

FINAL REPORT ◦ OCTOBER 2025

Preliminary Aquatic Resources Delineation Report for the Elk River Estuary (Planning Area 1) Restoration Project



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Cover photos: View of the Elk River Planning Area 1, Humboldt County, California.

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1 INTRODUCTION

1.1 Project Description and Proponent

The Elk River watershed is currently the focus of intensive efforts to resolve very complex land use and water quality impairment issues. Collectively, these efforts include: (1) the Elk River Sediment Total Maximum Daily Load (TMDL) regulatory program led by the North Coast Regional Water Quality Control Board (NCRWQCB or Regional Water Board) and associated Waste Discharge Requirements (WDRs) for timber companies in the upper watershed; (2) the *Elk River Recovery Assessment* (CalTrout et al. 2019), which was a technical feasibility study of large-scale sediment remediation completed in 2019 by California Trout (CalTrout) and a team of engineers and scientists including Northern Hydrology and Engineering (NHE), Stillwater Sciences, and GHD (Project Team); and finally (3) the Elk River Watershed Stewardship Program (Stewardship Program) for which the Project Team has developed the *Elk River Recovery Plan* (CalTrout et al. 2022). The Stewardship Program coordinated extensively with watershed residents and other stakeholders throughout 2019–2022 to solicit input and gain support for recovery actions that would restore beneficial uses of water in Elk River, improve water quality conditions, reduce nuisance flooding, rehabilitate habitat for native salmonids and other aquatic resources, expand riparian habitat, and improve overall ecosystem health in the Elk River. The Elk River Recovery Plan (CalTrout et al. 2022) presented the supported remediation and restoration actions and the technical and regulatory feasibility to implement these actions within four planning areas.

The Elk River Estuary Planning Area 1 (PA 1) Restoration Project (Project) is focused on one of the four planning areas described in the Elk River Recovery Plan (CalTrout et al. 2022). In 2023, the Project Team produced the *Elk River Planning Area 1 10% Design Report* that presented an initial biological resource and baseline condition assessment within Elk River’s PA 1 to inform on early design development (i.e., reach-specific goals and objectives, identify opportunities and constraints, and develop habitat enhancement design concepts). Initial studies summarized in the 10% design report included: geomorphology, hydrology and water quality, fish utilization and habitat characterization, vegetation, wetlands, and land use (CalTrout et al. 2023). A wetland delineation was conducted as part of the detailed baseline surveys within PA 1 to support the development of a 10% engineering design level plan and a draft aquatic resources delineation report was prepared in 2022 (CalTrout et al. 2023). The PA 1 restoration design has since progressed towards 65% design and restoration actions have been further refined and developed as presented in the *Elk River Estuary (Planning Area 1) Restoration Project: Project Description (Project Description)* (CalTrout et al. 2025). Since 2022, additional existing condition information has been collected within PA 1 (e.g., groundwater well monitoring), NHE refined the existing ground (EG) terrain surface of PA 1 from Light Detection and Ranging (LiDAR) and field survey data (Appendix F in CalTrout et al. 2023), and the definition of “waters of the United States” was revised per the Sackett v. EPA ruling in 2023. As such, this report presents the latest aquatic resources delineation results for PA 1.

As presented in *Project Description* (CalTrout et al. 2025), the primary restoration actions in PA 1 focus on restoring natural tidal and fluvial drainage patterns across the Project and include: (a) infrastructure removal and replacement, (b) vegetation enhancement and management, (c) tidal marsh enhancement, (d), off-channel habitat enhancement, (e) mainstem corridor enhancement, (f) floodplain connectivity and recontouring, (g) beneficial sediment reuse, and (h) public access enhancements. PA 1 has eleven distinct subareas (Figure 1-1).

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1.2 Project Location and Survey Area

PA 1 encompasses the lower-most reaches of the Elk River mainstem at the downstream (north-westerly) end of the Elk River valley (Figure 1-1). It spans over 850-acres of former tidal and brackish wetlands, riparian forest, and coastal grasslands, and was historically interspersed with mixed conifer forest stands. The western edge of PA 1 is bordered by US Highway 101 (Hwy 101), although this is an artificial boundary; there are additional tidal wetlands on the west side of Hwy 101 owned by the City of Eureka that were hydraulically interconnected with PA 1 but are currently separated by Hwy 101. City of Eureka tidal wetlands north of PA 1 have undergone restoration and the construction of the Elk River Hikshari' Trail and are not part of the Stewardship Program. PA 1 is generally bounded to the south-west by the Elk River itself and to the north-east by Swain Slough and Elk River Road. The Elk River – Swain Slough confluence is at the downstream end of PA 1, just upstream of Hwy 101 at Station 7800; PA 1 extends up the sinuous Elk River to Showers Road. The total length of the channel, including Elk River and Swain Slough is 20,500 feet [ft] or 3.8 miles. Martin Slough branches off Swain Slough but is not considered part of the Stewardship Program. PA 1 can be accessed from US-101 just south of the City of Eureka by heading east after exiting Herrick Avenue and turning south on Elk River Road (Figure 1-1).

PA 1 is in Sections 4, 9, 10, 15, and 16 of Township 4N, Range 01 West in the Fields Landing and Eureka U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles. It has an approximate elevation of 0 to 50 feet above mean sea level.

1.3 Purpose of the Aquatic Resources Delineation

The purpose of this delineation is to: (1) assess the geographic extent of water and wetland resources in PA 1; (2) delineate any waters of the U.S., including wetlands, potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act of 1899; (3) delineate any additional waters of the State that may be subject to the jurisdiction of the State Water Resources Control Board (SWRCB), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC). The wetland features in PA 1 are considered preliminary until verified by the San Francisco Regulatory Branch of the USACE. The USACE determines CWA jurisdiction of the aquatic resources in PA 1.

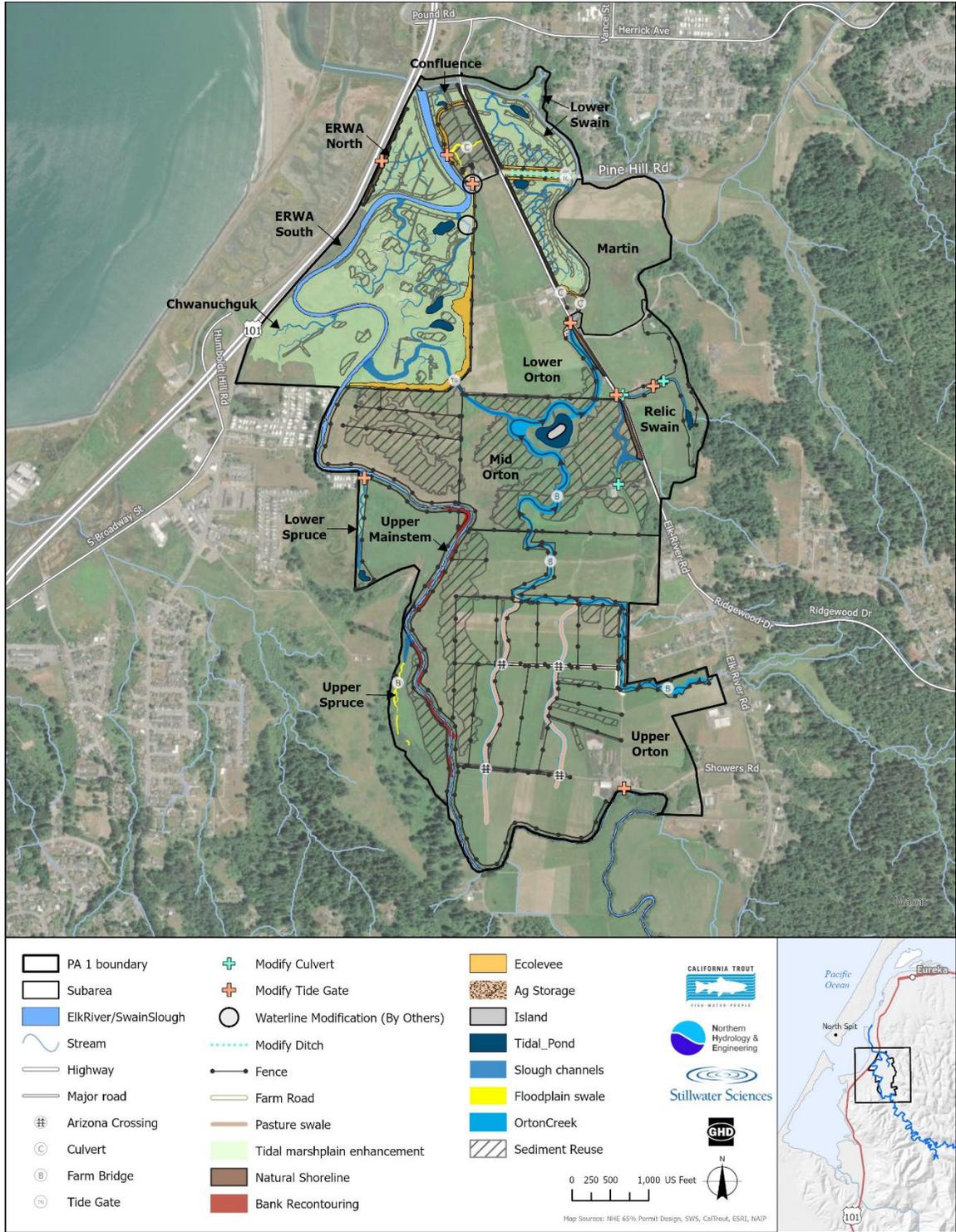


Figure 1-1. Planning Area 1 Project location and 65% design enhancement actions.

2 METHODS

2.1 Existing Conditions

Prior to the delineation of jurisdictional waters and wetlands, existing information on soils, hydrology, and precipitation in PA 1 was evaluated. Information on potential jurisdictional waters and wetlands was obtained from the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online application, *Wetlands Mapper* (USFWS 2025). Available data from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey website were reviewed for the surveyed area and nearby vicinity (NRCS 2025a). Water level, salinity, and temperature monitoring site data (CalTrout et al. 2023) were reviewed to support the classification of waters within PA 1. Groundwater well monitoring data collected within PA 1 from 2024 through spring 2025 were evaluated to assess wetland hydrology within PA 1. Surface water connections and annual inundation frequency for tributaries and drainages and their adjacent wetlands were reviewed from the 2D hydraulic model analyses produced by NHE (Appendix F in CalTrout et al. 2023). Precipitation and climate records from the Eureka Weather Forecast Office Woodley Island, CA (WFO) (Station USW00024213) were reviewed prior to the delineation (National Climatic Data Center [NCDC] 2025). Climate records were also assessed from 2021 through 2025 to evaluate whether general climate trends may have impacted wetlands delineated in PA 1.

2.2 Field Delineation

A delineation of potential jurisdictional waters and wetlands and their transition to upland condition was conducted by wetland delineators Emmalien Craydon and Emily Teraoka on October 18, November 30, and December 1, 2021, in accordance with the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual, USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (WMVC Supplement; USACE 2010). The delineation included any feature that could potentially meet the definition of a water protected under the Clean Water Act (and thus be subject to USACE-jurisdiction), Rivers and Harbors Act (USACE-jurisdiction), the Porter Cologne Act (SWRCB [State]-jurisdiction), Fish and Game Code Section 1602 of Streambed Alteration Agreement (CDFW-jurisdiction), and the California Coastal Act (CC-jurisdiction). USACE has jurisdiction over Waters of the U.S. (WOUS), including wetlands, pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Section 404 of the CWA applies to all WOUS, including wetlands, which are defined in 33 Code of Federal Regulations (CFR) 328.3 and 40 CFR 120.2. Additionally, per Section 10 of the Rivers and Harbors Act, the USACE has jurisdiction over all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide (i.e., traditionally navigable waters [TNWs]) as defined in 33 CFR 329.4. Furthermore, guidance from USACE and the U.S. Environmental Protection Agency (USEPA) on proper interpretation of continuous surface water connection under the CWA was consulted (USEPA and USACE 2025).

2.2.1 Waters determination

Under Section 10 of the Rivers and Harbors Act of 1899, for activities in tidal navigable waters of the U.S. the limits of USACE Section 10 jurisdiction is defined by the Mean High Water (MHW) line. Under Section 404 of the CWA, the limits of USACE jurisdiction of Other Waters of the

U.S. (OWOUS) is defined by the High Tide Line (HTL) for tidal waters and the Ordinary High Water Mark (OHWM) for non-tidal waters. Furthermore, waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state (Porter-Cologne Act, Section 13050).

The USACE San Francisco District Regulatory Branch *Navigable Waterways List* (USACE 1971) and accompanying 2004 USACE guidance memorandum was reviewed to assess upstream limits of listed navigable waters of the U.S. in PA 1. As stated in the USACE (2004) guidance document, the “determination of navigability, once made ... is not extinguished by later actions or events which impede or destroy navigable capacity” (33 C.F.R. §329.4) and “if a waterway at one time was navigable in its natural or improved state, or was susceptible to navigation by way of reasonable improvement, it retains its navigable status even though it is not presently used for commerce, or is presently incapable of use because of changed conditions or the presence of obstructions. *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 408 (1940).” As such, any waterways listed on the 1971 *Navigable Waterways List* and its upstream limit, referred to as head of navigation, was used to determine Section 10 waters in PA 1. Section 10 jurisdictional waters were characterized by the MHW extent. To assess the MHW line in PA 1, the MHW elevation for the nearby tidal water level station, Humboldt Bay North Spit, CA (Station ID 9418767) was queried and the EG terrain surface for PA 1 were reviewed to assess elevation around waterways.

The extent of OWOUS subject to Section 404 jurisdiction (tidal and non-tidal waters of the U.S.) in PA 1 were delineated by the location of the HTL or OHWM. 33 CFR 328.3(d) defines the HTL as the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide and may be determined, in the absence of actual data, by: (a) a line of oil or scum along shore objects; (b) a more or less continuous deposit of fine shell or debris on the foreshore or berm; (c) other physical markings or characteristics; (d) vegetation lines; or (e) tidal gages, or other suitable means that delineate the general height reached by a rising tide. The HTL encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm. The OHWM is defined as the elevation established on the shore by water fluctuations and is indicated by physical characteristics such as: (a) a clear, natural line impressed on the bank; (b) shelving; (c) changes in the character of soil; (d) destruction of terrestrial vegetation; (e) the presence of litter and debris; or (f) other appropriate means that consider the characteristics of the surrounding areas. The OHWM was identified in accordance with the USACE RGL 05-05 (USACE 2005) and the OHWM Guide (Mersel and Lichvar 2014).

Tidal waters of the U.S. were further characterized in PA 1 into estuarine and riverine systems following Federal Geographic Data Committee (FGDC 2013) classifications (i.e., ocean-derived salts measure >0.5 ppt [estuarine] or <0.5 ppt [riverine] during the period of average annual low flow) using salinity measurements (i.e., monthly average daily salinity values) recorded from continuous monitoring stations deployed by NHE in Elk River and Swain Slough between 2021 through 2022. In general, tidal waters were delineated based on attributes noted in the field for HTL and OHWM characteristics described above as well as from the desktop assessment of tidal datums, EG terrain surface, and NHE’s 2D hydraulic model results for existing conditions in PA 1 (CalTrout et al. 2023).

The HTL elevations used to define the Section 404 estuarine tidal waters of the U.S. in PA 1 were characterized from the estimated tidal mean high high water (MHHW) elevation (7.05 ft NAVD88) and the spring tide tidal value in PA 1 (i.e., mean monthly maximum water of 8.3 ft

NAVD88). The MHHW along with additional tidal values and annual extreme high water level probability estimates for current day conditions were developed by NHE based on model updates to the 2012 published Humboldt Bay tidal estimates (NHE 2015). The 2022 tidal estimates were adjusted for vertical land motion per Patton et al. (2017). Furthermore, the 2022 MHHW extent was projected to reach 8.6 ft elevation when the Elk River annual (1.01-year) flood recurrence was included. As such, all estuarine tidal waters in PA 1 were delineated at or below the HTL elevations of 8.6 ft.

Per USACE guidance, the MHW, OHWM, and HTL were adjusted so that vegetated areas (i.e., estuarine wetlands, or eelgrass beds) were mapped separately as either wetlands or special habitat areas, depending on site specific observations. These intertidal features were classified under their associated wetland category per the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013) (see Section 2.2.2). Woody riparian vegetation was mapped when rooted below the OHWM/HTL of riverine waters but remained classified with the OWOUS.

Tidal waters of the U.S. in the Elk River transitioned to non-tidal waters near the uppermost channel extent in PA 1, upstream of station 25,000 where the bed elevation of the channel is the equal to the highest tide on record (Figure 1-1) (CalTrout et al. 2023).

Prior to the wetland delineation surveys, aerial photographs and topographic maps were reviewed to identify limits and connections of potential wetlands to Elk River or Swain Slough, the lowermost tributary to Elk River. During the wetland delineation waters in PA 1 were further reviewed for their connectivity via culvert connections and the existing drainage network. Infrastructure survey results in PA 1 (CalTrout et al. 2023) confirmed culvert and drainage connections throughout PA 1 and when assessed alongside the 2D hydraulic model results, USACE-jurisdiction of floodplain wetlands were preliminarily designated based on guidance from the USEPA and USACE (2025).

2.2.2 Wetland determination

Wetlands were delineated in accordance with the 1987 Manual (USACE 1987) and WMVC Supplement (USACE 2010). The 1987 Manual and WMVC Supplement provide technical guidelines and methods for the three-parameter approach to determining the location and boundaries of USACE jurisdictional wetlands. This approach requires that an area must support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland. Additionally, the California Coastal Commission's *Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone* (CCC 1994) was used to identify waters/wetlands in the California coastal zone (coastal zone) potentially subject to regulation under the California Coastal Act (1976). This approach requires one positive indicator to be present at the sampled location for an area to be delineated as a water or wetland.

The delineation focused on sampling the upland-wetland boundary to delineate the extent of wetlands and uplands in PA 1. A total of 23 data points were sampled in potential USACE-, State-, and CC-jurisdictional wetlands in PA 1. If a data point met all three wetland parameters, it was considered an USACE wetland when adjacent to USACE-jurisdictional waters (see Section 2.2); if a point met two or less wetland parameters it was considered upland, or if within the coastal zone a preliminary CC-jurisdictional wetland. Potential wetland areas were identified based on information generated from the pre-field review (e.g., the NWI *Wetland Mapper* results), the topographic landscape, and observations of hydrology and vegetation in the field. If a data point met all three parameters, then a paired data point was placed along the preliminary

transition zone (the area in which a change from wetland to non-wetland conditions occurs) to determine the wetland/upland boundary. Where dominant vegetation was considered problematic in identifying the wetland-upland boundary along the valley floor (i.e., managed/grazed/irrigated agricultural grasslands), data point sampling locations were preselected based on a desktop assessment of PA 1 EG terrain surface and the relative elevation above the valley floor (see Appendix D). This method ensured that data points would be sampled along the gradual elevation gradient in PA 1 to detect variance in soils and hydrology¹. At each data point, a soil core was taken, and the following information was recorded using the USACE (2010) data forms:

1. **Vegetation:** Dominant plant species for each stratum (i.e., tree, sapling/shrub, herb, woody vine) by scientific name (genus and species) following the taxonomy the online *Jepson eFlora* (Jepson Flora Project 2025). Absolute percent cover and dominance were determined using the 50/20 rule outlined in the *WMVC Supplement*, and the wetland indicator status (OBL [obligate], FACW [facultative-wet], FAC [facultative], FACU [facultative-upland], and UPL [upland]) defined for the WMVC Region in the *National Wetland Plant List: 2022 Wetland Ratings* (USACE 2023). Plant species not listed in the *2020 National Wetland Plant List* were considered upland (UPL) species. A dominance test was performed to determine if the data point exhibited hydrophytic vegetation. If the dominance test was not conclusive and wetland hydrology and hydric soils were present, then the prevalence index was calculated.
2. **Hydrology:** Presence and depth of surface water, groundwater, and/or soil saturation were recorded. In addition, if primary (e.g., oxidized rhizospheres along living roots) and secondary indicators (e.g., drainage patterns, saturation visible on aerial imagery, FAC-neutral test) were observed, then they were also recorded at each data point.
3. **Soils:** Moistened soil matrix descriptions were recorded for each data point using the following: depth of the sample, color (as defined in Munsell soil color charts [Munsell Color 2000]), and texture. If present, redox features were then described by type (e.g., concentration, depletion, reduced matrix) and location (e.g., pore lining, root channel, or matrix). Hydric soils were determined using the *WMVC Supplement* primary indicators, such as depleted dark surface (F7). In addition, mapped soil units (described in Section 3.1.2) were considered, and the current National List of Hydric Soils (NRCS 2025b) was consulted.

The location of each data point and adjacent wetland/upland boundaries were recorded using a sub-meter accuracy GPS and photographs were taken of the representative site characteristics. The wetland-upland boundary was delineated based on data point results alongside the review of the EG terrain surface (Appendix D), groundwater monitoring well data, and observed site characteristics throughout PA 1 (i.e., dominant vegetation cover, landform position, inundation frequency, and relative elevation above the valley floor). All GPS data were post-processed, corrected, and incorporated into GIS. Mapped wetlands were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013) based on the vegetation composition and areal cover within each strata to identify the dominant life form at the data points.

¹ USACE-jurisdictional boundaries were modified in 2025 following updated USACE and USEPA guidance. All sampled data points occurring outside of the revised USACE-jurisdictional boundaries remain representative of the wetland types occurring throughout PA 1 and are used to describe both USACE- and State-jurisdictional features.

3 RESULTS

3.1 Historical Conditions

As reported by CalTrout et al. (2023), the Elk River watershed, the largest tributary to Humboldt Bay, has been extensively altered over the past 170 years since European-American settlers first arrived in the North Coast region. The watershed was aggressively and rapidly transformed from a mosaic of forest, wetland, and aquatic ecosystems to a working landscape, providing timber resources, agricultural and grazing lands, and rural residential homesteads as part of the rapidly expanding Humboldt County economy and land development process. The logging of old-growth redwoods began as early as the late 1860's and Elk River was a focal point of environmental activism in the 1990s, when the watershed, its river courses, and Endangered Species Act-listed salmon and steelhead were severely degraded by operations of Pacific Lumber Co from 1988–2000. In PA 1, dikes were built to hold back extreme high tides around the turn of the 20th century and much of the Elk River estuary tidelands and floodplain habitats were converted for agricultural use.

Protected areas continue to be used for agricultural land practices, mainly cattle and dairy ranching. Exceptions to the otherwise typical agricultural land use include the Elk River Wildlife Area (ERWA) and several parcels at the northwesterly end of the valley where regular tidal inundation has been reintroduced from unmaintained earthen dikes and drainage infrastructure (e.g., leaky tide gates). Numerous rural residential properties are scattered along Elk River Road, generally on upland areas above the 12–15 ft MSL elevation contour. The abandoned Elk River railroad grade traverses the agricultural features running up the valley parallel and to the west of Elk River Road.

Relict tidal slough channels and tributaries within the Elk River valley bottom formed a branched channel network that historically was connected to Elk River and Swain Slough (CalTrout et al. 2023; Figure D-3 in Appendix D). The historic conversion of Elk River and Swain Slough tidelands to agricultural land use has altered the natural vegetation, hydrology, and soils in PA 1. Over a century has occurred since the initial tideland disturbance and grasslands that remain under active agricultural management were considered typical for the region and normal circumstances exist. Existing swales within active agricultural areas in PA 1 were associated with the relict tidal slough network. Parcels now receiving tidal influence have been converting back to estuarine habitats and remnants of the agricultural land practices at these locations were evident only along elevated berms that were still vegetated by introduced grassland forage species.

3.2 Existing Conditions

3.2.1 Hydrology

The Elk River is the largest tributary to Humboldt Bay and drains a 58.3 square mile (mi²) watershed from the Coast Range, traversing across a coastal plain and joining Humboldt Bay just south of the City of Eureka. PA 1 includes the mainstem Elk River from the confluence at Humboldt Bay up to approximately 3.4 miles upstream. The mainstem Elk River downstream of the North Fork and South Fork confluence consists of low-gradient, alluvial channel types with a narrow riparian canopy, transitioning to tidally influenced freshwater, brackish, and tidal slough channels.

PA 1 is located in the Elk River Subwatershed (Hydrologic Unit Code [HUC] 12: 180101020603) of the Humboldt Bay-Frontal Pacific Ocean watershed in the North Coast Hydrologic Region and within Lower Elk River and Martin Slough of the Elk River Watershed in the Eureka Plain Hydrologic Unit No. 110.00. The Lower Elk River and Martin Slough waterbody is a Clean Water Act 303(d) listed impaired water (for cold freshwater habitat [sediment], and water contact recreation [pathogens]) (USEPA 2022, Assessment unit ID CAR1100004020140113044906).

PA 1 is hydraulically and hydrologically inter-connected and is characterized by broad and flat low-elevation marsh plains that are variably protected from tidal inundation by unmaintained earthen dikes, ditches, tide gates and other drainage infrastructure (CalTrout et al. 2023). Eight tide gates operate in PA 1, several of which are dysfunctional. Prior to land conversion of the Elk River floodplain, Swain Slough and Elk River and their tributaries traversed the valley bottom. Evidence of these pathways remain evident by landform (shallow swale formations), hydrology (seasonal inundation), and vegetation assemblage signatures.

Continuous monitoring measurements recorded in 2021 within estuarine tidal waters of Elk River and Swain Slough measured monthly maximum daily salinities (CalTrout et al. 2023). The records from the period June through November characterize typical salinities during low-flow conditions. The maximum monthly daily average salinities during this period ranged from 24 to 31 psu (practical salinity units) and were classified as polyhaline (18–30 ppt [parts per thousand]) to euhaline (30–40 ppt) (FGDC 2013). During spring and winter months, water salinity measured monthly daily means as low as 8 psu (mesohaline [5–18 ppt] per FGDC 2013). Although water remained tidal for most of the PA 1 reach, salinities decreased upstream of MSR 2 in Elk River and freshwater (<0.5 ppt) was prevalent most of the year (excluding June–October that recorded monthly daily averages of up to 3 ppt) (CalTrout et al. 2023).

Per the PA 1 2D hydraulic model analyses of existing conditions conducted by NHE (Appendix F in CalTrout et al. 2023), the inundation extent and origin of surface water flooding on the Elk River floodplain in PA 1 were attributed to the following:

Flows with an exceedance probability less than or equal to 50% that coincide with a spring tide are generally contained within the Elk River main channel—though some minor backwatering associated with broken or missing tide gates on select floodplain ditches in MSR-2 occurs at the 50% exceedance flow ... the 50% exceedance flow is also associated with moderate inundation (depths ~0.1–2.5ft) of the Elk River Wildlife Area, Swain Slough Tidal Wetlands and Western Off Channel Habitat (AOI A, B & C, respectively) due primarily to failed infrastructure (e.g., tide gates and levees) and overbanking of the Elk River... At the 25% exceedance flow (170 cfs), ditch related backwatering and flooding of adjacent floodplains becomes more pronounced. At the 10% exceedance flow, flooding extents increase to cover much of the Floodplain Corridor (AOI F) due to more significant ditch overbank flows, as well as overbanking of the Elk River main channel near the downstream end of MSR-3 ... Of additional note at the 10% exceedance flow is substantial overbank flooding of the existing ditch on the southern parcel of AOI E due to overtopping of the tide gate (TG-601). Importantly, these floodplain flows are shallow and poorly connected to the Elk main channel and thus represent low quality habitat with significant probability of fish stranding and mortality... Naturally, as flow magnitude increases, both the area inundated and flow depth increase—however, the extent of flooding does not change significantly at flows ≥ 2 yr.

As such, the modeled 50% exceedance flow associated with spring tide inundation extent (or HTL) was evaluated against field delineated wetland features to confirm estuarine wetland assignment. The rising limb and inundation extents of the 10 and 25% exceedance flows (Appendix F in CalTrout et al. 2023) around relatively permanent surface water drainages within the Elk River valley bottom were evaluated to confirm USACE-jurisdictional boundaries of delineated palustrine wetlands. All palustrine wetlands attributed to annual backwatering of drainages that lacked direct surface water connections to Elk River (i.e., connected via culverts through upland berms) were not considered USACE-jurisdictional features. In the Elk River valley bottom, these non-jurisdictional wetlands were associated with portions of the relic tidal channel network that no longer has perennial surface water connection to Elk River (Figure D-3, Appendix D).

Groundwater wells were installed throughout PA 1 in late 2023 and 2024 (Figure 3-1). Water surface elevation was recorded using data loggers deployed by NHE in January 2024 that record continuously at 15-minute intervals. Water surface elevations were assessed against the USACE technical standard for wetland hydrology to approximate ground surface elevations that will achieve the wetland hydrologic criteria. Results of the highest water surface elevations occurring for a minimum of 14 days during the growing season are presented in Table 3-1.

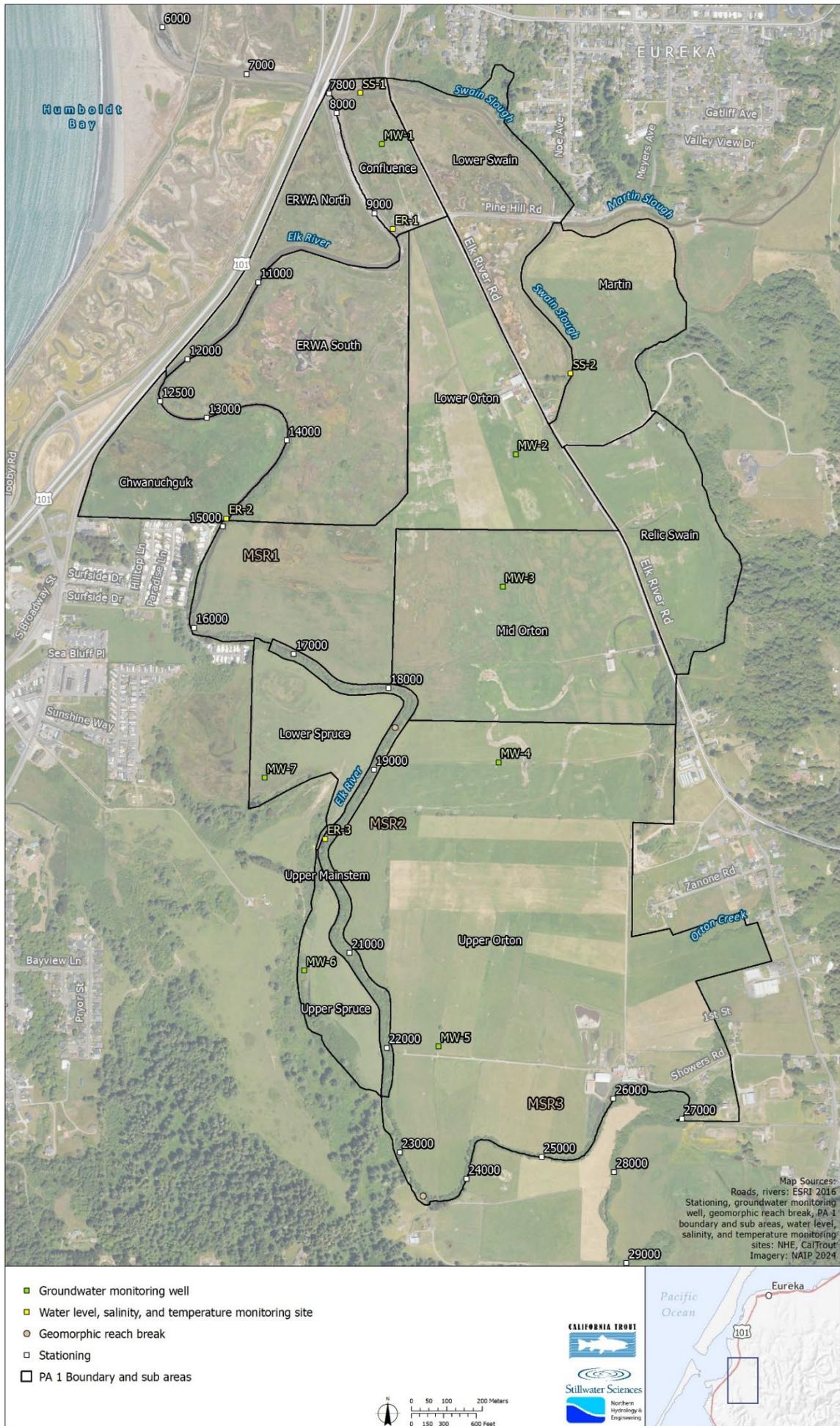


Figure 3-1. Groundwater well locations in Planning Area 1.

Table 3-1. Groundwater monitoring well results (2024 to 2025) for present day wetland hydrology analysis.

Monitoring well		USACE technical standard assessment			
		Consecutive period with highest measured groundwater during the growing season ¹			Estimated maximum ground surface elevation to achieve wetland hydrology (ft, NAVD) ²
Label	Ground surface elevation (ft, NAVD)	Start date	End date	Water surface elevation range (ft, NAVD)	
MW-1	8.2	3/12/2025	4/5/2025	7.6–8.0	8.6
		2/13/2025	2/26/2025	7.6–7.9	
		2/29/2024	3/14/2024	7.6–7.8	
		2/7/2024	2/20/2024	7.6–8.8	
MW-2	7.9	3/12/2025	4/9/2025	7.3–8.5	8.3
		2/6/2025	2/27/2025	7.2–9.2	
		2/29/2024	3/16/2024	7.3–8.1	
		2/7/2024	2/20/2024	7.3–9.4	
MW-3	8.4	3/12/2025	3/25/2025	8.5–9.2	9.5
		3/27/2025	4/8/2025	8.5–9.4	
		3/2/2024	3/17/2024	8.5–9.4	
		2/7/2024	2/20/2024	8.4–10.0	
		2/6/2025	2/28/2025	8.3–9.7	
MW-4	9.2	3/22/2024	4/5/2024	8.3–9.6	10.3
		3/2/2024	3/17/2024	9.5–10.0	
		2/6/2025	2/26/2025	9.3–10.1	
		2/7/2024	2/20/2024	9.3–10.2	
		3/12/2025	3/25/2025	8.5–9.2	
MW-5	14.0	11/21/2024	12/5/2024	8.5–10.5	14.4
		2/29/2024	3/14/2024	13.4–14.6	
		3/15/2025	3/25/2025	13.4–14.4	
		2/13/2025	2/25/2025	13.3–14.5	
		3/26/2025	4/9/2025	13.1–14.6	
MW-6	14.2	2/7/2024	2/20/2024	13.0–14.7	13.7
		3/12/2025	4/10/2025	12.7–15.0	
		2/6/2025	3/7/2025	12.6–15.0	
		4/11/2025	4/24/2025	12.4–12.7	
		11/18/2024	12/4/2024	12.2–14.9	
MW-7	8.3	5/22/2024	6/5/2024	11.9–12.5	9.2
		3/12/2025	4/11/2025	8.2–8.9	
		2/6/2025	3/11/2025	8.1–8.4	
		11/20/2024	12/5/2024	7.9–8.3	
		4/15/2025	5/26/2025	7.0–8.0	
		5/22/2024	6/5/2024	6.4–7.5	

¹ The minimum consecutive period reported in this table is 14 days per the USACE technical standard.² USACE technical standard considers the wetland hydrology parameter present when the water table is 12 in. (30 cm) or less from the surface, for 14 or more consecutive days during the growing season in most years (at least 5 years in 10, or 50 percent or higher probability) (USACE 2010).

The NWI *Wetlands Mapper* includes various palustrine and estuarine wetlands in PA 1 (Figure 3-2). These features largely correlate with the wetland boundaries; however, estuarine wetland coverage had a greater extent in PA 1 when compared to the NWI map and palustrine wetlands had a larger footprint in Upper Orton due to seasonal inundation from the floodplain drainages with direct culvert connections to Elk River (Figure 3-2).

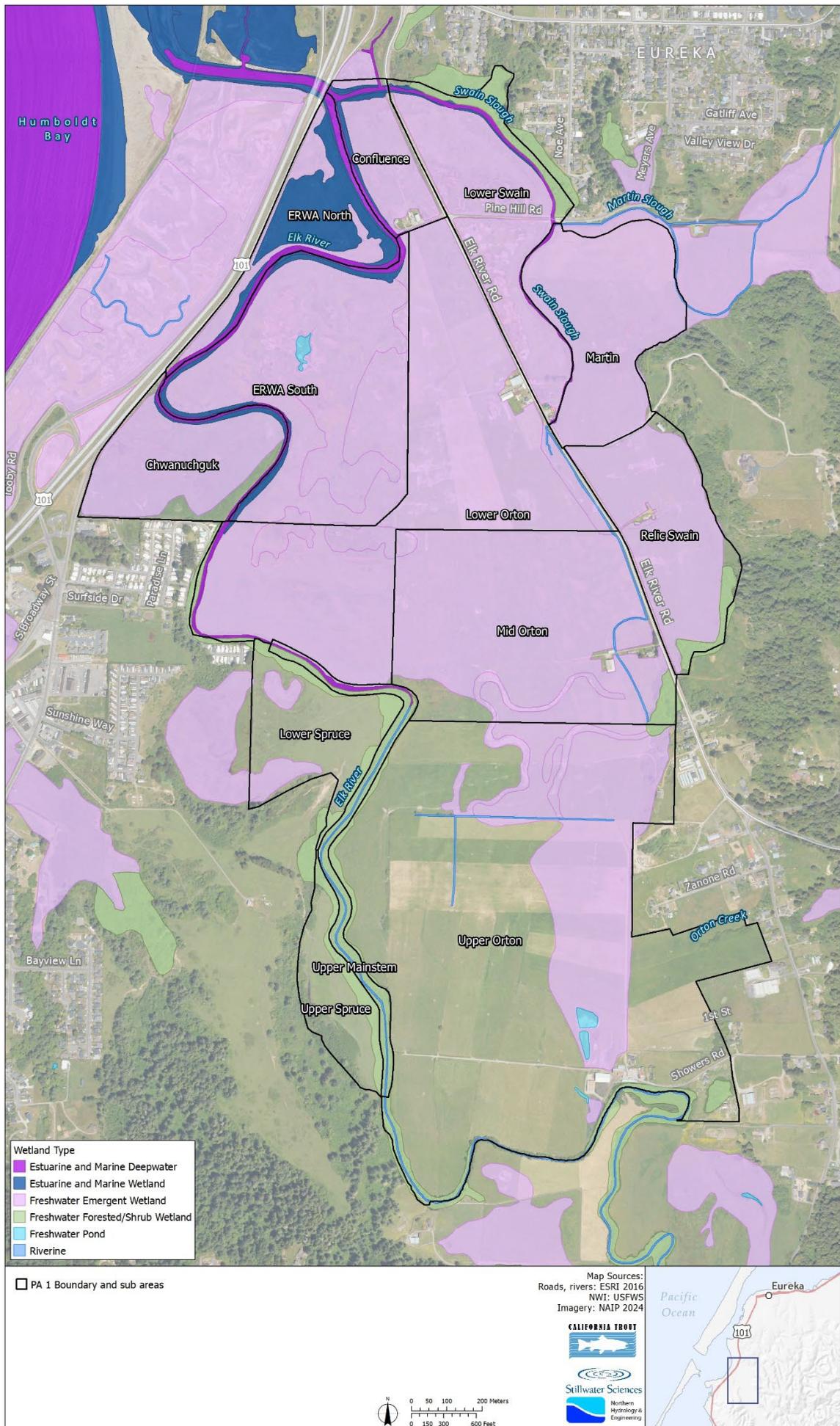


Figure 3-2. National Wetlands Inventory map of Planning Area 1 (Source: USFWS 2025).

3.2.2 Soil units

The primary soil unit in PA 1 was Weott, 0 to 2 percent slopes (Figure 3-2). The Weott (0 to 2% slope) map unit is located from 0 to 150 ft elevation above mean sea level and has a mean annual precipitation of 35–80 inches, a mean annual air temperature of 50–55° F, and a frost-free period of 275–330 days (NRCS 2025a). It is associated with prime farmland if irrigated and drained and used for pasture, hay, and wetland wildlife habitat. As most of these soils have been cleared it is estimated the natural vegetation was rushes, cinquefoil, and other marsh species (NCRS 2016).

The Weott series is positioned along the backslope or tread of backswamps, depressions, and floodplain steps on alluvial plains (NRCS 2016, 2025a). The typical profile is comprised of a silt loam with an Ap horizon from 0 to 12 inches and a Bg1 and Bg2 horizon extending from 12 to 60 inches. It has a drainage class of very poorly drained with a depth to water table and redoximorphic features ranging from 0–4 inches (NRCS 2016, 2025a). It frequently ponds and is occasionally flooded with a nonsaline to very slightly saline profile. The Weott, 0 to 2 percent slopes map unit is listed as a hydric soil in the region with an aquic soil regime and it is associated with marshland ecological sites (NRCS 2016, 2025a). The soils are occasionally flooded in January through March, with soils frequently ponded 1 to 6 inches for long durations between December through February (NRCS 2016). All sampling locations occurred within this mapped soil unit. Minor components of this map unit include the Worswick (5%), Swainslough (4%), Arylanda (3%) and Ferndale (3%). All except Ferndale are listed as hydric soils in the region.

In general, all data points in PA 1 had soil colors similar to the hydric soil Weott series, with matrix soil colors of 10YR 3-4/1-3 and 2.5Y 3-4/1-2 in the upper 18 inches of a predominantly silty clay loam or clay loam profile. Redox concentrations were observed and included 7.5YR, 10YR, 2.5Y (4-5/4-6) colors. Soils were considered hydric when the positive primary indicator, depleted matrix (F3), redox dark surface (F6), or depleted dark surface (F7) were identified (Appendix A).

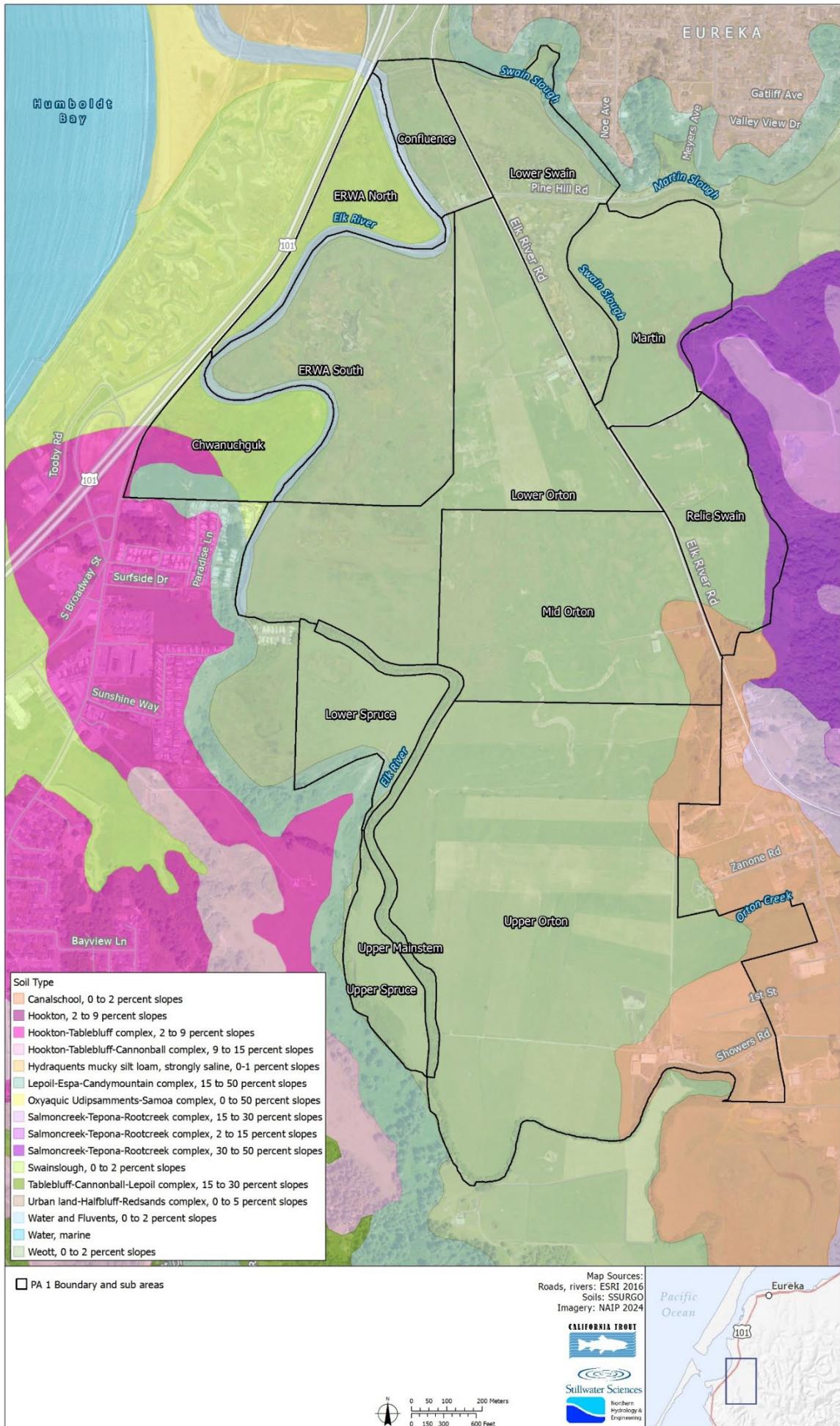


Figure 3-3. Mapped soil units in Planning Area 1.

3.2.3 Precipitation

The Elk River watershed has a maritime coastal climate with mild wet winters and a prolonged summer dry season. Mean air temperatures at the coast fluctuate from 47.7° F in December to 59.2° F in August (NCDC 2025). Rainfall occurs primarily between October through March, with a mean annual rainfall of 39.95 inches (based on the 1990–2025 period of record monthly normal at the WFO weather station [NCDC 2025]). The average growing season length in PA 1 is early February through mid-December based on dates where the average mean temperature has a 50% probability of being above 32°F (Appendix B).

The wetland delineation surveys occurred in late October through December 2021. Regional monthly normal precipitation values during this period totaled 2.24, 5.61, and 8.12 inches, respectively (NCDC 2025). The U.S. Drought Monitor indicated severe to moderate drought conditions for the region of Humboldt County between late October to early December 2021 (National Drought Mitigation Center 2022). Per the WFO weather station records, in 2021, October accumulated slightly above average rainfall (4.02 in) while in both November and December rainfall was below average (2.85 and 7.25 inches, respectively). Most of the recorded rainfall in October accumulated after the wetland delineation, however a storm event one day prior contributed just over 0.7 inch of rainfall. Weather conditions during the delineation, however, were sunny with scattered clouds and dry with a high of 58° F and features did not appear atypically saturated. Very low rainfall occurred prior to the November 30 and December 1, 2021 wetland delineations with an accumulated 0.13 inch recorded at WFO weather station two weeks preceding the delineation (NCDC 2025). These drier and warmer conditions may have influenced the wetland hydrology, however other primary (i.e., redox along living roots) or multiple secondary hydrology indicators were present to confirm this indicator (Appendix B). Weather conditions during these surveys were sunny with highs of 56° F and 61° F.

Between 2022 and 2025, annual air temperatures were within the 30-year normal range for the region (Appendix B). During this period, only 2023 was within the normal range for mean annual precipitation for the region. In 2022, the mean annual precipitation (26.7 in) was considerably lower, 6.75 inches below the normal range (33.4 to 45 inches at the WFO weather station) which was attributed to drier conditions from January through March of that year (Appendix B). In 2024, the mean annual precipitation of 57.86 inches was higher than the annual average range by 12.86 in (Appendix B). This was attributed to wetter than normal conditions from January throughout March and November to December 2024 (NCDC 2025). Delineated wetland extents had only slight modifications since 2021, mostly attributed to the refinement with the latest EG terrain surface. No modifications were attributed to changed climatic conditions since 2021, as annual results between 2022 and 2025 showed no pattern towards sustained drier or wetter conditions and no further modifications to infrastructure (culverts, levees, tidegates, etc.) were documented that would impact wetland hydrology.

3.2.4 Vegetation

Established vegetation communities within PA 1 were classified to the alliance, or finer associate-level, per the systematic approach defined in the *Manual of California Vegetation*, online edition. A detailed vegetation map is provided in the existing conditions section of the *Biological Resources Evaluation for the Elk River PA 1 Estuary Recovery Project Technical Report* (Stillwater Sciences 2025). These vegetation communities are associated with northern coastal saltmarsh, coastal grassland, freshwater marsh, coastal scrub, and narrow bands of riparian scrub/shrub and forest habitat types.

3.3 Preliminary Jurisdictional Waters and Wetlands

The Elk River PA 1 contains 13.8 acres of USACE-jurisdictional tidal navigable waters subject to Section 10 of the Rivers and Harbors Act and Section 404 of the CWA, an additional 19.8 acres of OWOUS, and 396.7 acres of potentially USACE-jurisdictional wetlands adjacent to these waters, both subject to Section 404 of the CWA (Table 3-2 and Figure 3-4 through Figure 3-6, Appendix A). The potentially jurisdictional waters of the U.S. are also considered to be waters of the State under State- and CC-jurisdiction. Additional State-jurisdictional features in PA 1 are described in Section 3.3.3.

Table 3-2. Preliminary USACE-jurisdictional features¹ in Planning Area 1.

Description	Acreage
<i>Navigable Waters of the U.S. (Section 10 and Section 404)</i>	
Elk River (Estuarine Subtidal)	13.8
<i>Other Waters of the U.S. (Section 404)</i>	
Drainage (Estuarine Subtidal/Intertidal)	5.7
Drainage (Palustrine Semipermanently Flooded Unconsolidated Bottom)	1.1
Elk River (Riverine Lower Perennial) ²	1.8
Elk River (Riverine Tidal) ²	7.1
Swain Slough (Estuarine Subtidal)	4.1
<i>Adjacent Wetlands (Section 404)</i>	
Drainage (Palustrine Semipermanently Flooded Persistent Emergent)	1.8
Estuarine Regularly Flooded Persistent Emergent	7.4
Estuarine Regularly/Irregularly Flooded Persistent Emergent	89.6
Estuarine Subtidal Aquatic Eelgrass Beds ³	0.5
Palustrine Intermittently Flooded Broadleaved Deciduous Forested	6.5
Palustrine Intermittently Flooded Broadleaved Deciduous Scrub-Shrub	15.7
Palustrine Intermittently Flooded Evergreen Forested	1
Palustrine Seasonally Flooded Persistent Emergent	220.5
Palustrine Seasonally Flooded-Saturated Persistent Emergent	47.9
Palustrine Semipermanently Flooded Persistent Emergent	5.7
Riverine Tidal Aquatic Bed	0.1

¹ All USACE-jurisdictional features are also considered jurisdictional by the State based on definitions provided in Section 2.2.

² Contains woody riparian vegetation rooted below the HTL/OHWM.

³ Defined as vegetated shallows and protected under the Section 404(b)(1) of the CWA as “special aquatic sites” (40 C.F.R. § 230.43)

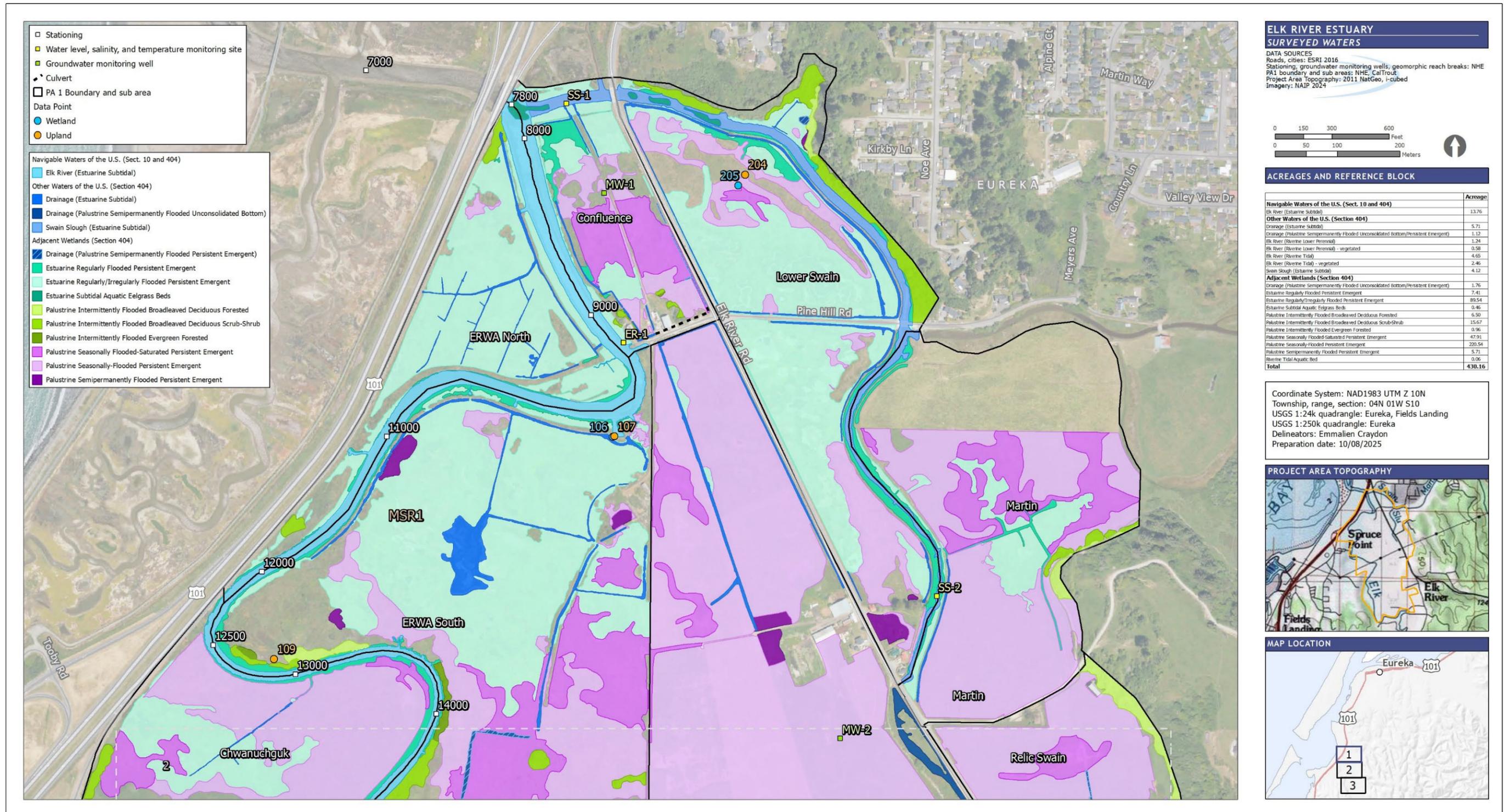


Figure 3-4. Preliminary jurisdictional waters and wetlands in Planning Area 1. Tile 1 of 3.

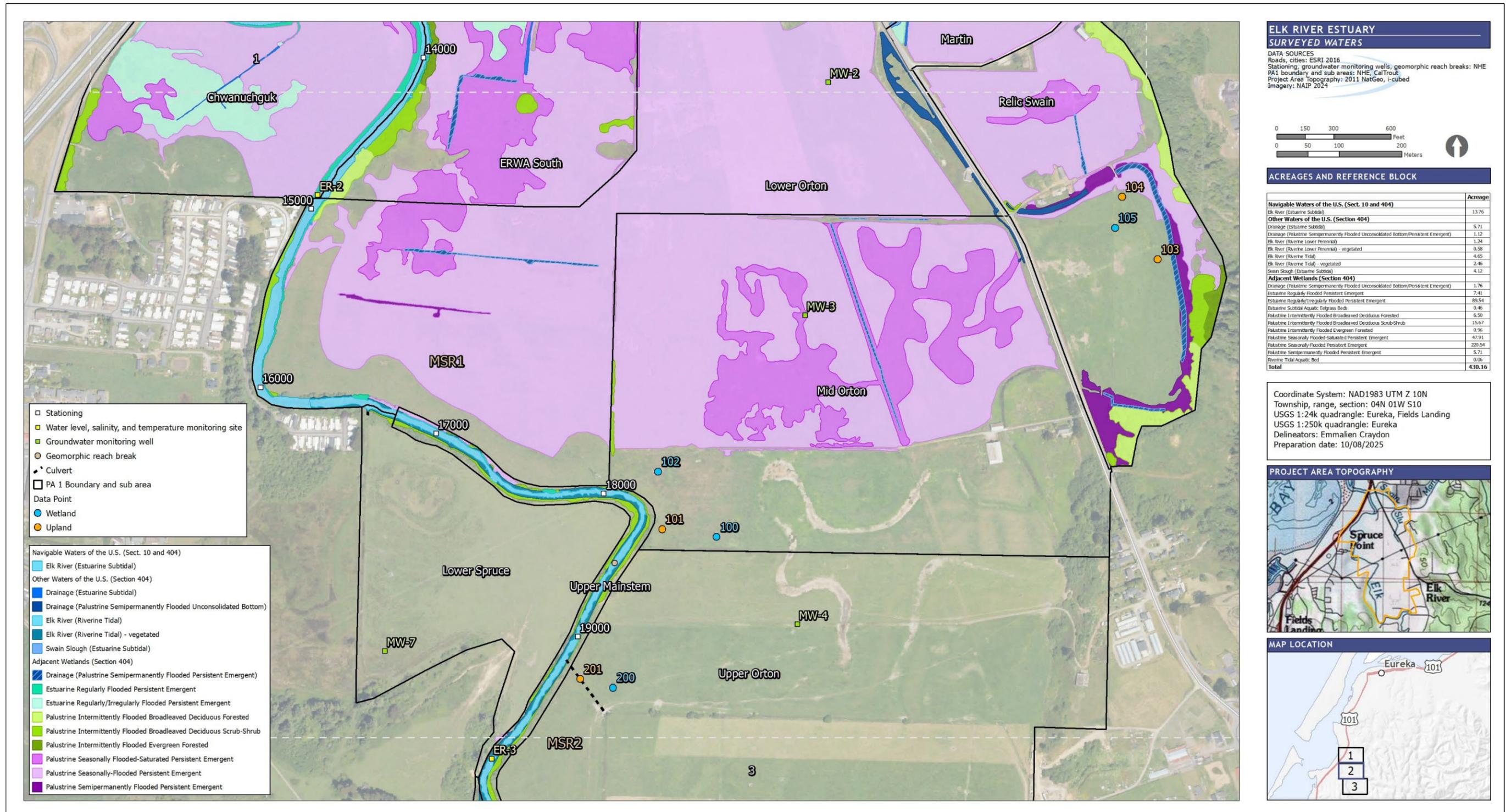


Figure 3-5. Preliminary jurisdictional waters and wetlands in Planning Area 1. Tile 2 of 3.

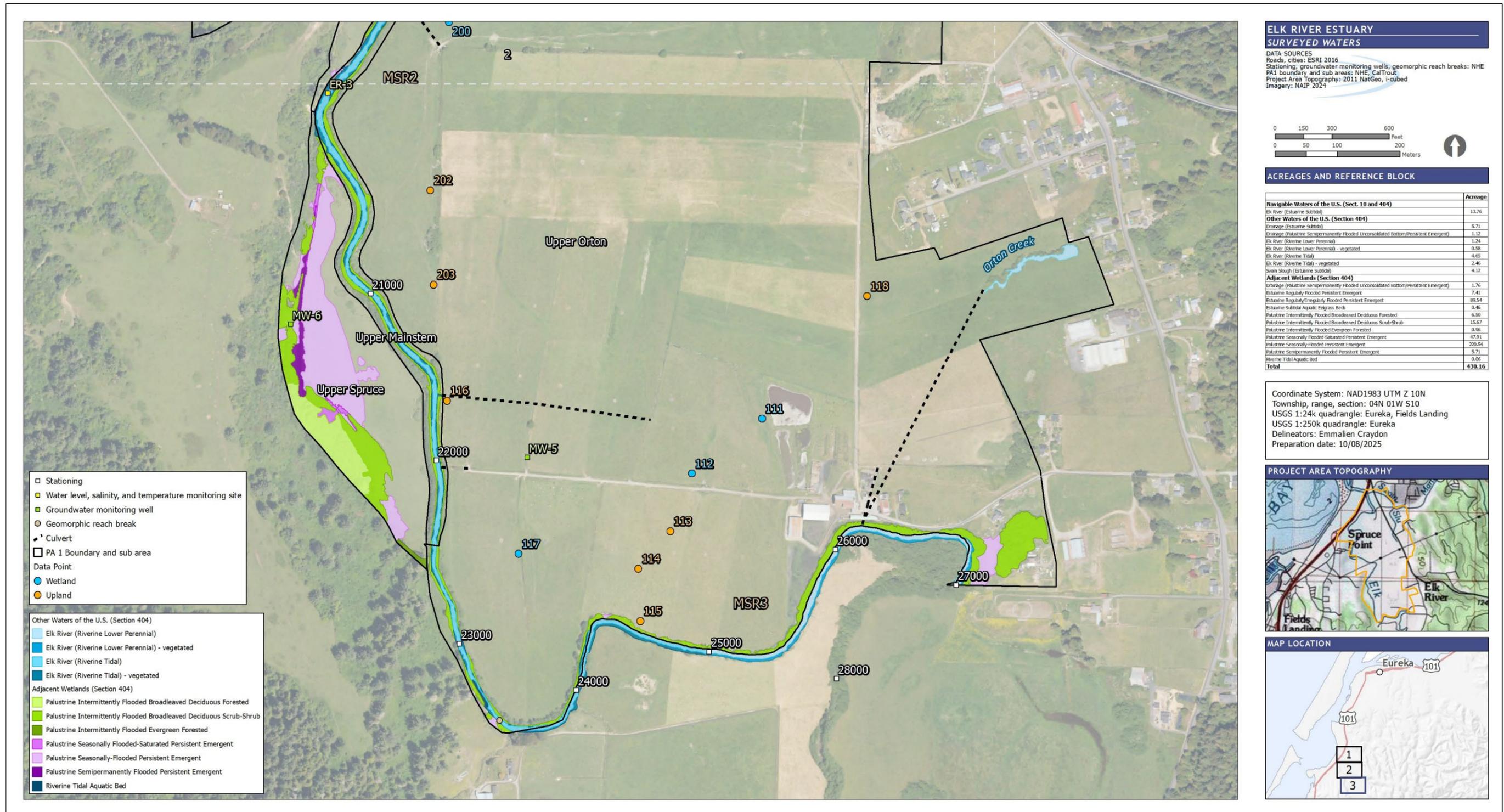


Figure 3-6. Preliminary jurisdictional waters and wetlands in Planning Area 1. Tile 3 of 3.

3.3.1 Waters of the U.S.

Per the *Navigable Waterways List* (USACE 1971), Elk River is a tidal navigable water of the U.S. subject to Section 10 jurisdiction. Its documented navigable length is 1.6 miles upstream from the Humboldt Bay confluence to the head of navigation landmark referred to as “Elk River Corners” (USACE 1971). This portion of the Elk River is subject to USACE jurisdiction under both Section 10 (jurisdictional navigable waters) and Section 404 (tidal waters of the U.S.) and was delineated by the MHW defined by the unconsolidated bottom and unconsolidated shore of Elk River main channel for the entire 1.6-mile documented navigable length (Figure 3-4 and Figure 3-5, Appendix C). Based on the EG terrain surface elevation at this location, the Elk River estimated MHW contour elevation occurred at or below the MHW elevation reported at the tidal water level station Humboldt Bay North Spit, CA (Station ID 9418767) of 5.8 ft, NAVD88 reported for the 1983–2001 Epoch. Navigable waters of the U.S. totaled 13.8 ac in PA 1 and excluded subtidal and intertidal vegetation that appeared below the MHW elevation (Figure 3-4 and Figure 3-5). These vegetated habitats were delineated separately and included *Zostera marina* (eelgrass, OBL) along the channel bed near the Swain Slough confluence (Figure 3-4) and the lower border of the intertidal *Carex lyngbyei* (Lyngbye sedge, OBL) population along Elk River (Figure 3-4 and Figure 3-5). Eelgrass habitat is defined as vegetated shallows and is protected under the Section 404(b)(1) of the CWA as “special aquatic sites” (40 C.F.R. § 230.43). The intertidal Lyngbye sedge population was characterized as adjacent estuarine regularly flooded persistent emergent wetlands (Section 3.3.2, Appendix C).

OWOUS subject to Section 404 jurisdiction were associated with tidal (estuarine and riverine) and non-tidal waters (riverine lower perennial) and totaled 19.8 ac in PA 1 (Table 3-2, Figure 3-4 through Figure 3-6). Estuarine tidal waters in PA 1 totaled 16.9 ac and included Swain Slough (4.1 ac) portions of Elk River—excluding waters already captured as tidal navigable waters (riverine tidal) (7.1 ac), and adjacent drainages with direct surface water connections (including leaky tide gates) to Elk River and Swain Slough (5.7 ac) (Figure 3-4 and Figure 3-5, Table 3-2, Appendix C). These tidal estuarine waters in PA 1 measured monthly average daily salinity values of 10 to 31 throughout the year (CalTrout et al. 2023). The HTL in delineated estuarine tidal waters in PA 1, often included coastal intertidal marsh habitat. These estuarine tidal wetlands were classified separately and as such, the transition to these intertidal wetlands defined the upper extent of estuarine tidal waters in PA 1. One additional nontidal drainage that was characterized as a OWOUS in PA 1 was located upstream of the Swain Slough tide gate at Elk River Road and was typed as a palustrine semipermanently flooded unconsolidated bottom feature (1.1 ac) (Table 3-2, Figures 3-4 and 3-5).

In Elk River, the upstream extent of navigable water of the U.S. marked the transition to riverine tidal OWOUS (Figure 3-5). The continuous monitoring measurements recorded in 2021 just upstream of this location (monitoring site ES-3) measured monthly mean daily salinities of less than 0.5 ppt except from June–October that measured less than 3 ppt (Figure 3-5, CalTrout et al. 2023). Riverine tidal waters totaled 7.1 ac and were delineated by the OHWM using the EG terrain surface to assess break in slope of the channel bed and the top of bank locations along with site characterization (Figure 3-5 and Figure 3-6). Often narrowed riparian corridors in Upper Mainstem had woody vegetation rooted along the sloped channel banks that occurred within the OHWM/HTL of Elk River (Appendix C). These features were delineated but remained classified under the riverine tidal or riverine lower perennial OWOUS (Figure 3-5 and Figure 3-6). In Elk River, riverine tidal OWOUS transitioned to riverine lower perennial (1.8 ac) near station 25,000 where the bed elevation of the channel was equal to the highest tide on record (CalTrout et al. 2023) (Figure 3-6, Table 3-2).

3.3.2 Adjacent wetlands

Wetland types within PA 1 include both non-tidal (i.e., palustrine seasonally flooded, seasonally flooded-saturated persistent, and semipermanently flooded emergent wetlands and palustrine intermittently flooded broadleaved deciduous scrub-shrub or forested wetlands), and tidal (i.e., estuarine regularly/irregularly flooded persistent emergent wetlands). FGDC (2013) defines the palustrine system as all non-tidal wetlands dominated by trees, shrubs, persistent emergent plants, emergent mosses or lichens (i.e., nonvascular) and all similar wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 parts per thousand. Estuarine system is defined as consisting of deepwater tidal habitats and adjacent tidal wetlands that are usually semi-enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. Emergent wetlands are characterized by erect, rooted herbaceous hydrophytes, excluding mosses and lichens, that are the tallest life form, have at least 30% areal coverage, and are present for most of the growing season in most years (FGDC 2013). Broadleaved deciduous scrub-shrub and forested wetlands are characterized by woody plants of this leaf type that are less than 20 feet tall (scrub-shrub) or woody trees (at least 20 feet tall) (forested) that are the dominant life form with at least 30% areal coverage (FGDC 2013). Estuarine and palustrine wetlands under USACE-jurisdiction in PA 1 are adjacent to OWOUS in PA 1 (Figure 3-4 through Figure 3-6).

3.3.2.1 Palustrine seasonally flooded persistent emergent wetlands

Palustrine seasonally flooded persistent emergent wetlands were the most prevalent wetland type in PA 1, totaling 220.5 ac (Figure 3-4 through Figure 3-6, Table 3-2). These wetlands were primarily coastal mesic grasslands actively used for cattle and dairy ranching and hay production. The grassland species assemblages had low plant diversity and were composed primarily by facultative pasture grasses and forbs, indicative of decades of controlled vegetation management in this region. Landforms were mostly flat with a gradual rise towards Elk River embankments or other surrounding infrastructure. These wetlands were best defined by data points 111 and 112 (Figure 3-6). At these locations, the herbaceous cover was high (>90% absolute cover) with dominant cover by the facultative grass species rye grass (*Festuca perennis*, FAC), a common pasture forage species. Other species included facultative forbs typical of coastal agricultural fields such as white clover (*Trifolium repens*, FAC), creeping buttercup (*Ranunculus repens*, FAC), fat-hen (*Atriplex prostrata*, FAC), common plantain (*Plantago major*, FACU), and Canada thistle (*Cirsium arvense*, FACU). At data point 111, only one species, rye grass, was classified as dominant per the “50/20 rule,” and the dominance test confirmed hydrophytic vegetation was present (Appendix A). The upper eight inches of the soil profile consisted of silty clay loam with reduced matrix color of 10YR 2.5/1 and contained common and prominent redox concentrations (5%) (7.5YR 4/6), thereby confirming the primary hydric soil indicator redox dark surface (F6) (Appendix A). The primary wetland hydrology indicator oxidized rhizospheres along living roots (C3) as well as the secondary indicator geomorphic position (D2) were present, and wetland hydrology was confirmed at this location. Data point 112, was identified in slightly higher ground elevations than anticipated based on the groundwater water surface elevation assessment (Section 3.2.1, Appendix D) and other wetland data points. However, evaluation of the hydraulic model results indicate that this sampled area of the floodplain occurs along the pathway that receives overbank flow from Elk River during flood events. As such, this result was considered localized and not representative of typical wetland elevations elsewhere along the floodplain.

Uplands adjacent to palustrine seasonally flooded emergent wetlands were characterized by data points positioned along the topographic gradient that lacked one or more wetland parameters. Based on these results and review of the EG terrain surface, uplands were further delineated by

their landscape position (height above the valley floor) and adjacent infrastructure associated with development such as roads, highways, and roadside berms (Figure 3-3 through Figure 3-5, Appendix D). In general, constructed features in PA 1 (e.g., paved roadways, agricultural dirt or gravel access roads, barns, homes, water treatment ponds, substation) were delineated as uplands. Within agricultural grasslands, upland habitat was best characterized by data points 116 and 101. Both data points had high cover by facultative pasture species (e.g., rye grass, white clover, creeping buttercup) but lacked one or both hydric soils and wetland hydrology indicators (Appendix A). These uplands were defined by the elevated raised berm surrounding the right bank of Elk River through much of the valley bottom (Figure 3-4 and Figure 3-5). Forage grasses and forbs commonly found within North Coast pasture lands have facultative (FAC) wetland ratings. As such, dominant vegetation at data points sampled within pasture will often pass the dominance test for hydrophytic vegetation. When hydric soils and/or wetland hydrology indicators are lacking, the species assemblage was considered an artifact of decades of continuous agricultural management to maintain cover by these species, rather than these species growing as hydrophytes on the landscape. When dominant vegetation was not indicative of the wetland upland transition in PA 1, uplands were delineated based on topography (i.e., the height above the valley floor or elevation contour where data points lacked one or more wetland parameters) (see data points 101, 113–116, 201, 202, and 203; Figure 3-3 through Figure 3-5, Appendices A and C). In the Coastal Zone, any vegetated feature with one or more observed wetland indicators were categorized as CC-jurisdictional wetlands (Table 3-3).

3.3.2.2 Palustrine seasonally flooded-saturated/semipermanently flooded emergent wetlands

Seasonally flooded-saturated emergent wetlands totaled 47.9 ac in PA 1 and were characteristic of lowland areas within the palustrine seasonally flooded emergent wetlands (Figure 3-4 through Figure 3-6, Appendix C). They were characterized by a mosaic of undulations and shallow swales along the valley floor formed by the historical flow pathways of Elk River, Swain Slough, Orton Creek, and other waters (Figure 3-4 through Figure 3-6, Appendices C and D). Along the lower extent of PA 1 (ERWA South, Confluence, Chwanuchguk, Martin), these lowland features have formed over the last few decades from the reintroduction of daily tide cycles (Figure 3-3, Appendix C). Per FCDC (2013), these wetlands have surface water present for extended periods (>1 month) during the growing season but absent by the end of the season in most years—though the substrate typically remains saturated at or near the surface. Inundation of these wetlands is attributed to adjacent OWOUS or backwatering of adjacent drainages with culvert connections to Elk River (Section 3.2.1, Figures 3-4–3-6). Vegetation in these wetlands were typically composed of hydrophytic forbs and graminoids common in freshwater to brackish conditions with varying cover. Data point 205 characterizes a typical seasonally flooded-saturated emergent wetland observed in PA 1. Dominant species included Pacific silverweed (*Potentilla anserina*, FACW) and creeping bentgrass (*Agrostis stolonifera*, FAC) and the dominance test for hydrophytic vegetation was confirmed (Appendix A). Additional cover included pale spikerush (*Eleocharis macrostachya*, OBL) and tall fescue (*Festuca arundinacea*, FAC). The soil profile at data point 205 contained a silty clay loam with a matrix of 10YR 3/1 in the upper ten inches below ground surface. Redox concentrations of 2% (7.5YR 5/8) were documented in the soil matrix and the primary hydric soil indicator redox dark surface (F6) was confirmed. The primary wetland hydrology indicator, high-water table, was observed just five inches below the ground surface (Appendix A). At other sites in PA 1, seasonally flooded-saturated emergent wetland vegetation was formed by hydrophytic grass assemblages, such as data point 117 that had a mixture of rye grass and water foxtail (*Alopecurus geniculatus*, OBL) occurring in a lowland swale (Appendix A). Similarly, other lowland sites contained patches of reed canarygrass (*Phalaris arundinacea*, FACW).

Semipermanently flooded wetlands were in swale and roadside drainages often near infrastructure (roadways, berms), toe slopes (where the valley floor met hillsides or development), and agricultural ditches connected to Elk River or Swain Slough through open water channels composed 7.5 acres of PA 1 (Table 3-2, Figure 3-4 through Figure 3-6). Both semipermanently flooded wetland types (emergent persistent and unconsolidated bottom) were in lowland features and were bound by palustrine seasonally flooded emergent wetlands. Exceptions occurred where these features abutted infrastructure associated with development. At these locations the upland boundary was delineated by the edge of development (Figure 3-4 through Figure 3-6, Appendix D). When vegetated, these wetlands often contain stout hydrophytic perennial graminoids like paniced bulrush (*Scirpus microcarpus*, OBL), slough sedge (*Carex obnupta*, OBL), Pacific rush (*Juncus effusus* subsp. *pacificus*, FACW), broad-leaved cattail (*Typha latifolia*, OBL), and tufted hairgrass (*Deschampsia cespitosa*, FACW), along with water parsley (*Oenanthe sarmentosa*, OBL) (Appendix C). Multiple semipermanently flooded drainages in Mid Orton and Upper Orton contained western manna grass (*Glyceria declinata*, FACW).

3.3.2.3 Palustrine intermittently flooded broadleaved deciduous scrub-shrub/broadleaved deciduous and evergreen forested wetlands

Palustrine scrub-shrub and forested wetlands formed most of the riparian corridor along Elk River in PA 1 and totaled 15.7 and 6.5 acres, respectively (Table 3-2, Figure 3-4 through Figure 3-6). Due to agricultural land practices the riparian corridor has been narrowed, and woody vegetation was restricted to immediate channel banks along Elk River. Willows were most often rooted on the sloped channel banks of Elk River, primarily below the top of bank or OHWM/HTL and therefore were characterized by the corresponding waterbody (Section 3.3.1, Table 3-2). Although the upper extent of jurisdictional waters may have included the root crown for individuals within these woody stands, the outer extent of these palustrine scrub-shrub and forested wetlands were captured by the edge of riparian canopy that typically extended beyond the top of bank (Figure 3-3 through Figure 3-5, Appendix C). Delineation of this wetland type relied on wetland hydrology and prevalence by hydrophytic vegetation. Hydric soils were presumed present at ground surface elevations that achieved wetland hydrology per the groundwater monitoring assessment (Section 3.2.1), and from comparable data points within the same mapped soil series confirming hydric soil presence. Riparian canopy extents occurring within confirmed uplands (lacking hydric soils and/or wetland hydrology) were considered only State-jurisdictional features (Section 3.3.3). Dominant hydrophytic wetland plant composition occurred within all strata (i.e., understory herbaceous, shrub/vine, and tree). Broadleaved deciduous scrub-shrub wetlands were primarily composed of coastal willow (*Salix hookeriana*, FACW), arroyo willow (*Salix lasiolepis*, FACW), and Sitka willow (*Salix sitchensis*, FACW). Herbaceous understory species included creeping buttercup, velvet grass (*Holcus lanatus*, FAC), rye grass, Lyngbye sedge, and patches of Himalayan blackberry (*Rubus armeniacus*, FAC). Palustrine broadleaved deciduous forested wetlands included mostly a patchwork of Pacific willow (*Salix lasiandra*, FACW) and red alder (*Alnus rubra*, FAC). Palustrine evergreen forested wetlands are characterized by small stands of Sitka spruce (*Picea sitchensis*, FAC) (Figure 3-3 through Figure 3-5, Appendix C). Both forested wetlands had stands immediately adjacent to Elk River bordering the estuarine wetlands just above benches composed of intertidal estuarine wetlands (Figure 3-4 through Figure 3-6). Other stands along valley walls were adjacent to tributaries or drainages to OWOUS in PA 1 (Figure 3-4 and Figure 3-6).

The upland border to scrub-shrub and forested wetland types in PA 1 were defined by a distinct change in vegetation to pasture grassland or to coastal scrub habitat. Uplands defined in the

elevated raised berm surrounding the right bank of Elk River have been or continue to be used for pasture (Appendix D). Data point 116 characterizes the upland grassland habitat that borders the woody wetland types in PA 1. At this location facultative pasture species were dominant (rye grass and white clover) and vegetation passed the dominance test for hydrophytic vegetation. However, both hydric soils and wetland hydrology indicators were absent, and the site was characterized as an upland (Appendices A and D). As discussed in Section 3.3.2.1, the common forage species observed at this data point were typical of North Coast pasture and since hydric soils and wetland hydrology were absent the species assemblage was considered an artifact of continuous agricultural management to maintain cover by these species, rather than these species growing as hydrophytes on the landscape. As such, the upland delineation in the pasture was characterized at EG terrain surface elevations where data points lacked hydric soils and/or wetland hydrology such as data points 101, 103, 104, 116, 201, 202, and 203 (Figure 3-4 through Figure 3-6, Appendix D). Coastal scrub uplands were documented along raised berms and road prisms throughout PA 1. These features defined the typical upland boundary to palustrine forested/scrub-shrub wetlands in the vicinity of ERWA South (Figure 3-4 and Figure 3-5). Upland data point 109 best defines the areas associated with woody vegetation typical of coastal scrub habitats. At this location, dominant vegetative cover was composed of California blackberry (*Rubus ursinus*, FACU) and sporadic shrubs including coyote brush (*Baccharis pilularis*, NL/UPL) and twinberry (*Lonicera involucrata*, FAC) were observed throughout (Appendix A). Low cover by herbaceous species included common yarrow (*Achillea millefoliata*, FACU), nonnative cultivated radish (*Raphanus sativus*, NL/UPL), and water parsley was observed along the transition to adjacent wetland habitat. Both hydric soils and primary wetland hydrology indicators were lacking at data point 109 and the site was marked an upland (Appendix A).

3.3.2.4 Estuarine persistent emergent wetlands

Estuarine persistent emergent wetlands were the second most prevalent wetland type documented in PA 1 totaling 97.0 acres (Figure 3-4 and Figure 3-5, Table 3-2). The fine-scale vegetation community map for PA 1 along with EG terrain surface and known tidal datums were used to characterize the boundaries of regularly and irregularly flooded estuarine persistent emergent wetlands. Estuarine persistent emergent wetlands in PA 1 ranged in ground surface elevation from 6.5 to 8.5 ft (NAVD88). This elevation range correlated with the 2022 estimated HTL/MHHW extent for Elk River and Swain Slough tidelands (7–8.6 ft) as described in Section 2.2.1. As such, tidal waters of the U.S. were adjusted to the lower extent of these estuarine wetlands to only include open waters and unvegetated mudflats and channels. These wetlands were delineated based on vegetation community types characterized by dominant halophytes including pickleweed (*Salicornia pacifica*, OBL), dense-flowered cordgrass (*Spartina densiflora*, OBL), salt grass (*Distichlis spicata*, FACW), San Francisco rush (*Juncus lescurii*, FACW), seaside arrowgrass (*Triglochin maritima*, OBL), fat-hen, common brass buttons (*Cotula coronopifolia*, OBL), and Lyngbye sedge.

Patches of eelgrass habitat were observed along the Swain Slough channel bed and remained submerged during low tide events based on 2021 site investigations (Table 3-3, Figure 3-4, Appendix C). The estuarine wetlands that occurred on intertidal benches immediately adjacent to Elk River and Swain Slough were regularly flooded by tidal waters. Low lying reclaimed tideland features subject to tidal influence due to malfunctioning tide gates and failing earthen berms were regularly and irregularly flooded depending on proximity to open water channels and rise in elevation (Figure 3-4 and Figure 3-5). Drainages with muted or leaky tidal connections, mostly east of Swain Slough, were considered irregularly flooded but with enough tidal influence to contain halophytic species assemblages (Appendix C). Data point 108 characterizes a typical

estuarine wetland within PA 1 (Appendix A). Dominant hydrophytic vegetation included pickleweed and salt grass with additional cover by dense-flowered cordgrass. The entire 16-inch soil profile was composed of clay with a matrix color of 10YR 4/1 containing 15% redox concentrations occurring as pore linings (10YR 3/6). Hydric soils were confirmed by the primary indicator depleted matrix (F3). Wetland hydrology was present by both saturation to soil surface (A3) and drift deposits (B3).

Uplands surrounding estuarine habitats in PA 1 were delineated along the elevated features associated with relic earthen berms and existing levees. The upland levee crest boundaries surrounding Elk River and Swain Slough were sampled by data point 107 (Figure 3-4, Appendices A and D). This data point characterized the upland habitat surrounding the HTL and estuarine wetlands in PA 1. Dominant vegetation included coastal scrub species coyote brush, along with herbaceous forbs, common yarrow, Queen Anne's lace (*Daucus carota*, FACU), and Pacific aster (*Symphotrichum chilense*, FAC). The soil profile in the upper five inches had a matrix color of 10YR 3/2 composed of loam and a silty clay loam matrix (10YR 4/1) with 10% redoximorphic features (concentrations occurring as pore linings) from five to eighteen inches below surface (Appendix A). No hydric soil indicators were confirmed as depleted matrix (F3) requires a low chroma band be, at minimum, six inches within the upper ten inches of the soil profile. No evidence of primary or secondary hydrology indicators were documented. Uplands associated with levees and earthen berms along Elk River and Swain Slough were delineated using EG terrain surface along with coastal scrub vegetation polygons (e.g., coyote brush and California blackberry stands) and as such, excluded eroded or scoured areas transitioning towards wetland condition (Figure 3-4 through Figure 3-6).

3.3.3 Additional State-jurisdictional wetlands

In addition to all potential USACE-jurisdictional waters and adjacent wetlands described in Sections 3.3.1 and 3.3.2, there are 279.3 acres of wetlands and waters that are only subject to State- and/or CC-jurisdiction (Figure 3-7 and Table 3-3, Appendix A). Outside of the California Coastal Zone (Coastal Zone), there is an additional 0.1 ac subject to CDFW-jurisdiction associated with the areal extent, or outer dripline, of riparian vegetation adjacent to Elk River (Table 3-3, Figure 3-7).

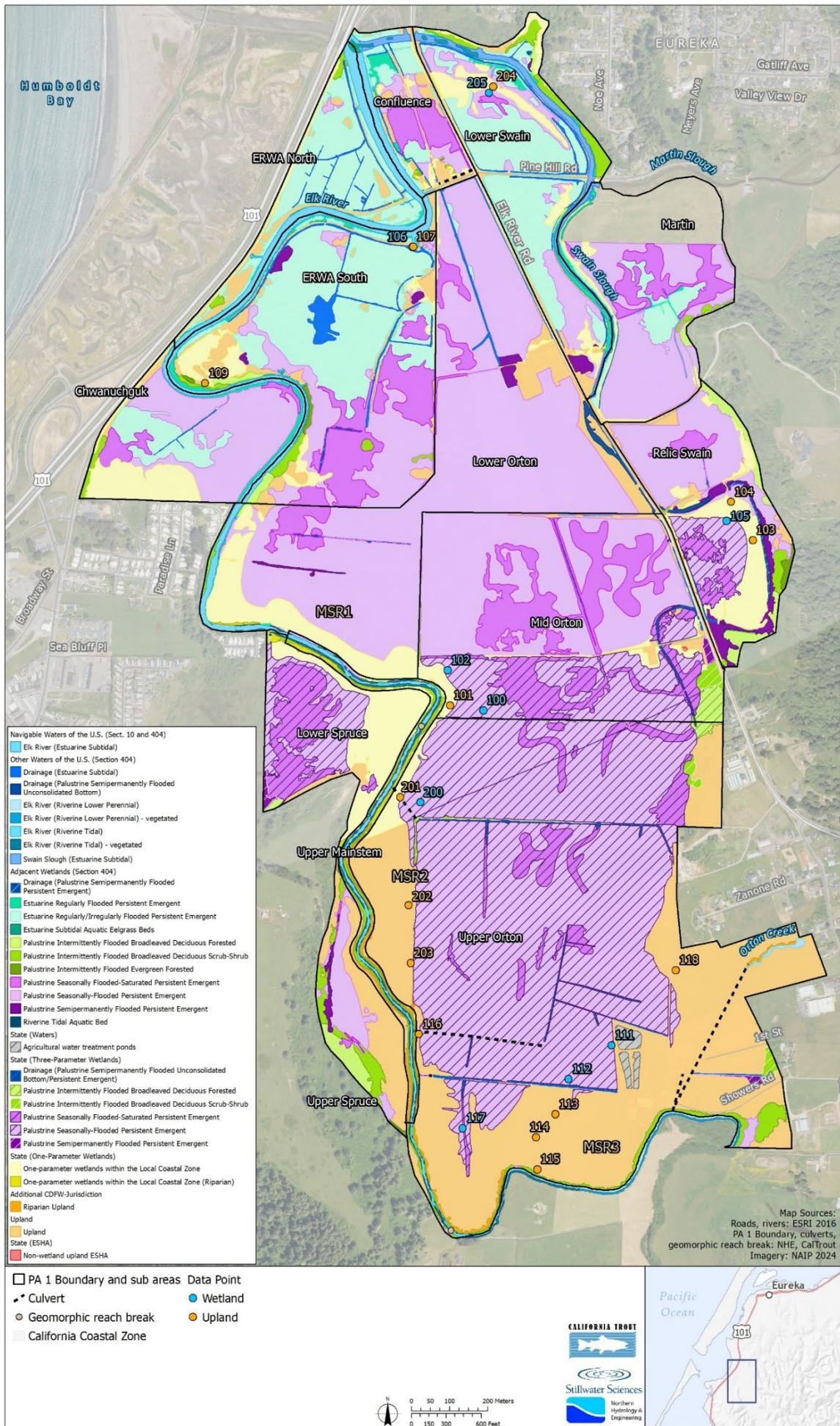


Figure 3-7. Preliminary State- and USACE-jurisdictional waters and wetlands in Planning Area 1.

Table 3-3. Additional State-jurisdictional features in Planning Area 1.

Description	Acreeage
<i>Additional Wetlands and Waters of the State¹</i>	
<i>Waters</i>	
Agricultural water treatment ponds	1.6
<i>Three-Parameter Wetlands²</i>	
Drainage (Palustrine Semipermanently Flooded Unconsolidated Bottom/Persistent Emergent)	3.4
Palustrine Seasonally Flooded-Saturated Persistent Emergent	34.7
Palustrine Seasonally-Flooded Persistent Emergent	174.8
Palustrine Semipermanently Flooded Persistent Emergent	1.0
Palustrine Intermittently Flooded Broadleaved Deciduous Scrub-Shrub	2.6
Palustrine Intermittently Flooded Broadleaved Deciduous Forested	2.1
<i>One-Parameter Wetlands</i>	
One-parameter wetlands within the Local Coastal Zone ³	59.1
<i>Additional CDFW-Jurisdictional</i>	
Riparian Upland	0.1

¹ In addition to all listed USACE-jurisdictional features. These features are considered jurisdictional by the State based on definitions provided in Section 2.2. However, agricultural water treatment ponds were excluded from the Project analysis.

² Additional State-jurisdictional three-parameter wetlands were not observed adjacent to, or have a continuous surface water connection to, a Navigable Waters of the U.S. or OWOUS and therefore were not characterized as USACE-jurisdictional (see Section 2.2).

³ Most of PA 1 is located within Coastal Zone Categorical Exclusion areas associated with [Categorical Exclusion E-86-4](#).

Delineated waters were composed of agricultural water treatment ponds associated with dairy ranching and totaled 1.6 ac outside of the Coastal Zone (Figure 3-7).

State-jurisdictional three-parameter wetlands in PA 1 totaled 218.6 ac within Mid Orton, Upper Orton, and Lower Spruce subareas (Table 3-3). They were associated with agricultural drainage ditches, lowland swales formed within the relic tidal slough channel network (Figure D-3, Appendix D), and the surrounding agricultural fields within the Elk River floodplain. In all three subareas, the drainage ditches were connected via culverts to Elk River through natural upland berms adjacent to Elk River (Figure 3-7). Drainage ditches were originally excavated within the valley bottom and are variously maintained by landowners (e.g., vegetation management). Wetland hydrology associated with these drainages and their adjacent wetlands were primarily attributed to backwatering of Elk River flow and overbank flows by Elk River during peak flood events (Section 3.2.1) (CalTrout et al. 2023). State-jurisdictional three-parameter wetlands had vegetation composition and hydric soil indicators similar to eponymous wetland types described under Section 3.3.2.

One-parameter wetlands within the Coastal Zone of PA 1 were delineated in areas of higher ground where wetland hydrology or hydric soils were lacking but dominant established vegetation passed the hydrophytic vegetation dominance test. Notably, these plant assemblages were primarily composed of agricultural cool-season grasses with facultative (FAC) wetland plant ratings and were considered a product of land management rather than natural occupation by hydrophytic vegetation. Even so, when occurring in the Coastal Zone they were characterized as one-parameter wetlands. Other one-parameter wetlands delineated within PA 1, were characterized by dominant upland plant communities established in areas subject to seasonal saturation or inundation and thereby met at least one wetland parameter (wetland hydrology

and/or hydric soils). Data point 204 described this wetland type, where hydric soils were present but both wetland hydrology and dominant hydrophytic vegetation were lacking (Appendix A). Vegetation was composed of sweet vernal grass (*Anthoxanthum odoratum*, FACU), sheep sorrel (*Rumex acetosella*, FACU), and creeping buttercup. Also present but with low cover was Kentucky blue grass (*Poa pratensis*, FAC), common dandelion (*Taraxacum officinale*, FACU), common yarrow, San Francisco rush, and Pacific aster (Appendix A). Hydric soils were indicated by depleted matrix (F3) with a matrix color of 10YR 4/2 extending from the ground level to 14 inches below surface with one percent redox concentrations occurring as pore linings in the clay loam matrix. This one-parameter wetland was documented along an elevated band and surrounded by reclaimed estuarine three-parameter wetlands.

Mapped riparian habitats that were composed by hydrophytic woody species but lacked wetland hydrology or hydric soils were considered one-parameter wetlands when within the Coastal Zone. When occurring outside of the Coastal Zone, and established along Elk River, the riparian canopy extent (outer dripline) was mapped as CDFW-jurisdictional Elk River Riparian per Fish and Game Code Section 1602 of Streambed Alteration Agreement (Table 3-3, Figure 3-7).

Uplands to State-jurisdictional wetlands and waters, were best characterized by coastal scrub habitat along the intact levees that lacked all three wetland parameters (data point 107, see description under Section 3.3.2.4). Coastal scrub habitat composed most of the uplands along the elevated features along Elk River and some portions of the Swain Slough. Outside of the Coastal Zone, areas of agricultural pasture with facultative grass/forb species composition that lacked wetland hydrology or hydric soils were characterized as upland habitats (Figure 3-7).

4 REFERENCES

CalTrout (California Trout), Northern Hydrology and Engineering, and Stillwater Sciences. 2023. Elk River Planning Area 1 10% Design Report. Draft. Prepared by California Trout, Arcata, California; Northern Hydrology and Engineering, McKinleyville, California; and Stillwater Sciences, Arcata, California.

CalTrout, Stillwater Sciences, and Northern Hydrology & Engineering. 2019. Elk River Recovery Assessment: Recovery Framework. Prepared by California Trout, Arcata, California; Stillwater Sciences, Arcata, California; and Northern Hydrology & Engineering, McKinleyville, California for North Coast Regional Water Quality Control Board, Santa Rosa, California.

CalTrout, Stillwater Sciences, Northern Hydrology & Engineering, and GHD. 2022. Elk River Watershed Stewardship Program: Sediment Remediation and Habitat Rehabilitation Recovery Plan. Prepared by California Trout, Arcata, California; Stillwater Sciences, Arcata, California; Northern Hydrology & Engineering, McKinleyville, California; and GHD, Eureka California, for the North Coast Regional Water Quality Control Board, Santa Rosa, California.

CalTrout, Stillwater Sciences, Northern Hydrology & Engineering, and GHD. 2025. Elk River Estuary (Planning Area 1) Restoration Project: Project Description. Prepared by California Trout, Arcata, California; Stillwater Sciences, Arcata, California; Northern Hydrology & Engineering, McKinleyville, California; and GHD, Eureka California.

- CCC (California Coastal Commission). 1994. Procedural guidance for the review of wetland projects in California's Coastal Zone. Prepared by California Coastal Commission. <https://www.coastal.ca.gov/wetrev/wtexcsum.html>
- FGDC (Federal Geographic Data Committee). 2013. Classification of wetlands and deepwater habitats of the United States. Adapted from Cowardin et al. 1979. Prepared by the Wetlands Subcommittee, Federal Geographic Data Committee, Reston, Virginia.
- Jepson Flora Project, editors. 2025. Jepson eFlora. Website. <http://ucjeps.berkeley.edu/eflora/> [Accessed June 2022].
- Mersel, M. K., and R. W. Lichvar. 2014. A guide to ordinary high water mark (OHWM) delineation for non-perennial streams in the Western Mountains, Valleys, and Coast Region of the United States. ERDC/CRREL TR-14-1. USACE, Hanover, New Hampshire.
- Munsell Color. 2000. Munsell soil color charts, revised washable edition. Munsell Color, Grand Rapids, Michigan.
- National Drought Mitigation Center. 2022. United States drought monitor, California. Query for October, November, and December 2021. National Drought Mitigation Center. <https://droughtmonitor.unl.edu/>.
- NCDC (National Climatic Data Center). 2025. Climate data. Website. <http://www.ncdc.noaa.gov/cdo-web/datatools/> [Accessed October 2021, June 2022, and March 2025].
- NHE (Northern Hydrology & Engineering). 2015. Humboldt Bay: sea level rise, hydrodynamic modeling, and inundation vulnerability mapping. Prepared for the State Coastal Conservancy, and Coastal Ecosystems Institute of Northern California. McKinleyville, California.
- NRCS (U.S. Department of Agriculture Natural Resource Conservation Service). 2016. NRCS Official soil series description: Weott series. Website. https://soilseries.sc.egov.usda.gov/OSD_Docs/W/Weott.html [Accessed June 2021].
- NRCS. 2025a. Custom soil resource report for Humboldt County, California; Wetland Delineation for the Elk River Recover Plan, Planning Area 1, existing conditions assessment Downloaded from NRCS Websoil Survey website: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.
- NRCS. 2025b. National List of Hydric Soils. Queried by state from the NRCS National Technical Committee for Hydric Soils (NTCHS) website: <https://www.nrcs.usda.gov/publications/query-by-state.html>.
- Patton, J. R., T. B. Williams, J. K. Anderson, T. Leroy, K. Weiss, R. Burgette, E. Southwick, W. Gilkerson, E. Nelso, J. Stallman, S. Schlosser, M. Hemphill-Haley, D. Sutherland, and R. Weldon. 2017. Tectonic land level changes and their contribution to sea-level rise, Humboldt Bay region, Northern California: 2017 Final Report. Prepared for U.S. Fish and Wildlife Service Coastal Program. Cascadia GeoSciences, McKinleyville, California.

Stillwater Sciences. 2025. Biological Resources Evaluation for the Elk River Estuary (Planning Area 1) Restoration Project. Technical Report. Prepared by Stillwater Sciences, Arcata, California for CalTrout, Arcata, California.

USACE (U.S. Army Corps of Engineers). 1971. Navigable waterways list. Prepared by San Francisco Regional Office, USACE, San Francisco, California. Available at: <https://www.spn.usace.army.mil/Missions/Regulatory/Jurisdiction/>.

USACE. 1987. Corps of Engineers wetlands delineation manual. Technical Report Y-87-1. USACE, Environmental Laboratory, Waterways Experiment Station, Vicksburg, Mississippi.

USACE. 2004. Subject: Determining the upstream limit of a navigable water of the U.S. Memorandum. Prepared by USACE, San Francisco District Regulatory Branch, California.

USACE. 2005. Subject: Ordinary High Water Mark Identification. Regulatory Guidance Letter 05-05. 7 December. Available at: <https://www.nap.usace.army.mil/Portals/39/docs/regulatory/rgls/rgl05-05.pdf>.

USACE. 2010. Regional supplement to the Corps of Engineers wetland delineation manual: western mountains, valleys, and coast region (Version 2.0). Prepared by USACE, Vicksburg, Mississippi.

USACE. 2023. 2022 National Wetland Plant List, version 3.6. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi. Available at: <http://wetland-plants.usace.army.mil/>

USEPA (U.S. Environmental Protection Agency). 2022. Eureka Plain HU, Elk River Watershed, Lower Elk River and Martin Slough. How's My Waterway - Waterbody Report.

USEPA and USACE. 2025. Memorandum to the field between the U.S. Department of the ARMY, U.S. Army Corps OF Engineers and the U.S. Environmental Protection Agency concerning the proper implementation of 'continuous surface connection' under the definition Of "Waters Of The United States" under the Clean Water Act. Available at: <https://www.epa.gov/system/files/documents/2025-03/2025cscguidance.pdf>.

USFWS (United States Fish and Wildlife Service). 2025. National Wetlands Inventory (NWI) wetlands and riparian polygon data. Geospatial wetlands data. Website. <http://www.fws.gov/wetlands/>. Prepared by USFWS, Arlington, Virginia.

Appendices

Appendix A

Wetland Delineation Datasheets

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 100
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating, concave swale Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT100
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
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Remarks:

All three parameters observed and sampled area is a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Festuca perennis</u>	35	yes	FAC	
2. <u>Holcus lanatus</u>	45	yes	FAC	
3. <u>Festuca arundinacea</u>	5	_____	FAC	
4. <u>Agrostis stolonifera</u>	20	_____	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
105 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - 5 - Wetland Non-Vascular Plants¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance Test passed.
 Facultative grasses associated with pasture management; A. stolonifera associated with wetter conditions (transitional zones)

SOIL

Sampling Point: 100

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 ¹	Loc ²		
0-2	10YR 4/2	97	10YR 4/6	3	c	PL	clay loam	
2-18	10YR 4/2	65	10YR 4/6	35	C	PL	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

F3 observed. Depleted matrix w/ redox concentrations

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

C3 observed, oxidized rhizospheres along living roots observed; hydrology confirmed

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 101
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 101
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: One parameter wetland. Hydrophytic vegetation observed in sampling plot. No indicators of hydric soils nor wetland hydrology. Photos: 1087–1092		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca perennis</u> 45 yes FAC 2. <u>Ranunculus repens</u> 25 yes FAC 3. <u>Trifolium repens</u> 15 FAC 4. <u>Taraxacum officinale</u> 5 FACU 5. <u>Holcus lanatus</u> 10 FAC 6. <u>Sonchus asper ssp. asper</u> 2 FACU 7. <u>Cirsium arvense</u> 2 FAC 8. _____ 9. _____ 10. _____ 11. _____				
104 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: dominant grasses and forbs are facultative, common to pasture				

SOIL

Sampling Point: 101

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 ¹	Loc ²		
0-13	2.5Y 3/2	100					silty clay loam	
13-18	2.5Y 3/1	96	10YR 4/6	4	C	PL	silty clay loam	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <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) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

no hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

no wetland hydrology indicators present

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

Project/Site: Elk River Estuary, PA-1 City/County: Elk River, Humboldt Sampling Date: 06/21/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 102
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LRR A Lat: 124°11'10.168"W Long: 40°44'28.375"N Datum: WPT316; WGS84
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: PEM1Cd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: All wetland parameters are present and the sampled area is within a wetland. Within the Elk River floodplain. Agricultural field, hay production.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>2m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>2m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>1m2</u>) 1. <u>Festuca perennis</u> 90 Yes FAC 2. <u>Holcus lanatus</u> 15 No _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
<u>105</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>2m2</u>) 1. _____ 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominant vegetation passes dominance test and hydrophytic vegetation is present.				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

SOIL

Sampling Point: 102

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 ¹	Loc ²		
0-8	10YR 4/2	95	5 YR 5/8	5	C	PL	clay-loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: soil compact/dry hard surface
 Depth (inches): 8"

Hydric Soil Present? Yes X No _____

Remarks:

Depleted matrix confirmed; matrix color 4/2 and 5% redox concentrations in a layer greater than 6 inches within the upper 10" of soil surface

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

aerial photography/previous inspections (2012) saw saturation in early growing season (April)

Remarks:

Wetland hydrology indicated by saturation within the upper 12 inches of soil pit. Also, saturation is visible on aerial imagery, location is in Elk River floodplain

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 103
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 103
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled plot in not in a wetland. One-parameter wetland - hydrophytic vegetation present. Site grazed by cattle. Photos:1095-1100 ARC 0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Trifolium repens</u>	10	_____	FAC	
2. <u>Festuca perennis</u>	75	yes	FAC	
3. <u>Taraxacum officinale</u>	3	_____	FACU	
4. <u>Cirsium arvense</u>	5	_____	FAC	
5. <u>Holcus lanatus</u>	2	_____	FAC	
6. <u>Agrostis stolonifera</u>	5	_____	FAC	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominant vegetation indicative of managed grassland FAC species, common forage grasses.				

SOIL

Sampling Point: 103

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 ¹	Loc ²		
0-4	10YR 3/2	100					clay loam	
4-12	10YR 3/2	98	10YR 4/6	2	C	PL	silty clay loam	
12-16	10YR 3/2	20	10YR 4/2	50	D	M	silty clay loam	
12-16			7.5YR 4/6	30	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) vroman State: CA Sampling Point: 104
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 104
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Hydrophytic vegetation and hydric soils present in sampling plot. Indicators of wetland hydrology not observed. Cattle grazing in area. Photos:1101-1105, ARC 0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca perennis</u> 60 yes FAC 2. <u>Trifolium repens</u> 40 yes FAC 3. <u>Cirsium arvense</u> 20 FAC 4. <u>Agrostis stolonifera</u> 5 FAC 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
125 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Hydric vegetation present. Composed entirely of pasture grasses and forbs				

SOIL

Sampling Point: 104

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 ¹	Loc ²		
0-6	10YR 3/2	97	10YR 4/6	3	C	PL	clay loam	
6-15	10YR 3/2	15	10YR 4/2	70	D	M	silty clay loam	
			7.5YR 4/6	15	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Redox dark surface (F6) observed. Hydric soils present

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 105
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): flat, valley bottom Local relief (concave, convex, none): flat Slope (%): 1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 105
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	
Remarks: Sampling point is within a wetland. Three parameters confirmed. Cattle grazing on site. Photos:1106-1112, ARC 0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca perennis</u> 60 yes FAC 2. <u>Trifolium repens</u> 40 _____ FAC 3. <u>Cirsium arvense</u> 2 _____ FAC 4. <u>Taraxacum officinale</u> 1 _____ FACU 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
<u>103</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominant vegetation is FAC, confirms hydrophytic vegetation within sampled area. Composed entirely of pasture grasses/forbs				

SOIL

Sampling Point: 105

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 ¹	Loc ²		
0-8	10YR 3/1	80	10YR 4/6	10	C	PL	clay loam	
0-8	10YR 3/2	10						
8-18	10YR 3/1	15	10YR 4/1	80	D	M	silty clay loam	
			10YR 3/6	5	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One indicator of hydric soils present, redox dark surface (F6)

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

One indicator of wetland hydrology present, C3 oxidized rhizospheres along living roots

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 106
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): on lower slope of levee Local relief (concave, convex, none): convex Slope (%): 35
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 106
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	
Remarks: Three parameters present. Sampled plot is on lower slope of levee in a salt marsh. ~17 inches below paired upland plot 106. Photos:1122-1124, ARC 0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Salicornia pacifica</u> 40 yes OBL 2. <u>Distichlis spicata</u> 60 yes FACW 3. <u>Spartina densiflora</u> 20 OBL 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
120 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Species within sampled area are FACW or OBL, dominant vegetation confirms hydrophytic vegetation.				

SOIL

Sampling Point: 106

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 ¹	Loc ²		
0-16	10YR 4/1	85	10YR 3/6	15	C	PL	clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soil indicator (depleted matrix) present, hydric soils confirmed

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 0, surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

saturated soils to surface from recent high tide

Remarks:

Three primary wetland hydrology indicators present, A3, B3, and C3. Wetland hydrology confirmed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 107
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): slope of levee Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 107
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: estuarine wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. <u>Baccharis pilularis</u>	<u>50</u>	<u>yes</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
50 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Plantago lanceolata</u>	<u>10</u>	_____	_____	
2. <u>Symphotrichum chilense</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Achillea millefolium</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Bromus diandrus</u>	<u>4</u>	_____	_____	
5. <u>Anthoxanthum odoratum</u>	<u>2</u>	_____	_____	
6. <u>Daucus carota</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	
7. <u>Elymus (repens/triticoides)</u>	<u>10</u>	_____	_____	
8. <u>Festuca perennis</u>	<u>5</u>	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
81 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. <u>Rubus armeniacus</u>	<u>25</u>	<u>yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
25 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks:				
Dominance test failed. Upland vegetation dominant within sampled area.				

SOIL

Sampling Point: 107

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 ¹	Loc ²		
0-8	10YR 3/2	100					loam	
8-15	10YR 3/2	100					loamy gravel	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No indicators of hydric soils observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology observed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: CDFW State: CA Sampling Point: 107 lower
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): slope of levee Local relief (concave, convex, none): convex Slope (%): 80
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 107lower
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Sampled plot is upland. Sampled at lower slope of levee above salt marsh. In between salt marsh and coastal scrub. Photos: 1114-1119, ARC0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>2m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>2m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>2m2</u>)				
1. <u>Distichlis spicata</u>	<u>2</u>	_____	_____	
2. <u>Symphotrichum chilense</u>	<u>5</u>	_____	_____	
3. <u>Atriplex prostrata</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
4. <u>Juncus lescurii</u>	<u>2</u>	_____	_____	
5. <u>Bromus hordeaceus</u>	<u>5</u>	_____	_____	
6. <u>Salicornia pacifica</u>	<u>5</u>	_____	_____	
7. <u>Fstuca rubra</u>	<u>10</u>	_____	_____	
8. <u>Festuca bromoides</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
89 = Total Cover				
Woody Vine Stratum (Plot size: <u>2m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>15</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: Dominance test failed (50%). Hydrophytic vegetation not present.				

SOIL

Sampling Point: 107 lower

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 ¹	Loc ²		
0-5	10YR 3/2	100					loam	
5-18	10YR 4/1	90	10YR 4/6	10	C	PL	silty clay loam	depleted matrix

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Depleted matrix (F3) present. Hydric soils confirmed

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydric soil indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 109
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): levee crest Local relief (concave, convex, none): sloped Slope (%): 20
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 109
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	

Remarks:

No wetland parameters present, sampled plot is within an upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>33.3</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. <u>Baccharis pilularis</u>	15	yes	UPL	
2. <u>Lonicera involucrata</u>	10	yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
25 = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Achillea millefolium</u>	15	yes	FACU	
2. <u>Raphanus sativus</u>	15	yes	UPL	
3. <u>Angelica lucida</u>	5			
4. <u>Oenanthe sarmentosa</u>	10	yes	OBL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
45 = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. <u>Rubus ursinus</u>	100	yes	FACU	
2. _____	_____	_____	_____	
100 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

Dominance test failed. Hydrophytic vegetation not present.

SOIL

Sampling Point: 109

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 ¹	Loc ²		
0-4	10YR 3/2	100					loam	
4-18	10YR 4/1	92	10YR 4/6	8	C	PL	silty clay loam	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <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) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 111
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 1
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
---	---

Remarks:
No wetland parameters present, sampled plot is within an upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Festuca perennis</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Trifolium repens</u>	<u>5</u>	_____	<u>FAC</u>	
3. <u>Ranunculus repens</u>	<u>5</u>	_____	<u>FAC</u>	
4. <u>Atriplex prostrata</u>	<u>2</u>	_____	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
92 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Remarks:
Hydrophytic vegetation present. Dominant vegetation composed of common pasture grasses and forbs (FAC)

SOIL

Sampling Point: 111

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 ¹	Loc ²		
0-8	10YR 2.5/1	95	7.5YR 4/6	5	C	PL	silty clay loam	
8-19	2.5YR 4/1	88	10YR 4/6	10	C	PL	silty clay	
			5 YR 3/4	2	C	PL	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator redox dark surface (F6) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 112
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 2
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Three parameter wetland confirmed. Sampled plot is near a drainage/swale. photos: 1022-1027, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Plantago major</u> 2 yes FAC 2. <u>Ranunculus repens</u> 5 FAC 3. <u>Trifolium repens</u> 10 FAC 4. <u>Cirsium arvense</u> 5 FAC 5. <u>Festuca perennis</u> 85 yes FAC 6. <u>Trifolium pratense</u> 5 FACU 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
112 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>2</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area.				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

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 ¹	Loc ²		
0-4	10YR 4/3	98	7.5YR 4/6	2	C	PL	clay loam	
4-16	2.5Y 4/1	85	7.5YR 5/6	15	C	PL	clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Nearby groundwater well indicates the USACE wetland hydrology standard reaches 14.4 ft elevation. This sampled location is above this ground elevation ~15.5 ft and the hydrology indicators are indicative of the supplemental irrigation applied in this agricultural parcel. Without irrigation this area would not meet hydrology parameters

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 113
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 3
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of wetland hydrology observed. photos:1028-1033, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Festuca perennis</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Ranunculus repens</u>	<u>10</u>	_____	<u>FAC</u>	
3. <u>Taraxacum officinale</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>Trifolium repens</u>	<u>10</u>	_____	<u>FAC</u>	
5. <u>Trifolium pratense</u>	<u>10</u>	_____	<u>FACU</u>	
6. <u>Cyperus eragrostis</u>	<u>1</u>	_____	<u>FACW</u>	
7. <u>Malva neglecta</u>	<u>2</u>	_____	<u>UPL</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
118 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>2</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs.				

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 ¹	Loc ²		
0-4	2.5YR 3/2	97	7.5YR 4/4	3	C	PL	clay loam	chalky substance
4-16	10YR 4/1	95	7.5YR 4/6	5	C	PL	silty clay loam	mixed in layers

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 114
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 4
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of wetland hydrology observed. photos:1034-1040, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>3m2</u>) 1. <u>Plantago major</u> 2 _____ FAC 2. <u>Bellis perennis</u> 5 _____ UPL 3. <u>Trifolium repens</u> 30 yes FAC 4. <u>Trifolium pratense</u> 10 _____ FACU 5. <u>Ranunculus repens</u> 30 yes FAC 6. <u>Festuca perennis</u> 40 yes FAC 7. <u>Cyperus eragrostis</u> 5 _____ FAC 8. _____ 9. _____ 10. _____ 11. _____				
118 = Total Cover				
Woody Vine Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>2</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs.				

SOIL

Sampling Point: 114

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 ¹	Loc ²		
0-2	7.5YR 3/2	99	5YR 5/8	1	C	PL	silty clay loam	
2-16	10YR 4/1	95	10YR 4/6	5	C	PL	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/14/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 115
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 5
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of hydric soils nor wetland hydrology observed. photos:1041-1047, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>3m2</u>) 1. <u>Cirsium arvense</u> 15 yes FAC 2. <u>Trifolium repens</u> 15 yes FAC 3. <u>Taraxacum officinale</u> 5 FACU 4. <u>Festuca perennis</u> 40 yes FAC 5. <u>Rumex pulcher</u> 2 FAC 6. <u>Trifolium pratense</u> 5 FACU 7. <u>Bellis perennis</u> 5 UPL 8. <u>Malva neglecta</u> 2 UPL 9. <u>Ranunculus repens</u> 15 yes FAC 10. _____ 11. _____				
<u>102</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs.				

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 ¹	Loc ²		
0-4	10YR 3/3	100					Clay loam	
4-16	2.5Y 4/3	94	10YR 4/6	4	C	PL	silty clay loam	
			10YR 7/1	2	D	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No indicators of hydric soils present within the sampled area.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 116
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 6
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of wetland hydrology observed. photos:1048-1055, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>3m2</u>) 1. <u>Cirsium arvense</u> 15 _____ FAC 2. <u>Trifolium repens</u> 35 <u>yes</u> FAC 3. <u>Ranunculus repens</u> 20 _____ FACU 4. <u>Taraxacum officinale</u> 5 _____ FAC 5. <u>Festuca perennis</u> 60 <u>yes</u> FAC 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
135 = Total Cover				
Woody Vine Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs. Managed landscape.				

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 ¹	Loc ²		
0-4	2.5Y 4/2	98	7.5YR 4/6	2	C	PL	Clay loam	
4-18	2.5Y 4/2	96	10YR 4/6	4	C	PL	silty clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) / CalTrout State: CA Sampling Point: 117
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 7
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks:

Sampled area is a wetland. All three parameters present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>3m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
Herb Stratum (Plot size: <u>3m2</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca perennis</u>	80	yes	FAC	
2. <u>Cirsium arvense</u>	20	yes	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
			<u>100</u> = Total Cover	
Woody Vine Stratum (Plot size: <u>3m2</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

Dominance test passed. Hydrophytic vegetation present within sampled area.

SOIL

Sampling Point: 117

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 ¹	Loc ²		
0-4	2.5Y 4/2	98	10YR 4/6	2	C	PL	Clay loam	
4-18	2.5Y 4/1	90	10YR 4/6	10	C	PL	silty clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 118
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain slope Local relief (concave, convex, none): gradient slope Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 8
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled plot is within an upland. Wetland hydrology not present. photos:1060-1064		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Ranunculus repens</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Festuca perennis</u>	<u>55</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Trifolium repens</u>	<u>10</u>	_____	_____	
4. <u>Trifolium pratense</u>	<u>5</u>	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation composed of pasture grasses/forbs				

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 ¹	Loc ²		
0-4	7.5YR 3/1	99	10YR 4/6	1	C	PL	clay loam	
4-16	2.5Y 4/1	92	5YR 5/8	8	C	PL	sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soli indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology observed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 200
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain/pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 200
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks:

Sampled plot is within a wetland. Three parameters observed. photos:1134-1140

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. <u>Rosa nutkana</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Agrostis stolonifera</u>	<u>45</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Phalaris arundinacea</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Trifolium repens</u>	<u>10</u>	_____	_____	
4. <u>Festuca perennis</u>	<u>5</u>	_____	_____	
5. <u>Rumex acetosella</u>	<u>5</u>	_____	_____	
6. <u>Rumex crispus</u>	<u>1</u>	_____	_____	
7. <u>Holcus lanatus</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation composed of pasture grasses/forbs

SOIL

Sampling Point: 200

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 ¹	Loc ²		
0-6	2.5Y 4/2	80	10YR 5/8	20	C	PL	clay loam	
6-16	2.5Y 4/2	60	10YR 4/6	40	C	PL	clay loam	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <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) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soli indicator depleted matrix (F3) observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

The wetland hydrology indicator oxidized rhoizospheres along living roots (C3) observed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 201
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 201
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled plot is within an upland. One parameter, hydrophytic vegetation, observed. photos:1141-1146		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Cirsium arvense</u>	<u>2</u>	_____	_____	
2. <u>Dactylis glomerata</u>	<u>4</u>	_____	_____	
3. <u>Trifolium repens</u>	<u>10</u>	_____	_____	
4. <u>Ranunculus repens</u>	<u>15</u>	_____	_____	
5. <u>Rumex pulcher</u>	<u>2</u>	_____	_____	
6. <u>Festuca perennis</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>	
7. <u>Agrostis stolonifera</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation composed of pasture grasses/forbs				

SOIL

Sampling Point: 201

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 ¹	Loc ²		
0-13	2.5Y 3/2	99	2.5Y 4/4	1	C	PL	clay loam	
13-17	2.5Y 3/2	55	2.5Y 4/2	40	D	M	clay loam	
			10YR 5/8	50	C	PL		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Indicators of hydric soils not observed within the sampled area.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 202
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 202
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Sampled plot is within an upland. One parameter, hydric soils, observed. photos:1147-1153			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca arundinacea</u> 60 yes FAC 2. <u>Holcus lanatus</u> 5 _____ FAC 3. <u>Ranunculus repens</u> 10 _____ FAC 4. <u>Trifolium repens</u> 10 _____ FAC 5. <u>Agrostis stolonifera</u> 20 _____ FAC 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
105 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. <u>Rubus ursinus</u> 8 yes FACU 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: Dominance test failed (50%). Hydrophytic vegetation not present within sampled area.				

SOIL

Sampling Point: 202

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 ¹	Loc ²		
0-8	2.5Y 4/2	60	10YR 5/8	40	C	PL	silty clay loam	
8-17	2.5Y 4/2	65	7.5YR 5/8	35	C	PL	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 203
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): BERM Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 203
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled plot is within an upland. Indicators of wetland hydrology not observed. photos:1155-1161		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Festuca arundinacea</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Agrostis stolonifera</u>	<u>10</u>	_____	<u>FAC</u>	
3. <u>Festuca perennis</u>	<u>10</u>	_____	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) <small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small>				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area, composed of common pasture grasses				

SOIL

Sampling Point: 203

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 ¹	Loc ²		
0-19	2.5Y 4/2	65	7.5YR 4/6	35	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 204
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): coastal Local relief (concave, convex, none): _____ Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 204
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					
Sampled plot is within an upland. Two parameters met: hydric soils and wetland hydrology observed. Hydrophytic vegetation not present within the sampled plot. photos:1162-1167					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
0 = Total Cover				Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
0 = Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>4m2</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Poa pratensis</u>	<u>5</u>	_____	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Anthoxanthum odoratum</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Rumex acetosella</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Ranunculus repens</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Taraxacum officinale</u>	<u>5</u>	_____	_____	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
6. <u>Achillea millefoliata</u>	<u>10</u>	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. <u>Juncus effusus</u>	<u>15</u>	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. <u>Sympyotrichum chilense</u>	<u>5</u>	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
115 = Total Cover					
Woody Vine Stratum (Plot size: <u>4m2</u>)				Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes _____	No <u>X</u>
2. _____	_____	_____	_____		
0 = Total Cover					
% Bare Ground in Herb Stratum <u>5</u>					
Remarks:					
Dominance test failed. Hydrophytic vegetation not present within sampled area.					

SOIL

Sampling Point: 204

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 ¹	Loc ²		
0-14	10YR 4/2	99	7.5YR 5/8	1	C	PL	clay loam	
14-17	10YR 4/2	75	7.5YR 5/8	25	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
Water Table Present? Yes X No _____ Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

groundwater well monitoring data denotes technical standard for wetland hydrology at 8.6' elevation.

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 205
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain/marsh Local relief (concave, convex, none): concave Slope (%): 0-1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 205
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Sampled plot is within a wetland. Plot located at edge of inundated area. All three parameters observed. photos:1168-1172	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Potentilla anserina</u>	30	yes	FACW	
2. <u>Agrostis stolonifera</u>	60	yes	FAC	
3. <u>Eleocharis macrostachya</u>	5	_____	_____	
4. <u>Acmispon sp.</u>	5	_____	_____	
5. <u>Festuca arundinacea</u>	5	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
105 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area.				

SOIL

Sampling Point: 205

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 ¹	Loc ²		
0-10	10YR 3/1	98	7.5YR 5/8	2	C	PL	silty clay loam	
10-17	10YR 3/2	92	7.5YR 5/8	8	C	PL	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
 Water Table Present? Yes X No _____ Depth (inches): 5
 Saturation Present? Yes X No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

High water table and two secondary indicators observed

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 100
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating, concave swale Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT100
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks:

All three parameters observed and sampled area is a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
Herb Stratum (Plot size: <u>4m2</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca perennis</u>	<u>35</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Holcus lanatus</u>	<u>45</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Festuca arundinacea</u>	<u>5</u>	_____	<u>FAC</u>	
4. <u>Agrostis stolonifera</u>	<u>20</u>	_____	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
			<u>105</u> = Total Cover	
Woody Vine Stratum (Plot size: <u>4m2</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

Dominance Test passed.
 Facultative grasses associated with pasture management; A. stolonifera associated with wetter conditions (transitional zones)

SOIL

Sampling Point: 100

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 ¹	Loc ²		
0-2	10YR 4/2	97	10YR 4/6	3	c	PL	clay loam	
2-18	10YR 4/2	65	10YR 4/6	35	C	PL	clay loam	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <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) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

F3 observed. Depleted matrix w/ redox concentrations

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

C3 observed, oxidized rhizospheres along living roots observed; hydrology confirmed

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 101
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 101
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: One parameter wetland. Hydrophytic vegetation observed in sampling plot. No indicators of hydric soils nor wetland hydrology. Photos: 1087–1092		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca perennis</u>	<u>45</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Ranunculus repens</u>	<u>25</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Trifolium repens</u>	<u>15</u>	_____	<u>FAC</u>	
4. <u>Taraxacum officinale</u>	<u>5</u>	_____	<u>FACU</u>	
5. <u>Holcus lanatus</u>	<u>10</u>	_____	<u>FAC</u>	
6. <u>Sonchus asper ssp. asper</u>	<u>2</u>	_____	<u>FACU</u>	
7. <u>Cirsium arvense</u>	<u>2</u>	_____	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
104 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: dominant grasses and forbs are facultative, common to pasture				

SOIL

Sampling Point: 101

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 ¹	Loc ²		
0-13	2.5Y 3/2	100					silty clay loam	
13-18	2.5Y 3/1	96	10YR 4/6	4	C	PL	silty clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

no hydric soil indicators present

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

no wetland hydrology indicators present

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

Project/Site: Elk River Estuary, PA-1 City/County: Elk River, Humboldt Sampling Date: 06/21/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 102
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LRR A Lat: 124°11'10.168"W Long: 40°44'28.375"N Datum: WPT316; WGS84
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: PEM1Cd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: All wetland parameters are present and the sampled area is within a wetland. Within the Elk River floodplain. Agricultural field, hay production.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>2m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>2m2</u>)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>1m2</u>)				
1. <u>Festuca perennis</u>	90	Yes	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Holcus lanatus</u>	15	No	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
105 = Total Cover				
Woody Vine Stratum (Plot size: <u>2m2</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominant vegetation passes dominance test and hydrophytic vegetation is present.				

SOIL

Sampling Point: 102

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 ¹	Loc ²		
0-8	10YR 4/2	95	5 YR 5/8	5	C	PL	clay-loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: soil compact/dry hard surface
 Depth (inches): 8"

Hydric Soil Present? Yes X No _____

Remarks:

Depleted matrix confirmed; matrix color 4/2 and 5% redox concentrations in a layer greater than 6 inches within the upper 10" of soil surface

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

aerial photography/previous inspections (2012) saw saturation in early growing season (April)

Remarks:

Wetland hydrology indicated by saturation within the upper 12 inches of soil pit. Also, saturation is visible on aerial imagery, location is in Elk River floodplain

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 103
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 103
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Sampled plot in not in a wetland. One-parameter wetland - hydrophytic vegetation present. Site grazed by cattle. Photos:1095-1100 ARC 0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Trifolium repens</u> 10 _____ FAC 2. <u>Festuca perennis</u> 75 _____ yes FAC 3. <u>Taraxacum officinale</u> 3 _____ FACU 4. <u>Cirsium arvense</u> 5 _____ FAC 5. <u>Holcus lanatus</u> 2 _____ FAC 6. <u>Agrostis stolonifera</u> 5 _____ FAC 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominant vegetation indicative of managed grassland FAC species, common forage grasses.				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

SOIL

Sampling Point: 103

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 ¹	Loc ²		
0-4	10YR 3/2	100					clay loam	
4-12	10YR 3/2	98	10YR 4/6	2	C	PL	silty clay loam	
12-16	10YR 3/2	20	10YR 4/2	50	D	M	silty clay loam	
12-16			7.5YR 4/6	30	C	PL	silty clay loam	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <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) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) vroman State: CA Sampling Point: 104
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 104
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Hydrophytic vegetation and hydric soils present in sampling plot. Indicators of wetland hydrology not observed. Cattle grazing in area. Photos:1101-1105, ARC 0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca perennis</u> 60 yes FAC 2. <u>Trifolium repens</u> 40 yes FAC 3. <u>Cirsium arvense</u> 20 FAC 4. <u>Agrostis stolonifera</u> 5 FAC 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
125 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Hydric vegetation present. Composed entirely of pasture grasses and forbs				

SOIL

Sampling Point: 104

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 ¹	Loc ²		
0-6	10YR 3/2	97	10YR 4/6	3	C	PL	clay loam	
6-15	10YR 3/2	15	10YR 4/2	70	D	M	silty clay loam	
			7.5YR 4/6	15	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Redox dark surface (F6) observed. Hydric soils present

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 105
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): flat, valley bottom Local relief (concave, convex, none): flat Slope (%): 1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 105
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	
Remarks: Sampling point is within a wetland. Three parameters confirmed. Cattle grazing on site. Photos:1106-1112, ARC 0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca perennis</u> 60 yes FAC 2. <u>Trifolium repens</u> 40 _____ FAC 3. <u>Cirsium arvense</u> 2 _____ FAC 4. <u>Taraxacum officinale</u> 1 _____ FACU 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
<u>103</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominant vegetation is FAC, confirms hydrophytic vegetation within sampled area. Composed entirely of pasture grasses/forbs				

SOIL

Sampling Point: 105

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 ¹	Loc ²		
0-8	10YR 3/1	80	10YR 4/6	10	C	PL	clay loam	
0-8	10YR 3/2	10						
8-18	10YR 3/1	15	10YR 4/1	80	D	M	silty clay loam	
			10YR 3/6	5	C	PL	silty clay loam	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input checked="" 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) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

One indicator of hydric soils present, redox dark surface (F6)

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

One indicator of wetland hydrology present, C3 oxidized rhizospheres along living roots

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 106
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): on lower slope of levee Local relief (concave, convex, none): convex Slope (%): 35
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 106
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: Three parameters present. Sampled plot is on lower slope of levee in a salt marsh. ~17 inches below paired upland plot 106. Photos:1122-1124, ARC 0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Salicornia pacifica</u>	<u>40</u>	<u>yes</u>	<u>OBL</u>	
2. <u>Distichlis spicata</u>	<u>60</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Spartina densiflora</u>	<u>20</u>	_____	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
			<u>120</u> = Total Cover	
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Species within sampled area are FACW or OBL, dominant vegetation confirms hydrophytic vegetation.				

SOIL

Sampling Point: 106

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 ¹	Loc ²		
0-16	10YR 4/1	85	10YR 3/6	15	C	PL	clay	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soil indicator (depleted matrix) present, hydric soils confirmed

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 0, surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

saturated soils to surface from recent high tide

Remarks:

Three primary wetland hydrology indicators present, A3, B3, and C3. Wetland hydrology confirmed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 107
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): slope of levee Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 107
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: estuarine wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
		0 = Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Baccharis pilularis</u>	<u>50</u>	<u>yes</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
		50 = Total Cover		
Herb Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Plantago lanceolata</u>	<u>10</u>	_____	_____	
2. <u>Symphotrichum chilense</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Achillea millefolium</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Bromus diandrus</u>	<u>4</u>	_____	_____	
5. <u>Anthoxanthum odoratum</u>	<u>2</u>	_____	_____	
6. <u>Daucus carota</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	
7. <u>Elymus (repens/triticoides)</u>	<u>10</u>	_____	_____	
8. <u>Festuca perennis</u>	<u>5</u>	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
		81 = Total Cover		
Woody Vine Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>Rubus armeniacus</u>	<u>25</u>	<u>yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
		25 = Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: Dominance test failed. Upland vegetation dominant within sampled area.				

SOIL

Sampling Point: 107

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 ¹	Loc ²		
0-8	10YR 3/2	100					loam	
8-15	10YR 3/2	100					loamy gravel	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No indicators of hydric soils observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology observed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 11/30/2021
 Applicant/Owner: CDFW State: CA Sampling Point: 107 lower
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): slope of levee Local relief (concave, convex, none): convex Slope (%): 80
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 107lower
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Sampled plot is upland. Sampled at lower slope of levee above salt marsh. In between salt marsh and coastal scrub. Photos: 1114-1119, ARC0			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>2m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>2m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>2m2</u>) 1. <u>Distichlis spicata</u> 2 2. <u>Symphotrichum chilense</u> 5 3. <u>Atriplex prostrata</u> 20 yes FACW 4. <u>Juncus lescurii</u> 2 5. <u>Bromus hordeaceus</u> 5 6. <u>Salicornia pacifica</u> 5 7. <u>Fstuca rubra</u> 10 8. <u>Festuca bromoides</u> 40 yes FACU 9. _____ 10. _____ 11. _____				
89 = Total Cover				
Woody Vine Stratum (Plot size: <u>2m2</u>) 1. _____ 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>15</u>				
Remarks: Dominance test failed (50%). Hydrophytic vegetation not present.				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

SOIL

Sampling Point: 109

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 ¹	Loc ²		
0-5	10YR 3/2	100					loam	
5-18	10YR 4/1	90	10YR 4/6	10	C	PL	silty clay loam	depleted matrix

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Depleted matrix (F3) present. Hydric soils confirmed

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydric soil indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) State: CA Sampling Point: 109
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): levee crest Local relief (concave, convex, none): sloped Slope (%): 20
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 109
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	

Remarks:

No wetland parameters present, sampled plot is within an upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>33.3</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. <u>Baccharis pilularis</u>	15	yes	UPL	
2. <u>Lonicera involucrata</u>	10	yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
25 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Achillea millefolium</u>	15	yes	FACU	
2. <u>Raphanus sativus</u>	15	yes	UPL	
3. <u>Angelica lucida</u>	5			
4. <u>Oenanthe sarmentosa</u>	10	yes	OBL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
45 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. <u>Rubus ursinus</u>	100	yes	FACU	
2. _____	_____	_____	_____	
100 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - 5 - Wetland Non-Vascular Plants¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Dominance test failed. Hydrophytic vegetation not present.

SOIL

Sampling Point: 109

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 ¹	Loc ²		
0-4	10YR 3/2	100					loam	
4-18	10YR 4/1	92	10YR 4/6	8	C	PL	silty clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators present

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 111
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 1
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
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Remarks:
No wetland parameters present, sampled plot is within an upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca perennis</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Trifolium repens</u>	<u>5</u>	_____	<u>FAC</u>	
3. <u>Ranunculus repens</u>	<u>5</u>	_____	<u>FAC</u>	
4. <u>Atriplex prostrata</u>	<u>2</u>	_____	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
92 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Remarks:
 Hydrophytic vegetation present. Dominant vegetation composed of common pasture grasses and forbs (FAC)

SOIL

Sampling Point: 111

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 ¹	Loc ²		
0-8	10YR 2.5/1	95	7.5YR 4/6	5	C	PL	silty clay loam	
8-19	2.5YR 4/1	88	10YR 4/6	10	C	PL	silty clay	
			5 YR 3/4	2	C	PL	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator redox dark surface (F6) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 112
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 2
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Three parameter wetland confirmed. Sampled plot is near a drainage/swale. photos: 1022-1027, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Plantago major</u> 2 yes FAC 2. <u>Ranunculus repens</u> 5 _____ FAC 3. <u>Trifolium repens</u> 10 _____ FAC 4. <u>Cirsium arvense</u> 5 _____ FAC 5. <u>Festuca perennis</u> 85 yes FAC 6. <u>Trifolium pratense</u> 5 _____ FACU 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
112 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>2</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area.				

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 ¹	Loc ²		
0-4	10YR 4/3	98	7.5YR 4/6	2	C	PL	clay loam	
4-16	2.5Y 4/1	85	7.5YR 5/6	15	C	PL	clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Nearby groundwater well indicates the USACE wetland hydrology standard reaches 14.4 ft elevation. This sampled location is above this ground elevation ~15.5 ft and the hydrology indicators are indicative of the supplemental irrigation applied in this agricultural parcel. Without irrigation this area would not meet hydrology parameters

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 113
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 3
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of wetland hydrology observed. photos:1028-1033, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca perennis</u> 80 yes FAC 2. <u>Ranunculus repens</u> 10 FAC 3. <u>Taraxacum officinale</u> 5 FACU 4. <u>Trifolium repens</u> 10 FAC 5. <u>Trifolium pratense</u> 10 FACU 6. <u>Cyperus eragrostis</u> 1 FACW 7. <u>Malva neglecta</u> 2 UPL 8. _____ 9. _____ 10. _____ 11. _____				
118 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>2</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs.				

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 ¹	Loc ²		
0-4	2.5YR 3/2	97	7.5YR 4/4	3	C	PL	clay loam	chalky substance
4-16	10YR 4/1	95	7.5YR 4/6	5	C	PL	silty clay loam	mixed in layers

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 114
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 4
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of wetland hydrology observed. photos:1034-1040, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>3m2</u>) 1. <u>Plantago major</u> 2 _____ FAC 2. <u>Bellis perennis</u> 5 _____ UPL 3. <u>Trifolium repens</u> 30 yes FAC 4. <u>Trifolium pratense</u> 10 _____ FACU 5. <u>Ranunculus repens</u> 30 yes FAC 6. <u>Festuca perennis</u> 40 yes FAC 7. <u>Cyperus eragrostis</u> 5 _____ FAC 8. _____ 9. _____ 10. _____ 11. _____				
118 = Total Cover				
Woody Vine Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>2</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs.				

SOIL

Sampling Point: 114

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 ¹	Loc ²		
0-2	7.5YR 3/2	99	5YR 5/8	1	C	PL	silty clay loam	
2-16	10YR 4/1	95	10YR 4/6	5	C	PL	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/14/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 115
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 5
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of hydric soils nor wetland hydrology observed. photos:1041-1047, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>3m2</u>) 1. <u>Cirsium arvense</u> 15 yes FAC 2. <u>Trifolium repens</u> 15 yes FAC 3. <u>Taraxacum officinale</u> 5 FACU 4. <u>Festuca perennis</u> 40 yes FAC 5. <u>Rumex pulcher</u> 2 FAC 6. <u>Trifolium pratense</u> 5 FACU 7. <u>Bellis perennis</u> 5 UPL 8. <u>Malva neglecta</u> 2 UPL 9. <u>Ranunculus repens</u> 15 yes FAC 10. _____ 11. _____				
<u>102</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>3m2</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs.				

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 ¹	Loc ²		
0-4	10YR 3/3	100					Clay loam	
4-16	2.5Y 4/3	94	10YR 4/6	4	C	PL	silty clay loam	
			10YR 7/1	2	D	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No indicators of hydric soils present within the sampled area.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) Alexandre State: CA Sampling Point: 116
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 6
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled area is an upland. No indicators of wetland hydrology observed. photos:1048-1055, ARC0		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
0 = Total Cover					
Sapling/Shrub Stratum (Plot size: <u>3m2</u>)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
Herb Stratum (Plot size: <u>3m2</u>)					
1. <u>Cirsium arvense</u>	<u>15</u>	_____	<u>FAC</u>		
2. <u>Trifolium repens</u>	<u>35</u>	<u>yes</u>	<u>FAC</u>		
3. <u>Ranunculus repens</u>	<u>20</u>	_____	<u>FACU</u>		
4. <u>Taraxacum officinale</u>	<u>5</u>	_____	<u>FAC</u>		
5. <u>Festuca perennis</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
135 = Total Cover					
Woody Vine Stratum (Plot size: <u>3m2</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
0 = Total Cover					
% Bare Ground in Herb Stratum <u>0</u>					
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation is composed of pasture grasses/forbs. Managed landscape.					

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 ¹	Loc ²		
0-4	2.5Y 4/2	98	7.5YR 4/6	2	C	PL	Clay loam	
4-18	2.5Y 4/2	96	10YR 4/6	4	C	PL	silty clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed, but less than 2% in upper 12" of the soil profile

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 10/18/2021
 Applicant/Owner: Private landowner (agriculture) / CalTrout State: CA Sampling Point: 117
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 7
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks:

Sampled area is a wetland. All three parameters present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca perennis</u>	80	yes	FAC	
2. <u>Cirsium arvense</u>	20	yes	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>3m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

Dominance test passed. Hydrophytic vegetation present within sampled area.

SOIL

Sampling Point: 117

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 ¹	Loc ²		
0-4	2.5Y 4/2	98	10YR 4/6	2	C	PL	Clay loam	
4-18	2.5Y 4/1	90	10YR 4/6	10	C	PL	silty clay loam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soil indicator depleted matrix (F3) was observed.

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Wetland hydrology present within the sampled area. Oxidized rhizospheres along living roots (C3) observed

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 118
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain slope Local relief (concave, convex, none): gradient slope Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 8
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled plot is within an upland. Wetland hydrology not present. photos:1060-1064		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
= Total Cover					
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover					
Herb Stratum (Plot size: <u>4m2</u>)					
1. <u>Ranunculus repens</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>		
2. <u>Festuca perennis</u>	<u>55</u>	<u>yes</u>	<u>FAC</u>		
3. <u>Trifolium repens</u>	<u>10</u>	_____	_____		
4. <u>Trifolium pratense</u>	<u>5</u>	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
100 = Total Cover					
Woody Vine Stratum (Plot size: <u>4m2</u>)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
0 = Total Cover					
% Bare Ground in Herb Stratum <u>5</u>					
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation composed of pasture grasses/forbs					

SOIL

Sampling Point: 118

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 ¹	Loc ²		
0-4	7.5YR 3/1	99	10YR 4/6	1	C	PL	clay loam	
4-16	2.5Y 4/1	92	5YR 5/8	8	C	PL	sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soli indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No indicators of wetland hydrology observed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 200
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain/pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 200
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks:

Sampled plot is within a wetland. Three parameters observed. photos:1134-1140

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. <u>Rosa nutkana</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Agrostis stolonifera</u>	<u>45</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Phalaris arundinacea</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Trifolium repens</u>	<u>10</u>	_____	_____	
4. <u>Festuca perennis</u>	<u>5</u>	_____	_____	
5. <u>Rumex acetosella</u>	<u>5</u>	_____	_____	
6. <u>Rumex crispus</u>	<u>1</u>	_____	_____	
7. <u>Holcus lanatus</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation composed of pasture grasses/forbs

SOIL

Sampling Point: 200

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 ¹	Loc ²		
0-6	2.5Y 4/2	80	10YR 5/8	20	C	PL	clay loam	
6-16	2.5Y 4/2	60	10YR 4/6	40	C	PL	clay loam	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <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) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils are present within the sampled area. The hydric soli indicator depleted matrix (F3) observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

The wetland hydrology indicator oxidized rhoizospheres along living roots (C3) observed.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 201
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 201
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland?	
Hydric Soil Present?	Yes _____ No <u>X</u>		Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks:			
Sampled plot is within an upland. One parameter, hydrophytic vegetation, observed. photos:1141-1146			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Cirsium arvense</u>	<u>2</u>	_____	_____	
2. <u>Dactylis glomerata</u>	<u>4</u>	_____	_____	
3. <u>Trifolium repens</u>	<u>10</u>	_____	_____	
4. <u>Ranunculus repens</u>	<u>15</u>	_____	_____	
5. <u>Rumex pulcher</u>	<u>2</u>	_____	_____	
6. <u>Festuca perennis</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>	
7. <u>Agrostis stolonifera</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
113 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks:				
Dominance test passed. Hydrophytic vegetation present within sampled area. Vegetation composed of pasture grasses/forbs				

SOIL

Sampling Point: 201

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 ¹	Loc ²		
0-13	2.5Y 3/2	99	2.5Y 4/4	1	C	PL	clay loam	
13-17	2.5Y 3/2	55	2.5Y 4/2	40	D	M	clay loam	
			10YR 5/8	50	C	PL		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Indicators of hydric soils not observed within the sampled area.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 202
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 202
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Sampled plot is within an upland. One parameter, hydric soils, observed. photos:1147-1153			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>) 1. <u>Festuca arundinacea</u> 60 yes FAC 2. <u>Holcus lanatus</u> 5 _____ FAC 3. <u>Ranunculus repens</u> 10 _____ FAC 4. <u>Trifolium repens</u> 10 _____ FAC 5. <u>Agrostis stolonifera</u> 20 _____ FAC 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
105 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>) 1. <u>Rubus ursinus</u> 8 yes FACU 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: Dominance test failed (50%). Hydrophytic vegetation not present within sampled area.				

SOIL

Sampling Point: 202

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 ¹	Loc ²		
0-8	2.5Y 4/2	60	10YR 5/8	40	C	PL	silty clay loam	
8-17	2.5Y 4/2	65	7.5YR 5/8	35	C	PL	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 203
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): BERM Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 203
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Sampled plot is within an upland. Indicators of wetland hydrology not observed. photos:1155-1161		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Festuca arundinacea</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Agrostis stolonifera</u>	<u>10</u>	_____	<u>FAC</u>	
3. <u>Festuca perennis</u>	<u>10</u>	_____	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area, composed of common pasture grasses				

SOIL

Sampling Point: 203

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 ¹	Loc ²		
0-19	2.5Y 4/2	65	7.5YR 4/6	35	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

SOIL

Sampling Point: 204

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 ¹	Loc ²		
0-14	10YR 4/2	99	7.5YR 5/8	1	C	PL	clay loam	
14-17	10YR 4/2	75	7.5YR 5/8	25	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
 Water Table Present? Yes X No _____ Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

groundwater well monitoring data denotes technical standard for wetland hydrology at 8.6' elevation.

Remarks:

Indicators of wetland hydrology not observed within the sampled area.

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

Project/Site: Elk River Recovery Plan, PA-1 City/County: Elk River, Humboldt Sampling Date: 12/1/2021
 Applicant/Owner: Private landowner (agriculture) Shanahan State: CA Sampling Point: 205
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: S9T4N R1W
 Landform (hillslope, terrace, etc.): floodplain/marsh Local relief (concave, convex, none): concave Slope (%): 0-1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: WPT 205
 Soil Map Unit Name: Weott, 0-2% slopes NWI classification: freshwater emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Sampled plot is within a wetland. Plot located at edge of inundated area. All three parameters observed. photos:1168-1172	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>4m2</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>4m2</u>)				
1. <u>Potentilla anserina</u>	<u>30</u>	<u>yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Agrostis stolonifera</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Eleocharis macrostachya</u>	<u>5</u>	_____	_____	
4. <u>Acmispon sp.</u>	<u>5</u>	_____	_____	
5. <u>Festuca arundinacea</u>	<u>5</u>	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
105 = Total Cover				
Woody Vine Stratum (Plot size: <u>4m2</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: Dominance test passed. Hydrophytic vegetation present within sampled area.				

SOIL

Sampling Point: 205

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 ¹	Loc ²		
0-10	10YR 3/1	98	7.5YR 5/8	2	C	PL	silty clay loam	
10-17	10YR 3/2	92	7.5YR 5/8	8	C	PL	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The hydric soil indicator depleted matrix (F3) observed.

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 X Depth (inches): _____
 Water Table Present? Yes X No _____ Depth (inches): 5
 Saturation Present? Yes X No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

High water table and two secondary indicators observed

Appendix B
WETS Table

Table B-1. WETS table.

WETS Station: EUREKA WFO WOODLEY ISLAND, CA								
Requested years: 1990–2020								
Month	Avg max	Avg min	Avg	Avg	30%	30%	Avg number	Avg
	Temp	Temp	Mean temp	Precip	Chance precip less than	chance precip more than	Days precip 0.10 or more	Snowfall
Jan	55.5	41.4	48.5	6.68	4.10	8.09	12	0.0
Feb	55.7	41.8	48.8	5.60	3.36	6.79	10	0.0
Mar	56.5	43.0	49.7	5.67	3.86	6.76	11	0.0
Apr	57.8	44.9	51.3	3.57	2.38	4.27	8	0.0
May	60.1	48.3	54.2	1.72	0.75	2.10	5	0.0
Jun	62.4	50.7	56.5	0.69	0.22	0.79	2	0.0
Jul	63.6	52.9	58.3	0.18	0.05	0.19	0	0.0
Aug	64.7	53.6	59.1	0.19	0.05	0.20	1	0.0
Sep	64.4	51.2	57.8	0.67	0.16	0.74	2	0.0
Oct	62.1	47.4	54.7	2.29	0.90	2.78	5	0.0
Nov	58.2	43.6	50.9	4.83	3.11	5.81	9	0.0
Dec	55.0	40.4	47.7	7.90	4.47	9.62	12	0.0
Annual:					33.48	44.98		
Average	59.7	46.6	53.1	-	-	-	-	-
Total	-	-	-	39.98			76	0.1
Growing season dates								
Years with missing data:	24 deg = 0	28 deg = 0	32 deg = 0					
Years with no occurrence:	24 deg = 31	28 deg = 27	32 deg = 2					
Data years used:	24 deg = 31	28 deg = 31	32 deg = 31					
Probability	24 F or higher	28 F or higher	32 F or higher					
50 percent *	No occurrence	No occurrence	2/6 to 12/14: 311 days					
70 percent *	No occurrence	No occurrence	1/26 to 12/25: 333 days					

* Percent chance of the growing season occurring between the Beginning and Ending dates.

Table B-2. STATS table.

Total precipitation (inches)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1990	7.20	4.50	3.30	1.41	3.74	0.32	0.22	0.71	0.19	1.73	3.07	2.91	29.30
1991	1.65	2.75	6.94	2.52	2.16	0.26	1.13	0.37	T	1.06	1.95	2.36	23.15
1992	3.99	3.80	3.51	2.42	0.06	1.27	0.25	0.01	0.33	2.08	2.21	9.33	29.26
1993	7.15	5.93	4.72	5.94	4.44	1.23	0.37	0.54	0.03	0.56	1.35	7.12	39.38
1994	5.09	7.12	2.06	3.30	1.10	0.71	0.08	T	0.06	0.54	8.21	7.00	35.27
1995	12.74	1.40	11.18	7.47	1.21	1.85	0.08	0.22	0.69	0.53	2.26	11.56	51.19
1996	10.74	8.11	3.51	4.64	2.40	0.05	0.03	T	1.21	3.50	5.16	21.26	60.61
1997	8.81	2.55	2.73	3.06	0.90	1.25	T	0.84	2.05	2.73	7.39	4.73	37.04
1998	13.42	13.95	7.83	2.23	3.12	0.33	0.16	0.01	0.08	3.06	14.09	5.40	63.68
1999	4.37	10.32	8.94	1.79	1.62	0.15	0.04	0.30	0.05	1.60	7.36	3.02	39.56
2000	9.71	7.00	2.81	2.15	1.86	0.54	0.04	T	0.55	2.99	3.51	1.97	33.13
2001	3.79	3.60	2.45	2.54	0.71	0.69	0.20	0.21	0.28	1.00	7.71	11.56	34.74
2002	6.37	5.76	4.32	2.42	0.55	0.28	0.03	0.01	0.06	0.06	2.66	23.31	45.83
2003	5.51	3.84	4.91	11.25	1.74	0.04	0.02	0.49	0.35	0.55	5.78	11.35	45.83
2004	6.29	8.12	2.38	1.68	1.37	0.06	0.06	0.43	0.68	5.71	1.87	9.43	38.08
2005	5.91	2.41	6.24	4.70	3.90	3.08	0.05	0.07	0.08	2.40	8.52	12.72	50.08
2006	12.09	6.34	11.11	4.08	1.03	0.35	0.04	T	0.09	0.58	7.41	7.09	50.21
2007	1.86	11.86	2.51	2.72	0.86	0.46	0.97	0.08	0.60	4.92	2.33	7.30	36.47
2008	9.70	2.73	3.16	2.12	0.04	0.24	0.02	0.47	0.05	0.93	4.05	6.66	30.17
2009	1.58	6.20	5.45	1.23	2.93	0.18	0.06	0.02	1.03	1.95	4.15	4.17	28.95
2010	9.29	4.20	6.06	7.76	3.51	2.31	0.04	0.15	1.39	4.26	4.69	10.08	53.74
2011	2.23	3.62	11.88	4.07	1.43	1.29	0.17	0.04	0.37	4.21	3.86	2.22	35.39
2012	7.76	2.63	12.02	4.76	0.77	2.00	0.67	0.07	0.04	2.72	6.36	10.97	50.77
2013	2.57	1.78	3.09	2.44	1.17	0.43	0.00	0.08	3.14	0.05	1.29	0.56	16.60
2014	1.35	6.09	6.25	1.37	0.58	0.35	0.02	0.02	3.09	4.74	3.89	9.75	37.50
2015	1.36	5.04	3.21	2.57	0.07	0.04	0.15	0.41	0.27	1.18	4.88	14.66	33.84
2016	12.06	2.98	8.11	2.84	0.76	0.02	0.54	0.04	0.01	10.92	6.98	7.87	53.13
2017	10.51	11.10	7.97	5.46	1.31	0.59	0.07	0.05	1.01	1.64	7.40	1.94	49.05
2018	7.86	2.87	8.50	5.02	0.79	0.70	0.03	0.05	0.19	0.85	4.94	4.95	36.75
2019	6.67	14.43	4.79	2.51	2.61	0.00	0.00	0.18	1.92	1.51	1.75	7.63	44.00
2020	7.50	0.60	3.69	2.05	4.73	0.20	0.03	0.08	0.74	0.41	2.55	3.96	26.54
2021	7.10	4.32	3.93	0.71	0.25	1.06	0.21	0.03	1.24	4.02	2.85	7.25	32.97
2022	1.90	0.54	1.49	4.57	1.36	M1.48							11.31

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Table B-3. WETS table.

WETS Station: EUREKA WFO WOODLEY ISLAND, CA								
Requested years: 1990–2025								
Month	Avg max	Avg min	Avg	Avg	30%	30%	Avg number	Avg
	Temp	Temp	Mean temp	Precip	chance precip less than	chance precip more than	Days precip 0.10 or more	Snowfall
Jan	55.6	41.3	48.4	6.66	4.1	8.06	12	0
Feb	55.5	41.5	48.5	5.57	3.25	6.77	10	0.1
Mar	56.2	42.7	49.4	5.65	3.8	6.76	11	0
Apr	57.6	44.6	51.1	3.42	2.2	4.11	8	0
May	60	48.1	54	1.69	0.75	2.06	4	0
Jun	62.3	50.6	56.5	0.71	0.25	0.83	2	0
Jul	63.6	52.9	58.2	0.19	0.05	0.2	0	0
Aug	64.7	53.6	59.2	0.22	0.06	0.22	1	0
Sep	64.4	51.2	57.8	0.69	0.17	0.77	2	0
Oct	62.1	47.4	54.7	2.28	0.9	2.76	5	0
Nov	58.2	43.4	50.8	4.93	3.19	5.93	9	0
Dec	55	40.5	47.7	7.95	4.7	9.66	12	0
Annual:					33.45	45		
Average	59.6	46.5	53	-	-	-	-	-
Total	-	-	-	39.95			76	0.1
GROWING SEASON DATES								
Years with missing data:	24 deg = 0	28 deg = 0	32 deg = 0					
Years with no occurrence:	24 deg = 31	28 deg = 27	32 deg = 2					
Data years used:	24 deg = 31	28 d31	32 deg = 31					
Probability	24 F or higher	28 F or higher	32 F or higher					
50 percent *	No occurrence	No occurrence	2/6 to 12/14: 311 days					
70 percent *	No occurrence	No occurrence	1/26 to 12/25: 333 days					

* Percent chance of the growing season occurring between the Beginning and Ending dates.

Table B-4. STATS table.

Total precipitation (inches)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1990	7.20	4.50	3.30	1.41	3.74	0.32	0.22	0.71	0.19	1.73	3.07	2.91	29.30
1991	1.65	2.75	6.94	2.52	2.16	0.26	1.13	0.37	T	1.06	1.95	2.36	23.15
1992	3.99	3.80	3.51	2.42	0.06	1.27	0.25	0.01	0.33	2.08	2.21	9.33	29.26
1993	7.15	5.93	4.72	5.94	4.44	1.23	0.37	0.54	0.03	0.56	1.35	7.12	39.38
1994	5.09	7.12	2.06	3.30	1.10	0.71	0.08	T	0.06	0.54	8.21	7.00	35.27
1995	12.74	1.40	11.18	7.47	1.21	1.85	0.08	0.22	0.69	0.53	2.26	11.56	51.19
1996	10.74	8.11	3.51	4.64	2.40	0.05	0.03	T	1.21	3.50	5.16	21.26	60.61
1997	8.81	2.55	2.73	3.06	0.90	1.25	T	0.84	2.05	2.73	7.39	4.73	37.04
1998	13.42	13.95	7.83	2.23	3.12	0.33	0.16	0.01	0.08	3.06	14.09	5.40	63.68
1999	4.37	10.32	8.94	1.79	1.62	0.15	0.04	0.30	0.05	1.60	7.36	3.02	39.56
2000	9.71	7.00	2.81	2.15	1.86	0.54	0.04	T	0.55	2.99	3.51	1.97	33.13
2001	3.79	3.60	2.45	2.54	0.71	0.69	0.20	0.21	0.28	1.00	7.71	11.56	34.74
2002	6.37	5.76	4.32	2.42	0.55	0.28	0.03	0.01	0.06	0.06	2.66	23.31	45.83
2003	5.51	3.84	4.91	11.25	1.74	0.04	0.02	0.49	0.35	0.55	5.78	11.35	45.83
2004	6.29	8.12	2.38	1.68	1.37	0.06	0.06	0.43	0.68	5.71	1.87	9.43	38.08
2005	5.91	2.41	6.24	4.70	3.90	3.08	0.05	0.07	0.08	2.40	8.52	12.72	50.08
2006	12.09	6.34	11.11	4.08	1.03	0.35	0.04	T	0.09	0.58	7.41	7.09	50.21
2007	1.86	11.86	2.51	2.72	0.86	0.46	0.97	0.08	0.60	4.92	2.33	7.30	36.47
2008	9.70	2.73	3.16	2.12	0.04	0.24	0.02	0.47	0.05	0.93	4.05	6.66	30.17
2009	1.58	6.20	5.45	1.23	2.93	0.18	0.06	0.02	1.03	1.95	4.15	4.17	28.95
2010	9.29	4.20	6.06	7.76	3.51	2.31	0.04	0.15	1.39	4.26	4.69	10.08	53.74
2011	2.23	3.62	11.88	4.07	1.43	1.29	0.17	0.04	0.37	4.21	3.86	2.22	35.39
2012	7.76	2.63	12.02	4.76	0.77	2.00	0.67	0.07	0.04	2.72	6.36	10.97	50.77
2013	2.57	1.78	3.09	2.44	1.17	0.43	0.00	0.08	3.14	0.05	1.29	0.56	16.60
2014	1.35	6.09	6.25	1.37	0.58	0.35	0.02	0.02	3.09	4.74	3.89	9.75	37.50
2015	1.36	5.04	3.21	2.57	0.07	0.04	0.15	0.41	0.27	1.18	4.88	14.66	33.84
2016	12.06	2.98	8.11	2.84	0.76	0.02	0.54	0.04	0.01	10.92	6.98	7.87	53.13
2017	10.51	11.10	7.97	5.46	1.31	0.59	0.07	0.05	1.01	1.64	7.40	1.94	49.05
2018	7.86	2.87	8.50	5.02	0.79	0.70	0.03	0.05	0.19	0.85	4.94	4.95	36.75
2019	6.67	14.43	4.79	2.51	2.61	0.00	0.00	0.18	1.92	1.51	1.75	7.63	44.00
2020	7.50	0.60	3.69	2.05	4.73	0.20	0.03	0.08	0.74	0.41	2.55	3.96	26.54
2021	7.10	4.32	3.93	0.71	0.25	1.06	0.21	0.03	1.24	4.02	2.85	7.25	32.97
2022	1.90	0.54	1.49	4.57	1.36	1.53	0.76	0.11	0.43	0.14	5.36	8.54	26.7

Total precipitation (inches)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2023	7.89	5.74	9.25	2.66	0.97	0.23	0.02	0.11	1.83	2.09	3.85	7.78	42.42
2024	11.85	8.85	7.42	1.18	3.00	0.79	0.05	1.47	0.07	2.45	10.85	9.88	57.86
2025	3.82	7.5	M7.85										

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Appendix C

Field Delineation Photographs



Figure C-1. Photographs at wetland Data Point 112 illustrating conditions in a palustrine seasonally flooded-saturated persistent emergent wetland associated with historic flow paths of Swain Slough and other drainages throughout agricultural pasture lands within the valley floor in PA 1.



Figure C-2. Photographs at wetland Data Point 205 illustrating conditions in palustrine seasonally flooded-saturated persistent emergent wetlands adjacent to estuarine wetlands within the tidally influenced parcel near Swain Slough in PA 1.



Figure C-3. Photographs at Data Point 108 illustrating conditions in tidally influenced estuarine irregularly flooded persistent emergent wetlands adjacent to an unconsolidated bottom intertidal drainage (i.e., estuarine tidal Other Waters of the U.S) in the Elk River Wildlife Area in PA 1.



Figure C-4. Photographs at Data Point 112 illustrating conditions in the palustrine seasonally flooded persistent emergent wetlands documented throughout agricultural pasture lands within the valley floor in PA 1.



Figure C-5. Photographs at Data Point 115 illustrating conditions in the delineated uplands associated with the elevated raised berm surrounding the right bank of Elk River through much of the valley bottom in PA 1.



Figure C-6. Photographs at Data Point 113 illustrating another example of conditions in the delineated uplands associated with elevated raised berm surrounding the right bank of Elk River through much of the valley bottom in Planning Area 1 (note the extent of this upland stops at the riparian corridor where broadleaved deciduous wetland types are delineated).



Figure C-7. Photographs illustrating conditions in the delineated palustrine semipermanently flooded persistent wetlands associated with vegetated drainages in agricultural pasturelands. Dominant emergent vegetation includes *Scirpus microcarpus* (small-fruited bulrush) (top left), San Francisco rush (top right), and Pacific cinquefoil (bottom).



Figure C-8. Photographs illustrating conditions in the delineated palustrine broadleaved deciduous scrub-shrub and forested wetlands throughout the valley floor in PA 1.



Figure C-9. Photographs of Elk River, a listed navigable water of the U.S. within PA 1. Mean high water line delineated at transition from unconsolidated shore to intertidal estuarine wetlands (visible in upper left and right photographs).



Figure C-10. Photographs of Swain Slough (estuarine tidal Other Waters of the U.S.) within PA 1. Waters delineated to transition from unconsolidated shore to intertidal estuarine wetlands (visible in bottom photograph) since the HTL includes estuarine wetlands.



Figure C-11. Photographs of the intertidal aquatic eelgrass bed delineated in the Swain Slough channel within PA 1.



Figure C-12. Photographs illustrating conditions of estuarine tidal drainages (Other Waters of the U.S.) with unconsolidated bottom associated with Swain Slough and Elk River in Planning Area 1.



Figure C-13. Photographs illustrating conditions of estuarine and riverine tidal waters of Elk River (Other Waters of the U.S.) in PA 1. Where riparian woody vegetation was noted within the HTL/OHWM it was defined as Vegetated -Other Waters of the U.S.



Figure C-14. Photographs illustrating conditions of palustrine broadleaf deciduous scrub/shrub wetlands rooted below HTL/OHWM associated with Vegetated - Other Waters of the U.S in PA 1.

Appendix D

Supplemental Analyses for Aquatic Resource Delineation within Planning Area 1

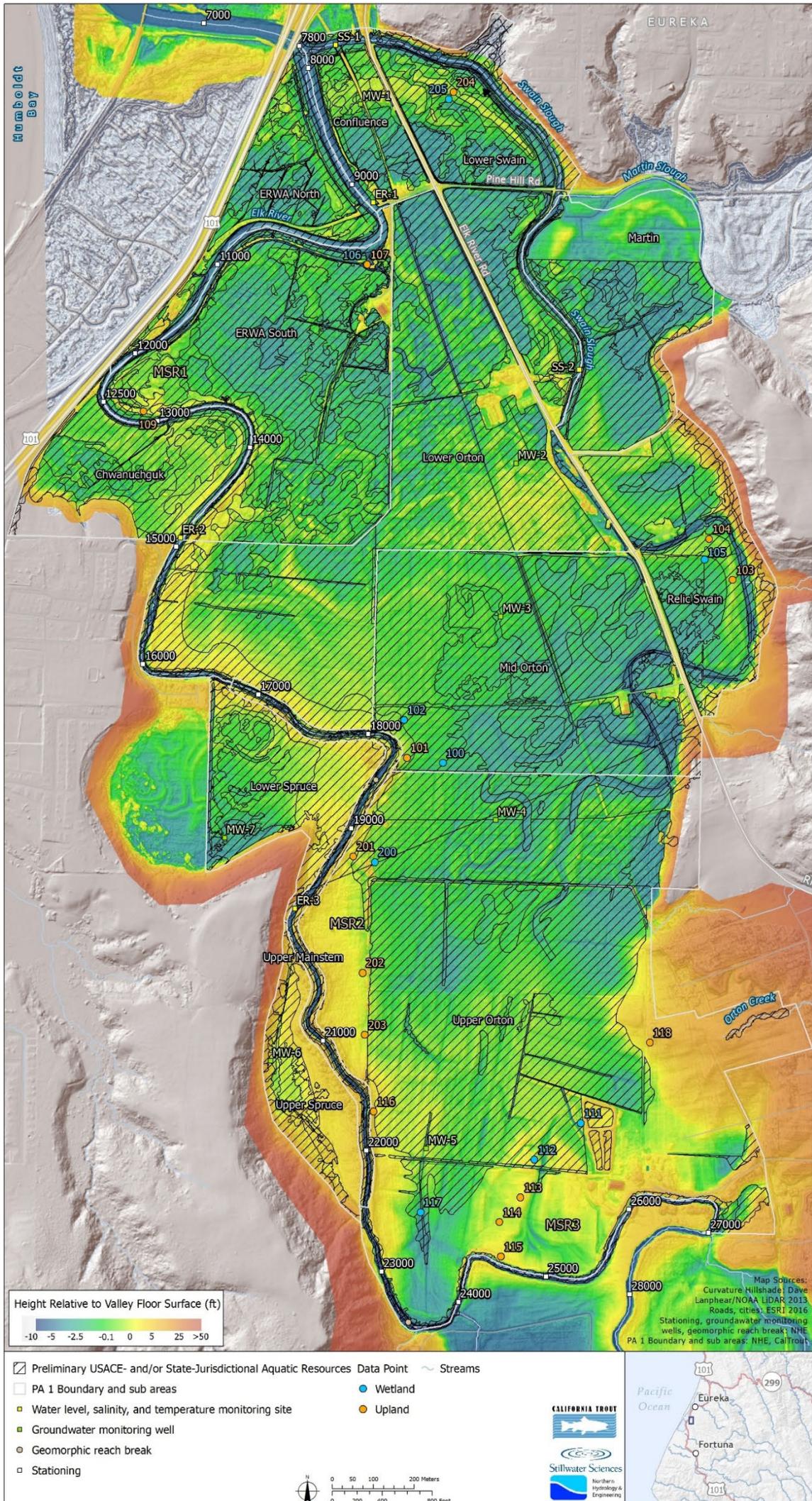


Figure D-1. The relative elevation model (height above the valley floor surface) in Planning Area 1.

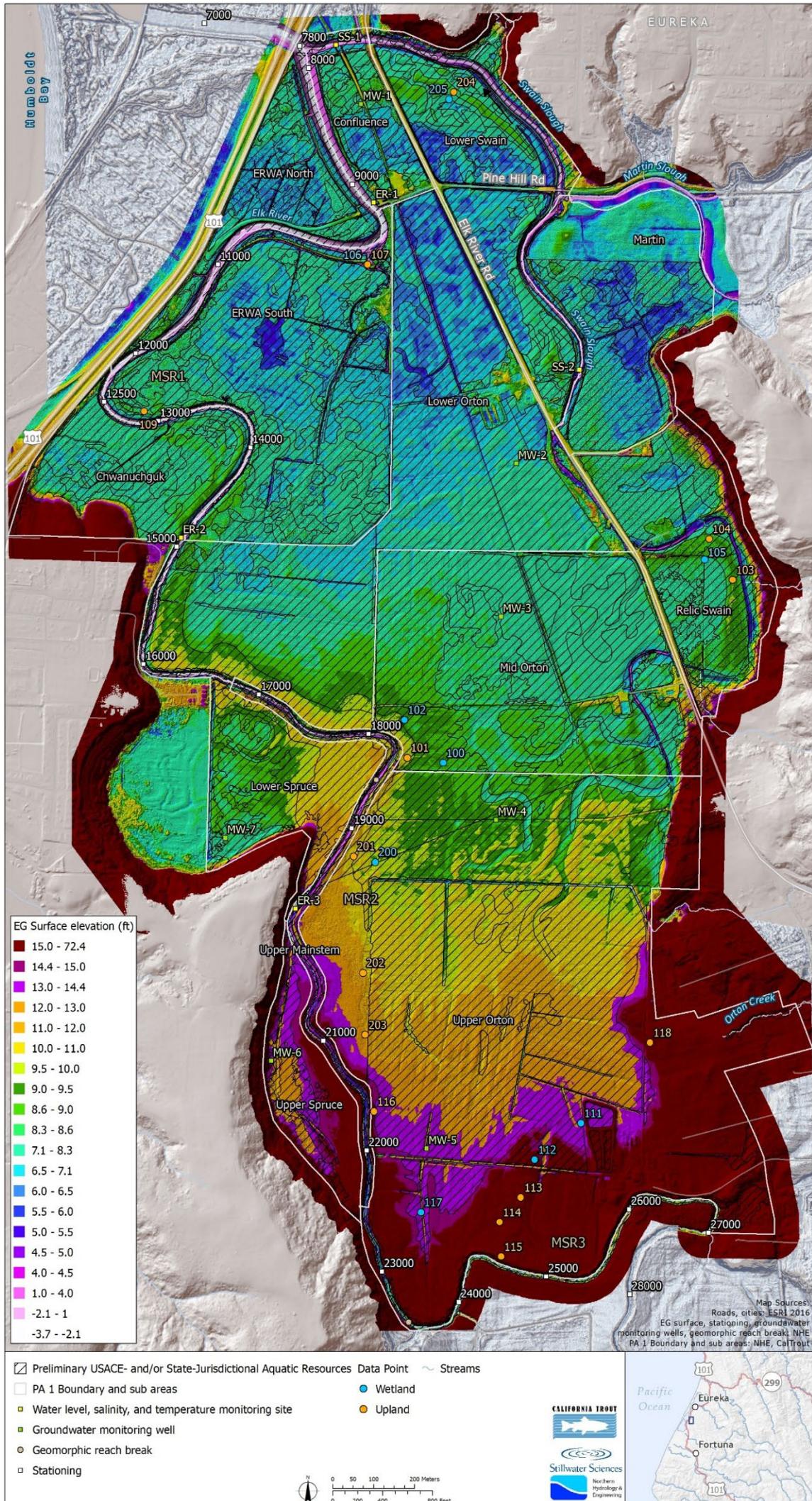


Figure D-2. Existing ground surface and groundwater monitoring wells in Planning Area 1.

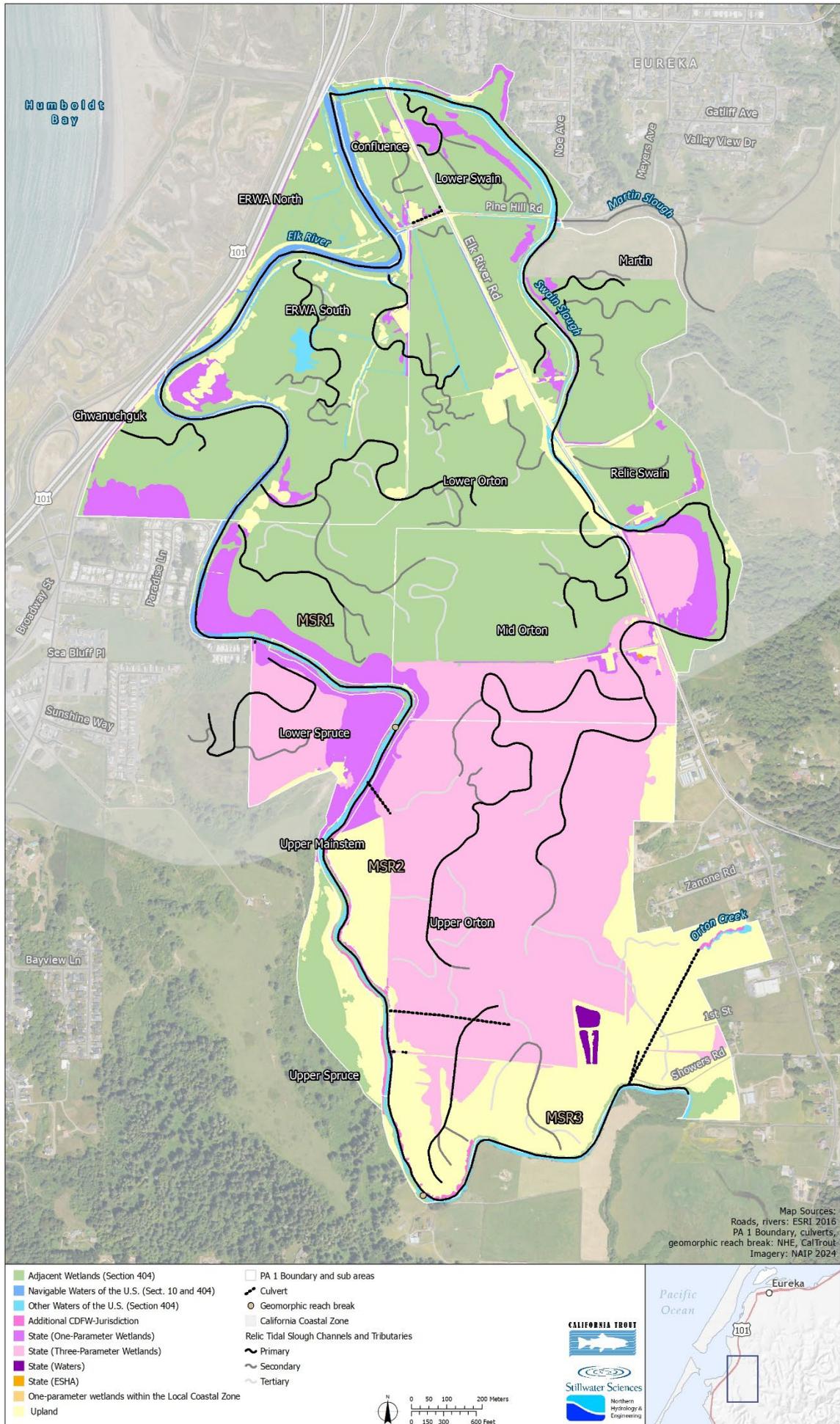


Figure D-3. Historical tidal slough channel network with current USACE- and State-jurisdictional aquatic resources within Planning Area 1.