CALIFORNIA COASTAL COMMISSION
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W17b

(CDP 5-23-0210 California Dept. of Fish & Wildlife)

April 10, 2023

Correspondence

Delineation of Aquatic Resources

November 7, 2023

Mandy Revell, Coastal Program Analyst
California Coastal Commission
Mandy.revell@coastal.ca.gov

Dear Ms. Revell,

This letter report summarizes the results of an update to the formal jurisdictional delineation of waters in west area A on the Ballona Wetlands site (Study Area, Figure 1), in Los Angeles County, California. Waters for the entire Ballona Wetlands Ecological Reserve were previously delineated for verification by the California Coastal Commission and the United States Army Corps of Engineers in 2010 and updated in 2021. However, because site conditions at the Ballona Wetlands Ecological Reserve are documented to change over time (see below), we reviewed site conditions and have summarized site condition changes that have occurred since the 2021 field work. This addendum to the 2021 field work (verified by the CCC and the Corps in 2022) was restricted to the Southern California Gas Company existing gas wells and pipeline infrastructure in west Area A (Figure 1). This location is the site of new fencing to facilitate limited public access near Fiji Way and is currently under review by the CCC for compliance.

Figure 1 Addendum of waters area is limited to this portion of west area A

The purpose of this jurisdictional delineation addendum was to identify the type and extent of any jurisdictional resources subject to state jurisdiction under the Porter-Cologne Water Quality Control Act, California Coastal Act (CCA), and Coastal Zone Management Act (CZMA; Appendix A). This delineation serves as an update to the most recent wetland delineation conducted in 2021 (RestorCap 2022).

Methods

The formal jurisdictional delineation conducted on April 5-8, 2021, within the Study Area followed the technical guidelines provided in the *Corps of Engineers Delineation Manual* (Environmental Laboratory, 1987) and the USACE *Arid West Regional Supplement* (USACE, 2008) that included an assessment of existing vegetation, soils, and hydrology. The Study Area was examined for the presence of “waters of the U.S.” regulated under Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act, and “waters of the State” regulated under the California Porter-Cologne Water Quality Control Act, CCA, and the Coastal Zone Management Act.

Prior to the jurisdictional delineation, reference materials were reviewed, including the following: the National Wetland Inventory data (U.S. Fish and Wildlife Service [USFWS], 2021), the prior wetland delineation reports (WRA 2010, RestorCap 2022), and historical and current aerial photographs (Google Earth, 2023). The Study Area was reviewed for potential changes in vegetation community. Plant species identified in the Study Area were assigned a wetland status

according to the National Wetland Plant List (Corps 2020). Sample points were reported on Arid West Supplement data forms (Appendix B). Photos were taken throughout the Study Area and are included as Appendix C.

Areas within the Ballona Wetlands Ecological Reserve that were dominated by aggressive, invasive vegetation, but met hydric soil and wetland hydrology criteria, were generally delineated as Corps and CCC jurisdictional wetlands during the April 2021 surveys, as they had been during the March 2010 surveys (i.e., areas dominated by pampas grass [UPL] and sea fig [UPL]). Areas that were dominated by invasive plant species but did not meet hydric soil or wetland hydrology criteria, including small patches of habitat dominated by tree tobacco (*Nicotiana glauca*; FAC), were delineated as upland habitat, regardless of their indicator status. During verification site visit discussions in 2010, areas that contained stands of mulefat (*Baccharis salicifolia*; FAC) were mapped if they consisted of more than sparse individual shrubs, regardless of overall plant cover or dominance.

Results

Appendix A depicts the revised extent of CCC jurisdiction within the Study Area based on the delineation update conducted in October 2023. The extent of CCC jurisdiction acreages are summarized in Tables 1, below.

Table 1. Summary of Potential CCC Jurisdictional Areas within the Study Area

Habitat Type	**Verified Jurisdictional Wetlands (acres) 2022**	**2023 Addendum**
CCC Vegetated Wetlands	178.08	174.66 (3.42 reduction)
Open Water	83.18	83.18
Total	**293.92**	**257.84**

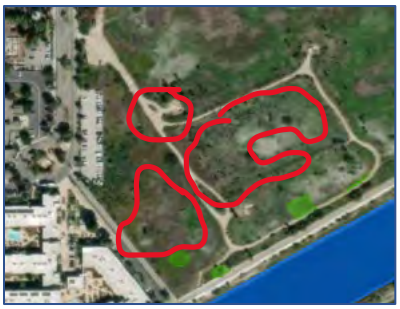

Figure 2. Addendum to the 2022 verified delineation removing 0.57 acres of sparse mulefat delineated area around well

Within the Study Area, the area around the Southern California Gas Company infrastructure has continued to undergo conversion of habitat with the invasion of mustard (*Brassica nigra;* UPL), iceplant (*Carpobrotus edulis;* UPL), crown daisy (*Glebionis coronaria* [*Chrysanthemum coronarium*]; UPL), and carnation spurge (*Euphorbia terracina*; UPL) displacing wetland plants. As was the case during previous site visits, the area surrounding the upland roadways did not support hydrophytic soils nor exhibit active wetland hydrology (Appendix B). In addition, the mulefat that was present in 2013 was reduced to just a few standing plants observed during the 2021 fieldwork, but absent during the 2023 addendum site visit (Appendix B, Appendix C).

Due to the loss of sparse mulefat from the area, we have removed three polygons of approximately 3.42 acres that occurred near the gas well infrastructure indicated in Figure 2 by the red circles. These areas no longer support mulefat or other hydrophytes. In addition, one polygon of alkali heath (*Frankenia salina*; FACW) was updated to reflect a reduced area.

Conclusion

The results of this jurisdictional delineation addendum reflect the current conditions of the Study Area as of October 2023. Conditions of the Study Area may change over time due to external factors that could alter the results of this jurisdictional delineation.

Sincerely,

AMANDA McCarthy

Amanda McCarthy, PhD PWS SE

Professional Wetland Scientist # 2156

References:

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

Google Earth. 2023. Aerial Imagery 1993 – 2023. Accessed October 2023.

RestorCap. 2022. Ballona Creek Wetlands Ecological Reserve Preliminary Delineation of Wetlands and Non-Wetland Waters. Prepared for the California State Coastal Commission. May 2022 Final Verification.

USACE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). September.

USACE. 2020. National Wetland Plant List, Version 3.5. http://wetland-plants.usace.army.mil/. U.S. Army Corps of Engineers Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.

WRA. 2010. Ballona Creek Wetlands Ecological Reserve Preliminary Delineation of Wetlands and Non-Wetland Waters. Prepared for the California State Coastal Commission. May 19, 2010.

Appendices:

Appendix A. Delineation of California Coastal Commission Jurisdictional Areas Figure
Appendix B. Arid West Determination Forms
Appendix C. Study Area Photographs

Appendix A.

Area C1

Area C2

Area A

Area B2

Ballona Creek

Area B1

Area B3

Appendix **A**.
Preliminary Delineation of California Coastal Commission Jurisdictional Areas

Ballona Creek Wetlands Ecological Reserve

Marina Del Rey, California

Non-Wetland Waters (83.18 ac)
Wetland (174.66 ac)

N
W E
S

0 400 800 1,600 Feet

Map Prepared Date: 2Nov23
Map Prepared By: KD
Base Source: ESRI Basemap
Data Source(s): RestorCap LLC, WRA Inc

eco eleemos

Path: C:\Users\karid\OneDrive\Desktop\Ballona\GIS\2022 Updates_Ballona\Ballona_2022.aprx

Appendix B.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ballona Wetlands - Del Rey 15 Adjacent City/County: Marina del Rey/Los Angeles Sampling Date: 10/16/2023

Applicant/Owner: CDFW State: CA Sampling Point: SP01

Investigator(s): RC Brody;A. McCarthy Section, Township, Range: Sec 27, T2S, R15W

Landform (hillslope, terrace, etc.): Artificial Terrace Local relief (concave, convex, none): Convex Slope (%): ~1-10

Subregion (LRR): LRR C Lat: 33.97067 Long: -118.4445 Datum: NAD83

Soil Map Unit Name: Typic Fluvaquents-Typic Xerorthents, dredged spoil complex NWI classification: N/A, not mapped

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 ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

Terrace created with fill and road base for utility road and gas well platforms

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3x3 meter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Washingtonia robusta	<3	Y	FACW
2.			
3.			
4.			
	<3	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3x3 meter)			
1. Baccharis pilularis	~40	Y	UPL
2.			
3.			
4.			
5.			
	~40	= Total Cover	
Herb Stratum (Plot size: 3x3 meter)			
1. Carpobrotus edulis	~40	Y	UPL
2. Hirschfeldia incana	~10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	~40	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ~5 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species 3	x 2 = 6
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species 90	x 5 = 450
Column Totals: 93 (A)	456 (B)

Prevalence Index = B/A = 4.90

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 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 ✔

Remarks:

Area of investigation previously supported sparse mulefat (Baccharis salicifolia); updated vegetation mapping completed in late 2022 indicated the species was no longer detectable; confirmed by this site visit.

SOIL

Sampling Point: SP01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4	100					Silty sand	
5-12	10YR 3/4	100					Sandy clay	Sandy clay loam, weak ribbon

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ✔ 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:

No hydric soil indicators observed; no current or historic redoximorphic indicators observed. Soils may be problematic due to sand content and historic placement of fill material related to the creation of Marina Del Rey and installation of Southern California Gas Company infrastructure.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

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:

Previous inspections show no history of sustained surface water or seasonal saturation in this terraced area

Remarks:

No wetland hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ballona Wetlands - Del Rey 15 Adjacent City/County: Marina del Rey/Los Angeles Sampling Date: 10/16/2023

Applicant/Owner: CDFW State: CA Sampling Point: SP02

Investigator(s): RC Brody;A. McCarthy Section, Township, Range: Sec 27, T2S, R15W

Landform (hillslope, terrace, etc.): Artificial Terrace Local relief (concave, convex, none): Convex Slope (%): ~1-10

Subregion (LRR): LRR C Lat: 33.97067 Long: -118.4445 Datum: NAD83

Soil Map Unit Name: Typic Fluvaquents-Typic Xerorthents, dredged spoil complex NWI classification: N/A, not mapped

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 ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

Terrace created with fill and road base for utility road and gas well platforms

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3x3 meter)	Absolute % Cover	Dominant Species?	Indicator Status
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	<3 = Total Cover		
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1. Carpobrotus edulis	~40	Y	UPL
2. Hirschfeldia incana	~10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	~40 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ~5 % Cover of Biotic Crust ____

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Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

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- ___ 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 ✔

Remarks:

Area of investigation previously supported sparse mulefat (Baccharis salicifolia); updated vegetation mapping completed in late 2022 indicated the species was no longer detectable; confirmed by this site visit.

SOIL

Sampling Point: SP02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4	100					Silty sand	
5-12	10YR 3/4	100					Sandy clay	Sandy clay loam, weak ribbon

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

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- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
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- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ✔ 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:

No hydric soil indicators observed; no current or historic redoximorphic indicators observed. Soils may be problematic due to sand content and historic placement of fill material related to the creation of Marina Del Rey and installation of Southern California Gas Company infrastructure.

HYDROLOGY

Wetland Hydrology Indicators:

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

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- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
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- ☐ FAC-Neutral Test (D5)

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:

Previous inspections show no history of sustained surface water or seasonal saturation in this terraced area

Remarks:

No wetland hydrology indicators observed

Appendix C.

Photograph 1. Photo of upland sample point (SP01) in the Study Area. Taken October 2023.

Photograph 2. Photo of upland sample point (SP01) soil. Taken October 2023.

Photograph 3. Photo of upland sample point (SP02) in the Study Area. Taken October 2023.

Photograph 4. Photo of upland sample point (SP02) soil in the Study Area. Taken October 2023.

Photograph 5. Photo of Study Area. Taken October 2023.

Photograph 6. Photo of Study Area. Taken October 2023.

Delineation of Aquatic Resources

February 20, 2024

Mandy Revell, Coastal Program Analyst
California Coastal Commission
Mandy.revell@coastal.ca.gov

Dear Ms. Revell,

This letter report summarizes the results of an update to the formal jurisdictional delineation of waters in west area A on the Ballona Wetlands site (Study Area, Figure 1), in Los Angeles County, California. Waters for the entire Ballona Wetlands Ecological Reserve (Reserve) were previously delineated for verification by the California Coastal Commission and the United States Army Corps of Engineers in 2010 and updated in 2021. In November 2023, I provided an updated delineation of a small portion of the overall delineation to clarify questions that you had regarding the regulated status of habitat impacted by a fence installation project. This location is the site of new fencing to facilitate limited public access near Fiji Way and is currently under review by the CCC for compliance (the total fence line distance is approximately 1,354.37 feet, individually from N to S there are three segments of 433.52, 413.38, and 507.48 feet).

I prepared a brief summary of site conditions at that time, having revisited the larger Reserve to document site conditions since 2007. As summarized in both previous delineation reports of the Reserve, site conditions affecting vegetation continue to change (*e.g.,* previous burns, human disturbance, non-native, invasive species impacts, and drought conditions described in previous reports). Although a site visit was conducted, detailed transects documenting the evidence of hydrophytic vegetation, hydric soils, and active wetland hydrology were not completed. Instead, we reviewed overall site conditions within a 10-foot buffer of the fence area (Study Area) and have summarized site condition changes that have occurred since the 2021 field work. This addendum to the 2021 field work (verified by the CCC and the Corps in 2022) was restricted to the installed fence line and buffer near Southern California Gas Company existing gas wells and pipeline infrastructure in west Area A (Figure 1).

The purpose of this jurisdictional delineation addendum was to identify the type and extent of any jurisdictional resources subject to state jurisdiction under the Porter-Cologne Water Quality Control Act, California Coastal Act (CCA), and Coastal Zone Management Act (CZMA; Appendix A) using the methodology developed during the previously verified delineations. This delineation serves as an update to the most recent wetland delineation conducted in 2021 (RestorCap 2022).

Methods

The formal jurisdictional delineation conducted on April 5-8, 2021, within the Study Area followed the technical guidelines provided in the *Corps of Engineers Delineation Manual* (Environmental Laboratory, 1987) and the USACE *Arid West Regional Supplement* (USACE, 2008) that included an assessment of existing vegetation, soils, and hydrology. The Study Area was examined for the presence of “waters of the U.S.” regulated under Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act, and “waters of the State” regulated under the California Porter-Cologne Water Quality Control Act, CCA, and the Coastal Zone Management Act.

Prior to the jurisdictional delineation, reference materials were reviewed, including the following: the National Wetland Inventory data (U.S. Fish and Wildlife Service [USFWS], 2021), the prior wetland delineation reports (WRA 2010, RestorCap 2022), and historical and current aerial photographs (Google Earth, 2023). The Study Area was reviewed for potential changes in vegetation community. Plant species identified in the Study Area were assigned a wetland status according to the National Wetland Plant List (Corps 2020). Sample points were reported on Arid West Supplement data forms (Appendix B). Photographs were taken to document overall site conditions of the Study Area and are included as Appendix C.

The site visit completed in support of this letter was intended to document overall site conditions. The Study Area was clipped out of the most recent delineation to determine if any changes were warranted based on current conditions. The minimum mapping unit (MMU) of 10 square meters matches our previous delineation work and is intended to generally map large inclusions of upland or wetland habitat of ecological significance. As with any delineation done at scale, individual hydrophytes are not mapped; small areas of hydrophytic vegetation may occur within upland mapped areas—the goal of our delineation was to provide documentation of overall existing conditions. The MMU was also intended to avoid including artificially small wetlands (or uplands) that were more likely caused by road compaction or disturbance or salinity levels. This is particularly true in areas adjacent to trails or roads associated with compaction of former fill material.

Areas within the Ballona Wetlands Ecological Reserve that were dominated by aggressive, invasive vegetation, but met hydric soil and wetland hydrology criteria, were generally delineated as Corps and CCC jurisdictional wetlands during the April 2021 surveys, as they had been during the March 2010 surveys (*i.e*., areas dominated by pampas grass [UPL] and sea fig [UPL]). Areas that were dominated by invasive plant species but did not meet hydric soil or wetland hydrology criteria, including small patches of habitat dominated by tree tobacco (*Nicotiana glauca*; FAC), or small saplings of blue elderberry (*Sambucus mexicana*, FAC) that did not provide significant ecological functions, were delineated as upland habitat, regardless of their indicator status. Likewise, invasive species with no wetland indicator status (*e.g*., pampas grass [*Cortaderia selloana*] UPL) that occurred within wetland habitat were mapped as wetland habitat. During verification site visit discussions in 2010, areas that contained large stands of mulefat (*Baccharis salicifolia*; FAC) were mapped if they consisted of more than sparse individual shrubs, regardless of overall plant cover or dominance, if indicators of active wetland hydrology were observed (*e.g.,* presence within a topographic basin). Hydrophytic species known to tolerate high levels of salinity (halophytes) were used with caution (*e.g*., saltgrass [*Distichlis spicata* FAC) as the ecological role of salinity stress on competition may result in their presence without active wetland hydrology.

Results

Figure 1 (Appendix A) depicts the extent of CCC jurisdiction within the Study Area based on the Study Area, as defined in previous field verification visits with CCC staff.habitat exists within the

Within and adjacent to the Study Area, the Southern California Gas Company infrastructure (*i.e*., pads, roadways) has continued to undergo conversion of habitat with the invasion of mustard (*Brassica nigra;* UPL), iceplant (*Carpobrotus edulis;* UPL), crown daisy (*Glebionis coronaria* [*Chrysanthemum coronarium*]; UPL), and carnation spurge (*Euphorbia terracina*; UPL) displacing hydrophytic vegetation. No invasive hydrophytic vegetation (*e.g.,* perennial pepperweed

[*Lepidium latifolium*] FACW) was observed, likely due to the ability of many of the observed invasive species to compete in fairly saline soils. As was the case during previous site visits, the habitat surrounding the upland roadways did not support hydrophytic soils nor exhibit active wetland hydrology (Appendix B). Only sparse hydrophytes were observed during the October 2023 site visit, including a few individual alkali heath (*Frankenia salina*, FACW), spreading alkali heath (*Cressa truxillensis* FACW) and saltgrass (FAC) and declining, sparse mulefat (Appendix B, Appendix C). These species are all adapted to disturbance and high salinity; ecologically, they persist only in areas of high salinity; in upland soils of moderate salinity, they are not able to compete with aggressive invasive species (*e.g*., mustard). This was documented within the larger areas of seasonal wetland habitat within the central region of Area A, with mustard largely excluding alkali heath and saltgrass over time (RestorCap 2022).

Conclusion

The results of this jurisdictional delineation addendum reflect the current conditions of the Study Area as of October 2023. Conditions of the Study Area may change over time due to external factors that could alter the results of this jurisdictional delineation. As noted, above, this delineation is intended to document hydrophytic vegetation, hydric soils, or active wetland hydrology meeting the MMU of 10 square meters; individual hydrophytes may occur within the delineation area that do not meet the MMU or are ecologically indicative of salinity rather than active wetland hydrology, if they occur adjacent to compacted roadways or paths.

Sincerely,

Amanda McCarthy, PhD PWS SE

Professional Wetland Scientist # 2156

References:

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Appendices:

Appendix A. Study Area (Figure 1)
Appendix B. Arid West Determination Forms
Appendix C. Study Area Photographs

Appendix A.

0 31.3 62.5 125
Feet

FIGURE 1

Fence
Fenceline 10-ft Buffer

Ballona Creek Wetlands Ecological Reserve
Playa Del Rey, California

eco eleemos

Data Source(s): TRC, WRA
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Source: Esri, USDA FSA, © 2024 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus DS, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Earthstar Geographics, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
25-Jan-24 2:59 PM

Appendix B.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ballona Wetlands - Del Rey 15 Adjacent City/County: Marina del Rey/Los Angeles Sampling Date: 10/16/2023

Applicant/Owner: CDFW State: CA Sampling Point: SP01

Investigator(s): RC Brody;A. McCarthy Section, Township, Range: Sec 27, T2S, R15W

Landform (hillslope, terrace, etc.): Artificial Terrace Local relief (concave, convex, none): Convex Slope (%): ~1-10

Subregion (LRR): LRR C Lat: 33.97067 Long: -118.4445 Datum: NAD83

Soil Map Unit Name: Typic Fluvaquents-Typic Xerorthents, dredged spoil complex NWI classification: N/A, not mapped

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 ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

Terrace created with fill and road base for utility road and gas well platforms

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3x3 meter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Washingtonia robusta	<3	Y	FACW
2.			
3.			
4.			
	<3 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3x3 meter)			
1. Baccharis pilularis	~40	Y	UPL
2.			
3.			
4.			
5.			
	~40 = Total Cover		
Herb Stratum (Plot size: 3x3 meter)			
1. Carpobrotus edulis	~40	Y	UPL
2. Hirschfeldia incana	~10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	~40 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ~5 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species 3	x 2 = 6
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species 90	x 5 = 450
Column Totals: 93 (A)	456 (B)

Prevalence Index = B/A = 4.90

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 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 ✔

Remarks:

Area of investigation previously supported sparse mulefat (Baccharis salicifolia); updated vegetation mapping completed in late 2022 indicated the species was no longer detectable; confirmed by this site visit.

SOIL

Sampling Point: SP01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4	100					Silty sand	
5-12	10YR 3/4	100					Sandy clay	Sandy clay loam, weak ribbon

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ✔ 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:

No hydric soil indicators observed; no current or historic redoximorphic indicators observed. Soils may be problematic due to sand content and historic placement of fill material related to the creation of Marina Del Rey and installation of Southern California Gas Company infrastructure.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

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:

Previous inspections show no history of sustained surface water or seasonal saturation in this terraced area

Remarks:

No wetland hydrology indicators observed

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ballona Wetlands - Del Rey 15 Adjacent City/County: Marina del Rey/Los Angeles Sampling Date: 10/16/2023

Applicant/Owner: CDFW State: CA Sampling Point: SP02

Investigator(s): RC Brody;A. McCarthy Section, Township, Range: Sec 27, T2S, R15W

Landform (hillslope, terrace, etc.): Artificial Terrace Local relief (concave, convex, none): Convex Slope (%): ~1-10

Subregion (LRR): LRR C Lat: 33.97067 Long: -118.4445 Datum: NAD83

Soil Map Unit Name: Typic Fluvaquents-Typic Xerorthents, dredged spoil complex NWI classification: N/A, not mapped

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 ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

Terrace created with fill and road base for utility road and gas well platforms

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3x3 meter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Washingtonia robusta	<3	Y	FACW
2.			
3.			
4.			
	<3 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3x3 meter)			
1. Baccharis pilularis	~40	Y	UPL
2.			
3.			
4.			
5.			
	~40 = Total Cover		
Herb Stratum (Plot size: 3x3 meter)			
1. Carpobrotus edulis	~40	Y	UPL
2. Hirschfeldia incana	~10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	~40 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ~5 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species 3	x 2 = 6
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species 90	x 5 = 450
Column Totals: 93 (A)	456 (B)

Prevalence Index = B/A = 4.90

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 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 ✔

Remarks:

Area of investigation previously supported sparse mulefat (Baccharis salicifolia); updated vegetation mapping completed in late 2022 indicated the species was no longer detectable; confirmed by this site visit.

SOIL

Sampling Point: SP02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4	100					Silty sand	
5-12	10YR 3/4	100					Sandy clay	Sandy clay loam, weak ribbon

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ✔ 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:

No hydric soil indicators observed; no current or historic redoximorphic indicators observed. Soils may be problematic due to sand content and historic placement of fill material related to the creation of Marina Del Rey and installation of Southern California Gas Company infrastructure.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

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:

Previous inspections show no history of sustained surface water or seasonal saturation in this terraced area

Remarks:

No wetland hydrology indicators observed

Appendix C.

Photograph 1. Photo of upland sample point (SP01) in the Study Area. Taken October 2023.

Photograph 2. Photo of upland sample point (SP01) soil. Taken October 2023.

Photograph 3. Photo of upland sample point (SP02) in the Study Area. Taken October 2023.

Photograph 4. Photo of upland sample point (SP02) soil in the Study Area. Taken October 2023.

Photograph 5. Photo of Study Area. Taken October 2023.

Photograph 6. Photo of Study Area. Taken October 2023.

Mapping Standard and Land Use Categories for the Central Valley Riparian Mapping Project

Developed for the Central Valley Flood Protection Program (CVFPP) Systemwide Planning Area (SPA), major rivers and tributaries

Prepared for:
California Department of Water Resources and

Prepared by:

Geographical Information Center
California State University, Chico

35 Main Street
Chico, California
95929-0327
(530) 898-4372
www.gic.csuchico.edu

I. Minimum mapping resolution:

Data was heads-up digitized at a scale of 1:2,000 using National Agricultural Inventory Program 2009 aerial imagery (USDA 2009)

II. Minimum mapping unit:

Natural and semi-natural vegetation

The minimum mapping unit (MMU) for natural vegetation is 1-acre with average width ≥ 10-meters for polygons mapped to the National Vegetation Classification System (NVCS) Group Level, provisional NVCS groups as presented by Sawyer et. al. (2009) and temporary provisional groups presented by Todd Keeler-Wolf (pers. comm.).

Provisional categories for Delta Land Use mapping data (Hickson and Wolf, 2006) aggregated to the CVRMP mapping data were categorized generically as "Macrogroup", "Division" and "Formation" (D. Hickson, pers. comm..).

Allowances for MMU rules were allowed for important or obvious types, such as in-stream islands or gravel bars.

Forested vegetation (≥ 5% tree cover) was also mapped (i.e. divided) to MMUs of 1-acre with average width ≥ 10-meters based on categorical tree height (see "***Additional mapping rules***, below).

Shrub vegetation types (< 5% tree cover and ≥10% shrub cover) were separated by estimated % cover when shrub-type vegetation polygons were ≥ 5-acres

Agriculture and Urban areas

MMU for Agricultural and Urban areas classified at Anderson Level I was 10-acres with an average 10-meter minimum width.

Roads less than the MMU were included in other types or split between polygons that abut the road.

III. Additional mapping rules:

Vegetation over Water

Canopy of vegetation over water was digitized following canopy line (as opposed to estimating water to estimated bankline under canopy)

Height

Coded values for tree heights on forested land cover (i.e. less than 5% absolute tree cover) were based on aerial photo interpretation

Coded values for tree heights were provided as follows:

4 = 2-5 meters (6.5-16.4 feet)
5 = >5-10 meters (>16.4 – 32.8 feet)
6 = > 10-15 meters (>32.8 – 49.2 feet)
7 = >15 meters (>49.2 feet)

% Tree cover

Estimated absolute % cover ("0.2" if cover < 1%, but >0%)

% Shrub cover
Shrub cover was estimated when tree cover was < 40%.
Estimated absolute % cover ("0.2" if cover < 1%, but >0%)

% Herb cover
Herb cover was estimated when total tree and shrub cover was < 40%.

Coded values for herb cover were provided as follows:

1 = <2%
2 = 2-9%
3 = 10-39%
4 = 40-59%
5 = >60%

Isolated Trees
"Y" (Yes) indicates presence of isolated trees (i.e. if percent tree <5%)

Restoration Sites
"Y" (Yes) indicates feature is mapped habitat restoration vegetation

Comments
General comments regarding feature generated by feature author

IV. Vegetation Classification - Riparian (Vegetation) Group codes, names and characteristic vegetation types (from Sawyer et. al. 2009):

RWF - Riparian Evergreen and Deciduous Woodland includes:

Acer negundo alliance
Juglans hindsii special and semi-natural stands
Platanus racemosa alliance
Populus fremontii alliance
Quercus lobata "riparian" *alliance*
Salix gooddingii alliance
Salix laevigata alliance

IMF - Introduced North American Mediterranean forest (no group subdivision below this), includes stands of *Eucalyptus, Ailanthus*, and other non-native naturalized trees

WVO - Californian broadleaf forest and woodland includes:

Aesculus californica Alliance
Quercus agrifolia Alliance
Quercus douglasii Alliance
Qurecus wislizeni Alliance
Quercus lobata Upland Alliance
Umbellularia californica Alliance

CSS - Central and south coastal California seral scrub includes:

Baccharis pilularis Alliance
Lotus scoparius Alliance
Lupinus albifrons Alliance
Heterotheca oregana sub-shrub scrub (putative definition)

RWS - Southwestern North America riparian wash/scrub includes:

Baccharis salicifolia Alliance
Cephalanthus occidentalis Alliance
Rosa californica Alliance
Salix exigua Alliance
Salix lasiolepis Alliance
Sambucus nigra Alliance

RIS - Riparian introduced scrub includes:

Arundo donax Semi-natural Stands
Tamarix spp. Semi-natural Stands
Rubus armenicus semi-natural stands

CAI - California Introduced Annual and Perennial Herbaceous includes:

Aegilops triuncialis Semi-natural Stands
Avena (barbata, fatua) Semi-natural Stands
Brassica (nigra) and other mustards Semi-natural Stands
Bromus (diandrus, hordeaceus)–Brachypodium distachyon Semi-natural Stands
Centaurea (solstitialis, melitensis) Semi-natural Stands
Centaurea (virgata) Semi-natural Stands

Conium maculatum–Foeniculum vulgare Semi-natural Stands
Cortaderia (jubata, selloana) Semi-natural Stands
Cynosurus echinatus Semi-natural Stands
Lollium perenne Semi-natural Stands

CFG - California annual forb/grass vegetation includes:
Ambrosia psilostachya Provisional Alliance
Amsinckia (menziesii, tessellata) Alliance
Artemisia douglasiana {Putative, not in MCV}
Artemisia dracunculus Alliance
Eschscholzia (californica) Alliance
Lasthenia californica–Plantago erecta–Vulpia microstachys Alliance
Lotus purshianus Provisional Alliance
Plagiobothrys nothofulvus Alliance

FEM - Freshwater emergent marsh includes:
Phragmites australis Alliance (most are considered invasive weedy ecotypes)
Schoenoplectus acutus Alliance
Schoenoplectus californicus Alliance
Typha (*angustifolia, domingensis, latifolia*) Alliance

WTM - Californian warm temperate marsh/seep includes:
Carex barbarae Alliance
Carex densa Provisional Alliance
Carex nudata Alliance
Juncus arcticus (var. *balticus, mexicana*) Alliance
Juncus (*oxymeris, xiphioides*) Provisional Alliance
Leymus triticoides Alliance
Mimulus (guttatus) Alliance

NRW - Naturalized warm-temperate riparian/wetland includes:
Lepidium latifolium Semi-natural Stands
Persicaria lapathifolia–Xanthium strumarium Provisional Alliance

FAV - Floating aquatic vegetation (Provisional Macrogroup incorporating NVCS Group-level vegetation **Temperate Pacific freshwater aquatic bed**, **Naturalized temperate Pacific freshwater vegetation**, and **Temperate freshwater floating mat**) includes:
Ludwigia (hexapetala, peploides) Semi-natural Stands
Myriophyllum strictum
Cabomba carolinensis
Egeria
Azolla (filiculoides, mexicana) Provisional Alliance
Lemna (minor) and relatives Provisional Alliance
Note: may also include *Eicchornea crassipes* stands, if discovered in mapping area

VPB - Vernal pool basin includes:
Vernal Pools

VRF - Vancouverian riparian deciduous forest includes:
Alnus rhombifolia / Cornus sericea
Alnus rhombifolia / Salix exigua (Rosa californica)
White Alder (*Alnus rhombifolia*)
White Alder (*Alnus rhombifolia*) - Arroyo willow (*Salix lasiolepis*) restoration

[1]WDT - Western dogwood thicket includes:
California Dogwood (*Cornus sericea*)

Cornus sericea - Salix exigua
Cornus sericea - Salix lasiolepis / (Phragmites australis)
Baccharis pilularis / Annual Grasses & Herbs
Buttonbush (*Cephalanthus occidentalis*)
California Wild Rose (*Rosa californica*)
Mexican Elderberry (*Sambucus mexicana*)
Narrow-leaf Willow (*Salix exigua*)
Salix exigua - (Salix lasiolepis - Rubus discolor - Rosa californica)
Salix lasiolepis - (Cornus sericea) / Scirpus spp.- (*Phragmites australis - Typha* spp.) complex unit
Salix lasiolepis - Mixed brambles (*Rosa californica - Vitis californica - Rubus discolor*)

SSB - Southwestern North American salt basin and high marsh includes:
Alkali Heath (*Frankenia salina*)
Alkaline vegetation mapping unit
Allenrolfea occidentalis mapping unit
Frankenia salina - Distichlis spicata
Pickleweed (*Salicornia virginica*)
Salt scalds and associated sparse vegetation
Suaeda moquinii - (*Lasthenia californica*) mapping unit

[1]TBM - Temperate Pacific tidal salt and brackish meadow includes:
California Hair-grass (*Deschampsia caespitosa*)
Deschampsia caespitosa - Lilaeopsis masonii
Distichlis spicata - Annual Grasses
Distichlis spicata - Juncus balticus
Distichlis spicata - Salicornia virginica
Salicornia virginica - Cotula coronopifolia
Salicornia virginica - Distichlis spicata
Saltgrass (*Distichlis spicata*)

[1]Macrogroup, Division and Formation:
Provisional categories for Delta Land Use mapping data (Hickson and Wolf, 2006) aggregated to the CVRMP mapping data categorized generically as "Macrogroup", "Division" and "Formation" (D. Hickson, pers. comm..).

Agricultural – Evidence of current or recent agricultural activity
Urban - Ground covered by urban landscapes such as houses, other buildings, roads, etc
Bare Gravel Sand - Ground covered by cobble, gravels, sand or fines
Water - Standing water covers the mapping area with vegetation absent or very sparse

[1] Vegetation alliances found only in Delta vegetation mapping data

V. Medium-scale map checks and field validation:

Data was evaluated by personnel from the California Department of Fish and Game's Vegetation Mapping Program to verify a minimum mapping accuracy of 80% for CVRMP linework and categorical vegetation "group" type.

VI. References

Hickson, D. and T. Keeler-Wolf, Vegetation Classification and Mapping Program, California Department of Fish. 2006. 2006. Vegetation and Land Use Classification and Map of the Sacramento-San Joaquin River Delta.

Sawyer, J.O., T. Keeler-Wolf and J.M. Evens. 2009. A Manual of California Vegetation, 2nd edition. California Native Plant Society Press, Sacramento, CA.

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Delineation of Aquatic Resources

March 5, 2024

Mandy Revell, Coastal Program Analyst
California Coastal Commission
Mandy.revell@coastal.ca.gov

Dear Ms. Revell,

This letter report summarizes the results of an update to the formal jurisdictional delineation of waters in west area A on the Ballona Wetlands site (Study Area [the project area], Figure 1), in Los Angeles County, California. Waters for the entire Ballona Wetlands Ecological Reserve (Reserve) were previously delineated for verification by the California Coastal Commission (Commission) and the United States Army Corps of Engineers in 2010 and updated in 2021. In November 2023, I provided an updated delineation of a small portion of the overall delineation to clarify questions that you had regarding the regulated status of habitat impacted by a fence installation project. This location is the site of new fencing to facilitate limited public access near Fiji Way and is currently under review by the CCC for compliance (the total fence line distance is approximately 1,354.37 feet, individually from N to S there are three segments of 433.52, 413.38, and 507.48 feet).

I prepared a brief summary of site conditions at that time, having revisited the larger Reserve to document site conditions since 2007. As summarized in both previously verified delineation reports of the Reserve, site conditions affecting vegetation continue to change (*e.g.,* previous burns, human disturbance, non-native, invasive species impacts, and drought conditions described in previous reports). Because the fence installation project intersected a previously delineated one-parameter wetland verified by the Commission, Richard Brody visited the area to document site conditions to determine if the one-parameter (for this polygon, the vegetation parameter was utilized due to the presence of mulefat [*Baccharis salicifolia*] previously FACW, now FAC) continued to be a dominant feature in 2023. Detailed transects and associated data collection documenting the evidence of hydrophytic vegetation, hydric soils, and active wetland hydrology were not completed in 2023. Instead, our analysis reviewed the overall site conditions within a 10-foot buffer of the fence area (Study Area) to capture the fence installation project area (intended to observe the direct fence impacts and indirect impacts associated with its installation) and have summarized site condition changes that have occurred since the 2021 delineation field work. This addendum to the 2021 field work (verified by the CCC and the Corps in 2022) was restricted to the installed fence line and buffer near Southern California Gas Company existing gas wells and pipeline infrastructure in west Area A (Figure 1) and focused on determining if the one-parameter used to delineate the polygon (*i.e.*, mulefat) for the 2013 verified delineation was still present.

The purpose of this jurisdictional delineation addendum was to identify the type and extent of any jurisdictional resources subject to state jurisdiction under the Porter-Cologne Water Quality Control Act, California Coastal Act (CCA), and Coastal Zone Management Act (CZMA; Appendix A) using the methodology developed during the previously verified delineations and focused on a review of previously verified jurisdictional habitat that intersects with the installation of the new fenceline. This delineation serves as a technical update to the most recent wetland delineation

conducted in 2021 (RestorCap 2022); ultimate regulatory authority resides with the Commission due to the one parameter nature of the feature in question.

Methods

The formal jurisdictional delineation update conducted on April 5-8, 2021, within the Study Area followed the technical guidelines provided in the *Corps of Engineers Delineation Manual* (Environmental Laboratory, 1987) and the USACE *Arid West Regional Supplement* (USACE, 2008) that included an assessment of existing vegetation, soils, and hydrology. The fence installation Study Area was visited on October 16, 2023 by Richard Brody (CDFW) to document the dominant vegetation to determine the potential regulatory status of the fence installation Study Area. The Study Area was examined for the presence of "waters of the U.S." regulated under Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act, and "waters of the State" regulated under the California Porter-Cologne Water Quality Control Act, CCA, and the Coastal Zone Management Act; our analysis focused on the presence/absence of hydrophytic vegetation, as site soils and hydrology had not changed based on existing site conditions observed since 2010 and the results of all previous field work delineating the surrounding habitat as upland or one-parameter (hydrophytic vegetation) only.

Prior to the jurisdictional delineation, reference materials were reviewed, including the following: the National Wetland Inventory data (U.S. Fish and Wildlife Service [USFWS], 2021), the prior wetland delineation reports (WRA 2010, RestorCap 2022), prior vegetation mapping and analysis, and historical and current aerial photographs (Google Earth, 2023). The Study Area was reviewed for potential changes in vegetation community, focusing on dominant plant species present. Plant species identified in the Study Area were assigned a wetland status according to the National Wetland Plant List (Corps 2020). Sample points were reported on Arid West Supplement data forms (Appendix B). Photographs were taken to document overall site conditions of the Study Area and are included as Appendix C.

The site visit completed in support of this letter was intended to document overall site conditions focused on the one parameter utilized previously in this area as no changes to soils or hydrology were observed and site conditions were normal. The Study Area was clipped out of the most recent delineation to determine if any changes were warranted based on current conditions. The minimum mapping unit (MMU) of 10 square meters matches our previous delineation work and is intended to generally map large inclusions of upland or wetland habitat of ecological significance. As with any delineation done at scale, individual hydrophytes are not mapped; small areas of hydrophytic vegetation may occur within upland mapped areas—the goal of our delineation was to provide documentation of overall existing conditions and dominant vegetation. The MMU was also intended to avoid including artificially small wetlands (or uplands) that were more likely caused by road compaction or disturbance or salinity levels. This is particularly true in areas adjacent to trails or roads associated with compaction of former fill material dredged from high-salinity water bodies.

Areas within the Ballona Wetlands Ecological Reserve that were dominated by aggressive, invasive vegetation, but met hydric soil and wetland hydrology criteria, were generally delineated as Corps and CCC jurisdictional wetlands during the April 2021 surveys, as they had been during the March 2010 surveys (*i.e*., areas dominated by pampas grass [UPL] and sea fig [UPL]). Areas that were dominated by invasive plant species but did not meet hydric soil or wetland hydrology criteria, including small patches of habitat dominated by tree tobacco (*Nicotiana glauca*; FAC), or

small saplings of blue elderberry (*Sambucus mexicana*, FAC) that did not provide significant ecological functions, were delineated as upland habitat, regardless of their indicator status. Likewise, invasive species with no wetland indicator status (*e.g*., pampas grass [*Cortaderia selloana*] UPL) that occurred within wetland habitat were mapped as wetland habitat. During verification site visit discussions in 2010, areas that contained large stands of mulefat (*Baccharis salicifolia*; FAC) were mapped if they consisted of more than sparse individual shrubs, or, regardless of overall plant cover or dominance, if indicators of active wetland hydrology were observed (*e.g.,* presence within a topographic basin). Hydrophytic species known to tolerate high levels of salinity (halophytes) were used with caution (*e.g*., saltgrass [*Distichlis spicata* FACW]) as the ecological role of salinity stress on competition may result in their presence without active wetland hydrology (*i.e*., halophytes would have a competitive advantage in saline soils).

Results

Figure 1 (Appendix A) depicts the extent of CCC jurisdiction within the Study Area based on the delineation update conducted in October 2023. No CCC jurisdictional habitat exists within the Study Area, as defined in previous field verification visits with CCC staff. The previously delineated one-parameter mulefat wetland is no longer mapped as the previously mapped polygon is neither a large, contiguous stand nor does it exhibit any indicators of active wetland hydrology.

Within and adjacent to the Study Area, the Southern California Gas Company infrastructure (*i.e*., pads, roadways) has continued to undergo conversion of habitat with the invasion of mustard (*Brassica nigra;* UPL), iceplant (*Carpobrotus edulis;* UPL), crown daisy (*Glebionis coronaria* [*Chrysanthemum coronarium*]; UPL), and carnation spurge (*Euphorbia terracina*; UPL) displacing hydrophytic vegetation. No invasive hydrophytic vegetation (*e.g.,* perennial pepperweed [*Lepidium latifolium*] FACW) was observed, likely due to the ability of many of the observed invasive species to compete in fairly saline soils. As was the case during previous site visits, the habitat surrounding the upland roadways did not support hydrophytic soils nor exhibit active wetland hydrology (Appendix B). Only sparse hydrophytes were observed during the October 2023 site visit, including a few individual alkali heath (*Frankenia salina*, FACW), spreading alkali heath (*Cressa truxillensis* FACW) and saltgrass (FAC) and declining, sparse mulefat (Appendix B, Appendix C). These species are all adapted to disturbance and high salinity; ecologically, they persist only in areas of high salinity; in upland soils of moderate salinity, they are not able to compete with aggressive invasive species (*e.g*., mustard). This was documented within the larger areas of seasonal wetland habitat within the central region of Area A, with mustard largely excluding alkali heath and saltgrass over time (RestorCap 2022).

Conclusion

The results of this jurisdictional delineation addendum reflect the current conditions of the Study Area as of October 2023. Conditions of the Study Area may change over time due to external factors that could alter the results of this jurisdictional delineation. As noted, above, this delineation is intended to document hydrophytic vegetation, hydric soils, or active wetland hydrology meeting the MMU of 10 square meters; individual hydrophytes may occur within the delineation area that do not meet the MMU or are ecologically indicative of salinity rather than active wetland hydrology, if they occur adjacent to compacted roadways or paths.

Please let me know if you have any questions or require any additional information to determine the regulatory status of habitat impacted by the installation of fencing in the Study Area. I can be reached at amanda@eco-eleemos.com or 415.254.8451.

Sincerely,

Amanda McCarthy, PhD PWS SE

Professional Wetland Scientist # 2156

References:

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

Google Earth. 2023. Aerial Imagery 1993 – 2023. Accessed October 2023.

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USACE. 2020. National Wetland Plant List, Version 3.5. http://wetland-plants.usace.army.mil/. U.S. Army Corps of Engineers Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.

WRA. 2010. Ballona Creek Wetlands Ecological Reserve Preliminary Delineation of Wetlands and Non-Wetland Waters. Prepared for the California State Coastal Commission. May 19, 2010.

Appendices:

Appendix A. Study Area (Figure 1)
Appendix B. Arid West Determination Forms
Appendix C. Study Area Photographs

Appendix A.

Path: C:\Users\karid\OneDrive\Desktop\Ballona\GIS\2022 Updates_Ballona\Ballona_2022.aprx

0 31.3 62.5 125
Feet

FIGURE 1

Fence
Fenceline 10-ft Buffer
Sample Points

Ballona Creek Wetlands Ecological Reserve
Playa Del Rey, California

eco eleemos

Data Source(s): TRC, WRA
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri Community Maps Contributors, County of Los Angeles, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Source: Esri, USDA FSA, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Earthstar Geographics, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
20-Feb-24 6:46 PM

Appendix B.

Appendix C.

Photograph 1. Photo of upland sample point (SP01) in the Study Area. Taken October 2023.

Photograph 2. Photo of upland sample point (SP01) soil. Taken October 2023.

Photograph 3. Photo of upland sample point (SP02) in the Study Area. Taken October 2023.

Photograph 4. Photo of upland sample point (SP02) soil in the Study Area. Taken October 2023.

Photograph 5. Photo of Study Area. Taken October 2023.

Photograph 6. Photo of Study Area. Taken October 2023.

From:	Walter Lamb
To:	Engel, Jonna@Coastal
Cc:	Revell, Mandy@Coastal; Ziff, Dani@Coastal; Willis, Andrew@Coastal; Reed, Jessica@Coastal
Subject:	Re: answers to Walter"s 10 questions
Date:	Friday, March 29, 2024 8:44:52 AM

Thank you for this information, Dr. Engel. I appreciate and respect your professional expertise and experience. As an organization, we do not put forth "our own research" to compete with the assessment of professional scientists. We do, however, frequently attempt to reconcile various professional assessments where we see material inconsistencies that result in anything less than the fullest possible protection for native wildlife habitats, including such habitats that are emergent in areas still dominated by invasive vegetation (due in large part to the lack of basic mitigation efforts).

In that context, I want to respectfully note that there still appear to be multiple substantial inconsistencies with regard to the how this determination came about, the timing of the determination relative to the actual development, the evolving messaging on the extent of mulefat and alkali heath onsite currently and in the past, ambiguity over the actual study area, initial ambiguity over who was actually present on site on October 16th, changing narrative regarding the relevance of the 2022 delineation verification, and other similar inconsistencies. To be candid, there is a perception on our part that the narrative has simply mutated in response to the many discrepancies we have noted. I am searching for other examples in which development was constructed in an area unambiguously mapped as one-parameter wetland, with the effort to unmap only the intersecting area not occurring until 11 months after the start of that unpermitted development. It seems highly counter-intuitive that this would be an effective approach to determining the condition of the area at the time of development, which was November and December of 2022.

I look forward to reading your memo and the staff report, which I hope will include photographs showing the prior vegetation cover that was previously mapped as wetland as well as current photographs of the mulefat and alkali heath from April of 2022, October 16th of last year and March 22nd of this year and any other site visits. I will be on site again this morning and will be taking some additional photographs. Last Friday was one of the few days I was not at Area A during open hours. The reason I had hoped to join the site visit was not to debate any scientific assessment, but to ensure that hydrophytic plants that are now largely obscured by weeds, such as an unchecked explosion of euphorbia terracina, were observed. This is a dynamic ecosystem, and it looks very different now than it did in October of last year and also than it did in November and December of 2022, when the fence was constructed.

I think it is likely that I will have additional comments once I see the memo, staff report and photos. Again, thank you for this information.

Walter Lamb
Ballona Wetlands Land Trust

On Fri, Mar 29, 2024 at 7:57 AM Engel, Jonna@Coastal <Jonna.Engel@coastal.ca.gov> wrote:

> Good morning Walter,
>
> Here are answers, some that are more completely answered in the memorandum accompanying the

staff report that will be posted today, to your 10 questions. Sorry it took me so long to get them to you!

#1. Richard Brody conducted a field visit on October 16, 2023 to collect field data specific to a formerly delineated one-parameter wetland in the vicinity of Del Rey 15. He shared his preliminary data forms, site photographs, and review of the prior delineations with Dr. McCarthy on October 18, 2023. Dr. McCarthy reviewed the site photographs, previous site information, and preliminary information with Richard Brody on October 19, 2023. Dr. McCarthy requested an additional site visit to confirm site conditions after review of information in the 2013 vegetation data used to inform the DEIR and unpublished 2021 vegetation mapping data.

#2. Yes, I visited the site on Friday, March 22 with Richard Brody, Mandy Revell, and Dani Ziff.

#3. Yes, photographs were taken.

#4. The 10' buffer around the fence was used to review the potential direct, indirect, temporary, and permanent impacts associated with the fence installation. However, I examined the raised berm area with the road and fence and the lower areas surrounding the road and fence and considered all the physical and biological evidence available (historical and current) to make a professional determination regarding the on-the-ground current condtions.

#5. Yes, and the only raw data sheets, save those from the two wetland samples R. Brody took, were taken in the central area of Area A and are not relevant to this situation.

#6. I detail the change in vegetation in my technical memo between the original wetland delineation by WRA in 2010 and the current status of the vegetation in the area surrounding the fence.

#7. The three red polygons shown in the exhibit in Dr. McCarthy's Nov. 7 letter are the areas previously identified as one-parameter wetlands based on the presence of mulefat that has declined in the last decade plus as coyote bush and numerous non-native, invasive upland weeds have increased.

#8. The only area where the fence and previously delineated one parameter state/Coastal Commission wetland overlapped was in the vicinity of Del Rey 15. That is why the only sample points and photos were collected there.

#9. Vegetation mapping was conducted concurrently with the delineation fieldwork in 2021 (and verified in 2022). This vegetation data was collected to document changes on-site due to restoration activities (in West Area B near the Friends' Dunes), the burn area in South Area B, and other areas in BWER including the western section of Area A, and to document changes associated with invasion of non-native plant species or other disturbance. Due to workload by the contributing authors, this study has not been published to date but was made available to Dr. McCarthy who was given permission to share with the Commission.

#10. I was onsite for the April 2022 field verification of the updated wetland delineation. Other folks there included USACE staff Aaron Allen, Lia Protopapadakis, and Spencer MacNeil, CDFW staff Richard Brody, and Eco Eleemos (formerly RestorCap) staff Dr. Amanda McCarthy.

Jonna D. Engel, PhD
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