all remaining dominant species were classified as FACU. No UPL species were observed. The Dominance Test result was 14.3% (1 of 7 dominant species were OBL/FACW/FAC), and the Prevalence Index was 3.87, exceeding the  $\leq 3.01$  threshold. Therefore, P3 did not meet the criteria for hydrophytic vegetation under either metric.

Plot P4, located on a steep east-facing hillslope, was dominated by upland species such as *Toxicodendron diversilobum* and *Pseudotsuga menziesii*, and contained no hydrophytic vegetation.

In summary, none of the delineation plots (P1–P4) met the criteria for hydrophytic vegetation, confirming the absence of wetland plant communities within the Study Area.



**Figure 5.** Map showing the locations of delineation plots within the Study Area. Study Area boundaries were obtained from Humboldt County's Web GIS. Any discrepancies in boundary alignment reflect the source data provided by the County.

## Section 6 Conclusions, Discussion, and Recommendations

### 6.1 Conclusions

Based on the results of the field survey conducted on June 25, 2025, and the supporting data reviewed for this delineation, no wetlands or other jurisdictional aquatic features were identified within the Study Area using either the federal three-parameter approach or the California Coastal Commission's (CCC) more inclusive one-parameter definition applicable within the Coastal Zone.

All four delineation plots (P1–P4) failed to meet the minimum thresholds for each of the three wetland criteria:

- Hydrophytic vegetation was not present at any plot based on Dominance Test and Prevalence Index metrics.
- Hydric soils were absent across the site, with no observed indicators such as low chroma matrices, redox features, or gleying.
- Wetland hydrology was not observed or inferred, and field conditions were considered dry based on the Antecedent Precipitation Tool (APT) results.

As a result, no portion of the site qualifies as a wetland under USACE, CCC, or Humboldt County Local Coastal Program criteria, and no features are subject to regulation under Sections 401 or 404 of the Clean Water Act, the Porter-Cologne Water Quality Control Act, or Coastal Act wetland policies.

### 6.2 Discussion

The results of this delineation address concerns raised by the County of Humboldt regarding the presence of potentially jurisdictional wetland or riparian features previously inferred through remote assessment. In particular, the valley-floor topographic depression labeled as a “swale” in earlier biological evaluations was evaluated thoroughly at Plot P3. Despite its concave geomorphic position and toe-slope setting, this feature exhibited no evidence of surface water, saturation, hydrophytic vegetation, or hydric soil development, and therefore does not meet any wetland criteria under federal or state frameworks.

Similarly, Plot P4 was established on a steep, east-facing hillslope to ensure that sloped areas were assessed for potential Coastal Zone wetlands, which can be classified based on a single parameter. However, this plot also failed to meet any of the wetland indicators. Its steep topography and well-drained soil conditions are consistent with non-wetland upland habitats mapped in the NRCS soil survey.

Given the small size of the Study Area, its well-drained soil profile, and the complete absence of observed wetland indicators—even during a seasonally appropriate time frame—it is unlikely that undetected wetland features exist elsewhere within the parcel boundaries.

### 6.3 Recommendations

Based on the findings of this delineation, the following recommendations are provided:

#### 1. Proceed with Coastal Development Permit Review:

The delineation confirms the absence of CCC- and County-jurisdictional wetlands within the Study Area. The County of Humboldt and Coastal Commission should be provided with this delineation

report to support the CDP application and confirm that no wetland setbacks or mitigation measures are required.

**2. No Further Delineation Necessary Unless Site Conditions Change:**

If site conditions remain consistent and no significant changes to drainage patterns or vegetation occur, this delineation should remain valid for regulatory purposes for a period of 5 years. However, if grading, vegetation clearing, or hydrologic modifications occur prior to permit issuance, an updated site inspection may be warranted.

**3. Maintain Supporting Documentation:**

It is recommended that the applicant retain a copy of this delineation report and associated data forms in project records to address any future regulatory review or inquiries regarding wetland status on the property.

**4. Consult Agencies If New Features Are Observed:**

Should any new or unanticipated features (e.g., seeps, standing water, saturated depressions) be observed during or after project implementation, consultation with the County, Coastal Commission, or qualified biologist is advised to determine whether a supplemental delineation is necessary.

## **6.4 Conditions and Limitations**

This delineation report represents the professional judgment of the preparer based on observable site conditions, data collected on June 25, 2025, and applicable regulatory guidance at the time of the survey. The results are valid only for the specific date and conditions under which the survey was conducted. Changes in vegetation, soils, hydrology, topography, or land use following the survey may alter the presence or extent of wetland indicators and could affect regulatory determinations.

This report does not constitute a formal jurisdictional determination by the U.S. Army Corps of Engineers (USACE), the California Coastal Commission (CCC), or any other agency. Final regulatory authority regarding wetland status and jurisdiction rests with the applicable permitting agencies. It is the responsibility of the applicant or property owner to submit this delineation to the appropriate agency for verification and to comply with all applicable laws and regulations.

## Section 7 References

- California Coastal Commission (CCC). 2021. *California Coastal Act and Local Coastal Program Regulations*. Available at: <https://www.coastal.ca.gov>
- 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.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Natural Resources Conservation Service (NRCS). 2024. *Web Soil Survey for Humboldt County, California, Western Part*. U.S. Department of Agriculture. Accessed June 2025. <https://websoilsurvey.nrcs.usda.gov>
- U.S. Army Corps of Engineers (USACE). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. ERDC/EL TR-10-3. U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- U.S. Army Corps of Engineers (USACE). 2020. *National Wetland Plant List, Western Mountains, Valleys, and Coast Region*. Available at: <https://wetland-plants.sec.usace.army.mil>
- U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE). 2008. *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule*. Federal Register 73(70):19594–19705.
- U.S. Geological Survey (USGS). 2024. *Topographic Map Viewer*. Accessed via <https://apps.nationalmap.gov>
- Western Regional Climate Center (WRCC). 2025. *Antecedent Precipitation Tool (APT)*. U.S. Army Corps of Engineers Regulatory Program. Accessed June 2025.
- Timberland Resource Consultants. 2025. *Coastal Biological Resources Evaluation for 141 Cove Point East, Shelter Cove, CA*. Unpublished consultant report.

## Photo Documentation



**Photo 2.** P1 location in the southwestern portion of the Study Area within the proposed project footprint and adjacent to the county road.



**Photo 1.** P1 soil profile, with restrictive gravel/rock layer at approximately 4 inches.



**Photo 3.** P2 location in the central western portion of the Study Area within the proposed project footprint and adjacent to the county road.



**Photo 4.** P2 soil profile, with restrictive gravel/rock layer at approximately 3 inches.



**Photo 5.** P3 location within the previously mapped "swale" feature located in the southeastern portion of the Study Area.



**Photo 6.** P3 non-restricted soil profile displaying well-draining soils and no hydric indicators.



Photo 7. P4 location along the steep hillslope within the eastern central portion of the Study Area.



Photo 8. P4 non-restricted soil profile displaying no hydric indicators.



**Photo 9.** View of the topographic depression mapped as a "swale" in the southeastern portion of the Study Area. No evidence of seasonal water flow or surface hydrology was observed at this location.



**Photo 10.** The upper western portion of the Study Area.



**Photo 11.** The upper western portion of the study area where P1 and P2 occur, and where the proposed development will occur.

# Appendix A

## Web Soil Survey Map and Report

### **AQUATIC RESOURCES DELINEATION**

**141 Cove Point East, Shelter Cove, 95589, Humboldt County, CA**

**Assessor Parcel Number (APN):**

**111-221-012 & 111-161-068**

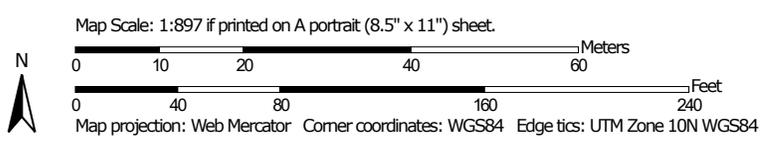
**July 2025**



Soil Map—Humboldt County, South Part, California



Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California  
Survey Area Data: Version 14, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 1, 2022—Jun 19, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
507	Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes	1.5	100.0%
<b>Totals for Area of Interest</b>		<b>1.5</b>	<b>100.0%</b>

## Humboldt County, South Part, California

### 507—Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2mhfz  
*Elevation:* 20 to 2,800 feet  
*Mean annual precipitation:* 45 to 90 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 240 to 330 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Northbear and similar soils:* 40 percent  
*Caperidge and similar soils:* 30 percent  
*Capetown and similar soils:* 20 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Northbear

##### Setting

*Landform:* Benches, mountain slopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Center third of mountainflank, lower third of mountainflank  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Colluvium derived from sandstone and mudstone

##### Typical profile

*Oi - 0 to 1 inches:* slightly decomposed plant material  
*A1 - 1 to 10 inches:* loam  
*A2 - 10 to 21 inches:* loam  
*AB - 21 to 28 inches:* loam  
*Bw1 - 28 to 39 inches:* loam  
*Bw2 - 39 to 49 inches:* loam  
*C1 - 49 to 63 inches:* loam  
*C2 - 63 to 79 inches:* gravelly loam

##### Properties and qualities

*Slope:* 5 to 30 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water supply, 0 to 60 inches:* High (about 10.9 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* B

*Ecological site:* F004BJ102CA - Dry, steep mountain slopes

*Hydric soil rating:* No

#### **Description of Caperidge**

##### **Setting**

*Landform:* Mountain slopes

*Landform position (two-dimensional):* Shoulder

*Landform position (three-dimensional):* Lower third of mountainflank

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Colluvium and residuum from sandstone, mudstone, and metasedimentary rock

##### **Typical profile**

*Oi - 0 to 1 inches:* slightly decomposed plant material

*A1 - 1 to 8 inches:* very gravelly loam

*A2 - 8 to 15 inches:* gravelly loam

*AB - 15 to 28 inches:* extremely gravelly sandy loam

*Bt - 28 to 59 inches:* extremely gravelly loam

*Bc - 59 to 71 inches:* extremely gravelly sandy loam

##### **Properties and qualities**

*Slope:* 5 to 30 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Capacity of the most limiting layer to transmit water*

*(Ksat):* Moderately high to high (0.60 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 4.7 inches)

##### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* B

*Ecological site:* F004BJ102CA - Dry, steep mountain slopes

*Hydric soil rating:* No

#### **Description of Capetown**

##### **Setting**

*Landform:* Benches, mountain slopes

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Center third of  
mountainflank

*Down-slope shape:* Concave, convex

*Across-slope shape:* Linear

*Parent material:* Colluvium derived from sandstone and mudstone

### **Typical profile**

*Oi - 0 to 1 inches:* slightly decomposed plant material

*A - 1 to 13 inches:* loam

*ABt - 13 to 22 inches:* clay loam

*Bt1 - 22 to 31 inches:* clay loam

*Bt2 - 31 to 55 inches:* clay loam

*BCt - 55 to 79 inches:* paragravelly clay loam

### **Properties and qualities**

*Slope:* 5 to 30 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Moderately well drained

*Capacity of the most limiting layer to transmit water*

*(Ksat):* Moderately low to moderately high (0.06 to 0.60 in/hr)

*Depth to water table:* About 20 to 39 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0  
mmhos/cm)

*Available water supply, 0 to 60 inches:* High (about 11.1 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* C

*Ecological site:* F004BJ102CA - Dry, steep mountain slopes

*Hydric soil rating:* No

### **Minor Components**

#### **Oceanhouse**

*Percent of map unit:* 5 percent

*Landform:* Mountain slopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

#### **Peaked**

*Percent of map unit:* 5 percent

*Landform:* Mountain slopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

## **Data Source Information**

Soil Survey Area: Humboldt County, South Part, California  
Survey Area Data: Version 14, Aug 28, 2024

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
507	Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes	1.5	100.0%
<b>Totals for Area of Interest</b>		<b>1.5</b>	<b>100.0%</b>

# Appendix B

## National Wetland Mapper

### **AQUATIC RESOURCES DELINEATION**

**141 Cove Point East, Shelter Cove, 95589, Humboldt County, CA**

**Assessor Parcel Number (APN):**

**111-221-012 & 111-161-068**

**July 2025**





July 25, 2025

**Wetlands**

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

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



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands\_team@fws.gov

July 25, 2025

**Wetlands**

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Lake
- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland
- Other
- Freshwater Pond
- Riverine

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

# Appendix C

## Antecedent Precipitation Tool Graph

### **AQUATIC RESOURCES DELINEATION**

141 Cove Point East, Shelter Cove, 95589, Humboldt County, CA

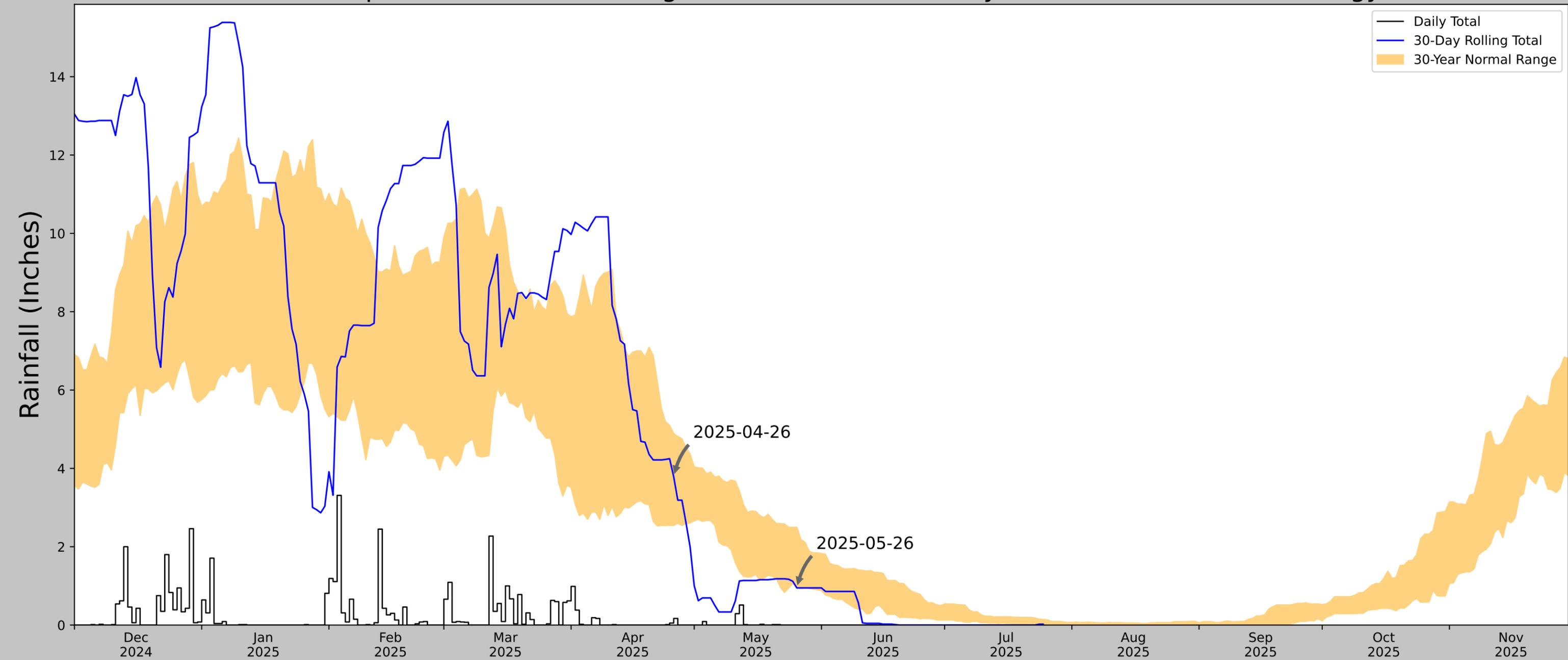
Assessor Parcel Number (APN):

111-221-012 & 111-161-068

**July 2025**



# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	40.02946, -124.0606
Observation Date	2025-06-25
Elevation (ft)	452.202
Drought Index (PDSI)	Mild drought
WebWIMP H <sub>2</sub> O Balance	Dry Season

30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-06-25	0.159055	0.78622	0.0	Dry	1	3	3
2025-05-26	1.000394	2.497244	0.948819	Dry	1	2	2
2025-04-26	2.539764	4.888189	3.787402	Normal	2	1	2
Result							Drier than Normal - 7

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SCOTIA	40.4833, -124.1039	136.155	31.44	316.047	24.085	11135	70
SCOTIA 0.0 W	40.4822, -124.1025	166.011	0.106	29.856	0.051	0	20
FORTUNA 0.9 SSW	40.5728, -124.1444	127.953	6.539	8.202	2.996	2	0
FORTUNA 1.3 S	40.5673, -124.1357	194.882	6.039	58.727	3.072	17	0
FORTUNA 0.1 NW	40.5867, -124.1409	64.961	7.404	71.194	3.859	42	0
FORTUNA 1.5 NW	40.6005, -124.1613	98.097	8.64	38.058	4.217	1	0
PETROLIA 0.6 SSE	40.3172, -124.2816	91.864	14.803	44.291	7.317	1	0
GRIZZLY CREEK SP	40.4864, -123.9089	413.058	10.25	276.903	7.451	153	0
SHELTER COVE AVIATION	40.0331, -124.0728	246.063	31.149	109.908	17.441	2	0

Figures and tables made by the  
Antecedent Precipitation Tool  
Version 3.0



US Army Corps  
of Engineers.



Developed by:  
U.S. Army Corps of Engineers and  
U.S. Army Engineer Research and  
Development Center

# Appendix D

## Wetland Determination Data Forms

### **AQUATIC RESOURCES DELINEATION**

141 Cove Point East, Shelter Cove, 95589, Humboldt County, CA

Assessor Parcel Number (APN):

111-221-012 & 111-161-068

**July 2025**



**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: 141 Cove Point East City/County: Shelter Cove, Humboldt Co. Sampling Date: 6/25/2025  
 Applicant/Owner: Anthony Pisarski State: CA Sampling Point: P1  
 Investigator(s): Mason London Section, Township, Range: SEC15, T5S, R1E  
 Landform (hillslope, terrace, etc.): top of coastal ridge near cut road Local relief (concave, convex, none): slight convex Slope (%): 2 %  
 Subregion (LRR): LRR A Lat: 40.029158 Long: -124.060606 Datum: WGS84  
 Soil Map Unit Name: 507-Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	
The plot is located adjacent to a county road and appears to contain fill material that were likely deposited during road construction.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>314 m<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Pseudotsuga menziesii</u>	<u>35</u>	Yes	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>2/7 = 28.57%</u> (A/B)
2. <u>Notholithocarpus densiflorus</u>	<u>10</u>	Yes	NI	
3. <u>Morella californica</u>	<u>1</u>	No	FACW	
4. <u>Alnus rubra</u>	<u>1</u>	No	FAC	
Umbellularia californica 1 No FAC	<u>48</u>	= Total Cover		
<b>Sapling/Shrub Stratum (Plot size: <u>78.5 m<sup>2</sup></u>)</b>				
1. <u>Baccharis pilularis</u>	<u>25</u>	Yes	NI	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>-</u> x 1 = <u>-</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>91</u> x 3 = <u>273</u> FACU species <u>56</u> x 4 = <u>224</u> UPL species <u>-</u> x 5 = <u>-</u> Column Totals: <u>148</u> (A) <u>499</u> (B)  Prevalence Index = B/A = <u>499/148 = 3.37</u>
2. <u>Toxicodendron diversilobum</u>	<u>30</u>	Yes	FAC	
3. <u>Holodiscus discolor</u>	<u>5</u>	No	FACU	
4. _____				
5. _____				
<b>Herb Stratum (Plot size: <u>12.57 m<sup>2</sup></u>)</b>				
1. <u>Holcus lanatus</u>	<u>60</u>	Yes	FAC	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Briza maxima</u>	<u>20</u>	Yes	NI	
3. <u>Hypochaeris radicata</u>	<u>1</u>	No	FACU	
4. <u>Cynosurus echinatus</u>	<u>1</u>	No	NI	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<b>Woody Vine Stratum (Plot size: <u>78.5 m<sup>2</sup></u>)</b>				
1. <u>Rubus ursinus</u>	<u>15</u>	Yes	FACU	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
2. _____				
% Bare Ground in Herb Stratum <u>approx 20%</u>				
Remarks:				
NA				

**SOIL**

Sampling Point:       P1      

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4"	10YR 4/3	100%	-----	-----	-----	-----	Sandy Loam	very rocky and gravelly
@4"	Restrictive layer -----							

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<b>Restrictive Layer (if present):</b> Type: <u>gravel/rock</u> Depth (inches): <u>at approx 4"</u>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:  
  
A restrictive layer of gravel/rock occurs at approximately 4"

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> )
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**NA**

Remarks:  
  
No evidence of hydrology or hydrologic indicators at this location.

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: 141 Cove Point East City/County: Shelter Cove, Humboldt Co. Sampling Date: 6/25/2025  
 Applicant/Owner: Anthony Pisarski State: CA Sampling Point: P2  
 Investigator(s): Mason London Section, Township, Range: SEC15, T5S, R1E  
 Landform (hillslope, terrace, etc.): top of coastal ridge near cut road Local relief (concave, convex, none): None Slope (%): 0 %  
 Subregion (LRR): LRR A Lat: 40.029371 Long: -124.060776 Datum: WGS84  
 Soil Map Unit Name: 507-Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks:  Adjacent to county road and perhaps graded at one point during road construction.			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>314 m<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Pseudotsuga menziesii</u>	<u>25</u>	Yes	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1/6 = 16.66%</u> (A/B)
2. <u>Notholithocarpus densiflorus</u>	<u>10</u>	Yes	NI	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>25</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>-</u> x 1 = <u>-</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>37</u> x 4 = <u>148</u> UPL species <u>-</u> x 5 = <u>-</u> Column Totals: <u>53</u> (A) <u>195</u> (B)  Prevalence Index = B/A = <u>195/53 = 3.68</u>
Sapling/Shrub Stratum (Plot size: <u>78.5 m<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Baccharis pilularis</u>	<u>65</u>	Yes	NI	
2. <u>Toxicodendron diversilobum</u>	<u>5</u>	No	FAC	
3. <u>Holodiscus discolor</u>	<u>1</u>	No	FACU	
<u>71</u> = Total Cover				
Herb Stratum (Plot size: <u>12.57 m<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Briza maxima</u>	<u>25</u>	Yes	NI	
2. <u>Holcus lanatus</u>	<u>10</u>	Yes	FAC	
3. <u>Stachys rigida</u>	<u>1</u>	No	FACW	
4. <u>Anaphalis margaritacea</u>	<u>1</u>	No	FACU	
<u>36</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>78.5 m<sup>2</sup></u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus ursinus</u>	<u>15</u>	Yes	FACU	
2. _____	_____	_____	_____	
<u>15</u> = Total Cover				
% Bare Ground in Herb Stratum <u>approx 60%</u>				
Remarks:  <u>NA</u>				



**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: 141 Cove Point East City/County: Shelter Cove, Humboldt Co. Sampling Date: 6/25/2025  
 Applicant/Owner: Anthony Pisarski State: CA Sampling Point: P3  
 Investigator(s): Mason London Section, Township, Range: SEC15, T5S, R1E  
 Landform (hillslope, terrace, etc.): valley floors toe at base of hill slope Local relief (concave, convex, none): None Slope (%): 2 %  
 Subregion (LRR): LRR A Lat: 40.029298 Long: -124.060328 Datum: WGS84  
 Soil Map Unit Name: 507-Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: The plot is located in an area mapped as a creek; however, no evidence of an actual creek was observed on site. It was likely mapped as such due to topographic interpretation from remote sensing.	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (Plot size: <u>314 m<sup>2</sup></u> )				<b>Dominance Test worksheet:</b>
1. <u>Pseudotsuga menziesii</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>7</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1/7= 14.28%</u> (A/B)
4. _____				<b>Prevalence Index worksheet:</b>
	<u>60</u>	<u>= Total Cover</u>		Total % Cover of: _____ Multiply by: _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>78.5 m<sup>2</sup></u> )				OBL species <u>-</u> x 1 = <u>-</u>
1. <u>Rubus parviflorus</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	FACW species <u>5</u> x 2 = <u>10</u>
2. <u>Polystichum munitum</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	FAC species <u>15</u> x 3 = <u>45</u>
3. <u>Toxicodendron diversilobum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	FACU species <u>180</u> x 4 = <u>720</u>
4. _____				UPL species <u>-</u> x 5 = <u>-</u>
5. _____				Column Totals: <u>200</u> (A) <u>775</u> (B)
	<u>75</u>	<u>= Total Cover</u>		Prevalence Index = B/A = <u>775/200 = 3.87</u>
<u>Herb Stratum</u> (Plot size: <u>12.57 m<sup>2</sup></u> )				<b>Hydrophytic Vegetation Indicators:</b>
1. <u>Galium triflorum</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Dicentra formosa</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Heracleum maximum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
4. <u>Stachys rigida</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. <u>Tellima grandiflora</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____				
9. _____				
10. _____				
11. _____				
	<u>45</u>	<u>= Total Cover</u>		<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<u>Woody Vine Stratum</u> (Plot size: <u>78.5 m<sup>2</sup></u> )				
1. <u>Rubus ursinus</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
2. _____				
	<u>20</u>	<u>= Total Cover</u>		
% Bare Ground in Herb Stratum <u>approx 50%</u>				
Remarks: NA				

**SOIL**

Sampling Point:     P3    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8"	10YR 4/3	100%	-----	-----	-----	-----	Sandy Loam	-----
8-18"	10YR 4/3	100%	-----	-----	-----	-----	Sandy loam	more gravel

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (**except MLRA 1**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: NA  
 Depth (inches): NA

Hydric Soil Present? Yes  No

Remarks:

At approximately 8 inches, the soil profile becomes increasingly rocky and gravelly, but excavation remained unrestricted, allowing for digging down to a depth of 18 inches without limitation.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (**LRR A**)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (**LRR A**)
- Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): NA  
 Water Table Present? Yes  No  Depth (inches): NA  
 Saturation Present? Yes  No  Depth (inches): NA  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

NA

Remarks:

No evidence of hydrology or hydrologic indicators at this location.

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: 141 Cove Point East City/County: Shelter Cove, Humboldt Co. Sampling Date: 6/25/2025  
 Applicant/Owner: Anthony Pisarski State: CA Sampling Point: P4  
 Investigator(s): Mason London Section, Township, Range: SEC15, T5S, R1E  
 Landform (hillslope, terrace, etc.): steep hillslope Local relief (concave, convex, none): None Slope (%): 20-30 %  
 Subregion (LRR): LRR A Lat: 40.029456 Long: -124.060597 Datum: WGS84  
 Soil Map Unit Name: 507-Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>314 m<sup>2</sup></u> )					
1. <u>Pseudotsuga menziesii</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0/7= 0%</u> (A/B)	
2. <u>Acre macrophyllum</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>		
3. _____					
4. _____					
	<u>85</u>	= Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>78.5 m<sup>2</sup></u> )					
1. <u>Corylus cornuta</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>240</u> x 4 = <u>960</u> UPL species _____ x 5 = _____ Column Totals: <u>240</u> (A) <u>960</u> (B)  Prevalence Index = B/A = <u>960/240 = 4.00</u>	
2. <u>Polystichum munitum</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>		
3. <u>Vaccinium ovatum</u>	<u>15</u>	<u>No</u>	<u>FACU</u>		
4. <u>Holodiscus discolor</u>	<u>5</u>	<u>No</u>	<u>FACU</u>		
5. <u>Rubus parviflorus</u>	<u>5</u>	<u>No</u>	<u>FACU</u>		
	<u>145</u>	= Total Cover			
<b>Herb Stratum</b> (Plot size: <u>12.57 m<sup>2</sup></u> )					
1. <u>Galium triflorum</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>		
2. <u>Tellima grandiflora</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	<u>10</u>	= Total Cover			
<b>Woody Vine Stratum</b> (Plot size: <u>78.5 m<sup>2</sup></u> )					
1. <u>Marah oregana</u>	<u>5</u>	<u>Yes</u>	<u>NI</u>		
2. _____					
	<u>5</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>90%</u>					
Remarks:					
<b>NA</b>					
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

**SOIL**

Sampling Point:     P4    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5"	10YR 2/2	100%	-----	-----	-----	-----	Loam	-----
5-18"	10YR 3/3	100%	-----	-----	-----	-----	Sandy loam	slightly grittier

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (**except MLRA 1**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: NA  
 Depth (inches): NA

Hydric Soil Present?    Yes     No

Remarks:

No redox features observed in the dark surface (10YR 2/2); therefore, F7 indicator not met despite appropriate color.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (**LRR A**)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (**LRR A**)
- Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?    Yes     No     Depth (inches): NA  
 Water Table Present?    Yes     No     Depth (inches): NA  
 Saturation Present?    Yes     No     Depth (inches): NA  
 (includes capillary fringe)

Wetland Hydrology Present?    Yes     No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**NA**

Remarks:

No evidence of hydrology or hydrologic indicators at this location.