

BIOLOGICAL SCOPING SURVEY, WETLAND DELINEATIONS, & BOTANICAL SURVEYS

for

**2300 N Hwy 1
Albion, California 95410**

APN: 123-290-03 Mendocino County

Property Owners:
Martin Christian Reimann and Oliver Siegfried Schilke
PO Box 331
Albion, California 95410-0331

Prepared By:
Sarah Bradley, CEO/Principal Biologist
Dark Gulch LLC, Environmental Consulting and Water Works
PO Box 14, Fort Bragg CA 95437
DarkGulch.com
Sarah@darkgulch.com
(707)734-0922
Contractor's License #1118278 & General A & C-12

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1. PROJECT SUMMARY

A forensic wetland delineation and a floristic botanical presence/absence survey were conducted on the subject parcel identified by Assessor's Parcel Number (APN) 123-290-03 between March and June by Dark Gulch LLC, Environmental Consulting and Water Works. These efforts were undertaken to assess the current hydrological and ecological status of the parcel in question. This project complements the earlier comprehensive biological scoping survey, which was executed in May 2023 by the same firm (Appendix A).

The objective of this investigation was threefold:

First, this investigation aimed to revisit and evaluate the findings of the 1998 report titled "*Delineation of Potential Jurisdictional Wetlands and Waters of the United States*" by Wetlands Research Associates, Inc., as well as the "*Botanical Survey*" conducted in 1996 by Gordon E. McBride, Ph.D., Botanical Surveys. In addition, another wetland delineation of the subject parcel from 2007 titled "*Wetland Delineation Subject to the California Coastal Act and the Mendocino County Local Coastal Program*" by Redwood Coast Associates was scrutinized. The purpose was to verify or challenge previous wetland delineations and floristic botanical findings concerning the subject parcel.

Second, this investigation sought to identify any new Environmentally Sensitive Habitat Areas (ESHAs) that may have emerged since the last assessments. This includes the presence of special-status plants and plant communities, wetlands and riparian zones, as well as habitats of special-status wildlife. The findings aim to ascertain whether these areas would be directly or indirectly impacted by proposed or existing developments on the parcel.

Three, this investigation addresses the Recommendations made by the North Coast Regional Water Quality Control Board in its letter from April 26, 2024 and its results are intended to ensure compliance with the California Water Code and the Clean Water Act.

This investigation was carried out in strict adherence to the current regulatory frameworks and guidelines. This includes compliance with the Mendocino County Local Coastal Program (LCP) at the county level, the California Environmental Quality Act (CEQA), the California Water Code (CWC), the California Coastal Act (CCA), and relevant sections of the California Fish and Game Code at the state level, and the Clean Water Act (CWA) at the federal level. The wetland delineation was performed to meet the definition of the State of California, including a mapping of all of potential waters of the State of California and the United States. The wetland delineation followed the methodology prescribed by the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). The

botanical survey was conducted in accordance with the Mendocino County Local Coastal Program (LCP) and the California Native Plant Society's survey protocols.

Through these rigorous scientific and regulatory compliant approaches, this report aims to provide an accurate and up-to-date hydrological and ecological evaluation of the subject parcel in light of the proposed and existing development. The proposed development consists of:

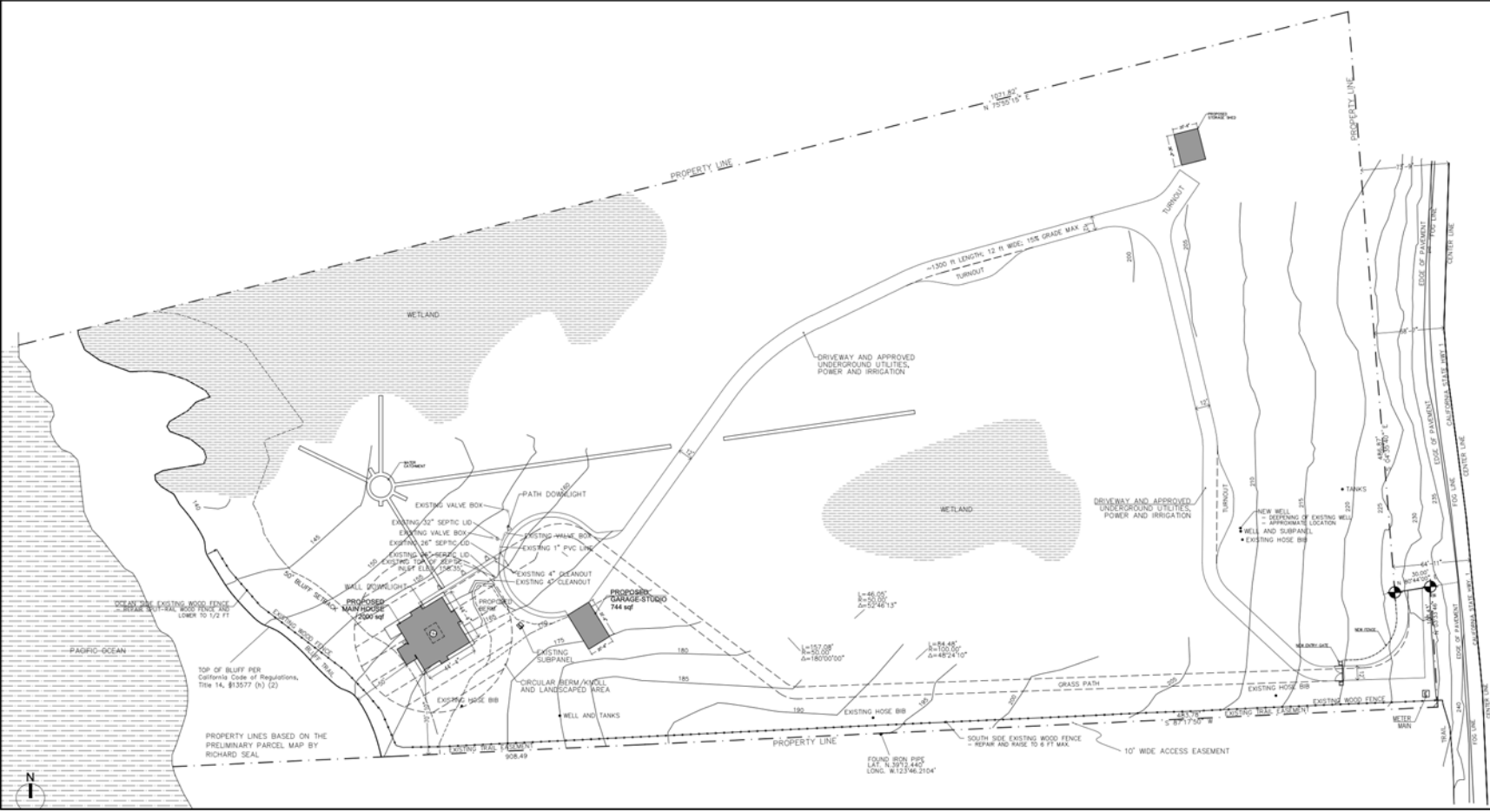
- A 2,000-sqft limited-density rural dwelling;
- A 744-sqft garage/accessory dwelling unit; and
- A 421-sqft storage shed (see locations in Figure 1).

The existing development consists of:

- An operational PG&E transformer, meter main, two subpanels, and underground electrical utilities;
- Two operational residential wells, water storage tanks, and underground fresh water utilities;
- An operational aerobic septic system; and
- An operational driveway running from the property entrance encroaching on the Shoreline Highway to the proposed residential development sites (see locations in Figure 1).

This document includes the findings of the wetland delineation and a floristic botanical presence/absence survey, alongside the "*Biological Scoping Survey*" conducted by Dark Gulch LLC (see Appendix A). It also includes the 1998 "*Delineation of Potential Jurisdictional Wetlands and Waters of the United States*" analysis undertaken for the subject parcel by Wetlands Research Associates, Inc., and the "*Botanical Survey*" completed by Gordon E. McBride, Ph.D., Botanical Surveys (see Appendix B) as well as the 2007 "*Wetland Delineation Subject to the California Coastal Act and the Mendocino County Local Coastal Program*" completed by Redwood Coast Associates (see Appendix C). These extant reports have been prepared in accordance with the requirements set forth by the Mendocino County Local Coastal Program, California Coastal Act, and the Clean Water Act, and are based on the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual.

Figure 1: Locations of Existing and Proposed Developments



Sources: Elemental + Sparano & Mooney Architecture; Forrest Francis Surveyor, Mendocino, California
(<https://www.mendocinosurveyor.com>)
Scale: 1" = 40'

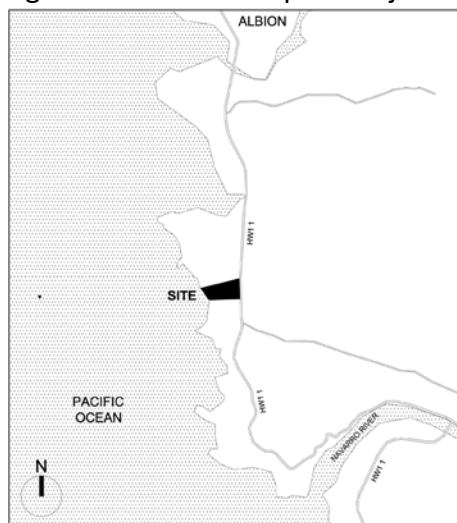
The subject parcel under study is situated roughly 1.3 miles south of the Albion River Bridge (depicted in Figure 2) and to the west of the Shoreline Highway. This 12.52-acre property is accessible through a private entrance off the Shoreline Highway.

Sarah Bradley, the principal biologist at Dark Gulch LLC, conducted ESHA wetland delineations and botanical surveys between March and June 2024, dedicating approximately 24 person-hours to these efforts. One category of presumed ESHA was identified within the study area, verifying the extant wetlands delineation by Wetlands Research Associates, Inc. and Redwood Coast Associates, as well as the botanical findings of Gordon E. McBride, Ph.D., Botanical Surveys (see Figures 3, 6, and 10, as well as Appendices B and C):

Seasonal Wetland ESHA – Two large swales were identified, which run from the southeast corner of the study area to the north west corner. The swales include a vegetated drainage that ranges between 2 to 4 feet in width. The principle hydrological sources for the study area are precipitation, groundwater, surface run-off, and seasonal water flow from on-and-off site sources.

This comprehensive analysis by Dark Gulch LLC represents our expert judgment, extensive research, and data collection efforts. Throughout the project, collaborative consultations were held with Dark Gulch LLC, the property owners, and the County of Mendocino, the California Coastal Commission, the California Department of Fish and Wildlife, and the California North Coast Regional Water Quality Control Board. These interactions, including site visits on February 21, 2024, and March 27, 2024, provided an opportunity for these agencies to establish own recommendations, confirm demarcations of sensitive areas, and suggest appropriate measures for avoidance and protection.

Figure 2: Location Map of Subject Parcel



Source: Elemental + Sparano & Mooney Architecture
Scale: 1" = 5000'

Figure 3: Presumed Seasonal Wetland ESHA & Existing and Proposed Development

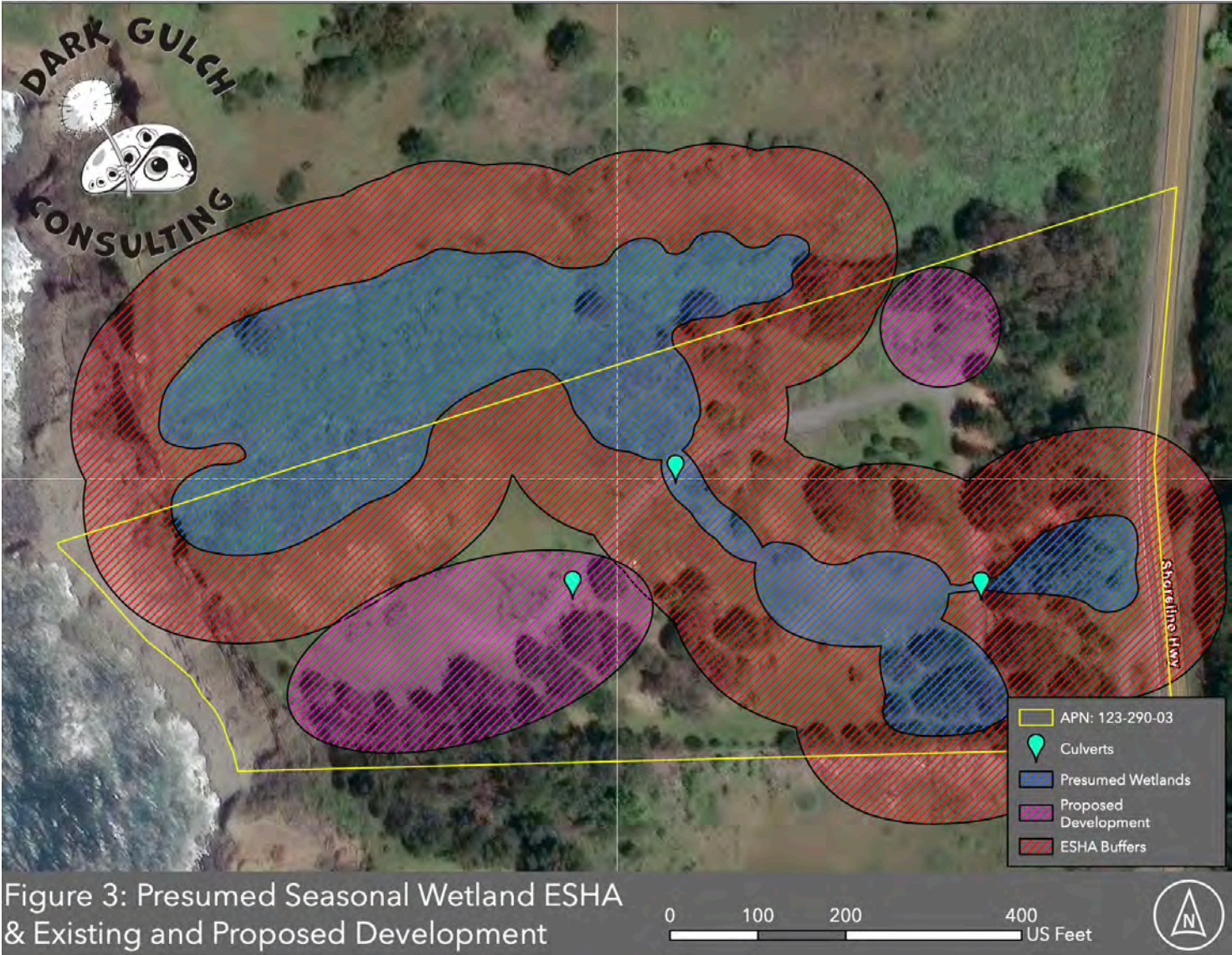


Figure 3: Presumed Seasonal Wetland ESHA & Existing and Proposed Development

2. PROJECT DESCRIPTION

The proposed development is to build a 2,000-sqft limited-density rural dwelling and a 744-sqft garage/accessory dwelling unit, and to connect these dwellings to the operational aerobic septic system, wells, water storage tanks, and underground electrical utilities. The proposed development is also to build a 421-sqft storage shed. Figure 1 shows the footprint of the proposed development and Figure 3 depicts the presumed seasonal wetland ESHA in relationship to both existing and proposed development.

3. STUDY AREA DESCRIPTION

3.1. General Site Description

The subject parcel is a combined 12.52 acres in size and the study area was focused on a 100ft buffer area around the existing and proposed development (approximately 5 acres). The property is on a coastal terrace that slopes downward toward its western edge.

3.2. Land-Use History

The subject parcel has been under development for at least four decades, at least going back to the times around the Vested CDP# 1-81-85. Figure 4 depicts a satellite image from 2005, showing two driveways in place. In addition, in the mid-2000s, the subject parcel prepared for a parcel split with a second proposed single-family residence to be built in the northeastern corner of the property, necessitating driveway access along a north-south axis (CDP# 67-2006). Figure 4 depicts staging in the northeastern corner and improvements to the driveway along the north-south axis. Historic use of the subject parcel was most likely agricultural grazing, based on land use of the surrounding parcels. No evidence of historic logging exists, based on absence of large tree stumps throughout the parcel.

Figure 5 (Panel A) depicts the wetland delineation map prepared by Wetlands Research Associates, Inc. (also see Appendix B) as well as a recent satellite image from 2023, showing the existing driveway (see Figure 5, Panel B).

In Figure 6, the wetland delineation map prepared by Wetlands Research Associates, Inc. is overlaid over both the 2005 satellite image (see Figure 6, Panel A) and the 2023 satellite image (see Figure 6, Panel B). Panel B demonstrates that the existing driveway was historically placed in areas to avoid presumed ESHA wetlands.

Figure 4: Shoreline Highway Encroachment and Historical Driveway Development



Figure 5: 1998 Wetlands Delineation and Existing Driveway

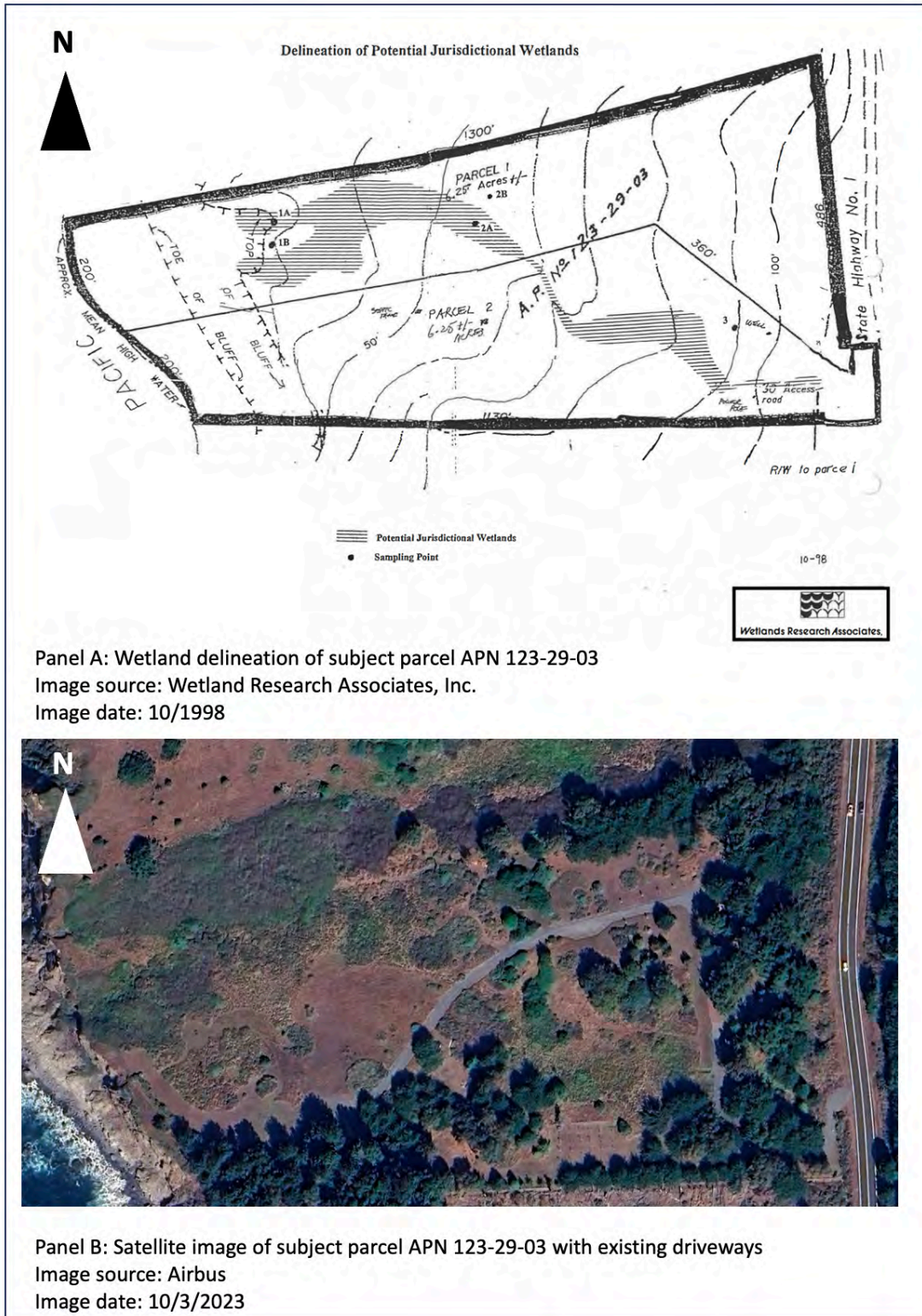


Figure 6: Existing Driveway (Panel B) Avoids 1998 Wetlands Delineations



Panel A: Wetland delineation with respect to 2005 satellite image of subject parcel
Image source: Wetland Research Associates, Inc. and USDA/FPAC/GEO satellite
Image date: 6/11/2005 (overlay represents an approximation)



Panel B: Wetland delineation with respect to 2005 satellite image of subject parcel
Image source: Image source: Wetland Research Associates, Inc. and Airbus
Image date: 10/3/2023 (overlay represents an approximation)

3.3. Topography and Soils

The elevation of the study area is approximately 140-240 feet above sea level. Different soil types have been identified and mapped in 2023 by Brunsing Associates, Inc. in a full geotechnical investigation of the subject parcel: “The bedrock is overlain by Pleistocene terrace deposits of approximately 20 feet in thickness which constitute the upper bluff. These deposits have eroded to form a moderate slope which extends to the steeper bedrock bluffs below and is well vegetated. The terrace deposits are blanketed by 2 to 4 feet of topsoil consisting of dark brown, soft sandy silts which were porous with roots. The silts appear to be of low plasticity and of low expansion potential (tendency for soil volume change with changes in moisture content). Underlying the topsoil, our exploration encountered orange-brown silty sands and clean sands (less than 5% fines) which extend to the maximum depth explored (16.5 feet). The sands are loose to dense and fine grained with few coarse sands. In general, the top two feet of these sands (underlying the topsoil) were loose, the underlying material is medium dense to dense. [..] No active landsliding or erosion were observed on the property bluffs. In general, the upper terrace deposits appear to be currently stable and well vegetated. The lower bluffs appeared generally stable with minor evidence of sloughing observed within the dark gray sandstone which forms the lower bluffs.”

The Soil Survey of Mendocino County, California, Western Part identifies the soil type as 145 – Flumeville clay loam, 5 to 15 percent slopes. This soil type is typically dark grey clay loam at the surface, with a subsoil that is grayish brown clay loam. The lower 36 inches is light gray and white clay that has strog brown mottles. Typically this soil type is used for livestock grazing, hay pasture or wildlife habitat.

3.4. Climate and Hydrology

The Mendocino Coast has a Mediterranean climate with average annual precipitation of 40.24 inches (WRCC, Station Fort Bragg 5N, average for years 1895-2016), with the majority of rain occurring in winter months (November through March).

The U.S. Fish & Wildlife Service’s National Wetlands Inventory was consulted in April 2024 and showed a wetland running to the north of the subject parcel (see Figure 7). No other wetlands have been identified in the National Wetlands Inventory on the subject parcel.

During field work, a seasonal wetland was observed with water flowing through culverts under the Shoreline Highway and onto the subject parcel, as identified in extant wetland delineations of the subject parcel. An forensic wetland delineation was conducted and is described in Section 5.

Figure 7: Wetland Identified in the National Wetlands Inventory



3.5. Vegetation and Natural Communities

The majority of the study area is vegetated with sweet vernal grass (*Anthoxanthum odoratum*), slough sedge (*Carex obnupta*), horsetail (*Equisetum telemateia*), salal (*Gaultheria shallon*), Monterey cypresses (*Cupressus macrocarpa*), and Monterey pine (*Pinus radiata*). The presumed ESHA wetland contains overwhelmingly of slough sedge (*Carex obnupta*) and horsetail (*Equisetum telemateia*). Landscaping for agricultural purposes (fruit trees) and windbreaks with Leyland cypresses (*Leylandii* spp.) are present in select areas. Figure 8 illustrates vegetation and natural communities.

Figure 8: Vegetation Map



Figure 8: Vegetation Map

3.6. Adjacent Lands

Lands surrounding the study area include residential development with similar habitat.

3.7. Existing Development

The surrounding properties to the north, south, and east are used for residential purposes. The existing development on the subject parcel includes two residential wells, an aerobic septic system, underground electrical and water utilities, and access driveways and were permitted under Vested CDP# 1-81-85 and CDP# 67-2006.

In particular, along the existing driveway, a PG&E transformer, meter main, two subpanels, electrical utilities, and underground irrigation have been permitted, were completed, and were then inspected by the County of Mendocino Department of Planning and Building Services under Permit #BF_2019-0593, per Vested CDP# 1-81-85.

Shoreline Highway encroachment and existing driveway improvements have been permitted by the State of California Department of Transportation under Permit# 0119-6-RS-0443 and have been approved in line with the stipulations of the County of Mendocino Department and the State of California Department of Forestry and Fire Protection under Permit# 114-22.

An operational aerobic septic system has been permitted under the Vested CDP# 1-81-85, was professionally designed by David R. Miller of Willits, California, was professionally installed by Redwood Valley Gravel Products Inc., and was then inspected and approved by the County of Mendocino Division of Environmental Health under Permit# ST25022.

4. METHODOLOGY

4.1. Maps and Scoping Tables

Maps and scoping tables were created for the special-status plant species and wildlife with the potential to occur in the study area by reviewing the most up-to-date species lists for the California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDDB), and the California Native Plant Society (CNPS).

For purposes of this investigation, special-status plant species are vascular plants that are (1) designated as rare, threatened, or endangered by the state or federal governments; or (2) are proposed for rare, threatened, or endangered status; and/or (3) are state or federal candidate species, and/or (4) considered species of concern by the U.S. Fish & Wildlife Services and/or (5) are included on the California Rare Plant Rank (CRPR).

The California Natural Diversity Database (CNDDDB) was used to obtain records within nine 7.5 minute quad maps of the study area (see Figure 9) and to compile both a map and lists of special-special status plants and animals with the potential to occur in the study area (see Figures 9 and 10). The CNDDDB is a database providing location and natural history information on special-status plants, animals, and natural communities. The obtained lists were not limited to species listed in this document, it includes all species indicated by a search of all quads (i.e., Albion and Elk quads) with similar geology, habitats, and vegetation to those found in the study area. Because the CNDDDB is limited to reported sightings, it is not a comprehensive list of plant species that may occur in a particular area. However, it is useful in refining the list of special-status plant species that have the potential to occur on a particular site.

Figure 9: Special status plant species found within 5 miles of subject parcel.

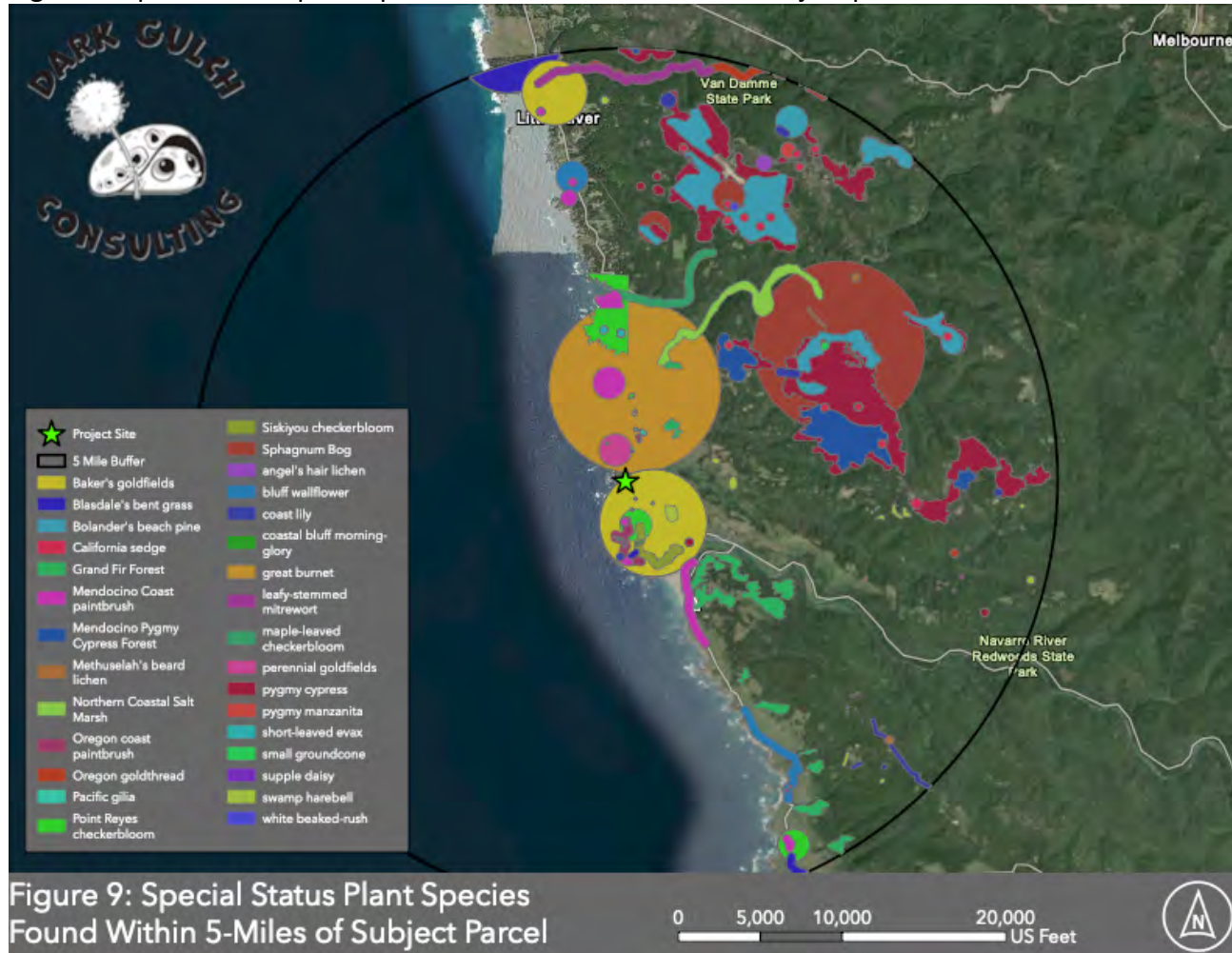
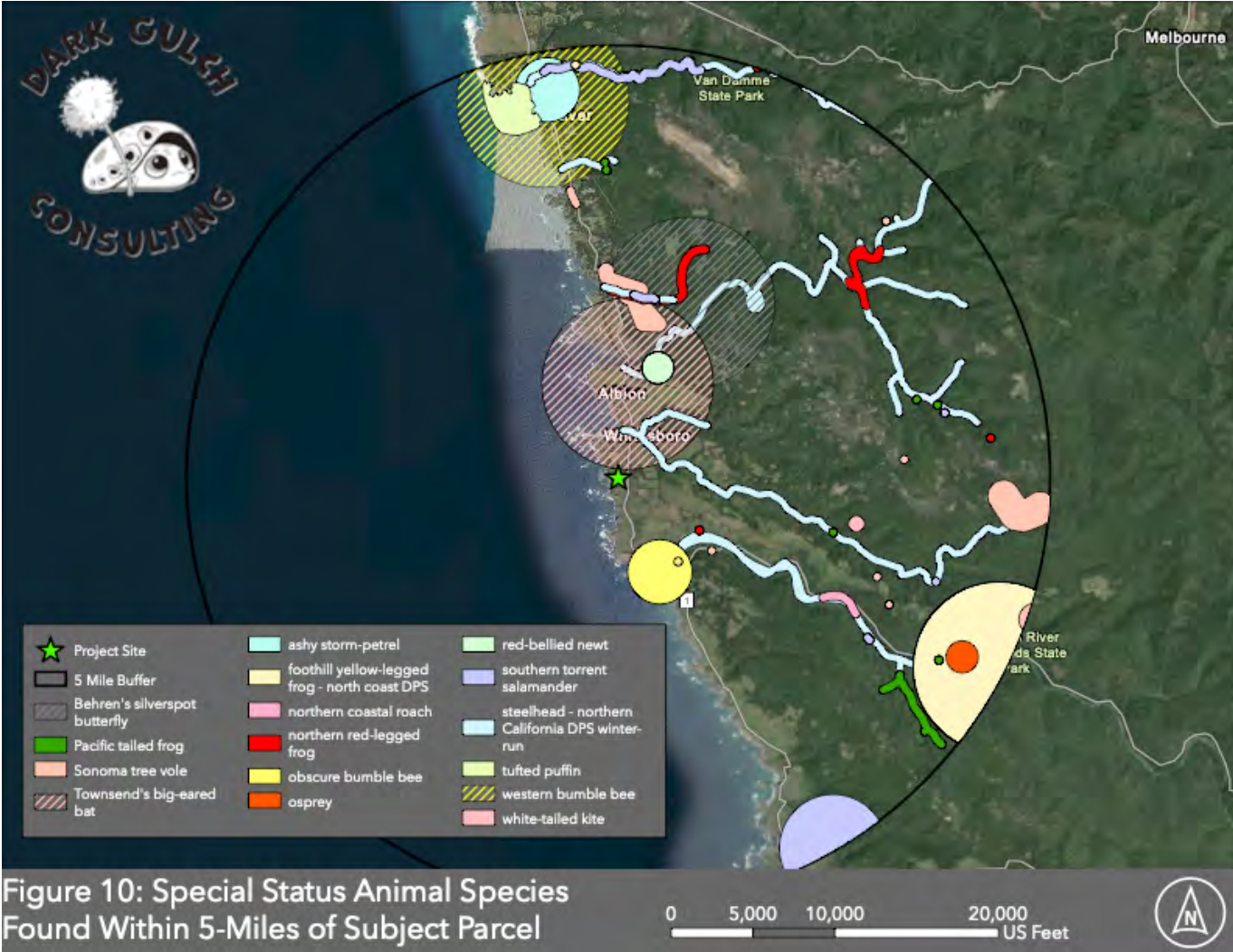


Figure 10: Special status animal species found within a five mile radius of subject parcel



4.2. Field Work

Principal biologist at Dark Gulch LLC Sarah Bradley conducted a full forensic wetland delineation and a revised floristic botanical presence/absence survey on April 16, April 28 and May 3, 2024, dedicating approximately 16 person-hours to these efforts to compile a floristic list of plants occurring in the study area and to identify any rare resources having the potential to meet the LCP ESHA definitions.

4.2.1. Wetland Delineation

The process of wetland delineation began by observing the landscape for signs of surface water and plants adapted to water-rich environments. Detailed evaluations were carried out at specific sampling points, where the presence of wetland soils, water-loving plants, and water sources were examined following the procedures outlined by the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). The findings for each sampling point are detailed in Appendix D. The sampling points were marked in the field with 24-inch wooden stake with colored flagging and labeled with a Sharpie marker. The location of each sampling point is shown in Appendix Figure A-1. The U.S. Army Corps of Engineers defines wetlands as areas where water-tolerant vegetation, water-influenced soils, and water presence converge. However, within the California Coastal Zone, an area is considered a wetland if it meets any one of the U.S. Army Corps of Engineers' criteria (water-tolerant vegetation, water-influenced soils, or water presence). Wetlands reported and mapped in this report are Coastal Act wetlands and may or may not be U.S. Army Corps wetlands.

4.2.2. Revised Floristic Botanical Presence/Absence Survey

To guarantee that plants of potential special interest were visible and identifiable, visits were made to offsite reference plant populations before the field surveys of the project. Plants verified at offsite reference sites observed by Dark Gulch during the 2024 botanical seasons included: pink sand verbena (*Abronia umbellata* var. *beviflora*), Blasdale's bent grass (*Agrostis blasdal*), pygmy manzanita (*Arctostaphylos nummularia* ssp. *mendocinoensis*), Point Reyes blennosperma (*Blennosperma nanum* var. *robustum*), Bolander's reed grass (*Calamagrostis bolanderi*), coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*), swamp harebell (*Campanula californica*), California sedge (*Carex californica*), Lyngbye's sedge (*C. lyngbyei*), deceiving sedge (*C. saliniformis*), Mendocino coast paintbrush (*Castilleja mendocinensis*), Point Reyes ceanothus (*Ceanothus gloriosus* var. *gloriosus*), Howell's spineflower (*Chorizanthe howellii*), round-headed Chinese-houses (*Collinsia corymbosa*), Oregon goldthread (*Coptis laciniata*), bunchberry (*Cornus unalaschkensis*) supple daisy (*Erigeron supplex*), supple daisy (*Erysimum concinnum*), Pacific gilia (*Gilia capitata* ssp. *pacifica*), dark-eyed gilia (*G. millefoliata*), short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*), Mendocino cypress (*Hesperocyparis pygmaea*), Point Reyes horkelia (*Horkelia marinensis*), thin-lobed horkelia (*H. tenuiloba*),

harlequin lotus (*Hosackia gracilis*), hair leaved rush (*Juncus supiniformis*), perennial goldfields (*Lasthenia californica* ssp. *macrantha*), coast lily (*Lilium maritimum*), leafy stemmed mitrewort (*Mitellastrum caulescens*), Bolander pine (*Pinus contorta* ssp. *bolanderi*), white beaked rush (*Rhynchospora alba*), great burnet (*Sanguisorba officinalis*), Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*), Maple-leaved checkerbloom (*S. malachroides*), purple stemmed checkerbloom (*S. malviflora* ssp. *purpurea*), and western dog violet (*Viola adunca*).

During the conducted field surveys, every plant species encountered was classified to the most detailed taxonomic level required to identify the presence of plants of special interest. The taxonomic classification was based on “The Jepson Manual: Vascular Plants of California” (Baldwin 2012). Furthermore, “A Manual of California Vegetation Second Edition” (Sawyer 2009), “Classification of the Vegetation Alliances and Associations of Sonoma County, CA, Volume 2” (Klein 2015), and the “California Natural Community List” (CDFW 2021) were utilized to categorize and detail the typical plant communities observed. There is a risk of not detecting some species, such as when a rare plant is consumed by wildlife like deer at a time it would have been visible and identifiable, leading to potential false negatives in the survey findings. Additionally, not all plants emerge from dormancy annually, making their detection inconsistent. Yearly variations in weather can unpredictably affect when plants bloom; heavy rainfall, for instance, might cause certain species to flower earlier or later than usual. Regular visits to the site and ongoing monitoring at established reference locations are strategies employed to minimize these errors.

5. RESULTS

Field work was performed to confirm/disconfirm the following: wetlands, plants, plant communities, special-status animals, and animal habitat in the study area.

5.1. Floristic Botanical Presence/Absence Survey

The CDFW’s California Native Diversity Database (CNDDDB) Rarefind, was used to inform the search on flora previously reported in the vicinity of the project area.

5.1.1. Special-Status Plant Species

Forty-seven species of plant species were identified in the Albion, Elk, Mendocino, Mathison Peak and Mallo Pass Creek quads of the study area and are listed in Appendix E.. **No special-status plant species were observed during the protocol level biological surveys.**

5.1.2. Special-Status Plant Communities

Six terrestrial communities were identified in the Albion, Elk, Mendocino, Mallo Pass Creek and Mathison Peak quads quads of the study area and are listed in Appendix E. **No special-status plant communities were observed during the protocol level biological surveys.**

5.2. Wetland Delineation

A routine-level study of hydrology, soils, and vegetation indicators was conducted within the study area. The results for each sampling points were recorded on the data sheet (Appendix D) from the 2010 Regional Supplement to the Army Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). The locations of the sampling points are depicted in Appendix Figure A-1. The wetland hydrology, hydric soils, and hydrophytic vegetation indicators used to make wetland determinations. Protocol-level samplings were only conducted in those areas that both showed a potential for being wetland, and which occurred in locations with the potential to affect the existing and proposed development. The sampling points were marked in the field with 24-inch wooden stake with colored flagging and labeled with a Sharpie marker. As a result of this field work, Figure 11 was created, which depicts the wetland delineation map. The presumed wetland on the subject parcel was calculated to be 1.1 acres in size.

The method of selecting sampling points aligns with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual. Several of the sampling points are representative of the boundaries of the wetlands, in addition to sampling points at the proposed and existing developments, providing a comprehensive forensic study of presumed wetlands.

Figure 11: Updated Wetland Delineation Map



Figure 11: Updated Wetland Delineation Map

5.2.1. Sampling Point SP01 – Proposed Limited-Density Rural Dwelling and Surrounding

Sampling Point SP01 was chosen due to the proposed limited-density rural dwelling. Sampling point SP01 is representative of the dashed circular area in Figure 1 drawn around the grey box titled “Proposed Main House 2000 sqf” in Figure 1. Sampling SP01 is also representative of the area of the aerobic septic system, marked as “Septic Lids/Valve Box” and “PVC Line” in Figure 1. **No wetlands, rare plants, or rare plant communities were observed at or within 100 feet of SP01.**

5.2.2. Sampling Point SP02 – Proposed Garage/Accessory Dwelling Unit and Surrounding

Sampling Point SP02 was chosen due to the proposed garage/accessory dwelling unit. Sampling point SP02 is representative of the grey box titled “Proposed Garage-Studio 744sqf” in Figure 1 and the circular CalFire turnaround to the north/northwest of it. **No wetlands, rare plants, or rare plant communities were observed at or within 100 feet of SP02.**

5.2.3. Sampling Points SP03, SP06 – Storage Shed and Surrounding

Sampling Points SP03 and SP06 were chosen due to the proposed storage shed. These sampling points are representative of the grey box titled “Storage Shed” in Figure 1. **No wetlands, rare plants, or rare plant communities were observed at or within 100 feet of SP03 and SP06.**

5.2.4. Sampling Points SP04, SP05 – Presumed ESHA at Existing Driveway Crossings

Sampling Points SP04 and SP05 were chosen due to the presence of water in March 2024 in an area where the existing driveway crosses the presumed wetland depicted in the 1998 “Wetland Delineation” (see Figure 6, Panel B) and/or in areas where the existing driveway is within 50 feet of presumed ESHA. Within the Coastal Zone of California, water present can meet “one parameter” definition of Coastal Act wetland, and **Sampling Points SP04-05 were determined to represent a Seasonal Wetland ESHA. No rare plants or rare plant communities were observed at or within 100 feet of SP04-05.** Sampling Points SP04-05 confirm the existence of a wetland as identified in the 1998 report titled “*Delineation of Potential Jurisdictional Wetlands and Waters of the United States*” by Wetlands Research Associates, Inc. Two large swales were confirmed, which run from the southeast corner of the study area to the north west corner. The swales include a vegetated drainage that ranges between 2 to 4 feet in width. The principle hydrological sources for the study area are precipitation, groundwater, surface run-off, and seasonal water flow from on-and-off site sources. The water present in this area is largely due to a culvert under the Shoreline Highway that directs precipitation/surface water from a neighboring parcel onto the subject parcel during heavy rainfall, instead of

the naturally-occurring drainage depicted in the U.S. Fish & Wildlife Service’s National Wetlands Inventory (see Figure 7). However, the occurrence of water is of seasonal nature. Of note, during site visits between February and May 2024, the subject area suffered from several rain storms with unusually high amounts of precipitation (atmospheric rivers, as per NOAA). Nonetheless, the existing driveway crossings including culverts were appropriately-size, effectively handling waterflow even during intense rainfall, and the existing culverts and driveway have been professionally installed to direct waterflow to the established wetland areas. An altered hydrology due to culverts/driveway has not occurred.

5.2.5. Sampling Point SP07 – Presumed ESHA in Alternate Access Driveway

Sampling Point SP07 was chosen due to the presence of water in an area titled “Grass Path” in Figure 1. Within the Coastal Zone of California, water present can meet “one parameter” definition of Coastal Act wetland, and **Sampling Point SP07 was determined to represent a Wetland ESHA** with water flowing from the neighboring property to the South onto the subject parcel (see Figure 12). **No rare plants or rare plant communities were observed at or within 100 feet of SP07.**

Figure 12: Alternate Access Driveway (titled Grass Path in Figure 1) Within Presumed Wetland ESHA



5.2.6. Sampling Point SP08 – Third culvert

Sampling Point SP08 was chosen due to the presence of another culvert. **No wetlands, rare plants, or rare plant communities were observed at or within 100 feet of SP08.**

5.3. Special-Status Wildlife Species – Potential Occurrences

The CDFW's California Native Diversity Database (CNDDDB) BIOS 6, was used to inform the search on fauna previously reported in the vicinity of the project area. Twenty species of animal species were identified in the Albion, Elk, Mendocino, Mathison Peak and Mallo Pass Creek quads of the study area and are listed in Appendix E. Protocol-level surveys were conducted for amphibians during a June 1, 2024 site visit. **No special-status animals were observed during the protocol level biological surveys.**

6. REDUCED BUFFER ANALYSIS SUMMARY

A Reduced Buffer Analysis, as outlined in Appendix F, was carried out to guide the establishment of appropriate safeguards for both sensitive species, as well as habitats deemed sensitive within the area of study. This analysis facilitated the formulation of essential mitigation strategies (detailed in Section 7) aimed at minimizing the environmental footprint of both existing and planned developments, ensuring their impacts on sensitive ecosystems are negligible.

The proposed development project is strategically positioned beyond the 100-foot ESHA buffers, adhering to regulatory guidelines. Both the Limited-Density Rural Dwelling and the Garage/Accessory Dwelling Unit are within the building envelope of the Vested CDP# 1-81-85. The proposed storage shed is positioned beyond the 100-foot ESHA buffers.

Similarly, the design and placement of the existing aerobic septic system, along with its primary and replacement fields, observes a cautious distance from the 100-foot ESHA buffers, mitigating potential adverse impacts on presumed sensitive habitats.

The existing three culverts, along with the driveway that traverses these structures, may encroach upon what is believed to be the 50ft buffer of a seasonal wetland ESHA. Note that the culvert at SP08 was not determined to be a wetland. Nonetheless, a delineation based on a 100-foot diameter around these culverts identifies three potentially impacted zones, each covering an area of 0.18 acres, cumulatively amounting to 0.54 acres. A delineation based on a 20-foot diameter (i.e., greater than the width of the existing 12-foot-wide driveway) around these culverts identifies three potentially impacted zones, each covering an area of 0.014 acres, cumulatively amounting to 0.042 acres. Appendix Figure A-1 depicts the impact area of the existing driveway on the presumed wetlands at a conservative 20-foot diameter delineation.

This area may represent the impact on the presumed seasonal wetland ESHA. One of these two areas includes the existing well, subpanel, piping, and water storage tank. Of note, development within 50-foot ESHA buffers occasionally necessitates a Report of Compliance to ensure that such development is situated in areas with minimal environmental impact. Nevertheless, biologists from Dark Gulch LLC have assessed that a Report of Compliance is not required in this case. This conclusion is based on (1) the low-impact nature of the existing development, (2) diligent permitting on behalf of the previous and current landowners (as discussed in Sections 3.2. and 3.7.), and (3) the absence of viable alternative locations. The positioning of the driveway, crucial for connecting the Shoreline Highway with the proposed residence, does not allow for relocation elsewhere on the property without compromising ecological integrity.

7. MITIGATION AND AVOIDANCE MEASURES

The proximity of both existing and proposed development to natural habitats has been thoroughly examined to assess their potential to disrupt sensitive species. This assessment was based on the methodologies and findings detailed in this report, along with the Reduced Buffer Analysis stipulated by the County of Mendocino Local Coastal Program (Appendix F). From these analyses, it is our belief that the potential effects on presumed ESHA, specifically the presumed wetland, can be significantly reduced or entirely circumvented by adopting the mitigation strategies outlined below.

To mitigate the impact of both the current and future developments on the identified seasonal wetlands ESHA, we propose the following measures. These strategies are designed to safeguard potential environmental resources located within a 100-foot radius of the development sites, ensuring their preservation and preventing detrimental effects.

7.1. Potential Impact to Birds

Removal of vegetation and construction activity near trees and vegetated areas has the potential to disturb birds' nesting process if it occurs during the nesting season.

7.1.1. Avoidance Measure: Nest Protection: Should active native bird nests be found, activities like vegetation removal or construction that could disturb nesting are prohibited within a 100-foot buffer zone, adjustable based on species, habitat, and disturbance levels. This buffer zone must be maintained until the fledglings are independent. A biologist should monitor the nest site weekly during the breeding season to confirm the buffer's effectiveness in preventing disturbances.

7.1.2. Avoidance Measure: Construction Limited to Daylight: To reduce noise disturbance and the need for artificial lighting, construction activities should be confined to daylight hours.

7.2. Potential Impact to Amphibians and Insects

To mitigate potential disturbances to amphibians and insects during construction, such as traversing their habitats and disturbing hiding spots under materials, the following protective measures are recommended:

7.2.1. Avoidance Measure: Contractor Training: Before starting construction, contractors should undergo training led by a qualified biologist on recognizing amphibians and insects native to the Mendocino coast, within two weeks of beginning work. This training should cover distinguishing between species of special concern and more common species, along with the necessary steps and communication protocols if species of special concern are encountered.

7.2.2. Pre-construction Surveys: At the start of each day, before initiating ground-disturbing work, crews should conduct visual inspections of the area to identify any species of special concern or common animals present.

7.2.3. Mindful Debris Management: When removing construction debris and handling wood stockpiles, materials should be moved carefully by hand to prevent harming amphibians.

7.2.4. Rain Event Protocol: Construction should pause for 48 hours following a rain event to protect the habitat during wet conditions. After this period, a trained crew member will inspect the area for any species of special concern before resuming work.

7.3. Potential Impact to Wetland Areas

Rain, construction, and vegetation removal near presumed ESHAs may harm wetland habitats. Ground compaction and disturbance from materials and vehicles are concerns during construction stages. Furthermore, introducing invasive species during construction and landscaping could negatively affect native plants and habitats.

7.3.1. Restoration Mitigation Measure: Replant Potentially Lost Wetland Vegetation: Consider mitigating the possible impact of the existing driveway crossings by planting wetland vegetation in the amount to replace the protective values of the impact area of the driveway on the parcel, at a minimum ratio of one (1) to one (1), as per Mendocino County Code Sec. 20.719.020 - ESHA—Development Criteria. An appropriate native wetland vegetation would be Pacific reedgrass (*Calamagrostis nutkaensis*), which will be planted in an area of the property that is not currently a wetland. Proposed locations of the new wetland is around SP06 and SP08, areas which currently are not wetlands. Using the results from the forensic wetland and waters delineation, the impact area was determined to be 0.042 acres. Inputting the determined impact area into the U.S. Army

Corp of Engineers Mitigation Calculator (12501-SPD.06), the Required Mitigation was calculated to be 0.09 acres and 79 linear feet at a final ratio of 2.2. However, since the impact is so small (e.g., less than one (1) acre) and isolated it may not be ecological reasonable to attempt to recover and maintain a high level of biological productivity without major restoration activities, which may in turn have negative ecological impacts, as per Mendocino County Code Sec. 20.719.025 - Wetlands and Estuaries.

7.3.2. Avoidance Measure: Staging Area Plan: Position all materials and vehicles in upland areas, maintaining a distance of over 100 feet from all ESHAs.

7.3.3. Avoidance Measure: Best Management Practices: Apply standard best management practices to reduce erosion from construction. Limit ground disturbance and stabilize disturbed areas promptly using native seeds or biodegradable materials.

7.3.4. Avoidance Measure: Clean Machinery: To prevent the spread of invasive species, thoroughly clean heavy machinery, such as excavators and skid steers, offsite before use.

7.3.5. Avoidance Measure: Non-Invasive Planting: Avoid planting invasive species. Opt for non-invasive, native vegetation to preserve the local ecosystem. Some invasive plants commonly found on the Mendocino coast that should be avoided are: Iceplant (*Carpobrotus edulis*, *C. chiloensis*, & *Delosperma sp.*), cotoneaster (*Cotoneaster franchetii* & *C. pannosus*), English holly (*Ilex aquifolium*), English ivy (*Hedera helix*), cape ivy (*Delairea odorata*), pampas grass (*Cortaderia jubata* & *C. selloana*), cape weed (*Arctotheca calendula* & *A. prostrata*), montbretia (*Crocasmia sp.*), redhot poker (*Kniphofia uvaria*), periwinkle (*Vinca major*), bulbil bugle lily (*Watsonia meriana*), and callalily (*Zantedeschia aethiopica*). Instead, planting of locally-sourced native species appropriate to the habitat will be preferred. This will help support native pollinators, insuring that they have ample food and habitat.

7.3.6. Current Mitigation Measures: Removal & Replacement of Non-Native Species: Currently, the owner is actively removing non-native *Pinus radiata* and replacing it with *Pinus muricata*. The creation of open space will also allow natural recruitment of native species. Active removal of targeted invasive species is ongoing, with particular emphasis on CAL-IPC (California Invasive Plant Council) listed species including: *Bromus spp.*, *Cirsium vulgare*, *Cirsium arvenses*, and *Digitalis purpurea*.

7.4. Restoration Mitigation and Monitoring Plan (RMMP)

This restoration mitigation and monitoring plan (RMMP) is designed to comprehensively address how the aforementioned potential restoration mitigation measure (see 7.3.1.) will be monitored, ensuring ecological functionality and compliance with regulatory standards. The plan's flexibility allows for adaptive management strategies to effectively respond to monitoring

outcomes and evolving site conditions. This RMPP is based on the regulations set in Mendocino County Code Sec. 20.532.065 – Wetland Restoration Plan Procedures. This RMPP also addresses point 3 of the Recommendations made by the North Coast Regional Water Quality Control Board in its letter from April 26, 2024 and is intended to ensure compliance with the California Water Code and the Clean Water Act, as referenced in the letter. In addition, it addresses the CEQA Guidelines Section 15126.4(a)(1)(B), as referenced by the Mendocino Planning and Building Services Department.

7.4.1. Regular Monitoring: Before any restoration mitigation begins, the property owner will use the results from the sampling point analyses (see Appendix D) as baseline data on existing species and environmental conditions. This will serve as a reference point for future comparisons. Then, a regular monitoring schedule is set up, biannually, to observe and record the conditions of the wetland and surrounding areas. The property owner will utilize a combination of visual inspections, photographic records, and biological surveys to detect any invasive species or ecological changes. A response plan to manage invasive species will be implemented promptly as they are detected, including physical removal and potential chemical treatment methods approved for sensitive environments. The sizing of the existing culverts is checked annually to omit any risk of plugging and potential crossing failure, and fine sediment discharge.

7.4.2. Performance and Success Criteria: After 2 years of monitoring, cover of Pacific reedgrass (*Calamagrostis nutkaensis*) should be >60% and increase by 2-5% yearly until the goal of 80% within the restoration area is reached by the end of the monitoring period (i.e., 5 years). In addition, the area covered by other non-invasive species will be reduced to <10%. These specific values meet the CEQA Guidelines Section 15126.4(a)(1)(B), which recommends to adopt specific performance standards the mitigation will achieve.

The property owner and/or a consulting biologist will conduct an annual review between February and May each year to record these metrics and will make necessary adjustments to planting strategies and/or management practices based on annual performance to ensure ongoing success.

7.4.3. 5-Year Success Criteria: After 5 years of monitoring, cover of Pacific reedgrass (*Calamagrostis nutkaensis*) should be >80% and cover of non-invasive species should be reduced to <10%. These specific values meet the CEQA Guidelines Section 15126.4(a)(1)(B), which recommends to adopt specific performance standards the mitigation will achieve.

7.4.4. Adaptive Management and Long-Term Protection: Data will be collected from regular monitoring to identify trends or issues that may require intervention. The property owner is prepared to adjust restoration techniques, plant species selection, or

management practices based on observed data and external factors like climatic changes. The property owner has also started to implement physical barriers (hedge) to protect sensitive areas from human disturbances.

7.4.5. Agency Coordination: The North Coast Regional Water Quality Control Board and the County of Mendocino Department of Planning and Building Services will be kept informed of project progress through updates and consultation meetings. The property owner ensures all construction and restoration activities comply with relevant permits and regulations. At the end of five years, a comprehensive review of the project's success against these criteria will be conducted and reported the outcomes to these stakeholders

7.4.6. Documentation and Reporting: The property owner maintains detailed records of all restoration mitigation, planting, monitoring, and management activities, and is prepared to submit regular reports to the appropriate agencies, detailing progress, compliance with permits, and any challenges faced.

8. DISCUSSION

In conclusion, it is the professional opinion of the qualified biologist at Dark Gulch LLC that the development, as existing and proposed, has not and will not significantly degrade presumed ESHA resources. Second, there is also no feasible less environmentally damaging alternative to existing and proposed developments. The usage of the alternate access driveway identified in SP07 does not represent a less environmentally damaging alternative. Third, all feasible mitigation and avoidance measures capable of reducing or eliminating development-related impacts have been adopted by the property owner.

One category of presumed ESHA was identified within the study area, verifying the extant wetlands delineation by Wetlands Research Associates, Inc. and Redwood Coast Associates, as well as the botanical findings of Gordon E. McBride, Ph.D., Botanical Surveys (see Figures 3, 6, and 11, as well as Appendices B and C):

Seasonal Wetland ESHA – Two large swales were identified, which run from the southeast corner of the study area to the north west corner. The swales include a vegetated drainage that ranges between 2 to 4 feet in width. The principle hydrological sources for the study area are precipitation, groundwater, surface run-off, and seasonal water flow from on-and-off site sources.

The proposed development is thoughtfully placed outside the 100-foot ESHA buffers, in compliance with environmental regulations. The Rural Dwelling and Garage/Accessory Dwelling Unit fall within the Vested CDP# 1-81-85 boundary, and the planned storage shed also respects the 100-foot ESHA buffers.

The property owner has implemented several protective measures to mitigate potential environmental impacts during construction. To protect bird nesting, a 100-foot buffer zone will be maintained around active nests, with biologists monitoring the effectiveness of this zone. Construction activities will be restricted to daylight hours to minimize noise and light disturbances. Additionally, contractors will receive training on recognizing native amphibians and insects, with daily pre-construction surveys to identify and protect these species. Measures also include careful debris management, a 48-hour construction halt after rain, and considering proactively planting wetland vegetation. The staging of materials and machinery cleaning protocols will be in place to prevent invasive species spread, emphasizing the planting of non-invasive, native vegetation to preserve local ecosystems.

The existing and proposed development does not cause significant harm to the identified environmental resource. There are no practical alternatives with less environmental impact available for the property owner to reach the CDP-vested building envelope of the proposed residence. All achievable measures to minimize or eliminate the environmental impacts of the project have been put into action.

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APPENDIX A: 2023 BIOLOGICAL SCOPING SURVEY



Dark Gulch Environmental Consulting

Biological Scoping Survey – 2700 North Highway One, Albion CA 95410

May 4, 2023

Introduction:

A biological scoping survey was conducted on 11 February 2023 by Principal Consulting Biologist Sarah Bradley in which the existing vegetation present was noted. The Study Area, as shown in Figures 1, is a highly disturbed habitat that is described as landscaped and developed. While there is a potential for 69 species of special concern to occur on or near the Study Area, no species of special concern were observed during the scoping session. Previously *Viola adunca* (a special plant due to its host status for the Behren's Silverspot Butterfly) and Point Reyes checkerbloom were identified during a 2005 botanical survey and wetland delineation. An updated wetland delineation and biological survey were conducted in 2007. At that time a wetland of approximately two acres was identified, along with two small wetlands previously identified in the earlier survey. The Study Area has been previously described as "west sloping marine terrace bound to the east by Highway One and to the west by near-vertical oceans bluffs. Much of the site is characterized by introduced perennial grassland vegetation. Coastal scrub habitat occurs near the edge of the bluff and is sparse across the steep vertical face.

The Manual of California Vegetation (CNPS 2023) the California Natural Community List (CDFW 2023) and the California Natural Diversity Database (CNDDDB) (CDFW 2023) were used to identify potential species that might occur within the Study Area. The CNDDDB recognizes all communities and plants ranked at a State level of 53 or lower as sensitive.



Figure 1: Photos of driveway in Project Site, looking to the east.

Procedure:

Prior to a site visit, all pertinent databases were queried to gather information regarding the Study Area. This includes the above-referenced sites as well as the US Fish and Wildlife Wetlands Mapper and UC Davis's Soils Web. All information was compiled and reviewed prior to the site visit to give the biologist the best understanding of the potential occurrences and factors that could affect the development of this project. A site visit was made, and the Study Area was thoroughly reviewed, and photographs were taken as references. Finally, all queries from CNDDB were analyzed and the potential for occurrence was determined based on the condition of the Study Area. A final determination was made after all data was reviewed and comparison of the site photographs were made.

Proposed Project:

This report is being prepared as part of the application process for permitting to build a single-family home, a garage and studio, an entry gate, and a storage shed. . The entire project site is approximately 2.1 acres in size. Currently, there is a well, septic system, driveway network and planted/revegetated areas within the proposed project site. The proposed house site is located to the east of the property and is outside of the 100 foot buffer for the wetlands. of the project site. The lot is a bordered to the west by the Pacific Ocean. Highway One forms the eastern border of the property. The northern border is Whitesboro Cove. The area to the south of the project site is a single family home site one acre in size.

Habitat Integrity:

Habitat integrity is defined as the ability of an ecological system to support and maintain a community of organisms that has species composition, diversity and functional organization comparable to those of natural habitats within a region. The Study Area has good habitat integrity. The wetlands are being protected and appear undisturbed. Large areas of the project site are described as introduced perennial grassland. These same habitats are described in studies performed in 2005 and 2007. These consistent findings indicate that the project site is stable and large-scale changes/disturbance are not occurring. The driveway is an existing gravel driveway and is adequately constructed to protect ESHA resources from degradation.



Figure 2: Photo of vegetation, located on south side of the Study Area.



Figure 3: Large wetland located in the center of the Project Site.



Figure 4: View of proposed building site



Figure 5: Proposed building site looking to the west.

Results

The Study Area is a well-studied site, and this current study confirms previous findings. The Study Area is comprised of (1) wetlands, (2) introduced perennial grasslands, (3) Monterey pine forest and (4) coastal bluff scrub. The Monterey pines forests and coastal bluff scrub are both very small in size. In comparing the previous studies with the current conditions, it was found that the conditions are as previously reported. The existing botanical study and wetland delineation appear to be accurate to current conditions and no further studies are proposed.

APPENDIX B: 1998 WETLAND DELINEATION AND BOTANICAL SURVEY

Download here:

tinyurl.com/2300NHwy1AppendixB

APPENDIX C: 2007 WETLAND DELINEATION

Download here:

tinyurl.com/2300NHwy1AppendixC

APPENDIX D: SAMPLING POINTS

Appendix Figure A-1: Sampling point locations



Appendix Figure A-1:
Sampling Point Locations

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

Project/Site: 2700 N Highway 1, 123-290-03 City/County: Albion/Mendocino Sampling Date: 05/30/2024
 Applicant/Owner: M. Reimann State: CA Sampling Point: 01
 Investigator(s): S. Bradley, B. Huff Section, Township, Range: 28, 16N, 17W Mount Diablo
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none) _____ Slope (%): _____
 Subregion (LRR): A4 Lat: 39.21495 Long: 123.768444 Datum: _____
 Soil Map Unit Name: Flumeville NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	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>14</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>14%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				Total % Cover of _____ Multiply by _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____
1. _____	_____	_____	_____	FACW species _____ x 2 = _____
2. _____	_____	_____	_____	FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>24</u>
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: <u>10</u> (A) <u>24</u> (B)
= Total Cover				Prevalence Index = B/A = <u>4</u>
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Ceratophyllum demersum</u>	<u>5</u>		<u>FACU</u>	___ 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Achillea millefolium</u>	<u>1</u>		<u>FACU</u>	___ 2 - Dominance Test is >50%
3. _____	_____	_____	_____	___ 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	___ 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point 01

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		
0-18	10Y/2/1							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"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F5)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)		
	<input type="checkbox"/> Redox Depressions (F8)		

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes _____ No Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No

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

Remarks:

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> OMB No. 0704-0188		
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12. DISTRIBUTION / AVAILABILITY STATEMENT Approved to public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT This document is one of a series of Regional Supplements to the Corps of Engineers Wetland Delineation Manual, which provides technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. The development of Regional Supplements is part of a nationwide effort to address regional wetland characteristics and improve the accuracy and efficiency of wetland-delineation procedures. This supplement is applicable to the Western Mountains, Valleys, and Coast Region, which consists of portions of 12 states: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming.					
15. SUBJECT TERMS					
Delineation		Plant communities		Vegetation	
Hydrology		Soil		Wetlands	
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (include area code)
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED		152	

Standard Form 298 (Rev. 8-98)
 Prescribed by ANSI Std. Z39-18

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

Project/Site: Z700 N Highway 1, 123-290-03 City/County: Altton/Mendocino Sampling Date: 05/30/2024
 Applicant/Owner: M. Reimann State: CA Sampling Point: 102
 Investigator(s): S. Bradley, B. Huff Section, Township, Range: 28, 16N, 17W Mount Diablo
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A4 Lat: 39.21495 Long: 123.768444 Datum: _____
 Soil Map Unit Name: Flumeville NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (if no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (if needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2. _____				Total Number of Dominant Species Across All Strata: <u>210</u>	(B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.5</u>	(A/B)
4. _____				Prevalence Index worksheet:	
= Total Cover				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____	x 1 = _____
1. _____				FACW species _____	x 2 = _____
2. _____				FAC species: <u>10</u>	x 3 = <u>30</u>
3. _____				FACU species: <u>5</u>	x 4 = <u>20</u>
4. _____				UPL species _____	x 5 = _____
5. _____				Column Totals: <u>15</u> (A)	<u>80</u> (B)
= Total Cover				Prevalence Index = B/A = <u>3.33</u>	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>POZZO MAIZE</u>	<u>5</u>		<u>FN</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>1/8" TUCKER AGADONIAH</u>	<u>5</u>		<u>FN</u>	2 - Dominance Test is >50%	
3. <u>HOLCUS LAMINUS</u>	<u>5</u>		<u>FN</u>	3 - Prevalence Index is <= 3.0	
4. _____				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				5 - Wetland Non-Vascular Plants ¹	
6. _____				Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____					
9. _____					
10. _____					
11. _____					
= Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: 02

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		
0-18	10YR 2/1					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"/> Histic (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquifer (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes _____ No Depth (inches): _____

Saturation Present? Yes _____ No Depth (inches): _____

(Includes capillary fringe)

Wetland Hydrology Present? Yes _____ No

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

Remarks:

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> <i>OMB No. 0704-0188</i>		
<small>Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Service, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</small>					
1. REPORT DATE (DD-MM-YYYY) May 2010		2. REPORT TYPE Final report		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) U.S. Army Corps of Engineers				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Engineer Research and Development Center Environmental Laboratory 3909 Falls Ferry Road Vicksburg, MS 39180-6199				8. PERFORMING ORGANIZATION REPORT NUMBER ERDC/EL TR-10-3	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Headquarters, U.S. Army Corps of Engineers Washington, DC 20314-1000				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
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Delineation		Plant communities		Vegetation	
Hydrology		Soil		Wetlands	
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 152	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			19b. TELEPHONE NUMBER (include area code)

Standard Form 298 (Rev. 8-98)
 Prescribed by ANSI Std. Z39-18

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

Project/Gite: 2700 N Highway 1, 123-290-03 City/County: Albion/Mendocino Sampling Date: 05/30/2024
 Applicant/Owner: M. Reimann State: CA Sampling Point: 03
 Investigator(s): S. Bradley, B. Huff Section, Township, Range: 28, 18N, 17W Mount Diablo
 Landform (hillslope, terrace, etc.): _____ Local relief (conceive, convex, none): _____ Slope (%): _____
 Subregion (LRR): A4 Lat: 39.21495 Long: 123.768444 Datum: _____
 Soil Map Unit Name: Flumeville NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (if no, explain in Remarks.)
 Are Vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____ Soil _____ or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	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>110</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>12.5</u> (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
				OBL species _____	x 1 = _____
				FACW species <u>5</u>	x 2 = <u>10</u>
				FAC species _____	x 3 = _____
				FACU species _____	x 4 = _____
				UPL species _____	x 5 = _____
				Column Totals: _____	(A) _____ (B) _____
				Prevalence Index = B/A = <u>2</u>	
				Hydrophytic Vegetation Indicators:	
				1 - Rapid Test for Hydrophytic Vegetation	
				2 - Dominance Test is >50%	
				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
				5 - Wetland Non-Vascular Plants ¹	
				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 <input checked="" type="checkbox"/>	
Remarks:					

SOIL

Sampling Point 03

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		
0-13	10YR 7/1						cheylon

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pure 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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes _____ No Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No

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

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

Project/Site: 2700 N Highway 1, 123-290-03 City/County: Aubion/Mendocino Sampling Date: 05/30/2024
 Applicant/Owner: M. Reimann State: CA Sampling Point: 109
 Investigator(s): S. Bradley, B. Huff Section, Township, Range: 28, 16N, 17W Mount Diablo
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A4 Lat: 39.21495 Long: 123.768444 Datum: _____
 Soil Map Unit Name: Flumeville NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>10</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>11</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>582</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
= Total Cover				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: _____)				OBL species	<u>5</u> x 1 = <u>5</u>
1. _____	_____	_____	_____	FACW species	<u>25</u> x 2 = <u>50</u>
2. _____	_____	_____	_____	FAC species	<u>45</u> x 3 = <u>135</u>
3. _____	_____	_____	_____	FACU species	_____ x 4 = _____
4. _____	_____	_____	_____	UPL species	_____ x 5 = _____
5. _____	_____	_____	_____	Column Totals:	<u>75</u> (A) <u>190</u> (B)
= Total Cover				Prevalence Index = B/A = <u>2.53</u>	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Equisetum arvense</u>	<u>20</u>		<u>FAC</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Mertensia eulacina</u>	<u>5</u>		<u>OBL</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Sisymbrium officinalis</u>	<u>20</u>		<u>FAC</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is >3.0*	
4. <u>Trifolium pratense</u>	<u>5</u>		<u>FACU</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Dactylis glomerata</u>	<u>5</u>		<u>FACU</u>	5 - Wetland Non-Vascular Plants ²	
6. <u>Anthoxanthum odoratum</u>	<u>20</u>		<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

Sampling Point CA

SOIL

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	Loc		

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, C5=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix.

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

<input type="checkbox"/> Histic (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils¹: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	---	---

¹Indicators 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 _____

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C5) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C8) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
---	---	--

Field Observations:

Surface Water Present? Yes No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

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

Wetland Hydrology Present? Yes No _____

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

Remarks: _____

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> OMB No. 0704-0188		
<small>Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Service, Directorate for Information Operations and Reports (D704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</small>					
1. REPORT DATE (DD-MM-YYYY) May 2010		2. REPORT TYPE Final report		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
				5d. PROJECT NUMBER	
6. AUTHOR(S) U.S. Army Corps of Engineers				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
				8. PERFORMING ORGANIZATION REPORT NUMBER ERDC/EL TR-10-3	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Engineer Research and Development Center Environmental Laboratory 3909 Falls Ferry Road Vicksburg, MS 39180-6199				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Headquarters, U.S. Army Corps of Engineers Washington, DC 20314-1000					
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved to public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT This document is one of a series of Regional Supplements to the Corps of Engineers Wetland Delineation Manual, which provides technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. The development of Regional Supplements is part of a nationwide effort to address regional wetland characteristics and improve the accuracy and efficiency of wetland-delineation procedures. This supplement is applicable to the Western Mountains, Valleys, and Coast Region, which consists of portions of 12 states: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming.					
15. SUBJECT TERMS					
Delineation		Plant communities		Vegetation	
Hydrology		Soil		Wetlands	
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 152	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			19b. TELEPHONE NUMBER (include area code)

Standard Form 298 (Rev. 8-98)
 Prescribed by ANSI Std. Z39.18

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

Project/Site: 2700 N Highway 1, 123-290-03 City/County: Albion/Mendocino Sampling Date: 05/30/2024
 Applicant/Owner: M. Reimann State: CA Sampling Point: 05
 Investigator(s): S. Bradley, B. Huff Section, Township, Range: 28, 16N, 17W Mount Diablo
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A4 Lat: 39.21495 Long: 123.768444 Datum: _____
 Soil Map Unit Name: Flumerville NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (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 _____ No _____		
Wetland Hydrology Present?	Yes _____ No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>10/50</u> (A/B)	
1. _____					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species _____ x 3 = _____ FACU species <u>10</u> x 4 = <u>40</u> UPL species _____ x 5 = _____ Column Totals: <u>50</u> (A) <u>110</u> (B) Prevalence Index = B/A = <u>2.2</u>
2. _____					
3. _____					
4. _____					
= Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is >3.0' 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____					
3. _____					
4. _____					
5. _____					
= Total Cover					
Herb Stratum (Plot size: _____)					
1. <u>Equisetum arvense</u>	<u>15</u>		<u>FAC</u>		
2. <u>Achillea millefolium</u>	<u>10</u>		<u>FACU</u>		
3. <u>Mertensia maritima</u>	<u>10</u>		<u>OBL</u>		
4. <u>Juncus buffonii</u>	<u>10</u>		<u>FACU</u>		
5. <u>Tropholium propinquum</u>	<u>10</u>		<u>FACU</u>		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
<u>55</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
2. _____					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: 05

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		

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<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 (F8)	
<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 (F6)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present?	Yes _____ No _____	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present?	Yes _____ No _____	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No _____	Depth (inches): _____	

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

Remarks: _____

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> <i>OMB No. 0704-0188</i>		
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1. REPORT DATE (DD-MM-YYYY) May 2010		2. REPORT TYPE Final report		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) U.S. Army Corps of Engineers				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Engineer Research and Development Center Environmental Laboratory 3909 Falls Ferry Road Vicksburg, MS 39180-6199				8. PERFORMING ORGANIZATION REPORT NUMBER ERDC/EL TR-10-3	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Headquarters, U.S. Army Corps of Engineers Washington, DC 20314-1000				10. SPONSOR/MONITOR'S ACRONYM(S)	
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14. ABSTRACT This document is one of a series of Regional Supplements to the Corps of Engineers Wetland Delineation Manual, which provides technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. The development of Regional Supplements is part of a nationwide effort to address regional wetland characteristics and improve the accuracy and efficiency of wetland-delineation procedures. This supplement is applicable to the Western Mountains, Valleys, and Coast Region, which consists of portions of 12 states: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming.					
15. SUBJECT TERMS					
Delineation		Plant communities		Vegetation	
Hydrology		Soil		Wetlands	
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (include area code)
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED		152	

Standard Form 298 (Rev. 8-98)
 Prescribed by ANSI Std. Z39.18

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

Project/Site: 2700 N Highway 1, 123-290-03 City/County: Albion/Mendocino Sampling Date: 05/30/2024
 Applicant/Owner: M. Reimann State: CA Sampling Point: 110
 Investigator(s): S. Bradley, B. Huff Section, Township, Range: 28, 16N, 17W Mount Diablo
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A4 Lat: 39.21495 Long: 123.768444 Datum: _____
 Soil Map Unit Name: Flumeville 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 _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No _____		
Wetland Hydrology Present?	Yes _____ No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>16</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>19%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
1. <u>Berberis spicata</u>	<u>5</u>		<u>FAC</u>	
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is $\leq 3.0^1$ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Fragaria vesca</u>	<u>5</u>		<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>Rubus cuneifolius</u>	<u>20</u>		<u>FAC</u>	
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point 126

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		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pure 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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F5)	
<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)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Art Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> <i>OMB No. 0704-0188</i>		
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13. SUPPLEMENTARY NOTES					
14. ABSTRACT This document is one of a series of Regional Supplements to the Corps of Engineers Wetland Delineation Manual, which provides technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. The development of Regional Supplements is part of a nationwide effort to address regional wetland characteristics and improve the accuracy and efficiency of wetland-delineation procedures. This supplement is applicable to the Western Mountains, Valleys, and Coast Region, which consists of portions of 12 states: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming.					
15. SUBJECT TERMS					
Delineation		Plant communities		Vegetation	
Hydrology		Soil		Wetlands	
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (include area code)
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED		152	

Standard Form 298 (Rev. 8-98)
 Prescribed by ANSI Std. Z39-18

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

Project/Site: 2700 N Highway 1, 123-290-03 City/County: Albion/Mendocino Sampling Date: 05/30/2024
 Applicant/Owner: M. Reimann State: CA Sampling Point: 07
 Investigator(s): S. Bradley, B. Huff Section, Township, Range: 28, 18N, 17W Mount Diablo
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR): A4 Lat: 39.21495 Long: 123.768444 Datum: _____
 Soil Map Unit Name: Flumenville NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 _____ No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>72.6</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
= Total Cover				
Shrub/Strub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≥ 3.0 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Zapfenopsis arthropora</u>	<u>10%</u>		<u>OBL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Plantain latifolia</u>	<u>10%</u>		<u>FAC</u>	
2. <u>Juncus roemerianus</u>	<u>15%</u>		<u>FACW</u>	
3. <u>Juncus effusus</u>	<u>10%</u>		<u>OBL</u>	
4. <u>Tritolium wrightii</u>	<u>10%</u>		<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

Sampling Point:

SOIL

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 (mold)	%	Color (mold)	%	Type ¹	Loc ²		

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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
--	---

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	³ Indicators 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 _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____	Depth (inches): _____	

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

Remarks:

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188								
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Hydrology	Soil	Wetlands									
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APPENDIX E: LIST OF SPECIES

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
pink sand verbena <i>Abronia umbellata</i> var. <i>breviflora</i>	Rank 1B	A perennial herb found on coastal dunes, coastal strand; located on foredunes and interdunes with low vegetation cover. Elevation range: 0 - 10 meters. Blooms: June - October.	No Potential. The Study Area is above the accepted elevation range and no suitable habitat exists.	Not Present. No suitable habitat present
Blasdale's bent grass <i>Agrostis blasdalei</i>	Rank 1B	A perennial rhizomatous herb found on coastal dunes, coastal bluff scrub, coastal prairie; located on sandy to gravelly substrate close to rocks of bluff faces. Typically located in nutrient poor areas with sparse vegetation cover. Elevation range: 0 - 150 meters. Blooms: May - July.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present during the scoping survey; completed outside of this species blooming season
pygmy manzanita <i>Arctostaphylos nummularia</i> ssp. <i>mendocinoensis</i>	Rank 1B	A perennial evergreen shrub found in closed-cone coniferous forests with acidic sandy clay. Typically found in pygmy-pine forest or chapparal. Elevation range: 50 - 200 meters. Blooms: January.	No Potential. The Study Area lacks appropriate soils for this species.	Not Present. No suitable habitat present
Humboldt County milk-vetch <i>Astragalus agnicidus</i>	Rank 1B	A perennial herb found in broadleaved upland forest, North coast coniferous forests; openings and disturbed areas. Elevation range: 120 - 180 meters. Blooms: April - September.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
Thurber's reed grass <i>Calamagrostis crassiglumis</i>	Rank 2B	An annual rhizomatous herb is found in coast scrub (mesic) and freshwater marshes and swamps. Elevation range: 10 - 60 meters. Blooms: May - August.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present during the scoping survey; completed outside of this species blooming season
coastal bluff morning-glory			High Potential. The Study Area is within the	Not Present during the

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
<i>Calamagrostis crassiglumis</i>	Rank 2B	Freshwater marshes and swamps. Elevation range: 10 - 60 meters. Blooms: May - August.	appropriate habitat but there are no known occurrences in the vicinity	the protocol-level scoping survey.
coastal bluff morning-glory <i>Calystegia purpurata</i> ssp. <i>saxicola</i>	Rank 1B	A perennial herb found on coastal dunes, coastal scrub; located on coastal bluffs. Elevation range: 0 - 105 meters. Blooms: May - September.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
California sedge <i>Carex californica</i>	Rank 2B	A perennial rhizomatous herb found in bogs and fens, closed-cone coniferous forests, coastal prairie, meadows, marshes and swamps; located in drier area of swamps, bogs and marsh margins. Elevation range: 90 - 335 meters. Blooms: May - August.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
livid sedge <i>Carex livida</i>	Rank 2A	A perennial rhizomatous herb found in bogs and fens. Typically associated with sphagnum swamps and peatlands. Elevation: range: unknown. Blooms: unknown.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
Lyngbye's sedge <i>Carex lyngbyei</i>	Rank 2B	A perennial rhizomatous herb found in marshes and swamps, brackish or fresh water. Elevation: 0 - 10 meters. Blooms: May - July.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
deceiving sedge <i>Carex saliniformis</i>	Rank 1B	A perennial rhizomatous herb found in coastal prairie, coastal scrub, marsh & swamp, meadow & seep, pond shores and wet openings. Elevation range: 3 - 320 meters. Blooms: May - July.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
Humboldt Bay owl's-clover <i>Castilleja ambigua</i> var. <i>humboldtiensis</i>	Rank 2B	An annual semiparasitic herb found in marsh and swamp, salt marsh, wetland. Elevation range: 0 - 3 meters. Blooms: April - August.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
Oregon coast paintbrush <i>Castilleja litoralis</i>	Rank 2B	A perennial hemiparasitic herb found in sandy soils associated with coastal bluff scrub, dunes, and scrub. Elevation range: 15 - 100 meters. Blooms: June.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
Mendocino Coast paintbrush <i>Castilleja mendocinensis</i>	Rank 1B	A perennial hemiparasitic herb found in coastal bluff scrub, coastal scrub, coastal prairie, closed-cone coniferous forest, coastal dune; typically located on open sea bluffs and cliffs. Elevation range: 0 - 160 meters. Blooms: April - August.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
Howell's spineflower <i>Chorizanthe howellii</i>	Rank 1B	This annual herb is found in sandy areas of coastal dunes, coastal prairies and coastal scrub. Elevation range: 0 - 45 meters. Blooms: May - July.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
Oregon goldthread <i>Coptis laciniata</i>	Rank 4.2	A perennial rhizomatous herb found in meadows and seeps, North coast coniferous forests, wetlands and streambanks. Elevation range: 500 - 2000 meters. Blooms: February - November	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
bunchberry <i>Cornus unalaschensis</i>	Rank 2B	A perennial rhizomatous herb found in bogs and seeps, meadows and fens associated with north coast coniferous forests. Elevation range: 60 - 1920 meters. Blooms: May - July.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
Mendocino dodder <i>Cuscuta pacifica</i> var. <i>papillata</i>	Rank 1B	An annual parasitic vine found on coastal dunes. Elevation range: 0 - 50 meters. Blooms: June - October.	No Potential. The Study Area lacks appropriate habitat.	Not Present. No suitable habitat present
swamp harebell <i>Eastwoodiella californica</i>	Rank 1B	A perennial rhizomatous herb found in bogs and fens, closed-cone coniferous forests, coastal prairie, meadows, freshwater marsh, North coast coniferous forests, typically located in wetlands within a variety of surrounding habitats. Elevation range: 1 - 405 meters. Blooms: June - October.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
supple daisy <i>Erigeron supplex</i>	Rank 1B	A perennial herb found on coastal bluff scrub, coastal prairie. Elevation range: 10 - 50 meters. Blooms: May - July.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
bluff wallflower <i>Erysimum concinnum</i>	Rank 1B	An annual/perennial herb found on cliffs, coastal bluffs, dunes and prairies. Elevation: 0 - 185 meters. Blooms: March - June.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
Pacific gilia <i>Gilia capitata ssp. pacifica</i>	Rank 1B	An annual herb found in the chaparral, coastal bluff scrub, coastal prairie, valley and foothill grasslands. Elevation: 5 - 1665 meters. Blooms: April - August	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
dark-eyed gilia <i>Gilia millefoliata</i>	Rank 1B	An annual herb found in coastal dune habitat. Elevation range: 2 - 30 meters. Blooms: April - June.	No Potential. The Study Area lacks appropriate habitat.	Not Present. No suitable habitat present
short-leaved evax <i>Hesperovax sparsiflora var. brevifolia</i>	Rank 1B	An annual herb found in coastal bluff scrub, coastal dune; located on sandy bluffs and flats near the immediate coastline. Elevation range: 0 - 215 meters. Blooms: March - June.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
pygmy cypress <i>Hesperocypress pygmaea</i>	Rank 1B	A perennial evergreen tree found in a closed-cone coniferous forest; located on podzol-like soils (Blacklock series). Elevation range: 30 - 600 meters.	No Potential. The Study Area lacks appropriate habitat.	Not Present. No suitable habitat present
hair-leaved rush <i>Juncus supiniformis</i>	Rank 2B	A perennial rhizomatous herb found near the coast in bogs and fens and freshwater marshes and swamps. Elevation range: 20 - 100 meters. Blooms: April - May.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
small groundcone <i>Kopsiopsis hookeri</i>	Rank 2B	A perennial rhizomatous herb, often parasitic, found in north coast coniferous forests. Elevation range 90 - 885 meters. Blooms: April - August.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
Baker's goldfields <i>Lasthenia californica</i> ssp. <i>bakeri</i>	Rank 1B	A perennial herb found in closed-cone coniferous forests, coasts scrub; located in openins in scrub and coastal forest habitat. Elevation range: 60 - 250 meters. Blooms: April - October	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
perennial goldifelds <i>Lasthenia californica</i> ssp. <i>macrantha</i>	Rank 1B	A perennial herb found in coastal bluff scrub, coastal dune, and coastal scrub. Elevation range: 0 - 500 meters. Blooms: January - November.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
marsh pea <i>Lathyrus palustris</i>	Rank 2B	A perennial herb found in bogs and fens, coastal prairie, coastal scrub, lower montane coniferous forest, marsh and swamp, north coast coniferous forest, wetlands. Elevation: 1 - 100 meters. Blooms: March - August.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
coast lily <i>Lilium maritimum</i>	Rank 1B	A perennial bulbiferous herb found in closed-cone coniferous forest, coastal prairie, coastal scrub, broadleaf upland forests and North Coast coniferous forests; typically located on sandy soils, often in raised hummock or bogs and roadside ditches. Elevation range: 5 - 475 meters. Blooms: May - August.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
northern microseris <i>Microseris borealis</i>	Rank 2B	This perennial herb is found in bogs and fens and meadows and seeps associated with lower montane coniferous forests. Elevation range: 1000 - 2000 meters. Blooms: June - September.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
leafy-stemmed mitrewort <i>Mitellastrum caulescens</i>	Rank 4.2	This perennial rhizomatous herb is found in mesic habitats associated with broadleaved upland forests, lower montane coniferous forests and the north coast coniferous forests. It is usually found in meadows and seeps. Elevation range: 5 - 1700 meters. Blooms: March - October.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
seacoast ragwort <i>Packera bolanderi</i> var. <i>bolanderi</i>	Rank 2B	A perennial rhizomatous herb found in north coast coniferous forests and coastal scrub habitats. Elevation range: 10 - 170 meters. Blooms: March - May.	No Potential. The Study Area lacks appropriate habitat.	Not Present. No suitable habitat present
North Coast phacelia <i>Phacelia insularis</i> var. <i>continentis</i>	Rank 1B	An annual herb found in sandy and sometimes rocky soils in coastal bluff scrub and coastal dunes. Elevation range: 10 - 170 meters. Blooms: March - May.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.
Bolander's beach pine <i>Pinus contorta</i> ssp. <i>bolanderi</i>	Rank 1B	A perennial evergreen tree that is found in closed-cone coniferous forests with podzol-like soils. Elevation range: 75 - 250 meters. Blooms: unknown.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
white-flowered rein orchid <i>Piperia candida</i>	Rank 1B	A perennial herb that sometimes exists in serpentine soil. Broad leaved upland forest, lower montane coniferous forest, North coast coniferous forests. Elevation range: 30 - 1310 meters. Blooms: March - May.	No Potential. The Study Area lacks appropriate habitat.	Not Present. No suitable habitat present
angel's hair lichen <i>Ramalina thrausta</i>	Rank 2B	An epiphytic fruticose lichen found on dead twigs and other lichen in north coast coniferous forests. Elevation range: 75 - 430 meters.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
white beaked-rush <i>Rhynchospora alba</i>	Rank 2B	A perennial rhizomatous herb found in freshwater marshes and swamps, meadows and seeps and bogs and fens. Elevation range: 60 - 2040 meters. Blooms: June - August.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
great burnet <i>Sanguisorba officinalis</i>	Rank 2B	A perennial rhizomatous aquatic herb found in wetland habitats associated with the north coast coniferous forests: bogs and fens, meadows and seeps and marshes and swamps. Elevation range: 60 - 1400 meters. Blooms: July - October.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
Point Reyes checkerbloom <i>Sidalcea calycosa</i> ssp <i>rhizomata</i>	Rank 1B	A perennial rhizomatous herb found in freshwater marshes and swamps located near the coast. Elevation range: 3 - 75 meters. Blooms: April - September.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
maple-leaved checkerbloom <i>Sidalcea malachroides</i>	Rank 4.2	A perennial herb often found in disturbed areas. Broad leaved upland forest, coastal prairie, coastal scrub, north coast coniferous forests, riparian woodland. Elevation range: 0 - 730 meters. Blooms: March - August.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
Siskiyou checkerbloom <i>Sidalcea malviflora</i> ssp. <i>Patula</i>	Rank 1B	A perennial rhizomatous herb associated with coastal bluff scrub, coastal prairie and north coast coniferous forests. Elevation range: 15 - 880 meters. Blooms: April - August.	High Potential. The Study Area is within the accepted elevation range, has appropriate habitat and has known occurrences in the area.	Not Present. No individuals were identified during the protocol-level scoping survey.
purple-stemmed checkerbloom <i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	Rank 1B	A perennial rhizomatous herb that lives in broad leaved upland forest and coastal prairies. Elevation range: 15 - 85 meters. Blooms: May - June.	Moderate Potential. The Study Area has appropriate habitat but there are no known occurrences in the vicinity	Not Present. No individuals were identified during the protocol-level scoping survey.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA	SURVEY RESULTS
Hoffman's bristly jewelflower <i>Streptanthus glandulosus</i> ssp. <i>Hoffmanii</i>	Rank 1B	An annual herb found in often serpentinite soils in chaparral, cismontane woodland and valley and foothill grasslands. Elevation range: 120 - 475 meters. Blooms: March - July.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
Santa Cruz clover <i>Trifolium buckwestiorum</i>	Rank 1B	An annual herb found in gravelly margins of broadleaved upland forests, cismontane woodland and coastal prairie. Elevation range: 105 - 610 meters. Blooms: April - October.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present
Monterey clover <i>Trifolium trichocalyx</i>	Rank 1B	An annual herb that lives in closed-cone coniferous forest (sandy openings, burned areas). Elevation range: 30 - 305 meters. Blooms: April - June.	No Potential. The Study Area lacks appropriate habitat.	Not Present. No suitable habitat present
Methuselah's beard lichen <i>Usnea longissima</i>	Rank 4.2	A fruticose lichen found on tree branches, usually on old growth hardwoods and conifers, broad leaved upland forest, north coast coniferous forests. Elevation range: 50 - 1460 meters. Blooms: unknown.	No Potential. The Study Area is below the accepted elevation range.	Not Present. No suitable habitat present

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA
Point Areana mountain beaver <i>Aplodontia rufa nigra</i>	Endangered	Burrow sites are typically found on moist and steep north facing slopes or gullies with well-drained and friable soil. Studies suggest that the most important factors in habitat use are cool thermal regime, adequate soil drainage and softness and abundant food supply and a high percentage of cover of lush herbaceous and small diameter woody plants. Found in mesic coastal scrub, northern dune scrub, the edges of conifer forest and riparian plant communities.	No Potential. The Study Area is outside of the known range of this particular species.
Sonoma tree vole <i>Arborimus poma</i>	Decreasing	Inhabits northwestern California, from Freestone, Sonoma County north through Mendocino, Humboldt and western Trinity counties to the south fork of the Smith River, Del Norte County. Habitat consists of mixed evergreen forests, wet and mesic old growth Douglas fir forests. Nests in trees 2 - 50 meters above the ground.	No Potential. The Study Area lacks appropriate habitat for this particular species.
Pacific tailed frog <i>Ascaphus truei</i>	Least Concern	Range includes Cascade Mountains and Pacific coastal areas of North America. Can be found in clear, cold, swift-moving mountain streams with coarse substrates. Primarily in older forest sites, requires microclimate conditions that are more common in older forests.	No Potential. The Study Area lacks appropriate habitat for this particular species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA
Obscure bumble bee <i>Bombus caliginosus</i>	Vulnerable	Range includes Mediterranean California and the Pacific coast. Inhabits open grassy coastal prairies and coast range meadows. Nesting occurs underground as well as above ground in abandoned bird nests.	High Potential. Appropriate habitat exists for this species, but no individuals were seen during protocol-level surveys.
Western bumble bee <i>Bombus occidentalis</i>	Decreasing	Occurs along the West Coast and Mountain West of North America from Arizona, New Mexico and Mediterranean California, north through the Pacific Northwest. This species nests underground in cavities such as old squirrel and other animal nests.	High Potential. Appropriate habitat exists for this species, but no individuals were seen during protocol-level surveys.
marbled murrelet <i>Brachyramphus marmoratus</i>	Endangered	Occurs in California, Oregon, Washington, British Columbia, south-east Alaska, Prince William Sound, Kenai Peninsula, Lower Cook Inlet, Barren Islands, Afognack and Kodiak Islands amongst other locations. Nests in old-growth and older-aged trees; forested areas with multiple canopy layers and high moss abundance are strongly preferred.	No Potential. The Study Area lacks appropriate habitat for this particular species.
Mendocino leptonetid spider <i>Calileptoneta wapiti</i>	None	Occurs in northern California coniferous forests.	No Potential. The Study Area lacks appropriate habitat for this particular species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Least Concern	Found in a variety of locations that range from coniferous forests and woodlands, deciduous riparian woodland, semi-desert and montane shrublands. The most common is evergreen forests.	No Potential. The Study Area lacks appropriate habitat for this particular species.
white-tailed kite <i>Elanus leucurus</i>	Least Concern	Uses trees with dense canopies for cover. Forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands.	High Potential. Appropriate habitat exists for this species, but no individuals were seen during protocol-level surveys.
North American porcupine <i>Erthizon dorsatum</i>	None	Occurs in the southern half of Canada, and northern and western United States, as well as scattered populations throughout the eastern US. Found in a wide variety of habitats including dense forests, tundra grasslands and desert shrub communities.	No Potential. The Study Area lacks appropriate habitat for this particular species.
tufted puffin <i>Fratercula cirrhata</i>	Decreasing	This species has a very large range, including islands and rocky outcroppings along the coastlines.	No Potential. The Study Area lacks appropriate habitat for this particular species.
Pomo bronze shoulderband <i>Helminthoglypta arrosa pomoensis</i>	Critically imperiled	Range is heavily redwood-timbered canyons of Mendocino County.	No Potential. The Study Area lacks appropriate habitat for this particular species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA
lotis blue butterfly <i>Plebejus anna lotis</i>	Endangered	This species probably occurred in wet meadows and sphagnum willow bogs.	High Potential. Appropriate habitat exists for this species, but no individuals were seen during protocol-level surveys.
Purple martin <i>Progne subis</i>	Least Concern	This species is widely but locally distributed in forest and woodland areas at low to intermediate elevations. They are found in broadleaved upland forest, lower montane coniferous forests.	No Potential. The Study Area lacks appropriate habitat for this particular species.
Northern red-legged frog <i>Rana aurora</i>	Least Concern	Range extends from southwestern British Columbia to northwestern California. In vicinity of quiet permanent waters of streams, marshes or ponds. Sometimes found in damp woods and meadows some distance from water. Occurs in sites with dense vegetation close to water and some shading.	No Potential. The Study Area lacks appropriate habitat for this particular species.
Foothill yellow-legged frog <i>Rana boylei</i>	Decreasing	Range extends from Pacific drainages from the upper reaches of the Willamette River system to the San Gabriel River. Inhabits partially shaded, rocky streams at low to moderate altitudes in areas of chaparral, open woodland and forest.	No Potential. The Study Area lacks appropriate habitat for this particular species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA
California red-legged frog <i>Rana draytonii</i>	Decreasing	Range extends from southern Mendocino County to northwestern Baja California. Inhabits in or near quiet permanent water of streams, marshes, ponds, lakes and other quiet bodies of water.	No Potential. The Study Area lacks appropriate habitat for this particular species.
Southern torrent salamander <i>Rhyacotriton variegatus</i>	Stable	Range extends from southern Mendocino County through Polk, Tillamook and Yamhill counties, Oregon. Inhabits coastal coniferous forests in small, cold, clear high-gradient mount streams and spring seepages.	No Potential. The Study Area lacks appropriate habitat for this particular species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN STUDY AREA
<p>Behren's silverspot butterfly</p> <p><i>Speyeria zerene behrensii</i></p>	<p>Endangered</p>	<p>An occupied or potential site must have two key resources: 1) caterpillar host plants; and 2) adult nectar sources. Distribution of the Behren's silverspot butterfly is highly dependent on these resources. Coastal terrace prairie is a dense grassland dominated by perennial grasses, on sandy loam soils on marine terraces below about 330 meters elevation and within the zone of coastal fog. In addition to perennial and annual grasses, the coastal prairie vegetation includes bracken ferns and woody shrubs and trees such as coyote brush, red alder, salal, and conifers. Violets, in particular the early blue violet, need to be present, as they are the butterfly's larval host plant. Nectar sources need to be available for foraging adults during the summer flight period. In addition to availability of violets and nectar plants, areas with shelter from wind may affect habitat suitability. The coastal prairies within the species range are frequently windy during the butterfly flight season, with winds predominantly from the northwest. Trees and large shrubs, as well as topographic features, can provide sheltered pockets, where microclimates are more favorably flight and essential activities during windy periods.</p>	<p>High Potential. Appropriate habitat exists for this species, but no individuals were seen during protocol-level surveys.</p>
<p>Red-bellied newt</p> <p><i>Taricha rivularis</i></p>	<p>Least Concern</p>	<p>Range extends from Honeydew, Humboldt County to the Russian River, Sonoma County. Inhabits mountain streams and rivers in coastal woodlands and redwood forests.</p>	<p>No Potential. The Study Area lacks appropriate habitat for this particular species.</p>

APPENDIX F: REDUCED BUFFER ANALYSIS

Analysis of the proposed project utilizing Mendocino County LCP ordinance section 20.496.02(a) through (k).

Development Criteria	
<p>(1) Width. The width of the buffer area shall be a minimum of one hundred (100) feet, unless an applicant can demonstrate, after consultation and agreement with the Department of California Fish and Wildlife and County Planning staff, that one hundred feet is not necessary to protect the resources of that particular habitat area from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the Environmentally Sensitive Habitat Areas and shall not be less than fifty (50) feet in width. New land division shall not be allowed which will create new parcels entirely within the buffer area. Developments permitted within a buffer area shall generally be the same as those uses permitted in the adjacent Environmentally Sensitive Habitat Area.</p> <p>Standards for determining the appropriate width of the buffer area are as follows:</p>	<p>There is no feasible alternative to proposed developments within the ESHA buffer given site and legal constraints. Impacts are considered to be of minor significance due to the specific characteristics of the wetlands being impacted.</p> <p>No new land division is proposed.</p>
<p>(a) Biological Significance of Adjacent Lands. Lands adjacent to a wetland, stream, or riparian</p>	

<p>habitat area vary in the degree to which they are functionally related to these habitat areas. Functional relationships may exist if species associated with such areas spend a significant portion of their life cycle on adjacent lands. The degree of significance depends upon the habitat requirements of the species in the habitat area (e.g. nesting, feeding, breeding, or resting). Where a significant functional relationship exists, the land supporting this relationship shall also be considered to be part of the ESHA, and the buffer zone shall be measured from the edge of these lands and be sufficiently wide to protect these functional relationships. Where no significant functional relationship exist, the buffer shall be measured from the edge of the wetland, stream, or riparian habitat that is adjacent to the proposed development.</p>	<p>No significant relationship exists between the lands adjacent to the wetlands.</p>
<p>(b) Sensitivity of Species to Disturbance. The width of the buffer zone shall be based, in part, on the distance necessary to ensure that the most sensitive species of plants and animals will not be disturbed significantly by the permitted development. Such a determination shall be based on the following after consultation with the Department of Fish and Wildlife or others with similar expertise.</p>	<p>No rare, threatened or endangered plants or animals are known to utilize the existing wetland areas as habitat. The potential impacts associated with the already installed county-permitted driveway will not significantly disturb other "sensitive" species which may be associated with the ESHA's.</p>
<p>(i) Nesting, feeding, breeding, resting, or other habitat requirements of both resident and migratory fish and wildlife species;</p>	<p>Habitat is of poor quality for fish and wildlife species.</p>
<p>(ii) An assessment of the short-term and long-term adaptability of various species to human disturbance.</p>	<p>Associated species are considered to be highly adaptable to disturbance at the levels expected.</p>

<p>(iii) An assessment of the impact and activity levels of the proposed development on the resource.</p>	<p>Impacts are considered to be of minor significance due to the specific characteristics of the wetlands being impacted. Impacts will not vary significantly with expected activity levels.</p>
<p>c) Susceptibility of Parcel to Erosion. The width of the buffer zone shall be based, in part, on an assessment of the slope, soils, impervious surface coverage, runoff characteristics, and vegetative cover of the parcel and to what degree the development will change the potential for erosion. A sufficient buffer to allow for the interception of any additional material eroded as a result of the proposed development should be provided.</p>	<p>Impacts from erosion are expected to be minimal due to slope and best management practices that will be implemented for development.</p>
<p>(d) Use of Natural Topographic Features to Locate Development. Hills and bluffs adjacent to ESHA's shall be used, where feasible, to buffer habitat areas. Where otherwise permitted, development should be located on the sides of hills away from ESHA's. Similarly, bluff faces should not be developed but shall be included in the buffer zone.</p>	<p>It is not feasible to locate development according to topographical features.</p>
<p>(e) Use of Existing Cultural Features to Locate Buffer Zones. Cultural features (e.g. roads and dikes) shall be used, where feasible, to buffer habitat areas. Where feasible, development shall be located on the side of roads, dikes, irrigation canals, flood control channels, etc., away from the ESHA.</p>	<p>No existing cultural features provide added buffering capabilities.</p>

<p>(f) Lot Configuration and Location of Existing Development. Where an existing subdivision or other development is largely built-out and the buildings are a uniform distance from a habitat area, at least that same distance shall be required as a buffer zone for any new development permitted. However, if that distance is less than one hundred (100) feet, additional mitigation measures (e.g. planting of native vegetation) shall be provided to insure additional protection. Where development is proposed in an area that is largely undeveloped, the widest and most protective buffer zone feasible shall be required.</p>	<p>Mitigation measures are outlined in report and are designed to account for potential impacts to wetlands.</p>
<p>(g) Type and Scale of Development Proposed. The type and scale of the proposed development will, to a large degree, determine the size of the buffer zone necessary to protect the ESHA. Such evaluations shall be made on a case-by-case basis, depending upon the resources involved, the degree to which adjacent lands are already developed, and the type of development already existing in the area.</p>	<p>The type and scale of proposed developments are such that only minor impacts to the wetlands are expected.</p>
<p>(2) Configuration. The buffer area shall be measured from the nearest outside edge of the ESHA (e.g., for a wetland from the landward edge of the wetland; for a stream from the landward edge of riparian vegetation or the top of the bluff).</p>	<p>Buffer areas have been measured from outside edge of ESHA's.</p>
<p>(3) Land Division. New subdivisions or boundary line adjustments shall not be allowed which will create or provide for new parcels entirely within a buffer area.</p>	<p>No new subdivision or boundary line adjustments are proposed.</p>
<p>(4) Permitted Development. Development permitted within the buffer aea shall comply at a minimum with the following standards:</p>	

<p>(a) Development shall be compatible with the continuance of the adjacent habitat area by maintaining the functional capacity, their ability to be self-sustaining and maintain natural species diversity.</p>	<p>Development is located in the only feasible locations. It is compatible with other development in the vicinity and has been thoughtfully designed to minimize impacts to ESHA's.</p>
<p>(b) Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel.</p>	<p>No other feasible site is available on the parcel.</p>
<p>(c) Development shall be sited and designed to prevent impacts which would degrade adjacent habitat areas. The determination of the site shall include consideration of drainage, access, soil type, vegetation, hydrological characteristics, elevation, topography, and distance from the natural stream channels.</p>	<p>Mitigation will include removal of exotic and invasive species and replacement of native species to enhance the existing wetland.</p>
<p>(d) Same as 4(a)</p>	
<p>(e) Structures will be allowed within the buffer area only if there is not other feasible site available on the parcel. Mitigation measures, such as planting riparian vegetation, shall be required to replace the protective values of the buffer area on the parcel, at a minimum ratio of 1:1 which are lost as a result of development under this solution.</p>	<p>No other feasible site is available on the parcel.</p>
<p>(f) Development shall minimize the following: impervious surfaces, removal of vegetation, amount of bare soil, noise, dust, artificial light, nutrient runoff, air pollution, and human intrusion into the wetland and minimize alteration of natural landforms.</p>	<p>Proposed development minimizes all of the listed activities, to the greatest extent feasible.</p>
<p>(g) Where riparian vegetation is lost due to development, such vegetation shall be replaced at a minimum ratio of 1:1 to restore protective values of the buffer area.</p>	<p>No riparian vegetation will be lost.</p>

<p>(h). Aboveground structures shall allow peak surface water flows from a 100 year flood to pass with no significant impediment.</p>	<p>The wetlands are created by an offsite seep and by offsite drainage.</p>
<p>(i). Hydraulic capacity, subsurface flow patterns , biological diversity or hydrological processes, either terrestrial or aquatic shall be protected</p>	<p>No impacts to hydraulic capacity, subsurface flow paterns, biological diversity, and/or biological or hydrological processes, either terrestrial or aquatic are projected.</p>
<p>(i). Priority for drainage conveyance from a development site shall be through the natural stream environment zones, if any exist in the development area. In the drainage system design report or development plan, the capacity of natural stream environment zones to convey runoff from the completed development shall be evaluated and integrated with the drainage system whenever possible. No structure shall interrupt the flow of ground water with in the buffer strip. Foundations shall be situated with the long axis of interrupted impermeable vertical surfaces oriented parallel to the ground water flow direction. Piers may be allowed on a case by case basis.</p>	<p>No structure shall interrupt the flow of ground water within a buffer strip.</p>
<p>(k). If findings are made that the effects of developing an ESHA buffer area may result in signifcant adverse impacts to the ESHA, mitigation measures will be required as a condition of project approval. Noise barriers, buffer areas in permanent open space, land dedicated for erosion control, and weland restoration, including offsite drainage improvements, may be required as mitigation measures for development adjacent to environmentally sensitive habitats.</p>	<p>Mitigation measures are outlined in the attached report and are designed to account for potential impacts to ESHA's and associated buffers.</p>

**APPENDIX G:
RESULTS OF U.S. ARMY CORPS OF
ENGINEERS MITIGATION
CALCULATION
(12501-SPD.06)**

1	Date: 6/18/2024	Corps File No.: SPL-2013-NNW	Project Manager: Martin Reimann / Sarah Bradley	
	Impact Site Name: 2300 N Hwy 1, Albia, CA	ORM Resource Type: Non-tidal wetland	Hydrology: seasonally flooded	
	Impact Cowardin or HGM type: riverine	Impact area: 0.042 acres	Impact distance: 36 linear feet	
	Column A	Column B	Column C	
	Mitigation Site Name: Driveway crossings-SP04 establishment	Mitigation Site Name: Eastern wetland enhancement	Mitigation Site Name:	
	Mitigation Type: Non-tidal wetland	Mitigation Type: Non-tidal wetland	Mitigation Type:	
	ORM Resource Type: Riparian	ORM Resource Type: Riparian	ORM Resource Type:	
	Cowardin/HGM type: seasonally flooded	Cowardin/HGM type: seasonally flooded	Cowardin/HGM type:	
	Hydrology:	Hydrology:	Hydrology:	
2.a	Qualitative impact-mitigation comparison:	Starting ratio: 1.0 : 1.0 Ratio adjustment: 0.0 Baseline ratio: 1.00 : 1.00 PM justification: see	Starting ratio: 1.0 : 1.0 Ratio adjustment: 0.0 Baseline ratio: 1.00 : 1.00 PM justification: see Table 1	
2.b	Quantitative impact-mitigation comparison:	Ratio adjustment from BAMI procedure (attached):	Ratio adjustment from BAMI procedure (attached):	
2.c	Preservation (Table 2, step A)	Baseline ratio: 1.00	Baseline ratio: 1.00	
3	Preservation (Table 2, step E)	Ratio adjustment: 0.0	Ratio adjustment:	
4	Mitigation site location:	Ratio adjustment: 0 PM justification: impact and mitigation would be within the same area	Ratio adjustment: 0 PM justification: impact and mitigation would be within the same area	
5	Net loss of aquatic resource surface area:	Ratio adjustment: 0 PM justification: establishment (planting wetland vegetation)	Ratio adjustment: 0 PM justification: enhancement of existing wetland	
6	Type conversion:	Ratio adjustment: 0 PM justification: no difference between impact and mitigation types	Ratio adjustment: 0 PM justification: no conversion	
7	Risk and uncertainty:	Ratio adjustment: 0.2 PM justification: +0.1 for permittee-responsible mitigation, +0.1 for planned vegetation maintenance	Ratio adjustment: 0 PM justification: uncertainty factors generally not applicable	
8	Temporal loss:	Ratio adjustment: 1 PM justification: a. No known delays between impacts and construction of mitigation; b. To account for time required for full replacement of functions during monitoring period; generally, if mitigation is comprised of	Ratio adjustment: 0 PM justification: a. No planned delay	
9	Final mitigation ratio(s):	Baseline ratio from 2. a, b or c: 1.00 : 1.00 Total adjustments (3-8): 1.20 Final ratio: 2.20 : 1.00 Proposed impact (total): 0.042 acres 36 linear feet to Resource type: 0 Cowardin or HGM: riverine Hydrology: seasonally flooded Required Mitigation*: 0.09 acres 79.2 linear feet of Resource type: Non-tidal wetland Cowardin or HGM: Riparian Hydrology: seasonally flooded Proposed Mitigation**: 0.09 acres 79 linear feet Impact Unmitigated: 0 % 0.00 acres Additional PM comments:	Baseline ratio from 2. a, b or c: 1.00 : 1.00 Total adjustments (3-8): 0.00 Final ratio: 1.00 : 1.00 Remaining impact: 0.00 acres 0 linear feet to Resource type: 0 Cowardin or HGM: riverine Hydrology: seasonally flooded Required Mitigation*: 0.00 acres 0.0 linear feet of Resource type: Non-tidal wetland Cowardin or HGM: Riparian Hydrology: seasonally flooded Proposed Mitigation**: 0.00 acres 0 linear feet Impact Unmitigated: 0 % 0 acres Additional PM comments:	Baseline ratio from 2. a, b or c: 0.00 : 1.00 Total adjustments (3-8): 0.00 Final ratio: 0.00 : 1.00 Remaining impact (acres): #VALUE! Remaining impact (linear feet): #VALUE! to Resource type: 0 Cowardin or HGM: riverine Hydrology: seasonally flooded Required Mitigation*: #VALUE! acres #VALUE! linear feet of Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Proposed Mitigation**: #VALUE! acres #VALUE! linear feet Impact Unmitigated: #VALUE! % #VALUE! acres Additional PM comments:
10	Final compensatory mitigation requirements:	Final requirement is for 0.09 acres (79 linear feet) of planting Pacific reedgrass (Calamagrostis nutkaensis).		
	*At PM's discretion, if applicant's proposed mitigation is less than checklist requirement and additional mitigation type(s) proposed, complete additional columns as needed. **Only enter proposed mitigation into spreadsheet if accepting applicant's lower (than required ratio) proposal.			

Table 1: Qualitative comparison of functions (functional loss vs. gain) (instructions at bottom).

Functions (Column A)	Impact site	Mitigation site
Short- or long-term surface water storage	low	low
Subsurface water storage	low	low
Moderation of groundwater flow or discharge	moderate	moderate
Dissipation of energy	low	low
Cycling of nutrients	low	low
Removal of elements and compounds	low	low
Retention of particulates	low	low
Export of organic carbon	moderate	moderate
Maintenance of plant and animal communities	moderate	moderate

Adjustment: 0
PM Justification: impact and mitigation are within the same water body, habitat type, which means that functional gain and loss would be equal.

Function (Column B)	Impact site	Mitigation site
Short- or long-term surface water storage		
Subsurface water storage		
Moderation of groundwater flow or discharge		
Dissipation of energy		
Cycling of nutrients		
Removal of elements and compounds		
Retention of particulates		
Export of organic carbon		
Maintenance of plant and animal communities		

Adjustment:
PM Justification:

Function (Column C)	Impact site	Mitigation site
Short- or long-term surface water storage		
Subsurface water storage		
Moderation of groundwater flow or discharge		
Dissipation of energy		
Cycling of nutrients		
Removal of elements and compounds		
Retention of particulates		
Export of organic carbon		
Maintenance of plant and animal communities		

Adjustment:
PM Justification:

Instructions:

1. Describe amount of functional loss (impact) and gain (mitigation) in each respective column. Gain and loss can be
2. Note: alternate lists of functions may be used.
3. Note: a single adjustment should be used to account for all functions combined (see example 7 in attachment 12501.3)