SECTION 2.0 METHODOLOGY

The three-parameter approach used to identify USACE wetlands is summarized in Sections 2.1 through 2.3; literature reviewed for the preparation of the delineation is outlined in Section 2.4; and the field delineation is outlined in Section 2.5.

2.1 VEGETATION

Hydrophytic vegetation (or hydrophytes) is defined as any macrophytic plant that is typically adapted to and subsequently grows within water or that is on a substrate at least periodically deficient in oxygen; this oxygen deficiency can be a result of excessive saturation conditions that range from open water to periodically saturated soils. Specifically, these plant species are specialized and can survive in permanently saturated to periodically saturated soils where oxygen levels are very low or where the soils are anaerobic. The U.S. Fish and Wildlife Service (USFWS) has identified approximately 2,000 plant species of this type within the State of California (i.e., Zone 0) and nearly 5,000 species throughout the U.S. (Reed 1988). The wetland indicator categories reflect the range of estimated probabilities (expressed as a frequency of occurrence) that a species occurs in wetlands versus non-wetlands. Therefore, a frequency of 67 percent to 99 percent means that 67 percent to 99 percent of sample plots containing the species randomly selected across the range of the species would be a wetland. A positive (+) or negative (-) sign is used with the wetland indicator categories to more specifically define the regional frequency of a species' occurrence in wetlands (Reed 1988). The positive sign indicates a frequency toward the higher end of the category (i.e., more frequently found in wetlands), and a negative sign indicates a frequency toward the lower end of the category (less frequently found in wetlands). The positive and negative modifiers are eliminated from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* when determining if an area meets the hydrophytic plant criterion for a wetland. Species not listed by Reed (1988) are considered to be upland (UPL).

Plant indicator status categories are as follows:

- ***Obligate Wetland (OBL):*** Plants that occur almost always (estimated probability 99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability 1 percent) in non-wetlands (e.g., cattails [*Typha* spp.] or common water hyacinth [*Eichhornia crassipes*]).

- ***Facultative Wetlands (FACW):*** Plants that occur usually (estimated probability 67-99 percent) in wetlands, but also occur (estimated probability 1–33 percent) in non-wetlands (e.g., mule fat [*Baccharis salicifolia*] or arroyo willow [*Salix lasiolepis*]).

- ***Facultative (FAC):*** Plants with similar likelihood (estimated probability 34–66 percent) of occurring in both wetlands and non-wetlands (e.g., California saltbush [*Atriplex californica*]).

- ***Facultative Upland (FACU):*** Plants that occur sometimes (estimated probability 1-33 percent) in wetlands, but occur more often (estimated probability 67–99 percent) in non-wetlands (e.g., giant wild rye [*Leymus condensatus*]).

- ***Obligate Upland (UPL):*** Plants that occur rarely (estimated probability 1 percent) in wetlands, but occur almost always (estimated probability 99 percent) in non-wetlands under natural conditions (e.g., coast live oak [*Quercus agrifolia*]).

The following are three procedures for determining hydrophytic vegetation: Indicator 1, "Dominance Test", using the "50/20 Rule"; Indicator 2, "Prevalence Index"; or Indicator 3, "Morphological Adaptation", as identified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b). Hydrophytic vegetation is present if any indicator is satisfied. If none of the indicators are satisfied, then hydrophytic vegetation is absent unless (1) indicators of hydric soils and wetlands hydrology are present and (2) the site meets the requirements for a problematic wetland situation.

Dominance Test: Vegetative cover is estimated and is ranked according to its dominance. Dominant species are the most abundant species for each stratum of the community (i.e., tree, sapling/shrub, herb, or woody vine) that individually or collectively amount to 50 percent of the total coverage of vegetation plus any other species that, by itself, accounts for 20 percent of the total vegetation cover (also known as the "50/20 Rule"). These species are recorded on the "Wetland Determination Data Form – Arid West Region" (see Attachment C). The wetlands indicator status of each species is also recorded on the data forms based on the *National List of Plant Species that Occur in Wetlands* (Reed 1988). If greater than 50 percent of the dominant species across all strata are OBL, FACW or FAC species, the criterion for wetland vegetation is considered to be met.

Prevalence Index: The prevalence index considers all plant species in a community, not just the dominant ones. The prevalence index is the average of the wetland indicator status of all plant species in a sampling plot. Each indicator status category is given a numeric code (OBL=2, FACW=2, FAC=3, FACU=4, and UPL=5) and is weighted by the species' abundance (percent cover). Hydrophytic vegetation is present if the prevalence index is 3.0 or less.

Morphological Adaptation: Morphological adaptations, such as adventitious roots (i.e., roots that take advantage of the wet conditions) and shallow root systems must be observed on more than 50 percent of the individuals of an FACU species for the hydrophytic vegetation wetland criterion to be met.

2.2 SOILS

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as a soil that is formed under conditions of saturation, flooding, or ponding that (1) occurs long enough during the growing season to develop anaerobic conditions (or conditions of limited oxygen) at or near the soil surface and (2) favors the establishment of hydrophytic vegetation. Hydric soils created under artificial conditions of flooding and inundation sufficient for the establishment of hydrophytic vegetation would also meet this hydric soils indicator.

The soil conditions are verified through the digging of test pits along each transect to a depth of at least 20 inches (except where noted because of restrictive layers). At some sites, it may be necessary to make exploratory soil test pits up to 40 inches in depth to more accurately document and understand the variability in soil properties and hydrologic relationships on the site. Soil test pit locations are usually dug within the drainage invert or at the edge of a drainage course within vegetated areas. Soil extracted from each soil test pit is then examined for texture and color using the standard plates within the Munsell Soil Color Chart (1994) and recorded on the Data Form. The Munsell Soil Color Chart aids in designating soils by color labels based on gradations of three simple variables: hue, value, and chroma. Any indicators of hydric soils such as redoximorphic features (i.e., areas where iron is reduced under anaerobic conditions and oxidized following a return to aerobic conditions); buried organic matter; organic streaking; reduced soil conditions; gleyed (i.e., soils having a characteristic bluish-gray or greenish-gray color) or low-chroma soils; or sulfuric odor are also recorded on the Data Form. If hydric soils are found, progressive pits are dug along the transect moving laterally away from the active channel area until hydric soil features are no longer present within the top 20 inches of the soil.

2.3 HYDROLOGY

Wetlands hydrology is represented by either (1) all the hydrological elements or characteristics of areas permanently or periodically inundated or (2) areas containing soils that are saturated for a sufficient duration of time to create hydric soils suitable for the establishment of plant species that are typically adapted to anaerobic soil conditions. The presence of wetlands hydrology is evaluated at each intersect by recording the extent of observed surface flows, the depth of inundation, the depth to saturated soils, and the depth to free water in soil test pits. In instances where stream flow is divided into multiple channels with intervening sandbars, the entire area between the channels is considered within the OHWM. Therefore, an area containing these features would meet the indicator requirements for wetlands hydrology.

2.4 LITERATURE

Prior to conducting the delineation, BonTerra Consulting reviewed the following documents to identify areas that may fall under agency jurisdiction: the USGS Newport Beach 7.5-minute topographic quadrangle; color aerial photography provided by Aerials Express (2008); the Report and General Soil Map, Orange County and Part of Riverside County, California (USDA NRCS 2007); the National Hydric Soils List (USDA NRCS 2009); and the National Wetlands Inventory's Wetland Mapper (USFWS 2009). A description of this literature is provided below.

USGS Topographic Quadrangle: USGS quadrangle maps show geological formations and their characteristics; they describe the physical settings of an area through topographic contour lines and other major surface features. These features include lakes, streams, rivers, buildings, roadways, landmarks, and other features that may fall under the jurisdiction of one or more regulatory agencies. In addition, the USGS maps provide topographic information that is useful in determining elevations, latitude and longitude, and Universal Transverse Mercator Grid coordinates for a project site.

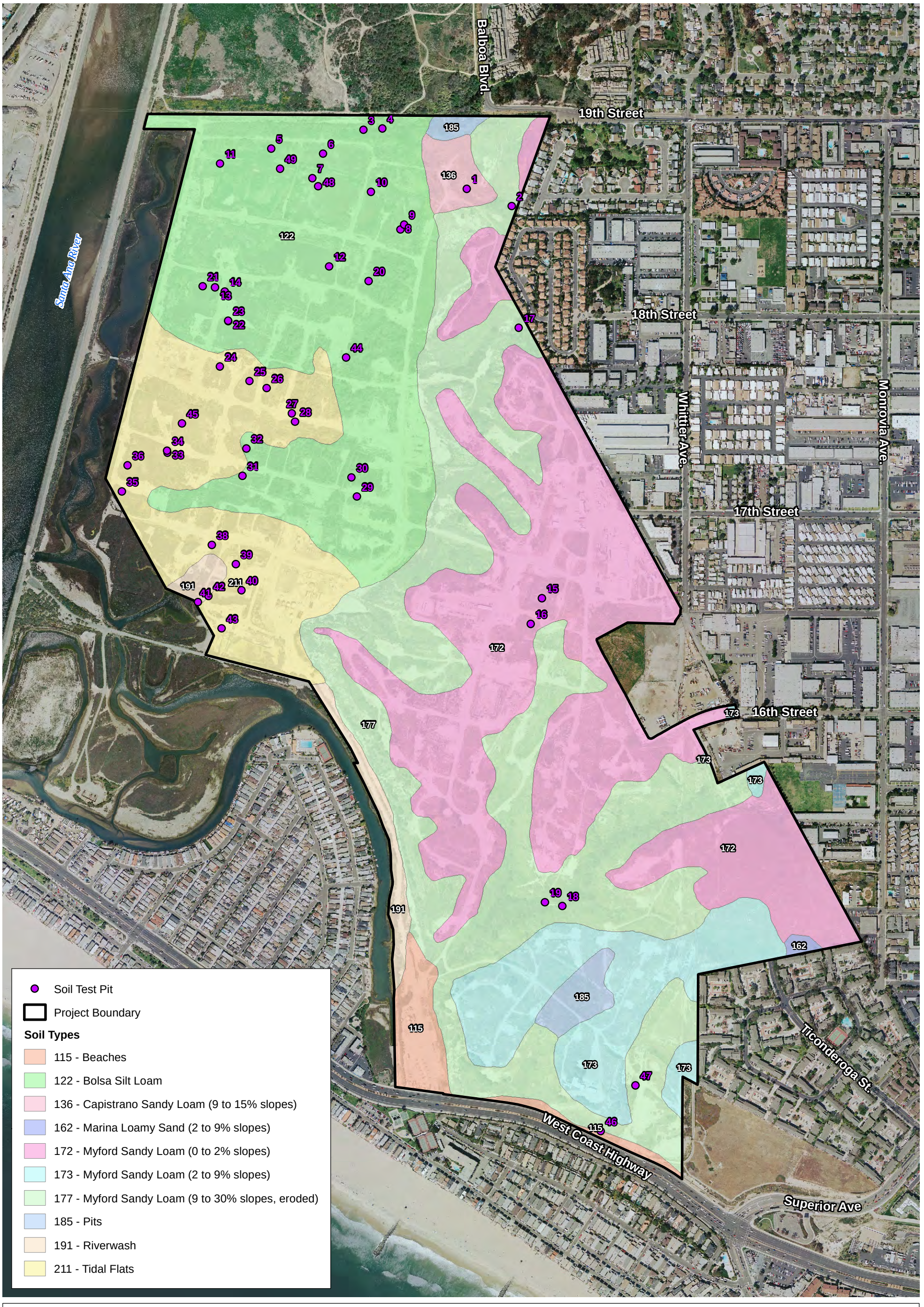
No blueline rivers, streams, or lakes are shown within the Project site boundary on the Newport Beach USGS quadrangle.

Color Aerial Photography: BonTerra Consulting reviewed an existing color aerial photograph prior to the initial July 14, 2009, site visit to identify the extent of any drainages and riparian vegetation occurring on the Project site.

Multiple arroyos cross the Project site and appear to contain riparian vegetation. Open water is shown at the southern end of the lowlands and in the adjacent tidal areas.

U.S. Department of Agriculture, Natural Resources Conservation Service: The presence of hydric soil is one of the chief indicators of jurisdictional wetlands. BonTerra Consulting reviewed the USDA soil survey data for the survey area and determined that the soils were mapped as beaches, Bolsa silt loam, Capistrano sandy loam (9 to 15 percent slopes), Marina loamy sand (2 to 9 percent slopes), Myford sandy loam (0 to 2 percent slopes, 2 to 9 percent slopes, and 9 to 30 percent slopes, eroded), pits, riverwash, and tidal flats (Exhibit 4). Beaches, Bolsa silt loam, Myford sandy loam (0 to 2 and 2 to 9 percent slopes), pits, riverwash, and tidal flats are considered hydric by the National Hydric Soils List for Orange County and Part of Western Riverside County, California (USDA NRCS 2009). A brief description of the soil series mapped in the survey area is provided in Attachment D of this report.

U.S. Fish and Wildlife Service, National Wetlands Inventory: The Wetlands Mapper shows wetland resources available from the Wetlands Spatial Data Layer of the National Spatial Data Infrastructure (USFWS 2009). This resource provides the classification of known wetlands following the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin



- Soil Test Pit
- Project Boundary

Soil Types

- 115 - Beaches
- 122 - Bolsa Silt Loam
- 136 - Capistrano Sandy Loam (9 to 15% slopes)
- 162 - Marina Loamy Sand (2 to 9% slopes)
- 172 - Myford Sandy Loam (0 to 2% slopes)
- 173 - Myford Sandy Loam (2 to 9% slopes)
- 177 - Myford Sandy Loam (9 to 30% slopes, eroded)
- 185 - Pits
- 191 - Riverwash
- 211 - Tidal Flats

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Soil Types

Exhibit 4

Newport Banning Ranch

N W E S

600 300 0 600 Feet

BonTerra CONSULTING

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et al. 1979). This classification system is arranged in a hierarchy of (1) Systems that share the influence of similar hydrologic, geomorphologic, chemical, or biological factors (i.e., Marine, Estuarine, Riverine, Lacustrine, and Palustrine); (2) Subsystems (i.e., Subtidal and Intertidal; Tidal, Lower Perennial, Upper Perennial, and Intermittent; or Littoral and Limnetic); (3) Classes, which are based on substrate material and flooding regime or on vegetative life form; (4) Subclasses; and (5) Dominance Types, which are named for the dominant plant or wildlife form. In addition, there are modifying terms applied to Classes or Subclasses.

The mapped wetlands resources are included in Exhibit 5 and are summarized as follows. There are no mapped wetland resources in Drainages A, B, or D. Drainage C is mapped as "PFOA". This non-tidal, Palustrine area (P) is dominated by woody vegetation over 20 feet tall (FO) and is temporarily flooded for brief periods during the growing season (A). The northern boundary of the Project site is mapped as PFO/SSC. This Palustrine area (P) contains both woody vegetation taller than 20 feet (FO) and shrubs, saplings, and trees shorter than 20 feet (SS). This area is seasonally flooded for extended periods, especially early in the growing season (C).

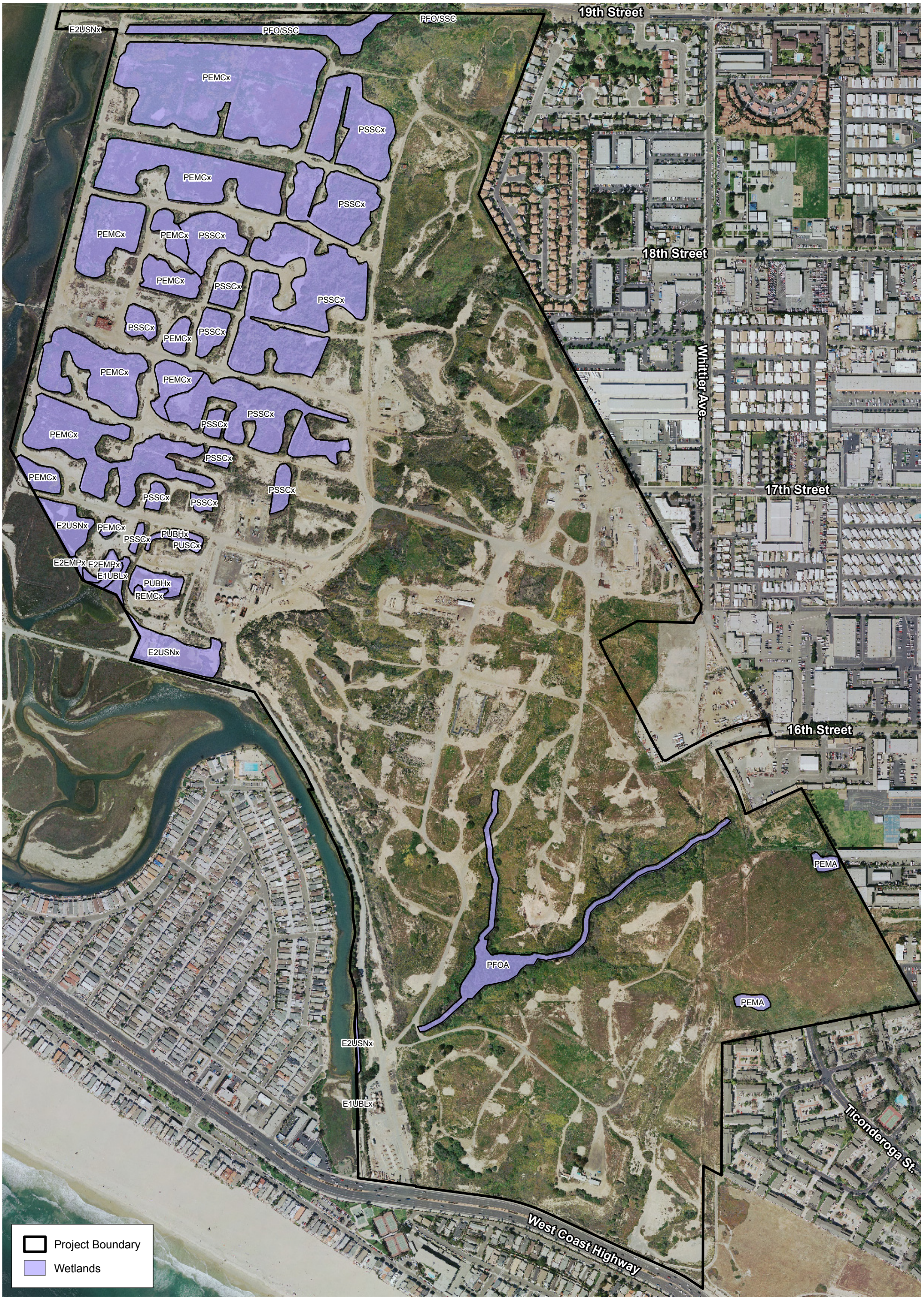
The lowlands contain a variety of mapped wetlands: PEMCx, PSSCx, E2USNx, E2EMPx, E1UBLx, PUBHx, and PUSCx. These areas have all been excavated by man (x). The northern portion of the lowlands is seasonally flooded (C) and either dominated by emergent hydrophytes (EM) to the west or by woody shrubs, saplings, and trees shorter than 20 feet tall (SS) to the east. The southern portion of the lowlands is primarily estuarine (E). Portions are intertidal (2) while other portions are subtidal (1). These areas are either regularly flooded (N) or irregularly flooded (P). Some areas have an unconsolidated shore (US). An area of open water is mapped "E1UBLx". This Estuarine area (E) is subtidal (1) and permanently flooded (L) with an unconsolidated bottom (UB). Another area containing open water is mapped "PUBHx". This Palustrine pond (P) has an unconsolidated bottom (UB) and is permanently flooded throughout the year (H). An adjoining area (PUSCx) is similar, but seasonally flooded (C) with an unconsolidated shore (US). At the southern end of the project site below the bluffs there are areas mapped "E2USNx" and "E1UBLx". These intertidal (1) or subtidal (2) Estuarine areas (E) have an unconsolidated shore (US) or unconsolidated bottom (UB), are either regularly flooded (N) or permanently flooded (L), and are excavated by man (x).

Two mapped wetlands (PEMA) are shown on the mesa; however, these areas do not presently exhibit wetland characteristics.

2.5 JURISDICTIONAL DELINEATION

In September 2008, the USACE issued the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. This regional supplement is designed for use with the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Both the 1987 Wetlands Manual and the Arid West Supplement to the manual provide technical methods and guidelines for determining the presence of "Waters of the U.S." and wetland resources. A three-parameter approach is used to identify wetlands and requires evidence of wetlands hydrology, hydrophytic vegetation, and hydric soils. Wetlands generally include swamps, marshes, bogs, and similar areas. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within the three parameters. However, problem areas may periodically or permanently lack certain indicators due to seasonal or annual variability of the nature of the soils or plant species on site. Atypical wetlands lack certain indicators due to recent human activities or natural events. Guidance for determining the presence of wetlands in these situations is presented in the regional supplement. Non-wetland "Waters of the U.S." are delineated based on the limits of the OHWM, which can be determined by a number of factors including erosion, the deposition of vegetation or debris, and changes in vegetation.

It should be noted that the RWQCB shares the USACE jurisdiction unless isolated conditions are present. If isolated waters conditions are present, the RWQCB takes jurisdiction using the



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National Wetland Inventory

Exhibit 5

Newport Banning Ranch

N W E S

600 300 0 600 Feet

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USACE's definition of the OHWM and/or the three-parameter wetlands methodology pursuant to the 1987 Wetlands Manual. The CDFG's jurisdiction is defined as the top of the bank of the stream, channel, or basin or the outer limit of riparian vegetation located within or immediately adjacent to the river, stream, creek, pond, or lake.

The analysis contained in this report uses data collected during four field surveys, three conducted by Mr. Gary Medeiros and Ms. Allison Rudalevige on July 14, 15, and 16, 2009, and one conducted by Ms. Rudalevige and Lindsay Messett on July 22, 2009. In addition, Mr. Medeiros and Ms. Rudalevige conducted a review of portions of the site with GLA on September 30, 2009. The field surveys included the collection of vegetation, soils, and hydrologic data at the project site. This information was recorded on a 1 inch equals 250 feet (1″ = 250′) scale color aerial photograph and on Wetland Determination Data Forms (Attachment C). Photographs of the Project site are included in Attachment B.

SECTION 3.0 RESULTS

Newport Banning Ranch encompasses four distinct topographic features: a gently sloping coastal plain forming the western edge of Newport Mesa over the eastern portion of the Project site (Uplands); bluffs along the western edge of the mesa, drainages and arroyos; and Lowlands that were historically tidal marsh associated with Semeniuk Slough. The Lowlands were separated from Semeniuk Slough by a levee and have lost their tidal influence; tidal influence is currently limited to 4.8 acres at the southwestern corner of the Lowlands. Also, a 92-acre USACE salt marsh restoration site is located to the west of the Project site and separates the project site from the Santa Ana River.

3.1 SAMPLING POINTS

Vegetation was formally analyzed at 49 sampling points on the Project site. The analysis covers sampling points within Drainages A, B, C, and D; the Northern Boundary Lowlands; the Northwest Lowlands; the Northeast Lowlands; the Southern Lowlands; Vernal Pools; and the Southern Boundary Uplands. A summary of the vegetation found at each sampling point and the wetlands indicator status for each plant species; the results of the dominance test and prevalence test; and satisfaction of criteria for hydric soils and wetlands hydrology is described below and shown in Table 1.

TABLE 1
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Location	Plant species	Common Name	Absolute Percent Cover	Wetland Indicator Status[a]	Passed Dominance Test	Passed Prevalence Test	Meets Hydrophytic Vegetation Criteria	Meets Hydric Soils Criteria	Meets Wetlands hydrology Criteria
1	Drainage A	*Baccharis salicifolia (viminea*)	Mule Fat	50	FACW	No	No	No	No	Yes
		Encelia californica	Bush Sunflower	15	UPL					
		Cortaderia selloana	Sellow's Pampas Grass	50	UPL					
2	Drainage A	*Salix gooddingii*	Black Willow	90	OBL	Yes	Yes	Yes	Yes	Yes
		Ricinus communis	Castor Bean	5	FACU					
		Solanum americanum	White Nightshade	<1	FAC					
		Veronica anagallis-aquatica	Great Water Speedwell	<1	OBL					
3	Northern Boundary Lowlands	*Salix lasiolepis*	Arroyo Willow	85	FACW	Yes	Yes	Yes	Yes	Yes
		Salix gooddingii	Black Willow	20	OBL					
		Baccharis salicifolia (viminea)	Mule Fat	20	FACW					
		Cortaderia selloana	Sellow's Pampas Grass	1	UPL					
4	Northern Boundary Lowlands	*Salix gooddingii*	Black Willow	60	OBL	Yes	Yes	Yes	Yes	Yes
		Salix lasiolepis	Arroyo Willow	40	FACW					
		Cortaderia selloana	Sellow's Pampas Grass	10	UPL					
5	Northwest Lowlands	*Conium maculatum*	Poison Hemlock	100	FACW	Yes	Yes	Yes	No	No
		Heliotropium curassavicum	Alkali Heliotrope	2	OBL					
6	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	99	OBL	Yes	Yes	Yes	No	No
		Heliotropium curassavicum	Alkali Heliotrope	10	OBL					
		Frankenia salina	Alkali Heath	5	FACW					
7	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	20	OBL	Yes	Yes	Yes	Yes	Yes
		Frankenia salina	Alkali Heath	15	FACW					
8	Northeast Lowlands	*Salicornia virginica*	Common Woody Pickleweed	100	OBL	Yes	Yes	Yes	No	No
		Malva parviflora	Cheeseweed	<1	UPL					
9	Northeast Lowlands	*Salix gooddingii*	Black Willow	40	OBL	Yes	Yes	Yes	Yes	No
		Malva parviflora	Cheeseweed	70	UPL					
		Salicornia virginica	Common Woody Pickleweed	50	OBL					

TABLE 1 (Continued)
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Location	Plant species	Common Name	Absolute Percent Cover	Wetland Indicator Status[a]	Passed Dominance Test	Passed Prevalence Test	Meets Hydrophytic Vegetation Criteria	Meets Hydric Soils Criteria	Meets Wetlands hydrology Criteria
10	Northeast Lowlands	*Conium maculatum*	Poison Hemlock	20	FACW	Yes	Yes	Yes	Yes	No
		Frankenia salina	Alkali Heath	15	FACW					
		Salicornia virginica	Common Woody Pickleweed	15	OBL					
		Malva parviflora	Cheeseweed	2	UPL					
		Heliotropium curassavicum	Alkali Heliotrope	1	OBL					
11	Northwest Lowlands	*Conium maculatum*	Poison Hemlock	100	FACW	Yes	Yes	Yes	No	No
		Salicornia virginica	Woody Pickleweed	2	OBL					
12	Northwest Lowlands	*Frankenia salina*	Alkali Heath	50	FACW	Yes	Yes	Yes	No	No
		Salicornia virginica	Common Woody Pickleweed	60	OBL					
13	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	99	OBL	Yes	Yes	Yes	Yes	No
		Conium maculatum	Poison Hemlock	5	FACW					
14	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	95	OBL	Yes	Yes	Yes	Yes	No
		Frankenia salina	Alkali Heath	5	FACW					
15	Vernal Pool	*Baccharis salicifolia (viminea)*	Mule Fat	10	FACW	Yes	Yes	Yes	Yes	Yes
		Distichlis spicata	Salt Grass	90	FACW					
		Eremocarpus setigerus	Turkey Mullein	<1	UPL					
		Polypogon monspeliensis	Annual Beard Grass	<1	FACW					
		Heliotropium curassavicum	Salt Heliotrope	<1	OBL					
16	Vernal Pool	*Baccharis salicifolia (viminea)*	Mule Fat	5	FACW	Yes	Yes	Yes	Yes	Yes
		Frankenia salina	Alkali Heath	80	FACW					
		Rumex crispus	Curly Dock	<1	FACW					
		Hemizonia fasciculata	Fascicled Tarweed	2	UPL					
		Polypogon monspeliensis	Annual Beard Grass	<1	FACW					
17	Drainage B	*Salix lasiolepis*	Arroyo Willow	75	FACW	Yes	Yes	Yes	N/A	Yes
		Schinus terebinthifolius	Brazilian Pepper Tree	25	UPL					
		Baccharis salicifolia (viminea)	Mule Fat	5	FACW					

TABLE 1 (Continued)
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Location	Plant species	Common Name	Absolute Percent Cover	Wetland Indicator Status[a]	Passed Dominance Test	Passed Prevalence Test	Meets Hydrophytic Vegetation Criteria	Meets Hydric Soils Criteria	Meets Wetlands hydrology Criteria
18	Drainage C	*Eucalyptus* sp.	Gum Tree	45	UPL	No	No	No	No	Yes
		Schinus terebinthifolius	Brazilian Pepper Tree	20	UPL					
		Baccharis pilularis	Coyote Brush	40	UPL					
		Baccharis salicifolia (viminea)	Mule Fat	20	FACW					
19	Drainage C	*Salix lasiolepis*	Arroyo Willow	100	FACW	No	Yes	Yes	No	Yes
		Bromus madritensis ssp. *rubens*	Foxtail Chess	10	NI					
		Conium maculatum	Poison Hemlock	<1	FACW					
20	Northeast Lowlands	*Salix lasiolepis*	Arroyo Willow	50	FACW	Yes	Yes	Yes	Yes	No
		Baccharis salicifolia (viminea)	Mule Fat	30	FACW					
		Malvella leprosa	Alkali Mallow	20	FAC					
		Salicornia virginica	Common Woody Pickleweed	2	OBL					
		Heliotropium curassavicum	Alkali Heliotrope	10	OBL					
21	Northwest Lowlands	*Frankenia salina*	Alkali Heath	80	FACW	Yes	Yes	Yes	No	No
		Salicornia virginica	Common Woody Pickleweed	60	OBL					
22	Northwest Lowlands	*Frankenia salina*	Alkali Heath	75	FACW	Yes	Yes	Yes	Yes	No
		Salicornia virginica	Common Woody Pickleweed	50	OBL					
		Malvella leprosa	Alkali Mallow	5	FAC					
23	Northwest Lowlands	*Frankenia salina*	Alkali Heath	50	FACW	Yes	Yes	Yes	Yes	No
		Salicornia virginica	Common Woody Pickleweed	50	OBL					
		Malvella leprosa	Alkali Mallow	5	FAC					
24	Northwest Lowlands	*Baccharis salicifolia (viminea)*	Mule Fat	5	FACW	Yes	Yes	Yes	Yes	No
		Baccharis pilularis	Coyote Brush	1	UPL					
		Frankenia salina	Alkali Heath	70	FACW					
		Salicornia virginica	Common Woody Pickleweed	30	OBL					
		Cortaderia selloana	Sellow's Pampas Grass	2	UPL					

TABLE 1 (Continued)
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Location	Plant species	Common Name	Absolute Percent Cover	Wetland Indicator Status[a]	Passed Dominance Test	Passed Prevalence Test	Meets Hydrophytic Vegetation Criteria	Meets Hydric Soils Criteria	Meets Wetlands hydrology Criteria
25	Northwest Lowlands	*Baccharis salicifolia (viminea)*	Mule Fat	2	FACW	Yes	Yes	Yes	Yes	Yes
		Frankenia salina	Alkali Heath	60	FACW					
		Salicornia virginica	Common Woody Pickleweed	40	OBL					
		Pulicaria paludosa	Spanish Sunflower	<1	UPL					
		Malvella leprosa	Alkali Mallow	5	FAC					
		Cirsium vulgare	Bull Thistle	10	FACU					
26	Northeast Lowlands	*Baccharis salicifolia (viminea)*	Mule Fat	20	FACW	Yes	Yes	Yes	Yes	Yes
		Juncus sp.	Rush	50	FACW					
		Heliotropium curassavicum	Alkali Heliotrope	30	OBL					
		Malvella leprosa	Alkali Mallow	10	FAC					
		Pulicaria paludosa	Spanish Sunflower	<1	UPL					
27	Northeast Lowlands	*Salix gooddingii*	Black Willow	95	OBL	Yes	Yes	Yes	Yes	Yes
		Baccharis salicifolia (viminea)	Mule Fat	20	FACW					
		Cortaderia selloana	Sellow's Pampas Grass	5	UPL					
		Malvella leprosa	Alkali Mallow	<1	FAC					
28	Northeast Lowlands	*Salix gooddingii*	Black Willow	95	OBL	No	Yes	Yes	Yes	No
		Salix lasiolepis	Arroyo Willow	5	FACW					
		Cortaderia selloana	Sellow's Pampas Grass	90	UPL					
29	Northeast Lowlands	*Baccharis salicifolia (viminea)*	Mule Fat	20	FACW	Yes	Yes	Yes	No	No
		Bassia hyssopifolia	Five-Hook Bassia	15	FAC					
		Distichlis spicata	Salt Grass	65	FACW					
		Heliotropium curassavicum	Alkali Heliotrope	5	OBL					
		Frankenia salina	Alkali Heath	10	FACW					
		Malvella leprosa	Alkali Mallow	2	FAC					
30	Northeast Lowlands	*Salix gooddingii*	Black Willow	90	OBL	Yes	Yes	Yes	Yes	No
31	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	85	OBL	Yes	Yes	Yes	Yes	Yes
		Frankenia salina	Alkali Heath	2	FACW					

TABLE 1 (Continued)
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Location	Plant species	Common Name	Absolute Percent Cover	Wetland Indicator Status[a]	Passed Dominance Test	Passed Prevalence Test	Meets Hydrophytic Vegetation Criteria	Meets Hydric Soils Criteria	Meets Wetlands hydrology Criteria
32	Northwest Lowlands	*Salix gooddingii*	Black Willow	10	OBL	Yes	Yes	Yes	No	No
		Baccharis salicifolia (viminea)	Mule Fat	40	FACW					
		Salicornia virginica	Common Woody Pickleweed	35	OBL					
		Frankenia salina	Alkali Heath	30	FACW					
		Euthamia occidentalis	Western Goldenrod	30	OBL					
33	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	40	OBL	Yes	Yes	Yes	No	No
		Frankenia salina	Alkali Heath	60	FACW					
34	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	40	OBL	Yes	Yes	Yes	No	No
		Frankenia salina	Alkali Heath	60	FACW					
35	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	80	OBL	Yes	Yes	Yes	No	No
		Frankenia salina	Alkali Heath	30	FACW					
36	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	70	OBL	Yes	Yes	Yes	No	No
		Frankenia salina	Alkali Heath	30	FACW					
37	Northwest Lowlands	*Baccharis salicifolia (viminea)*	Mule Fat	40	FACW	Yes	Yes	Yes	Yes	No
		Frankenia salina	Alkali Heath	70	FACW					
		Salicornia virginica	Common Woody Pickleweed	30	OBL					
38	Northeast Lowlands	*Salicornia virginica*	Common Woody Pickleweed	60	OBL	Yes	Yes	Yes	No	No
		Frankenia salina	Alkali Heath	5	FACW					
		Mesembryanthemum crystallium	Crystalline Iceplant	2	UPL					
39	Northeast Lowlands	*Salicornia virginica*	Common Woody Pickleweed	40	OBL	Yes	Yes	Yes	No	Yes
		Batis maritima	Saltwort	5	OBL					
40	Northeast Lowlands	*Salicornia virginica*	Common Woody Pickleweed	40	OBL	Yes	Yes	Yes	No	Yes
		Batis maritima	Saltwort	5	OBL					
41	Southern Lowlands	*Salicornia virginica*	Common Woody Pickleweed	25	OBL	Yes	Yes	Yes	Yes	Yes
		Frankenia salina	Alkali Heath	5	FACW					
		Batis Maritima	Saltwort	85	OBL					

TABLE 1 (Continued)
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Location	Plant species	Common Name	Absolute Percent Cover	Wetland Indicator Status[a]	Passed Dominance Test	Passed Prevalence Test	Meets Hydrophytic Vegetation Criteria	Meets Hydric Soils Criteria	Meets Wetlands hydrology Criteria
42	Southern Lowlands	*Salicornia virginica*	Common Woody Pickleweed	70	OBL	Yes	Yes	Yes	Yes	Yes
		Frankenia salina	Alkali Heath	5	FACW					
		Batis Maritima	Saltwort	10	OBL					
43	Southern Lowlands	*Batis maritima*	Saltwort	40	OBL	Yes	Yes	Yes	Yes	Yes
		Salicornia virginica	Common Woody Pickleweed	45	OBL					
44	Northeast Lowlands	*Salix gooddingii*	Black Willow	60	OBL	Yes	Yes	Yes	No	No
		Baccharis salicifolia (viminea)	Mule Fat	50	FACW					
		Cortaderia selloana	Sellow's Pampas Grass	50	UPL					
45	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	60	OBL	Yes	Yes	Yes	Yes	No
		Frankenia salina	Alkali Heath	40	FACW					
		Conium maculatum	Poison Hemlock	5	FACW					
46	Southern Boundary Upland	*Isocoma menziesii*	Goldenbush	5	UPL	Yes	Yes	Yes	Yes	Yes
		Distichlis spicata	Salt Grass	70	FACW					
		Carpobrotus edulis	Hottentot Fig	20	UPL					
		Melitotus sp.	Sweet Clover	15	FAC					
		Bromus madritensis ssp. *rubens*	Foxtail Chess	1	NI					
47	Drainage D	*Salix lasiolepis*	Arroyo Willow	90	FACW	Yes	Yes	Yes	No	Yes
		Carpobrotus edulis	Hottentot Fig	20	UPL					
48	Northwest Lowlands	*Frankenia salina*	Alkali Heath	90	FACW	Yes	Yes	Yes	No	No
		Salicornia virginica	Common Woody Pickleweed	5	OBL					
49	Northwest Lowlands	*Salicornia virginica*	Common Woody Pickleweed	95	OBL	Yes	Yes	Yes	Yes	Yes

[a] FACW: facultative wetlands; UPL: obligate upland; OBL: obligate wetland; FACU: facultative upland; FAC: facultative; NI: no indicator.

3.1.1 DRAINAGE A

This area includes a drainage area that flows northwest from the mesa area to a drainage feature located along the northern Project boundary and into the Semeniuk Slough (Exhibit 6A).

3.1.1.1. SITE 1

This sampling point is dominated by mule fat (*Baccharis salicifolia* [*viminea*]), which is an FACW indicator species; it also includes Sellow's pampas grass (*Cortaderia selloana*) and bush sunflower (*Encelia californica*), which are UPL species. The site did not pass the Dominance or the Prevalence Test for hydrophytic vegetation. Also, the soils at this sample site consist of sand or silty sand. No indicators of hydric soil were observed. Therefore, the hydric soil criterion for wetlands was not met. This sampling point has indicators of wetlands hydrology. The drainage would therefore be considered "Waters of the U.S.".

3.1.1.2. SITE 2

This sampling point is dominated by black willow (*Salix gooddingii*) with small amounts great water speedwell (*Veronica anagallis-aquatica*), which are OBL indicator species; it also includes a small amount of castor bean (*Ricinus communis*), which is an FACU indicator species. This sampling point passed the Prevalence test, and therefore met the criteria for hydrophytic vegetation. Soils within this portion of the site consist of clay and silty clay. Indicators of hydric soil in the form of hydrogen sulfide (Hydric Soils Indicator A4) were detected. Therefore, the hydric soil criterion for wetlands was met for this area. Surface water, an indicator of wetlands hydrology, is present in this area. Based on the presence of hydrophytic vegetation, hydric soils and wetlands hydrology, this portion of Drainage A would be considered a jurisdictional wetland.

3.1.2 DRAINAGE B

The area is a drainage feature that carries storm flows to the west where it then sheet flows onto the lowland areas.

3.1.2.1. SITE 17

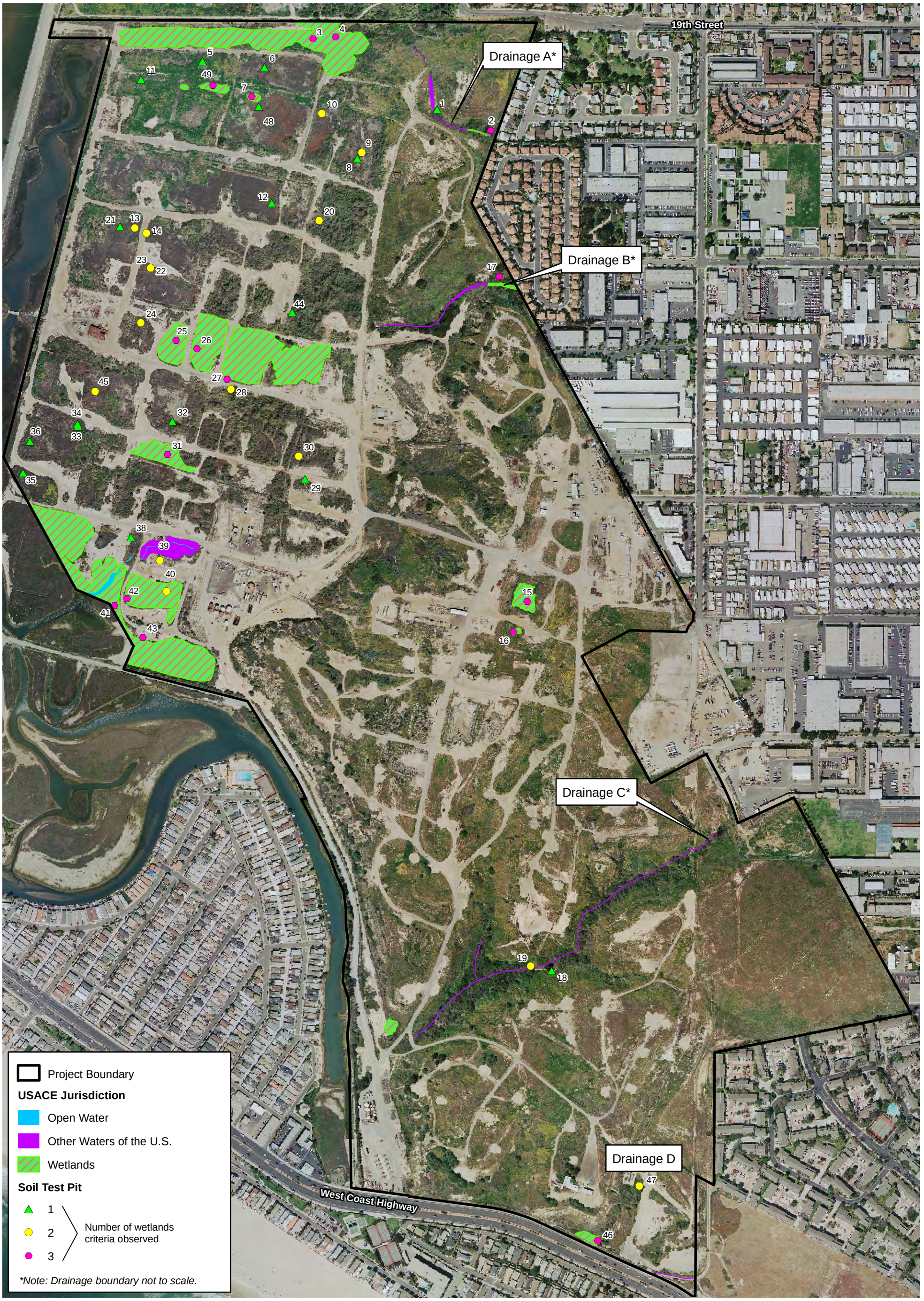
The upper portion of the drainage contains arroyo willow (*Salix lasiolepis*), which is an FACW indicator species; Brazilian pepper (*Schinus terebinthifolius*), a UPL species, and a small patch of mule fat, an FACW indicator species, are also present on Site 17. A large patch of giant reed (*Arundo donax*), an FACW species, is located to the west of this sampling point. The site passed the Dominance and Prevalence tests and therefore met the hydrophytic vegetation criteria. The stream channel is extremely steep and inaccessible, which prohibited digging a soil test pit. However, given the presence of extensive hydrophytic vegetation, the areas in the most upstream portion of the site likely contain hydric soils within the drainage course. Based on the presence of hydrophytic vegetation and wetlands hydrology and the assumption of hydric soils, the site would be considered jurisdictional wetlands.

3.1.3 DRAINAGE C

This drainage feature carries storm flows southwesterly to the southwestern Project boundary and into the Semeniuk Slough.

3.1.3.1. SITE 18

Although the site contains mule fat, an FACW indicator species, the area also contains a very high percent of absolute cover of non-native and native UPL plant species, and therefore did not



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USACE Jurisdiction

Exhibit 6A

Newport Banning Ranch

N W E S

500 250 0 500 Feet

BonTerra CONSULTING

(REV: JFG 10-06-09) R:\Projects\Newport\J015\Graphics\JD\Ex6A_USACE_JD.pdf

pass the Dominance or Prevalence tests for hydrophytic plants. Soils at this site consist of sand. No evidence of hydric soils was observed. Therefore, this sampling point does not meet the hydric soils criterion for wetlands. Based on the presence of wetlands hydrology, the site would be considered jurisdictional "Waters of the U.S.".

3.1.3.2. SITE 19

The site is dominated by arroyo willow, an FACW indicator species, and passed the Prevalence test for hydrophytic vegetation. Soils at this site consist of sand. No evidence of hydric soils was observed. Therefore, this sampling point does not meet the hydric soils criterion for wetlands. Based on the presence of wetlands hydrology and hydrophytic vegetation, the site would be considered jurisdictional "Waters of the U.S.".

3.1.4 DRAINAGE D

This site is located in a drainage area in the southeastern portion of the Project site.

3.1.4.1. SITE 47

The site contains arroyo willow, an FACW indicator species, and Hottentot fig (Carpobrotus edulis), a UPL indicator species. Although the site passed the Prevalence test and met the criteria for hydrophytic vegetation, the majority of the overall drainage area is dominated by upland plant species. No indicators of hydric soils were observed at Site 47. Therefore, the hydric soil criterion for wetlands was not met for this area. Based on the prevalence of upland plant species, the site would not be considered "Waters of the U.S.".

3.1.5 NORTHERN BOUNDARY LOWLANDS

This area consists of a drainage area along the northern boundary of the Project site that flows west into the Semeniuk Slough.

3.1.5.1. SITE 3

The drainage area is dominated by arroyo willow and mule fat, which are both FACW indicator species; also present are black willow, an OBL indicator species, and small amounts of Sellow's pampas grass, a UPL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this sampling point consist of silty clay and sand. The soils from zero to eight inches exhibit prominent mottles of "Redox Dark Surface" (Hydric Soils Indicator F6). Therefore, the sample site meets the hydric soils criterion for wetlands. This sampling point contained indicators of wetlands hydrology. Based on the presence of hydrophytic vegetation, hydric soils, and wetlands hydrology, the site would be considered jurisdictional wetlands.

3.1.5.2. SITE 4

The drainage area is dominated by arroyo willow, an FACW indicator species, and black willow, an OBL indicator species, with small amounts pampas grass, a UPL indicator species. The site passed the Dominance and Prevalence tests. Therefore, the site meets the hydrophytic vegetation criteria. Soils within this sampling point consist of silty clay and sand. The soils from zero to eight inches exhibit prominent mottles in a "Redox Depression" (Hydric Soils Indicator F8), and therefore meet the hydric soils criterion for wetlands. This sampling point contains indicators of wetlands hydrology. Based on the presence of hydrophytic vegetation, hydric soils, and wetlands hydrology, the site would be considered jurisdictional wetlands.

3.1.6 NORTHWEST LOWLANDS

The Northwest Lowlands consist of closed depressions surrounded by earthen berms and dirt access roads.

3.1.6.1. SITE 5

This area is relatively flat with no wetlands hydrology. The area is dominated by poison hemlock (*Conium maculatum*), an FACW indicator species, and a small amount of alkali heliotrope (*Heliotropium curassavicum*), an OBL indicator species. This site passed the Dominance and Prevalence tests, and therefore meets the hydrophytic vegetation criteria. Soils within this sampling point consist of sandy loam (0 to 20 inches). No evidence of hydric soils was observed. Therefore, this sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.2. SITE 6

This area is relatively flat with no wetlands hydrology. The site is dominated by common woody pickleweed (*Salicornia virginica*), an OBL indicator species, and small amounts of alkali heliotrope, an OBL indicator species, and alkali heath (*Frankenia salina*), an FACW indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the hydrophytic vegetation criteria. Soils within this sampling point consist of silty clay. However, no hydric soils were observed. Therefore, this sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.3. SITE 7

This sampling point is located in a depressional feature within the overall flat area. The site contains common woody pickleweed, an OBL indicator species, and alkali heath, an FACW indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the hydrophytic vegetation criteria. The site also meets the hydric soils and wetlands hydrology criteria. Therefore, the site would be considered a jurisdictional wetland.

3.1.6.4. SITE 11

The site is dominated by poison hemlock, an FACW indicated species, with small patches of common woody pickleweed, an OBL indicator species. Site 11 passed the Dominance and Prevalence tests for hydrophytic vegetation. Therefore, the criterion for hydrophytic vegetation is met. Soils at this site consist of silty clay that exhibits faint mottles at a depth of 18 inches. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.5. SITE 12

The site is a relatively flat lowland area with no evidence of wetlands hydrology. Therefore, the site does not meet the criteria for wetlands hydrology. The sampling point is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the hydrophytic vegetation criteria. Soils at this sampling point consist of silty clay and clay. The soils at a depth of 18 inches exhibit faint mottles. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.6. SITE 13

The site is a closed depression surrounded by earthen berms with no evidence of wetlands hydrology. The site is dominated by common woody pickleweed, an OBL indicator species, with small patches of poison hemlock, an FACW indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the hydrophytic vegetation criteria. Soils at this site consist of silty clay and clay and exhibit prominent mottles of "Redox Dark Surface" (Hydric Soils Indicator F6) and "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.7. SITE 14

The site is a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by common woody pickleweed, an OBL indicator species, with smaller amounts of alkali heath, an FACW indicator species. The site passed the Dominance and Prevalence tests and therefore meets the hydrophytic vegetation criteria. Soils at this site consist of silty clay and clay and exhibit faint and prominent mottles of "Redox Dark Surface" (Hydric Soils Indicator F6) and "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.8. SITE 21

This site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species; the site passed the Dominance and Prevalence tests for hydrophytic vegetation. The soils between two and three inches exhibit distinct mottles. However, the mottles do not meet the thickness requirement pursuant to the Arid West Supplement. Therefore, the site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.9. SITE 22

This site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species and common woody pickleweed, an OBL indicator species; the site passed the Dominance and Prevalence tests for hydrophytic vegetation. Soils at this site consist of silt and silty clay with a restrictive layer (hardpan at ten inches). The soils at four inches exhibit prominent mottles meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.10. SITE 23

The site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species; the site passed the Dominance and Prevalence tests for hydrophytic vegetation. Soils at this site consist of silt and silty clay with a restrictive layer (hardpan at ten inches). The soils at four inches exhibit distinct mottles meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.11. SITE 24

The site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species; the site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this sampling point consist of silty clay. The soils below an organic layer exhibit prominent mottles meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.12. SITE 25

The site is located in a relatively flat lowland area with evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species; additionally, it passed the Dominance and Prevalence tests. Therefore the sampling point meets the criteria for hydrophytic vegetation. Soils at this site consist of silty clay. The soils between three and six inches exhibit prominent mottles meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the presence of wetlands hydrology, hydrophytic vegetation, and hydric soils, the site would be considered a jurisdictional wetland.

3.1.6.13. SITE 31

This site is located in a relatively flat lowland area with evidence of wetlands hydrology. The site is dominated by common woody pickleweed, an OBL indicator species, with small amounts of alkali heath, an FACW indicator species; additionally, it passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of clay. The soils from zero to five inches exhibit prominent mottles meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the presence of wetlands hydrology, hydrophytic vegetation, and hydric soils, the site would be considered a jurisdictional wetland.

3.1.6.14. SITE 32

This site is located in a relatively flat, poorly drained lowland area, with no evidence of wetlands hydrology. The site is dominated by black willow, common woody pickleweed, and western goldenrod (*Euthamia occidentalis*), which are all OBL indicator species; and mule fat and alkali heath, FACW indicator species, are also present. The site passed the Dominance and Prevalence tests and meets the criterion for hydrophytic vegetation. Soils at this site consist of clay. The soils exhibit faint mottles. Distinct or prominent mottles are required to identify as hydric soils under "Redox Depressions" (Hydric Soils Indicator F8), pursuant to the Arid West Supplement. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.15. SITE 33

This site is located in a relatively flat, poorly drained lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of clay. The soils within one inch of the surface exhibit faint mottles. Distinct or prominent mottles are required to identify as hydric soils under "Redox Depressions" (Hydric Soils Indicator F8).

Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered “Waters of the U.S.”.

3.1.6.16. SITE 34

This site is located in a relatively flat, poorly drained lowland area with no evidence of wetlands hydrology. The site is a lowland area dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this sampling point consist of clay. The soils within the top two inches exhibit faint mottles. Distinct or prominent mottles are required to identify as hydric soils under “Redox Depressions” (Hydric Soils Indicator F8). Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered ”Waters of the U.S.”.

3.1.6.17. SITE 35

This site is located in a relatively flat, poorly drained lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this sampling point consist of clay. The soils exhibit “Distinct” mottles at 14 to 16 inches in depth but do not meet the minimum thickness (i.e., 4 inches) within the maximum depth (i.e., 12 inches) pursuant to the Arid West Supplement. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered “Waters of the U.S.”.

3.1.6.18. SITE 36

This site is located in a relatively flat, poorly drained lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of clay. The soils exhibit “Prominent” mottles at 12 to 16 inches in depth but do not occur within the maximum depth (maximum depth of 12 inches) pursuant to the Arid West Supplement. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered “Waters of the U.S.”.

3.1.6.19. SITE 37

This site is located in a relatively flat, poorly drained lowland area with no evidence of wetlands hydrology. The site is dominated by mule fat, an FACW indicator species, alkali heath, an FACW indicator species, and common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of silty clay. The soils with the A Horizon exhibit prominent mottles within a gleyed matrix to a depth of six inches meeting the indicator of “Loamy Gleyed Matrix” (Hydric Soils Indicator F3). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered “Waters of the U.S.”.

3.1.6.20. SITE 45

This site is located in a relatively flat lowland area with no evidence of wetlands hydrology. This site is dominated by common woody pickleweed, an OBL indicator species, and alkali heath, an

FACW indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of clay. The soils within the A Horizon exhibit prominent mottles and meet the indicator of "Depleted Matrix" (Hydric Soils Indicator F3). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.21. SITE 48

The site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by alkali heath, an FACW indicated species, with small patches of common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the hydrophytic vegetation criteria. However, these species may be considered phreatophytes given the absence of wetlands hydrology. Soils at this sampling point consist of silty loam and exhibit occasional redox concentrations in thin laminations of less than one percent. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.6.22. SITE 49

The site is located within a depression with evidence of wetlands hydrology. The site is dominated by common woody pickleweed, an OBL indicator species; it also passed the Dominance and Prevalence tests. Therefore, Site 49 meets the criteria for hydrophytic vegetation. Soils at this site consist of silty loam that exhibits prominent mottles meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the presence of hydrophytic vegetation and hydric soils and the assumption of wetlands hydrology, the site would be considered a jurisdictional wetland.

3.1.7 NORTHEAST LOWLANDS

The northwest lowlands consist of closed depressions surrounded by earthen berms and dirt access roads.

3.1.7.1. SITE 8

The site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The dominant vegetation within the site is black willow and common woody pickleweed, which are both OBL indicator species. The site passed the Dominance and Prevalence tests, and therefore meets the criteria for hydrophytic vegetation. However, these species may be considered phreatophytes given the absence of wetlands hydrology. Soils at this sampling point consist of silty clay. However, no evidence of hydric soils was observed. Therefore, this sampling point does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology and hydric soils, the site would not be considered "Waters of the U.S.".

3.1.7.2. SITE 9

The site is located within a relatively flat lowland area with no evidence of wetlands hydrology. The dominant vegetation within the site is black willow and common woody pickleweed, both OBL indicator species; cheeseweed (*Malva parviflora*), a UPL species, is also present. The site passed the Dominance and Prevalence tests, and therefore meets the hydrophytic vegetation criteria. However, these species may be considered phreatophytes given the absence of wetlands hydrology. Soils at this site consist of clay and silty clay. Soils exhibit prominent mottles to a depth of four inches, meeting the indicator of "Redox Dark Surface" (Hydric Soils

Indicator F6). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology the site would not be considered “Waters of the U.S.”.

3.1.7.3. SITE 10

The site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The dominant vegetation within the site includes poison hemlock and alkali heath, which are both FACW indicator species; common woody pickleweed and alkali heliotrope, OBL indicator species, and cheeseweed, a UPL species, are also present. The site passed the Dominance and Prevalence tests, and therefore meets the hydrophytic vegetation criteria. Soils at this site consist of clay and silt and exhibit prominent mottles to a depth of five inches, meeting the indicator of “Redox Dark Surface” (Hydric Soils Indicator F6). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of hydrology, the site would not be considered “Waters of the U.S.”.

3.1.7.4. SITE 20

The site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by arroyo willow and mule fat, FACW indicator species, alkali mallow (*Malvella leprosa*), an FAC species, and alkali heliotrope, an OBL indicator species; it also passed the Dominance and Prevalence tests for hydrophytic vegetation. Therefore, the site meets the criteria for hydrophytic vegetation. However, these species may be considered phreatophytes given the absence of wetlands hydrology. Soils at this site consist of clay with a restrictive layer that was encountered at six inches. The soils exhibit distinct mottles between two and six inches, meeting the indicator of “Redox Depressions” (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered “Waters of the U.S.”.

3.1.7.5. SITE 26

This site is located in a relatively flat lowland area with evidence of wetlands hydrology. The site is dominated by mule fat and rush (*Juncus* sp.), FACW indicator species, and heliotrope, an OBL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of silty clay. The soils to ten inches exhibit prominent mottles meeting the indicator of “Redox Depressions” (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the assumed presence of wetlands hydrology, hydrophytic vegetation and hydric soils, the site would be considered a jurisdictional wetland.

3.1.7.6. SITE 27

This site is located in a relatively flat lowland area with evidence of wetlands hydrology. The site is dominated by black willow, an OBL indicator species, and mule fat, an FACW indicator species. The site also contains small amounts of Sellow’s pampas grass, a UPL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of silty clay. The soils exhibit distinct mottles meeting the indicator of “Redox Depressions” (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the presence of wetlands hydrology, hydrophytic vegetation, and hydric soils, the site would be considered a jurisdictional wetland.

3.1.7.7. SITE 28

This site is a lowland area with no evidence of wetlands hydrology. The site is dominated by black willow, an OBL indicator species, and Sellow’s pampas grass, a UPL species with lesser

amounts of arroyo willow, an FACW indicator species. The site passed the Prevalence test and meets the criteria for hydrophytic vegetation. Soils at this site consist of organic, clay, and silty clay. However, these species may be considered phreatophytes given the absence of wetlands hydrology. The soils between four and seven inches exhibit distinct mottles, meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would be not considered "Waters of the U.S.".

3.1.7.8. SITE 29

This site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site contains saltgrass (*Distichlis spicata*), alkali heath, and mule fat, which are all FACW indicator species; it also contains alkali mallow and five-hook bassia (*Bassia hyssopifolia*), which are FAC species, and alkali heliotrope, which is an OBL species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. However, these species may be considered phreatophytes given the absence of wetlands hydrology. Soils at this sampling point consist of clay with a restrictive layer at 13 inches. No hydric soils were encountered. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would be not considered "Waters of the U.S.".

3.1.7.9. SITE 30

This site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by black willow, an OBL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of clay. The soils to eight inches exhibit distinct mottles, meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would be not considered "Waters of the U.S.".

3.1.7.10. SITE 38

This site is located in a relatively flat lowland area with no evidence of wetlands hydrology. The site is dominated by common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of silty clay. The soils between 16 and 18 inches exhibit prominent mottles and below 18 inches exhibit a gleyed matrix; however, these soils do not meet the minimum thickness (i.e., 4 inches) within the maximum depth (i.e., 12 inches) pursuant to the Arid West Supplement. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.7.11. SITE 39

This site is located in a relatively flat lowland area with evidence of wetlands hydrology. The site is dominated by common woody pickleweed and saltwort (*Batis maritima*), which are both OBL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this sampling point consist of silty clay. The soils at a depth of 18 inches exhibit a gleyed matrix but do not meet the minimum thickness (i.e., 4 inches) within the maximum depth (i.e., 12 inches) pursuant to the Arid West Supplement. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the presence wetlands hydrology and hydrophytic vegetation, the site would be considered "Waters of the U.S.".

3.1.7.12. SITE 40

This site is located in a relatively flat lowland area with evidence of wetlands hydrology. The site is dominated by common woody pickleweed, an OBL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of clay. The soils from six to eight inches exhibit "Prominent" mottles but do not meet the maximum depth (i.e., six inches) pursuant to the Arid West Supplement. Therefore, the sample site does not meet the hydric soils criterion for wetlands. Based on the presence wetlands hydrology and hydrophytic vegetation, the site would be considered "Waters of the U.S.".

3.1.7.13. SITE 44

This site is located in a relatively flat lowland area with no evidence of wetlands hydrology. This site is dominated by black willow, an OBL indicator species, mule fat, an FACW indicator species, and Sellow's pampas grass, a UPL species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this sampling point consist of clay. No evidence of hydric soils was observed. Based on the absence of wetlands hydrology, the site would not be considered "Waters of the U.S.".

3.1.8 SOUTHERN LOWLANDS

The southern lowlands are located in a relatively flat area subject to tidal influence.

3.1.8.1. SITE 41

The site is dominated by common woody pickleweed, an FACW indicator species; saltwort (*Batis maritima*) and alkali heath, both OBL indicator species, are also present. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of sandy clay. The soils exhibit prominent mottles, meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Surface water and other indicators of wetlands hydrology are present at this sampling point. Based on the presence of wetlands hydrology, hydrophytic vegetation, and hydric soils, the site would be considered a jurisdictional wetland.

3.1.8.2. SITE 42

The site is dominated by common woody pickleweed and saltwort (*Batis maritima*), which is an OBL indicator species; alkali heath, an FACW indicator species, is also present. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. Soils at this site consist of sandy clay. The soils within 17 inches of the surface exhibit prominent mottles, meeting the indicator of "Redox Depressions" (Hydric Soils Indicator F8). Therefore, the sample site meets the hydric soils criterion for wetlands. Surface water and other indicators of wetlands hydrology are present. Based on the presence of wetlands hydrology, hydrophytic vegetation, and hydric soils, the site would be considered a jurisdictional wetland.

3.1.8.3. SITE 43

The site is dominated by common woody pickleweed and saltwort, which are both OBL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. It was not possible to dig a soil sample pit because of the depression was full of water. Therefore, the soils at this site are assumed to meet the hydric soils criterion

for wetlands. Based on the presence of wetlands hydrology, hydrophytic vegetation, and assumed presence of hydric soils, the site would be considered a jurisdictional wetland.

3.1.9 VERNAL POOLS

3.1.9.1. SITE 15

This upland area is a depression located on the mesa with evidence of wetlands hydrology (i.e., it contains Riverside fairy shrimp, which is a federally listed Endangered species [Wetlands hydrology Indicator B13]. Additionally, the site is dominated by saltgrass (*Distichlis spicata*), an FACW indicator species. The site passed the Dominance and Prevalence tests and therefore meets the hydrophytic vegetation criteria. Soils at this site consist of silty clay and exhibit prominent mottles, meeting the indicators of "Redox Depressions" (Hydric Soils Indicator F8) and vernal pools (Hydric Soils Indicator F9). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the presence of hydrophytic vegetation and hydric soils and the wetlands hydrology, the site would be considered a jurisdictional wetland.

3.1.9.2. SITE 16

This upland site is a depression with evidence of wetlands hydrology (i.e., it contains Riverside fairy shrimp, which is a federally listed Endangered species (Wetlands hydrology Indicator B13). The site is dominated by alkali heath, an FACW indicator species, and it passed the Dominance and Prevalence tests. Therefore, the site meets the criteria for hydrophytic vegetation. Soils at this site consist of silty clay and exhibit prominent mottles to a depth of two inches, meeting the indicators of "Redox Depressions" (Hydric Soils Indicator F8) and vernal pools (Hydric Soils Indicator F9). Therefore, the sample site meets the hydric soils criterion for wetlands. Based on the presence of hydrophytic vegetation, hydric soils, and wetlands hydrology, the site would be considered a jurisdictional wetland.

3.1.10 SOUTHERN BOUNDARY UPLANDS

This site is located in the southeastern portion of the Project site immediately adjacent to West Coast Highway.

3.1.10.1. SITE 46

Evidence of wetlands hydrology was identified. Therefore, the site meets the criteria for wetlands hydrology. The site is dominated by saltbush, an FACW indicator species. The site also contains sweet cover (*Melitotus* sp.), an FAC indicator species, and hottentot fig (*Carpobrotus edulis*), a UPL indicator species. The site passed the Dominance and Prevalence tests and therefore meets the criteria for hydrophytic vegetation. The soils at this sampling site consist of sand and sandy clay. This area had previously been documented to have a depleted matrix (F3) and redox depressions (F8) (GLA 2008); however, during the June 25, 2009, site visit, the redox features were not abundant enough to qualify for indicator F8. This area is a depressional landscape feature that is seasonally ponded. Given that this is a problematic soil situation and that previous surveys had documented indicators of hydric soil, hydric soil may be considered present as long as hydrophytic vegetation and wetlands hydrology are also present. Based on the presence of wetlands hydrology, hydrophytic vegetation, and assumed presence of hydric soils, the site would be considered a jurisdictional wetland.

3.2 VEGETATION

Except for Sites 1 and 18, all other sites contain a dominance and/or prevalence of hydrophytic vegetation. Portions of Drainages A, B, C, the Northern Boundary Areas, and the Lowland Areas immediately adjacent to the mesa areas were dominated by black willow, mule fat, and arroyo willow, while the remainder of the Lowland Areas were dominated by common woody pickleweed and alkali heath.

3.3 SOILS

Sites 2, 3, 4, 7, 9, 10, 13, 14, 15, 16, 20, 22, 23, 24, 25, 26, 27, 28, 30, 31, 37, 41, 42, 43, 45, 46, and 48 meet the criteria for hydric soils. The remaining sites either do not contain hydric soils or contain redox concentrations that do not meet the thickness or depth requirements of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*.

3.4 HYDROLOGY

As previously noted, the Project site includes a gently sloping coastal plain forming the western edge of Newport Mesa over the eastern portion of the Project site (Uplands); bluffs along the western edge of the mesa, drainages and arroyos; and Lowlands that were historically tidal marsh associated with Semeniuk Slough. The lowlands are now separated from Semeniuk Slough by a levee and have mostly lost a direct tidal influence. Sites 1, 2, 3, 4, 17, 18, 19, 25, 26, 27, 31, 39, 40, 41, 42, 43, 46, 47, and 49 meet the criterion for wetlands hydrology as either a drainage course or a depression with visible hydrologic activity. Sites 15 and 16 contain aquatic invertebrates (Riverside fairy shrimp), a primary indicator of wetlands hydrology.

SECTION 4.0 JURISDICTIONAL DELINEATION

4.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

Wetlands Determination: As previously described in Section 2.0 of this report, an area must exhibit all three wetland parameters, as described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b) and the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) in order to be considered a jurisdictional wetland.

The portions of the Project site exhibiting hydrophytic vegetation, wetlands hydrology, and hydric soils (Table 1) are considered wetland "Waters of the U.S.". A total of approximately 53.16 acres of wetlands are present on the Project site (Exhibit 6A; Table 2). Based on the current Project design, a total of 0.26 acre of wetland would be permanently impacted and 3.93 acres would be temporarily impacted by the proposed Project (Exhibit 6A; Table 2).

"Waters of the U.S." (Non-Wetland) Determination: Portions of the Project site contain evidence of OHWM sufficient to be considered "Waters of the U.S.". Based on field observations and data collection, approximately 0.61 acre of non-wetland "Waters of the U.S." occurs on the Project site (Exhibit 6A; Table 2). Based on the current design plans, a total of 0.06 acre of non-wetland "Waters of the U.S." would be permanently impacted by the proposed Project (Exhibit 6A; Table 2).

TABLE 2
U.S. ARMY CORPS OF ENGINEERS
JURISDICTIONAL "WATERS OF THE U.S."

Area	Existing (Acres)	Permanent Impacts (Acres)	Temporary Impacts (Acres)
Drainage A			
Wetland	0.02	0.02	0.00
Open Water	0.00	0.00	0.00
Other "Waters of the U.S."	0.05	0.01	0.00
Drainage B			
Wetland	0.03	0.03	0.00
Open Water	0.00	0.00	0.00
Other "Waters of the U.S."	0.10	0.02	0.00
Drainage C			
Wetland	0.00	0.00	0.00
Open Water	0.00	0.00	0.00
Other "Waters of the U.S."	0.46	0.03	0.00
Vernal Pools			
Wetland	0.33	0.00	0.06
Open Water	0.00	0.00	0.00
Other "Waters of the U.S."	0.00	0.00	0.00
Other Areas			
Wetland	52.78	0.21	3.87
Open Water	0.00	0.00	0.00
Other "Waters of the U.S."	0.00	0.00	0.00
Total	**53.77**	**0.32**	**3.93**

4.2 CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

The RWQCB jurisdictional boundaries are defined as those determined for the USACE under "Waters of the U.S.". However, the RWQCB takes jurisdiction over both connected and isolated waters. Approximately 53.77 acres under the jurisdiction of the RWQCB occurs on the Project site (Exhibit 6A, Table 2). Based on current design plans, a total of 0.32 acre would be permanently impacted and 3.93 acres would be temporarily impacted by the proposed Project (Exhibit 6A; Table 2).

4.3 CALIFORNIA DEPARTMENT OF FISH AND GAME DETERMINATION

The CDFG jurisdiction within the drainages extends from the top of bank to the top of bank or to the outer drip line in areas containing riparian vegetation. Drainages A, B, C, and D; the area along the northern boundary of the Project site; and a concrete-lined V-ditch in the southeastern corner of the Project site contain bed and bank with riparian vegetation and are considered under CDFG jurisdiction. Based on the field observations and data collection, a total of 12.08 acres of resources under the jurisdiction of CDFG pursuant to the Section 1602 of the *California Fish and Game Code* are located within the boundaries of the Project site (Exhibit 6B; Table 3). Based on the current design plans, a total of 1.87 acres would be permanently impacted and 0.05 acre would be temporarily impacted by the proposed Project (Exhibit 6B; Table 3).

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CDFG Jurisdiction

Exhibit 6B

Newport Banning Ranch

N W E S

500 250 0 500 Feet

BonTerra CONSULTING

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TABLE 3
CALIFORNIA DEPARTMENT OF FISH AND GAME
JURISDICTIONAL RESOURCES

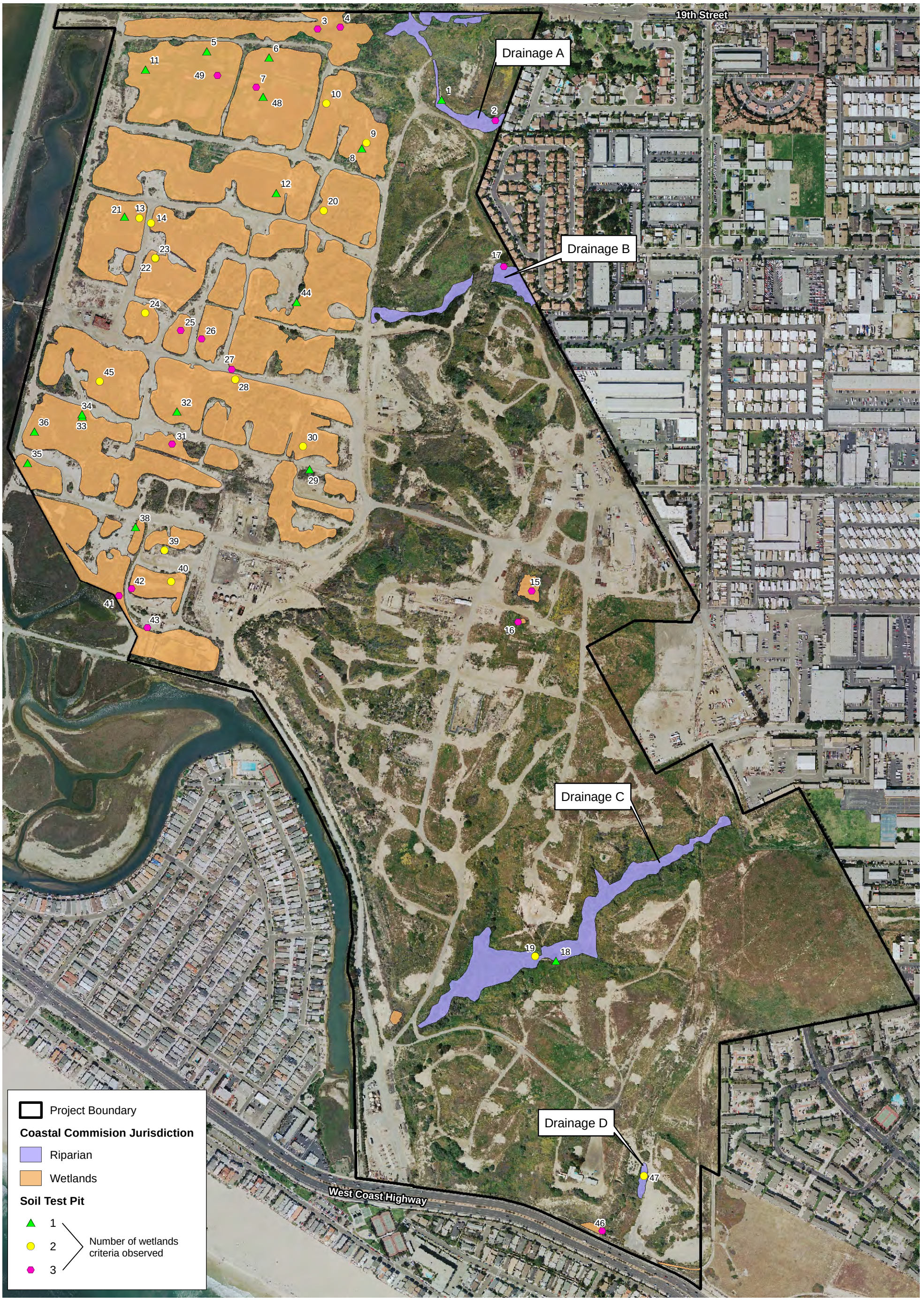
Area	Existing (Acres)	Permanent Impacts (Acres)	Temporary Impacts (Acres)
Drainage A	0.67	0.30	0.00
Drainage B	1.40*	0.69	0.00
Drainage C	4.91	0.37	0.00
Drainage D	0.45	0.32	0.00
Other Areas	4.65	0.19	0.05
Total	**12.08**	**1.87**	**0.05**
* Includes 0.21 acre of Arundo vegetation.			

4.4 CALIFORNIA COASTAL COMMISSION DETERMINATION

Based on field observations and data collection, approximately 84.65 acres of resources under the jurisdiction of the CCC are located within the boundaries of the Project site (Exhibit 6C; Table 4). Based on the current design plans, a total of 2.52 acres would be permanently impacted and 6.48 acres would be temporarily impacted by the proposed Project (Exhibit 6C; Table 4).

TABLE 4
CALIFORNIA COASTAL COMMISSION
JURISDICTIONAL RESOURCES

Area	Existing (Acres)	Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total Impacts (Acres)
Drainage A				
Riparian	0.67	0.30	0.00	0.30
Drainage B				
Riparian	1.19	0.69	0.00	0.69
Drainage C				
Riparian	4.82	0.28	0.00	0.28
Drainage D				
Riparian	0.17	0.05	0.00	0.05
Vernal Pools				
Wetland	0.33	0.00	0.06	0.06
Other Areas				
Riparian	0.79	0.17	0.00	0.17
Wetland	76.68	1.03	6.42	7.45
Total	**84.65**	**2.52**	**6.48**	**9.00**



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CCC Jurisdiction

Exhibit 6C

Newport Banning Ranch

N W E S

500 250 0 500 Feet

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SECTION 5.0 CONCLUSION OF REGULATORY APPROVAL PROCESS

5.1 REGULATORY PERMIT REQUIREMENTS

The following is a general summary of the various permits, agreements, and certifications required prior to initiation of Project activities that would involve impacts to areas under the jurisdiction of the USACE, the RWQCB, the CDFG, and the CCC. A summary of the regulatory permit requirements is as follows:

- USACE Section 404 Permit and Section 10 Rivers and Harbors Permit,
- RWQCB Section 401 Water Quality Certification,
- CDFG Section 1602 Streambed Alteration Agreement,
- CCC Coastal Development Permit.

Permit authorizations from the USACE and the RWQCB are required prior to the initiation of any construction-related project activity for a development proposal that involves impacts to drainages, streams, or wetlands within and/or immediately adjacent to a project site through activities including filling; stockpiling; converting to a storm drain; modifying an existing storm drain or channel; creating a channel; stabilizing a bank; modifying road or utility transmission line crossings; or completing other modifications of an existing drainage, stream, or wetland. Also, both permanent and temporary impacts to jurisdictional resources are regulated activities that require permit authorization from these agencies. There are two primary permits that the USACE routinely issues. These include a "Nationwide Permit" (NWP) and an "Individual Permit" (IP). The NWP is a type of general permit that authorizes certain specified activities nationwide. An IP is issued following an individual evaluation and a determination that the proposed activity is not contrary to the public interest. Standard permits and letters of permission are types of individual permits. The specific permit that is required depends on the project description and extent of jurisdictional impacts.

A USACE Section 404 permit would likely be issued subject to the receipt of the RWQCB's Section 401 Water Quality Certification. The USACE refers to this conditional approval as "Denial Without Prejudice". It should also be noted that USACE and RWQCB applications can be processed concurrently. Also, the RWQCB application submittal would not be deemed complete until the application fees have been paid and the agency is provided with a certified California Environmental Quality Act (CEQA) document and a signed copy of the receipt of County Clerk filing fees for the Notice of Determination (NOD). The CDFG fees increase annually.

A detailed explanation of the regulatory permitting requirements for impacts to jurisdictional resources is provided in Sections 5.2 through 5.4.

5.2 U.S. ARMY CORPS OF ENGINEERS

The acreage of loss of "Waters of the U.S." is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP or must be authorized under an IP. Regulatory authorization in the form of an IP would be required from the USACE Regulatory Branch, Los Angeles District Office if any permanent, construction-related activity results in a discharge of material into USACE jurisdictional "Waters of the U.S." that are greater than 0.2 hectare (0.5 acre) or 91 linear meters (300 linear feet). Permanent impacts up to 0.5 acre and less than 300 linear feet may be authorized under the provisions of the NWP. "Waters of the U.S." temporarily filled, flooded, excavated, or drained but restored to pre-construction contours and elevations after construction are not included in the measurement of loss of "Waters of the U.S.".

On January 31, 2007, the USACE published a memorandum clarifying the Interim Guidance for amendments to the National Historic Preservation Act and the Advisory Council on Historic Preservation (ACHP) implementing regulations. The Interim Guidance applies to all Department of the Army requests for authorization/verification, including individual permits (standard permits and letters of permission) and all Regional General Permits (RGP) and NWPs. The State or Tribal Historic Preservation Officer (SHPO/THPO) has 30 days to respond to a determination that a proposed activity, which otherwise qualifies for an NWP or RGP, has no effect or no adverse effect on a historic property. If the SHPO/THPO does not respond within 30 days of notification, the District Office may proceed with the verification. If the SHPO/THPO disagrees with the District Office's determination, the District Office may work with the SHPO/THPO to resolve the disagreement or request an opinion from the ACHP. The USACE will submit the draft jurisdictional delineation to the SHPO/THPO for review prior to initiating the actual regulatory process.

The USACE Regulatory Branch Offices would coordinate with the USEPA Regional Office and Corps Headquarters (HQ), as outlined in its January 28, 2008, memorandum entitled the "Process for Coordinating Jurisdictional Delineations Conducted Pursuant to Section 404 of the Clean Water Act in Light of the *Rapanos* and *SWANCC* Supreme Court Decisions". The guidance provided in this memorandum is quoted as follows:

1. Effective immediately, unless and until paragraph 5(b) of the June 5, 2007, Rapanos guidance coordination memorandum is modified by a joint memorandum from Army and EPA, we will follow these procedures:

    a. For jurisdictional determinations involving significant nexus determinations, Corps districts will send copies of draft jurisdictional delineations via e-mail to appropriate EPA regional offices. The EPA regional office will have 15 calendar days to decide whether to take the draft jurisdictional delineation as a special case under the January 19, 1989, "Memorandum of Agreement Between the Department of the Army and the USEPA Concerning the Determination of the Section 404 Program and the Application of the Exceptions under Section 404(f) of the Clean Water Act." If the EPA regional office does not respond to the district within 15 days, the district will finalize the jurisdictional determination.

    b. For jurisdictional determinations involving isolated waters determinations, the agencies will continue to follow the procedure in paragraph 5(b) of June 5, 2007, coordination memorandum, until a new coordination memorandum is signed by Army and EPA. (In accordance with paragraph 6 of the June 5, 2007, coordination memorandum, this is a 21-day timeline that can only be changed through a joint memorandum between agencies).

2. Approved jurisdictional determinations are not required for non-reporting NWPs, unless the project proponent specifically requests an approved jurisdictional determination. For proposed activities that may qualify for authorization under a State Programmatic General Permit (SPGP) or RGP, an approved jurisdictional determination is not required unless requested by the project proponent.

3. The Army will continue to work with EPA to resolve the jurisdictional determinations involving significant nexus and isolated waters determinations that are currently in the elevation process.

4. Districts will continue posting completed Approved Jurisdictional Determination Forms on their web pages.

Pursuant to USACE Regulatory Guidance Letter 08-02 (June 26, 2008) the USACE can issue two types of jurisdictional determinations to implement Section 404 of the CWA: Approved Jurisdictional Determinations and Preliminary Jurisdictional Determinations. An Approved Jurisdictional Determination is an official USACE determination that jurisdictional "Waters of the U.S.", "Navigable Waters of the U.S.", or both are either present or absent on a site. An Approved Jurisdictional Determination also identifies the precise limits of jurisdictional waters on a project site.

The USACE provides an Approved Jurisdictional Determination when (1) an Applicant requests an official jurisdictional determination; (2) an Applicant contests jurisdiction over a particular water body or wetland; or (3) when the USACE determines that jurisdiction does not exist over a particular water body or wetland. The Approved Jurisdictional Determination then becomes the USACE's official determination that can be relied upon over a five-year period to request regulatory authorization as part of the permit application.

In addition, an Applicant may decline to request an Approved Jurisdictional Determination and instead obtain a USACE IP or General Permit authorization based on a preliminary Jurisdictional Determination or, in certain circumstances (e.g., authorizations by non-reporting nationwide general permits), no Jurisdictional Determination.

Preliminary Jurisdictional Determinations are non-binding, advisory in nature, and may not be appealed. They indicate that there may be "Waters of the U.S." on a project site. An Applicant may elect to use a Preliminary Jurisdictional Determination to voluntarily waive or set aside questions regarding CWA jurisdiction over a site, usually in the interest of allowing the Applicant to move ahead expeditiously with the permitting process. The USACE would determine what form of Jurisdictional Determination is appropriate for a particular project site.

Based on the current conditions, a total of approximately 0.32 acre of "Waters of the U.S." would be permanently impacted and 3.93 acres would be temporarily impacted by the proposed Project. Please note that if the drainages are determined by the USACE to be jurisdictional and would be impacted by Project implementation, the Applicant would be required to obtain a CWA Section 401 Water Quality Certification from the RWQCB before the USACE would issue the Section 404 permit. If the USACE determines that the impacted drainages are non-jurisdictional, the Applicant would be required to obtain RWQCB authorization under the provisions of a WDR.

5.3 REGIONAL WATER QUALITY CONTROL BOARD

As noted above, issuance of the USACE Section 404 permit would be contingent upon the approval of a Section 401 Water Quality Certification from the Santa Ana RWQCB. Also, the RWQCB requires certification of a project's CEQA documentation before it will approve the Section 401 Water Quality Certification or WDR. The RWQCB, as a responsible agency, would use the Project's CEQA document to satisfy its own CEQA compliance requirements.

Upon acceptance of a complete permit application, the RWQCB has between 60 days and 1 year to make a decision regarding the permit request. That is, USACE regulations indicate that the RWQCB has 60 days from the date of receipt of a completed application that requests water quality certification to make a decision (33 CFR §325.2[b][1][ii]). The USACE District Engineer may specify a longer time (up to one year) or shorter time based on his/her determination of a reasonable processing time (33 CFR §325.2[b][1][ii]). If the RWQCB determines that more than 60 days is needed to process the request, it has the option of requesting additional time from the USACE. Also, the RWQCB has the option of issuing a "Denial Without Prejudice", which does not mean that the request is denied, but that it requires more information in order to make a decision. This effectively stops the processing clock until this information is provided.

The RWQCB is required under *California Code of Regulations* (CCR) Title 23, Section 3858(a) to have a "minimum 21 day public comment period" before any action can be taken on the Section 401 application. This period closes when the RWQCB acts on the application. Since projects often change or are revised during the Section 401 permit process, the comment period can remain open. The public comment period starts as soon as an application has been received. Generally, the RWQCB Section 401, USACE Section 404, and CDFG Section 1602 permit applications are submitted at the same time. However, the RWQCB Section 401 Water Quality Certifications may take longer to process.

The RWQCB requires the Applicant to address urban storm water runoff during and after construction in the form of Best Management Practices (BMPs). These BMPs are intended to address the treatment of pollutants carried by storm water runoff and are required in all complete applications. Please note that the application would also require the payment of a Section 401 Application Fee, which would be based the amount of project impacts.

5.4 CALIFORNIA DEPARTMENT OF FISH AND GAME

The CDFG regulates all work (including initial construction and ongoing operation and maintenance) that may substantially divert or obstruct the natural flow of or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake through its Streambed Alteration Program. An Applicant must enter into an agreement with the CDFG to ensure no net loss of wetland values and acreages.

As previously indicated, the extent of the CDFG jurisdiction in the Project site has been identified. Based on the current design plans, approximately 1.87 acres within the CDFG's jurisdiction would be permanently impacted and 0.05 acre would be temporarily impacted by the proposed Project. Impacts resulting from Project implementation would require a Section 1602 SAA. The SAA must address the initial construction and long-term operation and maintenance of any structures within areas identified as "Waters of the State" (such as a culvert or desilting basin) that may require periodic maintenance if these are included in the Project design.

Prior to construction, a notification (SAA application) must be submitted to the CDFG that describes any proposed streambed alteration requested as a result of the proposed Project. In addition to the formal application materials and the fee, a copy of the appropriate environmental document (e.g., EIR) should be included in the submittal consistent with CEQA requirements. The CDFG would prepare a draft SAA, which will include standard measures to protect sensitive plant and wildlife resources during Project construction and during ongoing operation and maintenance of any project element that occurs within a CDFG jurisdictional area.

If an SAA (agreement) is required, the CDFG may want to conduct an on-site inspection. The CDFG then prepares a draft agreement, which would include measures to protect fish and wildlife resources that would be directly or indirectly impacted by project construction. The draft agreement will be transmitted to the Applicant within 60 calendar days of the CDFG's determination that the notification is complete. However, the 60-day timeframe may not apply to long-range agreements.

The Applicant has 30 calendar days to notify the CDFG concerning the acceptability of the proposed terms, conditions, and measures. If the Applicant agrees with these terms, conditions, and measures, the agreement must be signed and returned to the CDFG. The agreement becomes final once the CDFG executes it and an SAA is issued. Please note that all application fees must be paid and the final certified CEQA documentation must be provided prior to the CDFG's execution of the agreement.

If the CDFG does not respond in writing concerning the completeness of the Notification within 30 days of its submittal, the Notification automatically becomes complete. If the CDFG does not submit a draft SAA to the Applicant within 60 days of the determination of a completed Notification package, the CDFG will issue a letter that either (1) identifies the final date to transmit a draft SAA or (2) indicates that an SAA was not required. The CDFG will also indicate that it was unable to meet this date and that, by law, the Applicant must complete the project without an SAA and must comply with all avoidance, minimization, and mitigation measures described in the submitted Notification package.

5.5 CALIFORNIA COASTAL COMMISSION

Development within the coastal zone may not commence until a Coastal Development Permit (CDP) has been issued by either the CCC or a local government that has a CCC-certified Local Coastal Program. After certification of a Local Coastal Program, CDP authority is delegated to the appropriate local government, but the CCC retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands). The CCC also has appellate authority over development approved by local governments in specified geographic areas and in certain other developments.

Based on the current design plans, a total of approximately 2.52 acres would be permanently impacted and 6.48 acres would be temporarily impacted by the proposed Project.

The City's certified Coastal Land Use Plan (CLUP) identifies the Project site as a Deferred Certification Area (DCA) due to the fact that a project plan is necessary in order to address land use, public access, and the protection of coastal resources. The City's CLUP was first approved by the CCC on October 13, 2005, and was adopted on December 13, 2005. The CLUP was amended by the CCC on February 5, 2009, and adopted again on July 14, 2009. The City is preparing the Implementation Program. Because the City does not have an adopted Implementation Actions Program for its Local Coastal Program, it does not have the ability to issue CDPs; all CDPs for new development in the City are processed by the California Coastal Commission.

The City of Newport Beach does not have a certified LCP, and therefore, does not have the authority to issue coastal development permits (CDPs). The City must review all development projects located within the LCP area for consistency with the City's General Plan, Coastal Land Use Plan and Zoning regulations before the project applicant can file for a Coastal Development Permit with the CCC. The CCC has 30 days to determine if the CDP application is complete and must take an action on the project within 180 days of a complete application.

5.6 RECOMMENDATIONS

GLA conducted a pre-application meeting with the USACE on July 3, 2008; prepared and submitted a Jurisdictional Delineation Report for this project to the USACE on March, 5, 2009; and received a verification letter from the USACE on June 3, 2009, concurring with GLA's Jurisdictional Delineation Report submitted to the USACE on March 5, 2009. BonTerra Consulting also conducted an independent jurisdictional delineation and prepared a report on behalf of the City of Newport Beach. With the concurrence of the City, BonTerra Consulting met with GLA representatives to perform a comparative analysis. BonTerra Consulting and GLA also performed a field review of all the areas containing different conclusions with respect to jurisdictional wetlands, non-wetland "Waters of the U.S." or non-jurisdictional resources. Based on field verifications and information sharing, both jurisdictional delineations were revised based on mutually agreed upon observations.

In conclusion, the BonTerra Consulting and GLA jurisdictional delineations were conducted in compliance with the requirements of State and federal regulations and represent each firm's best professional judgment concerning the type and extent of State and federal jurisdictional resources within the Project site. GLA's multi-year survey effort and more extensive hydrology information based on actual observations during and immediately following seasonal rain storms would represent the most comprehensive documentation of the site's jurisdictional resources.

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ATTACHMENT A

CONCEPTUAL MASTER LAND USE PLAN

Source: FORMA 2011

Conceptual Master Land Use Plan

Attachment A

Newport Banning Ranch

N W E S

BonTerra CONSULTING

(Rev 090411 sak) R:\Projects\Newport\J015\Graphics\Bio\Ex4_ConcLandUse.pdf

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ATTACHMENT B

SITE PHOTOGRAPHS

Overview of Drainage A.

Overview of Drainage B.

Overview of Drainage C.

Soil Test Pit #3 at the northern edge of the project site.

D:/Projects/Newport/J015/Graphics/ex_so_091709.ai

Site Photographs

Attachment B

Newport Banning Ranch

BonTerra CONSULTING

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Soil Test Pit #18 in Drainage C.

Soil Test Pit #15 in Vernal Pool.

Representative soil test pit location in the lowlands (Soil Test Pit #21).

Representative soil test pit location in the lowlands (Soil Test Pit #26).

D:/Projects/Newport/J015/Graphics/ex_sp2_091709.ai

Site Photographs

Attachment B

Newport Banning Ranch

BonTerra CONSULTING

R:/projects/Newport/J015/Graphics/JD/exAttB_sp2_091709.pdf

ATTACHMENT C

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/14/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 1

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): - Slope (%): 0-2

Subregion (LRR): C Lat: 33.641916 Long: -117.94547 Datum: NAD83

Soil Map Unit Name: Capistrano sandy loam (9-15% slopes) 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 X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
Drainage A

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 25x25)			
1. Baccharis salicifolia [viminea]	50	Y	FACW
2. Encelia Californica	15	Y	UPL
3.			
4.			
5.			
	65 = Total Cover		
Herb Stratum (Plot size: 25x25)			
1. Cortaderia selloana	50	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 50	x 2 =	100
FAC species	x 3 =	
FACU species	x 4 =	
UPL species 65	x 5 =	325
Column Totals: 115 (A)		425 (B)

Prevalence Index = B/A = 3.69

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 X

Remarks:

SOIL

Sampling Point: 1

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	7.5 YR 4/4	100	-	-	-	-	Sand	

[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 X

Remarks:

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**)
- X 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**)
- X 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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/14/09

Applicant/Owner: Newfort Banning Ranch State: CA Sampling Point: 2

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): — Slope (%): 0-2

Subregion (LRR): C Lat: 33.641614 Long: -117.94448 Datum: NAD 83

Soil Map Unit Name: Myford sandy loam (9-30% slopes, eroded) 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 Y No ____	**Is the Sampled Area within a Wetland?** Yes Y No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:
Drainage A

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	90	Y	OBL
2.			
3.			
4.			
	90 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Ricinus Communis	5	Y	FACU
2. Solanum Americanum	<1	N	FAC
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Veronica anagallis-aquatica	<1	N	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	<1 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ~100 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species		x 2 =	
FAC species	1	x 3 =	3
FACU species	5	x 4 =	20
UPL species		x 5 =	
Column Totals:	96 (A)		113 (B)

Prevalence Index = B/A = 1.18

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

Y 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 Y No ____

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10Y 2.5/1	100					clay	
3-8	10YR 4/3	100					silty clay	

[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)
- X 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: roots

Depth (inches): 8

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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**)
- X 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 X No ___ Depth (inches): 0

Water Table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/14/09

Applicant/Owner: Newpost Banning Ranch State: CA Sampling Point: 3

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): lowlands Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR): C Lat: 33.642967 Long: -117.94775 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PFO/SSC

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 X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 50x50)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	85	Y	FACW
2. Salix goodingii	20	n	OBL
3.			
4.			
	105	= Total Cover	
Sapling/Shrub Stratum (Plot size: 50x50)			
1. Baccharis salicifolia	20	Y	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Cortaderia selloana	1	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	70	7.5YR 5/8	30	C	M	silty clay	prominent mottles
8-12	10YR 5/3	100					silty clay	
12-20	10YR 5/3	100					Sand	

[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)
- X 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 X No ___

Remarks:

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**)
- X Drift Deposits (B3) (**Riverine**)
- X 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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/14/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 4

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): lowlands Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR): C Lat: 33.642998 Long: -117.94734 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PFO/SSC

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes Y No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	60	Y	OBL
2. Salix lasiolepis	40	Y	FACW
3.			
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Cortaderia selloana	10	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

- Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/4	70	7.5YR 5/8	30	C	M	Silty clay	prominent mottles
8-12	10YR 5/3	100	-	-	-	-	Silty clay	
12-20	10YR 5/3	100	-	-	-	-	Sand	

[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 X No _____

Remarks:

Overall landscape is depressional.

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**)
- X Drift Deposits (B3) (**Riverine**)
- X 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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/14/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 5

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): C Lat: 33.642596 Long: -117.94976 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:
Closed depression surrounded by low berms.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30x30)			
1. Conium maculatum	100	Y	FACW
2. Heliotropium Curassavicum	2	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	102 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 5

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	10YR 5/3	100	-	-	-	-	Sandy loam	

[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 X

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/14/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 6

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.642518 Long: -117.94862 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
Closed depression surrounded by low berms.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	99	y	OBL
2. Heliotropium curassavicum	10	n	OBL
3. Frankenia salina [grandifolia]	5	n	FACW
4.			
5.			
6.			
7.			
8.			
	114 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 X No _____

Remarks:

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	2.5Y4/3	100					Silty clay	
18-20	2.5Y4/3	80	white	20				Calcium or diatomaceous mottles

[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 X

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/14/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 7

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): —

Subregion (LRR): C Lat: 33.6420606 Long: -117.94885 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
closed depression surrounded by low berms

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30x50)			
1. Salicornia virginica	20	Y	OBL
2. Frankenia salina [grandifolia]	15	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 65 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/4	90	7.5YR 8/6	10	C	M	silt	prominent mottles
4-16	10YR 4/3	70	5YR 5/6	15	C	M	clay	
				15	D	M		
16-20								

[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)
- X 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 X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X 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)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 8

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): lowlands Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.641154 Long: -117.946691 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	75	Y	OBL
2.			
3.			
4.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30x30)			
1. Salicornia virginica	100	Y	OBL
2. Malva parviflora	<1	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y Dominance Test is >50%

___ Prevalence Index ≤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 Y No _____

Remarks:

SOIL

Sampling Point: 8

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
0-20	2.5Y 4/2	100					silty clay	

[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 X

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 9

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): lowlands Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): C Lat: 33.641243 Long: -117.94683 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	40	Y	OBL
2.			
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30x30)			
1. Malva parviflora	70	Y	UPL
2. Salicornia virginica	50	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	120	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.72 (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 9

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 6/6	10	C	M	clay	prominent mottles
4-20	2.5Y 4/2	100	-	-	-	-	silty clay	

[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)
- Y 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 Y No ___

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 10

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.641834 Long: -117.94756 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Conium maculatum	20	y	FACW
2. Frankenia Salina [grandifolia]	15	y	FACW
3. Salicornia Virginica	15	y	OBL
4. Malva parviflora	2	n	UPL
5. Heliotropium Curassavicum	1	n	OBL
6.			
7.			
8.			
	53 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 47 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

Dead Frankenia covered ~ 60% of bare ground.

SOIL

Sampling Point: 10

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	70	2.5YR 4/3	30	C	M	clay	prominent mottles
5-19	2.5Y 4/2	100					silt	
19-20	2.5Y 4/3	90		10	D	M		

[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)
- F Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- F 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 X No _____

Remarks:

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)
- F FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 11

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.642304 Long: -117.95087 Datum: WGS83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Conium maculatum	100	Y	FACW
2. Salicornia virginica	2	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	102 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 11

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR 4/2	100					silty clay	
5-18	10YR 5/3	100					silty clay	
18-20	10YR 4/2	70	10YR 4/3	30	C	M	silty clay	faint mottles

[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 X

Remarks:

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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 12

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): C Lat: 33.640455 Long: -117.94845 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No Y	
Wetland Hydrology Present?	Yes _____ No Y	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30x30)			
1. Frankenia salina [grandifolia]	50	Y	FACW
2. Salicornia virginica	60	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100	-	-	-	-	Silty clay	
4-18	10YR 5/3	100	-	-	-	-	clay	
18-20	10YR 4/2	70	10YR 4/3	30	C	M	silty clay	faint mottles

[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 X

Remarks:

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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 13

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): C Lat: 33.64004 Long: -117.95094 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes _____ No Y	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	99	Y	OBL
2. Lonium maculatum	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	104 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 Y No _____

Remarks:

SOIL

Sampling Point: 13

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	80	10YR 6/8	20	C	M	Silty clay	prominent mottles
5-18	10YR 5/3	100	-	-	-	-	clay	
18-20	10YR 4/2	70	10YR 4/3	30	C	M	silty clay	faint mottles

[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)
- P Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- P 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 X No ___

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 14

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): lowlands Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.639965 Long: -117.95073 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30x30)			
1. Salicornia virginica	95	Y	OBL
2. Frankenia salina [grandifolia]	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 X No _____

Remarks:

SOIL

Sampling Point: 14

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	80	10YR 6/8	20	C	M	silty clay	prominent mottles
5-18	10YR 5/3	100	-	-	-	-	clay	
18-20	10YR 4/2	70	10YR 4/3	30	C	M	silty clay	faint mottles

[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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X 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 X No _____

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 15

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): —

Subregion (LRR): C Lat: 33.634449 Long: -117.94368 Datum: NAD 83

Soil Map Unit Name: Myford sandy loam (0-2% slopes) 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 X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
Vernal pool

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30x30)			
1. Baccharis salicifolia [viminea]	10	y	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 30x30)			
1. Distichlis spicata	90	y	FACW
2. Eremocarpus setigerus	<1	n	UPL
3. Polypogon monspeliensis	<1	n	FACW
4. Heliotropium curassavicum	<1	n	OBL
5.			
6.			
7.			
8.			
	93 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 X No _____

Remarks:
Survey point in patch of Distichlis, surrounded by Baccharis.

SOIL

Sampling Point: 15

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	70	10YR 5/8	30	C	M	silty clay	prominent mottles
2-10	10YR 4/3	100	-	-	-	-	silty clay	

[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)
- X Redox Depressions (F8)
- X 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: hardpan

Depth (inches): 10

Hydric Soil Present? Yes X No ___

Remarks:

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)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Fairy shrimp present during wet season ponding (GLA 2009).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/15/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 16

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): vernal pool Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): C Lat: 33.633976 Long: -117.94392 Datum: NAD83

Soil Map Unit Name: Myford sandy loam (0-2% slopes) 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 Y No _____	**Is the Sampled Area within a Wetland?** Yes Y No _____
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes Y No _____	

Remarks:
Closed depression (shallow).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis Salicifolia [viminea]	5	Y	FACW
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Frankenia Salina [grandifolia]	80	Y	FACW
2. Rumex crispus	<1	n	FACW
3. Hemizonia fasciculata	2	n	UPL
4. Polypogon monspeliensis	<1	n	FACW
5.			
6.			
7.			
8.			
	84 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 16 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 16

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR4/3	70	10YR5/8	30	C	M	silty clay	prominent mottles
2-8	10YR4/3	100	-	-	-	-	silty clay	

[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)
- X Redox Depressions (F8)
- X 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: hardpan

Depth (inches): 8

Hydric Soil Present? Yes Y No ___

Remarks:

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)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Fairy shrimp present during wet season ponding (GLA 2009).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 17

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): – Slope (%): _____

Subregion (LRR): C Lat: 33.63939 Long: -117.94428 Datum: NAD83

Soil Map Unit Name: Myford sandy loam (9-30% slopes, eroded) 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 X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
Drainage B. Defined bed/banks ~15 ft drop off at upstream end. No open water observed. Could not access drainage bottom for soil test pit. Assumed wetland based on vegetation & hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	75	Y	FACW
2. Schinus terebinthifolius	25	Y	UPL
3.			
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia [viminea]	5	Y	FACW
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:
"Bare ground" consists of leaf litter.
Acacia sp., Cortaderia selloana also in drainage; Encelia californica on either side of riparian strip.

SOIL

Sampling Point: 17

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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 access to bottom of drainage

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**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newpost Banning Ranch State: CA Sampling Point: 18

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): — Slope (%): 0-2

Subregion (LRR): C Lat: 33.628822 Long: -117.94313 Datum: NAD83

Soil Map Unit Name: Myford sandy loam (9-30% slopes, eroded) NWI classification: PFOA

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 X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
Drainage C

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Eucalyptus sp.	45	Y	UPL
2. Schinus terebinthifolius	20	Y	UPL
3.			
4.			
	65	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis pilularis	40	Y	UPL
2. Baccharis salicifolia	20	Y	FACW
3.			
4.			
5.			
	60	= Total Cover	
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

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 20	x 2 =	40
FAC species	x 3 =	
FACU species	x 4 =	
UPL species 105	x 5 =	525
Column Totals: 125	(A)	565 (B)

Prevalence Index = B/A = 4.52

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 Y

Remarks:

SOIL

Sampling Point: 18

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
0-20	10YR 5/4	100	-	-	-	-	Sand	

[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 X

Remarks:

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**)
- X 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**)
- X 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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 19

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): — Slope (%): 0-2

Subregion (LRR): C Lat: 33.6288816 Long: -117.94351 Datum: NAD83

Soil Map Unit Name: Myford sandy loam (9-30% slopes, eroded) NWI classification: PFOA

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
Drainage C

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	100	Y	FACW
2.			
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bromus madritensis ssp. rubens	10	Y	NI*
2. Conium maculatum	<1	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	11 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	1	x 2 =	2
FAC species		x 3 =	
FACU species		x 4 =	
UPL species	10	x 5 =	50
Column Totals:	111 (A)		152 (B)

Prevalence Index = B/A = 1.37

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

X 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 X No _____

Remarks:
*No indicator (NI) status recorded for species with insufficient information in the region to determine indicator status. Considered UPL for purposes of dominance test & prevalence index.

SOIL

Sampling Point: 19

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR5/4	100	-	-	-	-	Sand	

[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 X

Remarks:

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**)
- X 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**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Soil is damp but not saturated.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 20

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.6402 Long: -117.94758 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PSSCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	50	Y	FACW
2.			
3.			
4.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia (viminea)	30	Y	FACW
2.			
3.			
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Malvella leprosa	20	Y	FAC
2. Salicornia virginica	2	N	OBL
3. Heliotropium curassavicum	10	Y	OBL
4.			
5.			
6.			
7.			
8.			
	32 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

Bare Ground: leaf litter

SOIL

Sampling Point: 20

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	organic							
2-6	2.5Y 5/3	70	2.5Y 6/6	30	C	M	clay	distinct mottles

[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: hard soil

Depth (inches): 6

Hydric Soil Present? Yes X No ___

Remarks:

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 X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 21

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.640055 83 Long: -117.95121188 Datum: NAD83

Soil Map Unit Name: Balsa silt loam NWI classification: PEMCx

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Frankenia salina (grandifolia)	80	Y	FACW
2. Salicornia virginica	60	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	140 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum Ø % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 21

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	Organic							
2-3	2.5Y 5/3	80	2.5Y 6/6	20	C	M	clay	distinct mottles
3-16	2.5Y 4/3	100					clay	

[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 X

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 22

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.639426 Long: -117.95064 Datum: NAD83

Soil Map Unit Name: Bolsa Silt loam NWI classification: PEMCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Frankenia salina [grandifolia]	75	y	FACW
2. Salicornia virginica	50	y	OBL
3. Malvella leprosa	5	n	FAC
4.			
5.			
6.			
7.			
8.			
	130 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 22

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 5/3	100					SiH	
4-10	2.5Y 4/4	90	2.5Y 3/1	10	C	M	silty clay	distinct mottles

[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)
- X 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: hardpan

Depth (inches): 10

Hydric Soil Present? Yes X No ___

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 23

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.639433 Long: -117.95064 Datum: NAD83

Soil Map Unit Name: Bolsa Silt loam NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	50	Y	OBL
2. Frankenia salina [grandifolia]	50	Y	FACW
3. Malvella leprosa	5	n	FAC
4.			
5.			
6.			
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 23

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 5/3	100					silt	
4-10	2.5Y 4/4	50	2.5Y 3/1	50	C	M	silty clay	distinct mottles

[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)
- F 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: hardpan

Depth (inches): 10

Hydric Soil Present? Yes X No ___

Remarks:

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 X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 24

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.638594 Long: -117.9508 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes _____ No Y	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia [viminea]	5	Y	FACW
2. Baccharis pilularis	1	N	UPL
3. Coastaderia selloana	2	Y	UPL
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	70	Y	OBL
2. Frankenia salina [grandifolia]	30	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum Ø % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 X No _____

Remarks:

SOIL

Sampling Point: 24

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	organic							
1-14	10YR 4/4	40	2.5YR 4/4	60	C	M	silty clay	prominent mottles

[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)
- X 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: hardpan

Depth (inches): 14

Hydric Soil Present? Yes X No ___

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 25

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.638335 Long: -117.95015 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PEMCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes Y No _____
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes Y No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia	2	y	FACW
2.			
3.			
4.			
5.			
	2 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Frankenia salina [grandifolia]	60	y	FACW
2. Salicornia virginica	40	y	OBL
3. Pulicaria paludosa	<1	n	UPL
4. Malvella leprosa	5	n	FAC
5. Cirsium vulgare	10	n	FACU
6.			
7.			
8.			
	116 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

- y 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 Y No _____

Remarks:

SOIL

Sampling Point: 25

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5YR 6/3	100					silt	
3-6	2.5Y 5/3	60	2.5YR 4/8	40	C	M	silty clay	prominent mottles
6-9	2.5Y 5/3	100					silty clay	
9-12	2.5Y 5/3	90	2.5Y 8/1	10	D	M	silty clay	

[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)
- X 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 X No ___

Remarks:

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**)
- X 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 X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes Y No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banniacy Ranch State: CA Sampling Point: 26

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.638212 Long: -117.94977 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes Y No _____
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes Y No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia [viminea]	20	y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus sp.	50	y	OBL or FACW
2. Heliotropium curassavicum	30	y	OBL
3. Medvella leprosa	10	n	FAC
4. Pulicaria paludosa	<1	n	UPL
5.			
6.			
7.			
8.			
	91 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 9 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 26

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/4	70	10YR 6/8	30	C	M	Silty clay	prominent mottles
10-16	10YR 5/3	100	-	-	-	-	Silty clay	

[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)
- X 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 X No _____

Remarks:

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**)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 27

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.637756 Long: -117.94922 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes Y No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix gooddingii	95	Y	OBL
2.			
3.			
4.			
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia [pimeana]	20	Y	FACW
2. Cotula coronopifolia	5	Y	UPL
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Malvella leprosa	<1	N	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum ~100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

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 = _____

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 Y No _____

Remarks:

SOIL

Sampling Point: 27

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
0-6	10YR 4/3	50	10YR 5/6	50	C	M	clay	distinct mottles

[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)
- X 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: hard soil

Depth (inches): 6

Hydric Soil Present? Yes X No ___

Remarks:

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**)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 28

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.63760438 Long: -117.94914348 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	95	Y	OBL
2. Salix lasiolepis	5	N	FACW
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Cortaderia selloana	90	Y	UPL
2.			
3.			
4.			
5.			
	90 = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 95	x 1 = 95
FACW species 5	x 2 = 10
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species 90	x 5 = 450
Column Totals: 190 (A)	555 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 28

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	organic							
4-7	10YR 4/3	50	10YR 5/6	50	C	M	clay	distinct mottles
7-10	10YR 5/3	100					sandy clay	

[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)
- X 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: roots

Depth (inches): 10

Hydric Soil Present? Yes X No ___

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 29

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.636254 Long: -117.94776 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam 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 4 No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia	20	y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bassia hyssopifolia	15	n	FAC
2. Distichlis spicata	65	y	FACW
3. Heliotropium curassavicum	5	n	OBL
4. Frankenia salina [grandifolia]	10	n	FACW
5. Marrella leprosa	2	n	FAC
6.			
7.			
8.			
	97 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 X No _____

Remarks:

SOIL

Sampling Point: 29

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					clay	
12-13	10YR 3/1	100					clay	

[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: hardpan

Depth (inches): 13

Hydric Soil Present? Yes ____ No X

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No N Depth (inches): ____

Water Table Present? Yes ____ No N Depth (inches): ____

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

Wetland Hydrology Present? Yes ____ No N

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 30

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.63606 Long: -117.94789 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PSSCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix gooddingii	90	Y	OBL
2.			
3.			
4.			
	90 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 X No _____

Remarks:

SOIL

Sampling Point: 30

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/3	60	10YR 6/6	40	C	M	clay	distinct mottles

[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)
- X 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 X No ___

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 31

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.636599 Long: -117.95028 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes Y No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	85	Y	OBL
2. Frankenia salina [grandifolia]	2	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 13% % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 X No _____

Remarks:

SOIL

Sampling Point: 31

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/3	50	10YR6/8	50	C	M	clay	prominent mottles
5-9	10YR 4/3	100					clay	

[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)
- X 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: hardpan

Depth (inches): 9

Hydric Soil Present? Yes X No ___

Remarks:

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**)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 32

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.637099 Long: -117.9502 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PSSCx

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix gooddingii	10	y	OBL
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia [viminea]	40	y	FACW
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	35	y	OBL
2. Frankenia salina [grandifolia]	30	y	FACW
3. Euthamia occidentalis	30	y	OBL
4.			
5.			
6.			
7.			
8.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 32

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/3	75	10YR 6/4	25	C	M	clay	faint mottles

[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 X

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 33

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.637 Long: -117.95192 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PEMCx

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	40	Y	OBL
2. Frankenia salina [grandifolia]	60	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 X No _____

Remarks:

SOIL

Sampling Point: 33

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/3	90	10YR 6/4	10	C	M	clay	faint mottles
1-16	10YR 4/3	100					clay	

[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 X

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 34

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.637037 Long: -117.95193 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	40	Y	OBL
2. Frankenia salina [grandifolia]	60	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Remarks:

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 X No _____

SOIL

Sampling Point: 34

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR4/3	70	10YR6/4	30	C	M	clay	faint mottles
2-16	10YR4/3	100					clay	

[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 X

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 35

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.636278 Long: -117.95291 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	80	Y	OBL
2. Frankenia salina [grandifolia]	30	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	110	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 35

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR4/3	100					clay	
14-16	10YR4/3	80	10YR5/6	20	C	PL	clay	distinct mottles

[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 X

Remarks:

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)
- Y FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 36

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.6316758 Long: -117.95279 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PEMCx

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Frankenia salina [grandifolia]	30	Y	FACW
2. Salicornia virginica	70	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 36

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR5/2	100					clay	
12-16	10YR 5/2	80	10YR5/8	40	C	M	clay	prominent mottles

[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 X

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 37

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ 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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes Y No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia [viminea]	40	Y	FACW
2.			
3.			
4.			
5.			
	40 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Frankenia salina [grandiflora]	70	Y	FACW
2. Salicornia virginica	30	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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:

SOIL

Sampling Point: 37

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10Y 5/1	60	N 8/-	38	D	M	clay	white streaking; prominent; gleyed
0-6			10YR 5/6	2	C	M		prominent mottles
6-14	10YR 4/3	100					Clay	
14-16	10YR 4/3	70	10YR 5/6	30			clay	distinct mottles

[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)
- X 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 X No ___

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 38

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.63532702 Long: -117.95092061 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PSSCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	60	y	OBL
2. Frankenia salina [grandifolia]	5	n	FACW
3. Mesembryanthemum crystallinum	2	n	UPL
4.			
5.			
6.			
7.			
8.			
	67 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 33 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 38

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR5/2	100					clay	
16-18	10YR5/2	90	10YR7/8	10	C	M	clay	prominent mottles
18-20	10Y 5/1	100					clay	gleyed matrix

[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 X

Remarks:

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)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 39

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.63498 Long: -117.95039 Datum: NAD83

Soil Map Unit Name: tidal flats 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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	40	Y	OBL
2. Batis maritima	5	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 55 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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 = _____

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 X No _____

Remarks:

SOIL

Sampling Point: 39

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	2.5Y 5/4	100					Sand	
18-20	10Y 4/1	100					sand	gleyed matrix

[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 X

Remarks:

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**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/16/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 40

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.634505 Long: -117.950254 Datum: NAD 83

Soil Map Unit Name: tidal flats NWI classification: PUBHx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes Y No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	40	Y	OBL
2. Batis maritima	5	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 55 % 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 Y No _____

Remarks:

SOIL

Sampling Point: 40

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/2	100					clay	
6-8	10YR 5/2	70	10YR 7/8	30	C	M	clay	prominent mottles

[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: hard soil

Depth (inches): 8

Hydric Soil Present? Yes ____ No X

Remarks:

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**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/22/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 41

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.63427534 Long: -117.95119965 Datum: NAD83

Soil Map Unit Name: Riverwash NWI classification: E2EMPx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia Virginica	25	Y	OBL
2. Frankenia salina [grandifolia]	5	n	FACW
3. Batis maritima	85	Y	OBL
4.			
5.			
6.			
7.			
8.			
	115 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

X 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 X No _____

Remarks:

SOIL

Sampling Point: 41

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR3/4	95	5YR3/4	5	C	M	Sandy clay	Prominent Mottles

[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)
- X 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 X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes X No ___ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Surface water adjacent to soil test pit

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/22/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 42

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): C Lat: 33.63438858 Long: -117.95097333 Datum: NAD83

Soil Map Unit Name: Riverwash NWI classification: PUBHx

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia Virginica	70	Y	OBL
2. Batis maritima	10	N	OBL
3. Frankenia salina [grandifolia]	5	N	FACW
4.			
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20 % 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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:

SOIL

Sampling Point: 42

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	5Y 3/2	99	10YR 3/4	1	C	M	clay	prominent mottles
17-20	N 2.5/-	100						

[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)
- Y 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 Y No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- Y Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- Y 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)
- Y FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes Y No ___

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

Remarks:

Surface water at lower elevation in closed depression

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/22/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 43

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.63380235 Long: -117.95067477 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: E2USNx

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 Y	No _____	**Is the Sampled Area within a Wetland?** Yes Y No _____
Hydric Soil Present?	Yes Y	No _____	
Wetland Hydrology Present?	Yes Y	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Batis maritima	40	Y	OBL
2. Salicornia Virginica	45	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 43

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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 Y No _____

Remarks:

Unable to dig soil test pit due to open water filling the depression. assumed soils are hydric due to presence of water in dry season (tidal influence).

HYDROLOGY

Wetland Hydrology Indicators:

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

- Y Surface Water (A1)
- Y High Water Table (A2)
- Y 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)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/22/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 44

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.63879628 Long: -117.94804788 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PSSCx

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 Y No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No Y	
Wetland Hydrology Present?	Yes _____ No Y	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	60	Y	OBL
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis salicifolia	50	Y	FACW
2. Cortaderia selloana	50	Y	UPL
3.	50		
4.			
5.			
	100	= Total Cover	
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 44

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR3/2	100					clay	

[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: hard soil

Depth (inches): 4

Hydric Soil Present? Yes ____ No X

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 7/22/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 45

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): C Lat: 33.637539333 Long: -117.951616 48 Datum: NAD83

Soil Map Unit Name: tidal flats NWI classification: PEMCx

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes Y	No _____	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	60	Y	OBL
2. Frankenia salina [grandifolia]	40	Y	FACW
3. Conium maculatum	5	N	FACW
4.			
5.			
6.			
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

- Y 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 X No _____

Remarks:

SOIL

Sampling Point: 45

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR4/2	98	2.5YR 4/8	2	C	M	clay	prominent mottles

[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)
- X 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 X No ___

Remarks:

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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 6/25/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 46

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): shallow depression Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.624 71377 Long: -117.9422 0318 Datum: NAD 83

Soil Map Unit Name: Beaches 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 X, 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 X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
Area is a depressional landscape feature

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 20x20)			
1. Isocoma menziesii	5	y	UPL
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 20x20)			
1. Distichlis spicata	70	y	FACW
2. Carpobrotus edulis	20	n	UPL
3. Bromus madritensis ssp. rubens	1	n	NI *
4. Melilotus sp. **	15	n	FAC
5.			
6.			
7.			
8.			
	106 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 70	x 2 =	140
FAC species 15	x 3 =	45
FACU species	x 4 =	
UPL species 25	x 5 =	125
Column Totals: 110 (A)		310 (B)

Prevalence Index = B/A = 2.82

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

X 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 X No _____

Remarks:
* Insufficient information available to determine indicator status in this region. Nationally, tentatively assigned FACU.
** Plants dead and dry; unable to identify to species. However, Melilotus indica had previously been observed in the area.

SOIL

Sampling Point: 46

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	2.5Y5/4	100					sand	
2-16	2.5Y 4/4	99	5YR5/6	1	C	M	sandy clay	

[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)
- X Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Cobble

Depth (inches): 16

Hydric Soil Present? Yes _____ No _____

Remarks:

Area is a depressional landscape feature that is seasonally ponded. This is a problematic hydric soil condition. Ponding was observed during the wet season.

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**)
- X 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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

water sheet flows from surrounding area and ponds here.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 6/25/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 47

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): gully Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 33.625562600 Long: -117.94146071 Datum: NAD83

Soil Map Unit Name: Myford Sandy loam (9-30% slopes, eroded) 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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	90	Y	FACW
2.			
3.			
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 20x30)			
1. Carpobrotus edulis	20	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 90	x 2 =	180
FAC species	x 3 =	
FACU species	x 4 =	
UPL species 20	x 5 =	100
Column Totals: 110 (A)		280 (B)

Prevalence Index = B/A = 2.55

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

X 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 X No _____

Remarks:

SOIL

Sampling Point: 47

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	10YR 5/3	100					Sand	

[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 X

Remarks:

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**)
- X 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 X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 9/30/09

Applicant/Owner: Newport Banning Ranch State: CA Sampling Point: 48

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.64192 Long: -117.94872 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Frankenia Salina [grandifolia]	90	Y	FACW
2. Salicornia virginica	5	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

Y 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 Y No _____

Remarks:

SOIL

Sampling Point: 48

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								organic
2-6	2.5Y 2/2	100					silty loam	
6-14	2.5Y 2/2	100					silty loam	

[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 X

Remarks:

Some occassional redox concentrations were observed in thin laminations. Less than 1%

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 Y Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Newport Banning Ranch (Newport J015) City/County: Newport Beach/Orange Sampling Date: 9/30/09

Applicant/Owner: Newport Banning Ranch. State: CA Sampling Point: 49

Investigator(s): Gary Medeiros, Allison Rudalevige Section, Township, Range: N/A - "Santiago De Santa Ana" land grant

Landform (hillslope, terrace, etc.): closed depression Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): C Lat: 33.64223 Long: -117.94956 Datum: NAD83

Soil Map Unit Name: Bolsa silt loam NWI classification: PEMCx

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 X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Salicornia virginica	95	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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 = _____

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 X No _____

Remarks:

Bare ground includes dead vegetation.

SOIL

Sampling Point: 49

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-12	2.5Y 2/2	95-98	10YR 4/6	2-5	C	M	silty loam	prominent mottles

[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)
- X 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 X No ___

Remarks:

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)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Closed depression covered with vegetation.

ATTACHMENT D

SOIL SURVEY

The soil classifications identified below was obtained from the U.S. Department of Agriculture, Natural Resources Conservation Service. The Official Soil Series Descriptions were obtained from the Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture.

Beaches

Beaches consist of sandy, gravelly, or cobbly coastal shores that are washed and rewashed by tidal and wave action. These areas may be partly covered with water during high tides or stormy periods. They support little or no vegetation and have no agricultural value. Some are excellent recreational areas. Runoff is very slow and the erosion hazard is high.

Bolsa Series

The Bolsa series is a fine-silty, mixed, superactive, calcareous, thermic Aquic Xerofluvent. It consists of deep, somewhat poorly drained soils formed in mixed alluvium. These soils are in flood plains and basins. The mean annual precipitation is about 13 inches and the mean annual temperature is about 62 degrees F (°F). The typical pedon is Bolsa silt loam, drained, fallow. (Colors are for dry soil unless otherwise noted.)

Range in Characteristics:

The soil between depths of 4 and 12 inches usually is moist in some part from sometime in November until sometime in May and is dry all the rest of the year if not irrigated. The mean annual soil temperature at depth of 20 inches is about 62 °F. The soil is saturated within 40 to 60 inches of the surface from about February to May unless drained. The soil is calcareous to a depth of 40 inches or more and is mildly or moderately alkaline. The 10- to 40-inch section averages 18 to 30 percent clay and less than 15 percent fine sand or coarser particles. Organic matter decreases irregularly as depth increases.

The A horizon is light brownish gray and pale brown in 10YR hue. It ranges from sandy loam to silty clay loam.

The C horizon is light gray, light brownish gray or pale brown in 10YR or 2.5Y hue. It has distinct or prominent mottles below a depth of about 30 inches. This horizon is mainly silt loam and silty clay loam but has thin strata of sandier material in some pedons. It has buried A horizons in many pedons.

Drainage and Permeability:

These soils are somewhat poorly drained; have slow runoff; and have moderately slow permeability. Many areas have been drained by the lowering ground water levels and by pumping or by flood control channels.

Capistrano Series

The Capistrano series is a coarse-loamy, mixed, superactive, thermic Entic Haploxeroll. It consists of very deep, well drained soils that formed in alluvium from sedimentary or granitic sources. Capistrano soils are on alluvial fans and flood plains in small valleys. The mean annual precipitation is about 19 inches and the mean annual air temperature is about 62 degrees Fahrenheit (°F).

Range in Characteristics:

The mean annual soil temperature is 60 degrees to 65°F at depth of 20 inches and the soil temperature is usually not below 47°F at any time. The soil between depths of 8 and 25 inches is continuously dry in all parts from late April or May until late October and is usually moist in some part all the rest of the year. The 10- to 40-inch control section and usually all parts of the profile are sandy loam, coarse sandy loam or fine sandy loam and have less than 18 percent clay. The average combined silt, very fine sand and clay is assumed to be less than 50 percent. No distinct stratification is present. Rock fragments in the control section range from 0 to 3 percent, by volume, and are usually less than 3 inches in diameter.

The A horizon is dark brown, brown, grayish brown, or dark grayish brown in 10YR hue. It is assumed to have 1.5 to 3 percent organic matter in the upper 10 inches and organic matter decreases gradually to less than 1 percent at a depth of 20 inches. This horizon has weak granular or weak subangular blocky structure or is massive. It is neutral to medium acid.

The C horizon is brown, light yellowish brown, brownish yellow, or grayish brown. It is moderately acid to slightly alkaline and is non-calcareous.

Drainage and Permeability:

Capistrano soils are well drained, have slow to medium runoff, and have moderately rapid permeability.

Marina Series

The Marina series is a mixed, thermic Lamellic Xeropsamment. It has a grayish brown and brown, slightly and moderately acidic, loamy sand A horizon; a light brown, moderately and strongly acidic, loamy sand B2 horizon with lamellae; and a light brown and pink, moderately acidic, sand C horizon.

Range in Characteristics:

The mean annual soil temperature is about 59 to 62 degrees Fahrenheit (°F) and the soil temperature usually is not below 47°F at any time. The mean summer soil temperature is about 65 to 70°F and the mean winter soil temperature is about 55 to 60°F. The soil between depths of about 12 and 35 inches is usually dry all of the time from late April or May until November and is moist in some or all parts the rest of the year. Rock fragments are lacking and textures throughout the profile are sand to loamy fine sand. Many pedons are about pH 5.7 to 6.3 and tend to be less acidic in the uppermost and lower most horizons. The full range of reaction is neutral to strongly acid.

The A horizon is pale brown to dark yellowish brown (10YR 6/2, 6/3, 5/2, 5/3, 5/4, 4/3, 4/4). It has less than 1 percent organic matter in all parts or less than 1 percent below a depth of 5 inches. This horizon is massive or single grained or has granular or crumb structure.

The B2 horizon is light brown to strong brown (7.5YR 6/4, 5/4, 4/4, 5/6). It is massive and slightly hard or hard and slightly brittle. This horizon has brown or reddish brown lamellae $^1/_4$ to $^3/_4$ inch thick. The lamellae are thinner and more distinct from the matrix in the upper part of the horizon and become generally thicker and less distinct with depth. Clay bridges in the lamellae are moderately thick to thick and the lamellae are hard or very hard when dry and sticky when

wet. The aggregate thickness of the lamellae is about 2 to 5 inches and the lamellae are about 2 to 6 inches apart. The matrix has some thin clay bridges.

The C horizon is very pale brown to light brown (10YR 7/3, 7/4, 6/3, 6/4; 7.5YR 7/2, 7/4, 6/4). It is sand or coarse sand and is soft when dry. Lamellae in this horizon become increasingly indistinct and more discontinuous with increasing depth.

Drainage and Permeability:

Marina soils are somewhat excessively drained; have slow to rapid runoff; and have moderate permeability. The soil above the B2 horizon is wet for several days to a week or more after periods of unusually heavy precipitation.

Myford Series

The Myford series is a fine-loamy, mixed, superactive, thermic Typic Palexeralf. It consists of deep, moderately well drained soils formed on terraces. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 62°F.

Range in Characteristics:

The solum ranges from 45 to 75 inches thick. Mean annual soil temperature at a depth of 20 inches is 60 to 63°F. The soil between depths of about 5 and 15 inches is usually moist in some part from about November 15 until late May, and is continuously dry the rest of the year.

The A horizon is pinkish gray or light brown, light brownish gray, pale brown, grayish brown or brown in 7.5YR or 10YR hue. It is sandy loam, or fine sandy loam. This horizon has weak structure or is massive and ranges from strongly acid to slightly acid. The A3 horizon is one unit higher in value than the A1 horizon.

The Bt horizon is brown, dark brown, or yellowish brown in 7.5YR or 10YR hue. It is sandy clay or heavy clay loam in the upper part and sandy clay loam or clay loam in the lower part and averages 28 to 30 percent clay in the entire horizon. The upper boundary of the Bt horizon is abrupt and the clay increase from the A horizon to the Bt horizon is 18 to 28 percent. This horizon has prismatic or angular blocky structure. It ranges from medium acidic to moderately alkaline in the upper part and is moderately alkaline in the lower part. Exchangeable sodium is 15 to 35 percent below depth of one meter.

Drainage and Permeability:

Myford soils are moderately well drained; have medium to rapid runoff; and have very slow permeability.

Pits

Pits are open excavations from which soil and underlying material, mostly sand and gravel, have been removed for construction. Present land use is construction material, idle land, or ground water recharge if these areas are in a streambed.

Riverwash

Riverwash consists of areas of unconsolidated alluvium, generally stratified and varying widely in texture, recently deposited by intermittent streams, and subject to frequent changes through stream overflow. These are sandy, gravelly, cobbly, and bouldery deposits that support little or no vegetation. Runoff is generally rapid, and the erosion hazard is high. Deposition and removal of fresh alluvium are common. Riverwash has little or no agricultural value. Present use is watercourses, ground water recharge, sand and gravel pits, and wildlife habitat.

Tidal Flats

Tidal flats are nearly level areas adjacent to bays and lagoons along the coast. Periodically, they are covered by tidal overflow. Some of the higher areas are covered only during very high tides. Tidal flats are stratified clayey to sandy deposits. They are poorly drained and are high in salts. The vegetation varies from none in the low areas to sparse, salt-tolerant plants in the higher areas. Runoff generally ponds and deposition from surrounding areas is a hazard.