DELINEATION OF POTENTIAL JURISDICTIONAL WETLANDS AND "OTHER WATERS"

GIACOMINI WETLAND RESTORATION PROJECT

MARIN COUNTY, CALIFORNIA



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INTRODUCTION

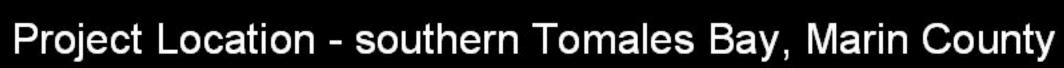
This report describes the methods and results of a delineation of the waters of the United States, including special aquatic sites such as wetlands, for the Giacomini Wetland Restoration Project (Project). Point Reyes National Seashore (Seashore), a unit of the National Park Service (Park Service), will be preparing an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for this Project. The Project proposes to restore natural hydrologic and ecological processes and functions to a historic coastal marsh that was diked in the 1940s for operation of a dairy. The Park Service purchased the Waldo Giacomini dairy ranch (Giacomini Ranch) in 2000 for the purpose of wetland restoration. Since that time, the Park Service has been working on assessing existing conditions and initiating the planning process. As part of the EIS/EIR, the Seashore must consider whether this Project could impact sensitive vegetation communities such as wetlands, as well as special status wildlife and plant species, water quality, and other environmental and socioeconomic factors. A preferred restoration alternative has not been selected yet, however, most of the preliminary alternatives involve some degree of levee and berm alteration and/or removal and grading activities. Information from this report will be used to assess potential impacts of the Project to wetlands and waters subject to regulatory oversight by the U.S. Army Corps of Engineers (Corps).

The Project Area is located in the southern portion of the Tomales Bay watershed in the county of Marin west of the town of Point Reyes Station and east of the town of Inverness Park (Figure 1). It incorporates the Giacomini Ranch proper, Olema Marsh, portions of Levee and Bear Valley Road, and undiked marsh areas directly adjacent to the Giacomini Ranch. The Delineation Study Area expands the Project Area by including areas directly adjacent that might be impacted by restoration activities (Figures 1 and 2). The goal of this study was to map and describe areas within the Delineation Study Area under federal jurisdiction pursuant to Section 404 of the federal Clean Water Act and Section 10 of the Rivers and Harbors Act.

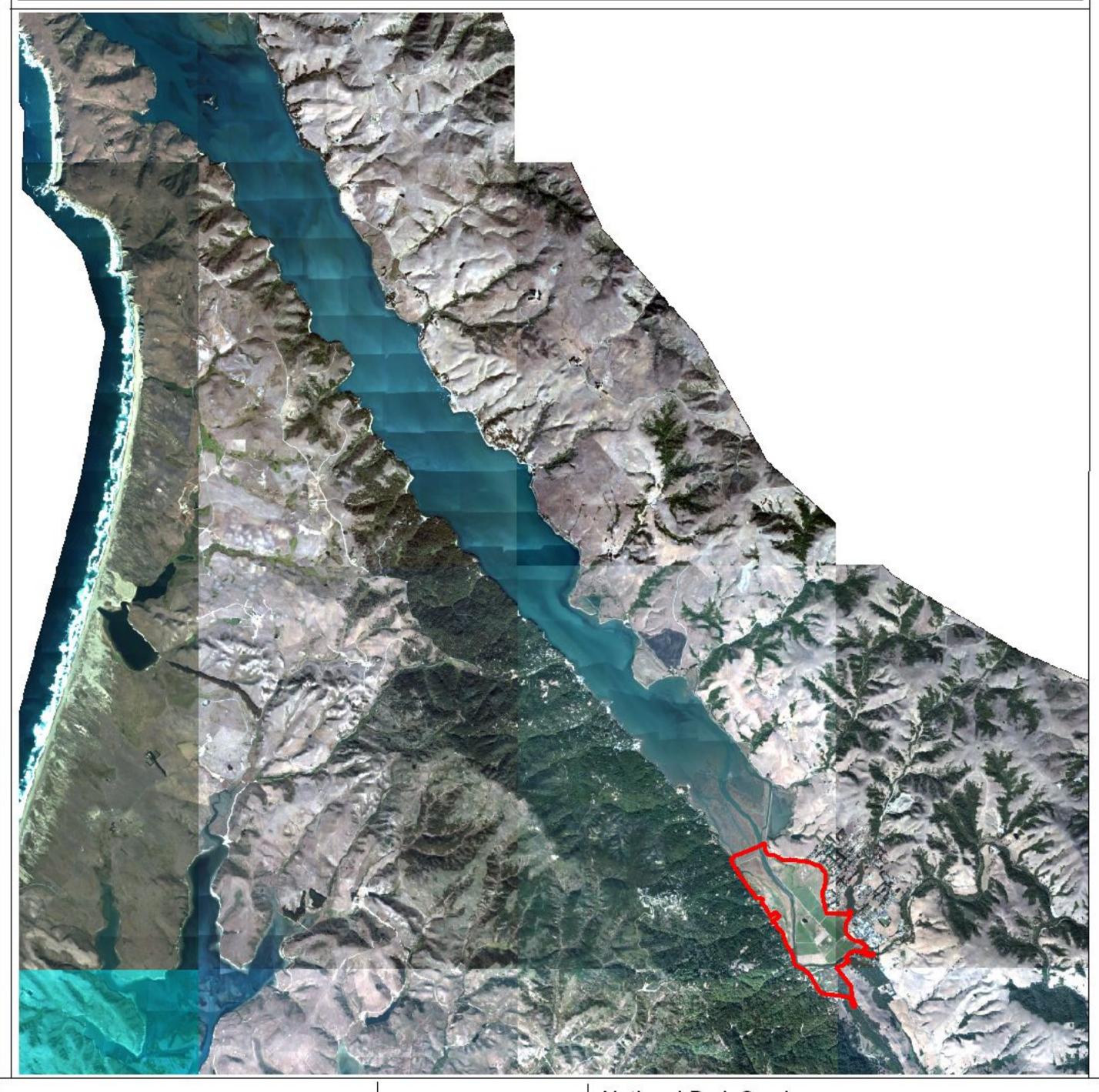
Background Information on Project and Project Area

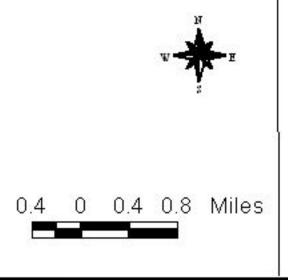
The Park Service is proposing a 563-acre wetland restoration project at the Giacomini Ranch and Olema Marsh in the southern end of Tomales Bay in Marin County, California (Figure 1). The Park Service acquired the 563-acre Giacomini Ranch in February 2000 through a combination of Congressional appropriations and funding from the California Department of Transportation (CalTrans). The Giacomini Ranch is located in the north district of the Golden Gate National Recreation Area (GGNRA), which is administered by the Seashore. The Giacominis have been operating a dairy ranch on this property since the 1940s when they constructed levees on Lagunitas Creek and, later in the 1960s, Tomasini Creek. Prior to that, the mouth of the Tomales Bay watershed was largely a combination of subtidal and intertidal habitat, with the latter increasing substantially after the 1860s due to increased sedimentation caused by watershed disturbances such as logging, agriculture, etc. As part of the purchase agreement with the Giacominis, the Giacomini family was granted a reservation of use agreement until 2007 on

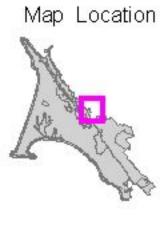
Giacomini Wetland Restoration Project











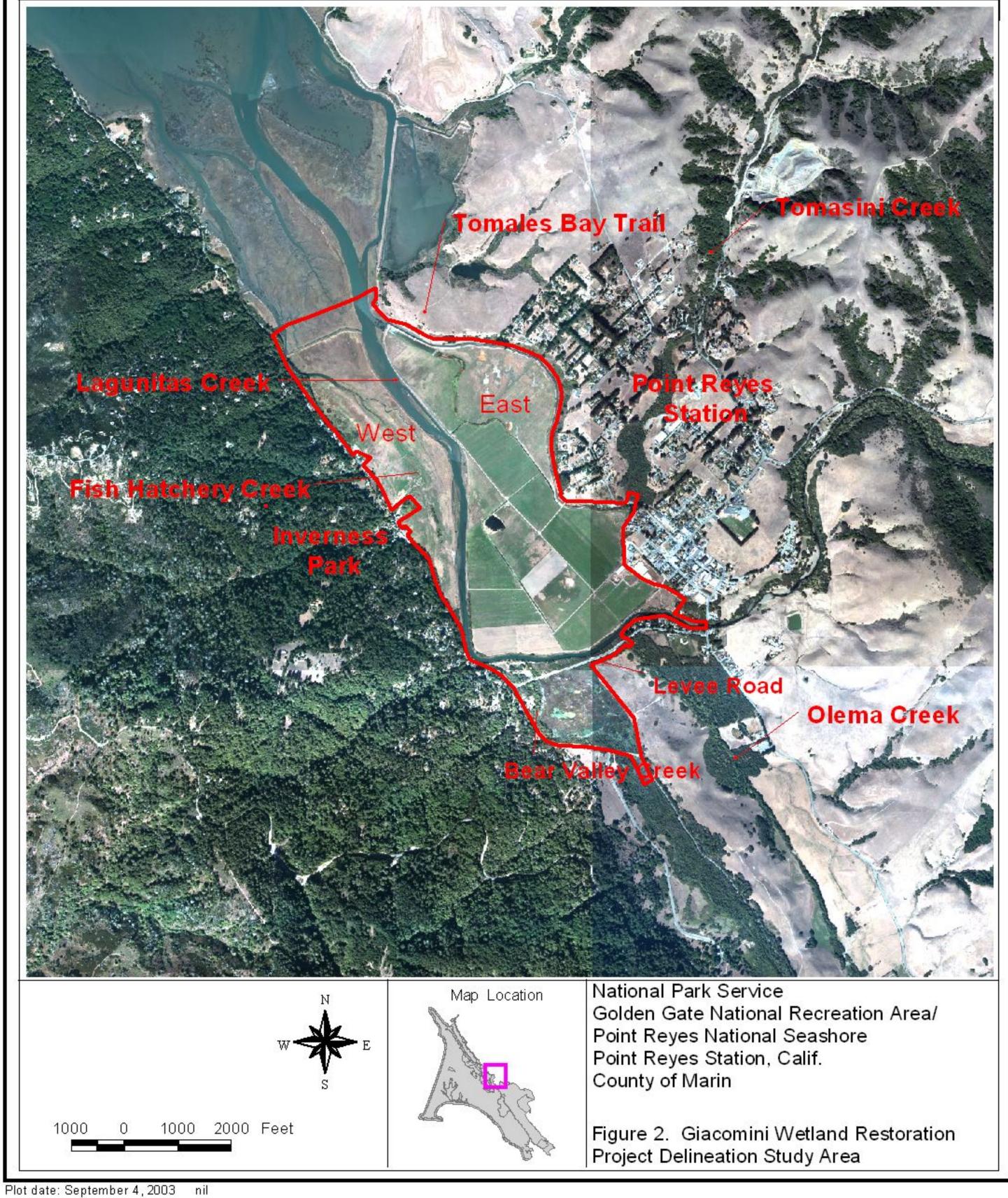
National Park Service Golden Gate National Recreation Area/ Point Reyes National Seashore Point Reyes Station, Calif. County of Marin

Figure 1. Location of Giacomini Wetland Restoration Project in southern Tomales Bay.

Giacomini Wetland Restoration Project

Delineation Study Area





approximately 463 acres. The remaining 100 acres are already under Park Service management. These 100 acres are located in the northwestern corner of the Project Area in the northern portion of the West Pasture: Lagunitas Creek bisects the pasturelands into two pasture areas that have been termed the East and West Pastures (Figure 1).

Since purchase of the property in 2000, the Seashore has been moving forward with the environmental planning process. Baseline studies on existing wildlife, vegetation, wetland, and cultural resources have been or are being conducted. Through integration of this baseline information with restoration science tenets, Park Service directives and management policies, and mitigation and contractual obligations, the Seashore has identified one primary project objective -- specifically, restoration of natural hydrologic tidal and freshwater processes, thereby enabling restoration of ecological processes and functions. Public and agency scoping for the environmental document – a joint EIS/EIR -- ended in January 2003. State ownership of land below the Ordinary Higher Water mark in Lagunitas Creek triggered the need to conduct a joint federal/state planning process. State Lands Commission agreed to participate in the planning process as the lead California Environmental Quality Act (CEQA). The Park Service will act as the lead National Environmental Policy Act (NEPA) agency and principal project manager. Two of the alternatives include restoration in Olema Marsh, a 63-acre freshwater marsh that is owned by the non-profit organization, Audubon Canyon Ranch. Restoration would require alteration to Levee Road and possibly Bear Valley Road and the White House Pool County park that is owned by the state of California Wildlife Conservation Board and leased by the County of Marin Parks and Open Space District. The Park Service has been working collaboratively with Audubon Canyon Ranch, the County of Marin Public Works department, and the Open Space district, as well as the Gulf of the Farallones National Marine Sanctuary, whose jurisdiction includes Tomales Bay, throughout the environmental planning process.

In 2003, the Park Service held a series of internal workshops designed to prioritize restoration objectives based on a number of factors, including mitigation requirements, project Purpose, project Goals, and scoping comments and concerns. A hydrologic consulting firm was hired in spring 2003 to investigate existing hydrologic conditions and to develop and perform hydrodynamic modeling of preliminary restoration and public access concepts. During spring 2004, the Park Service conducted a number of workshops with adjacent landowners, regulatory agencies, local and state agencies and organizations, the general public and wetland restoration experts. The objective of these workshops was to gather feedback from these various groups on the preliminary restoration and public access concepts and to use this feedback to refine alternatives prior to inclusion and analysis in the environmental document. At this point, the Seashore has finalized the restoration components, but is still collecting information regarding technical feasibility and land use/noise impacts that will better enable the Park Service to refine the public access component.

The restoration and public access concepts developed to date involve various degrees of hydraulic and/or topographic alterations, such as partial levee breaching; complete levee removal; lowering and regrading levees; removal of tidegates, spillways and other

infrastructure; removal of sediment to lower elevations; installation of larger culverts or bridges; construction of paved or unpaved paths and viewing platforms/elevated overlooks; revegetation of selected areas; creation of freshwater marsh, and creation of high marsh or upland areas to serve as high tide refugia habitat for bird species such as black rails and the California clapper rail. The Seashore anticipates that, due to construction timing constraints, restoration will probably be phased over a three-year period, with restoration on the 100 acres already managed by the Park Service planned for 2006. Preparation of the environmental document will begin in spring 2005.

MATERIALS AND METHODS

Background Information on Jurisdiction of Federal and State Regulatory Agencies

Section 404

"Waters of the United States" has become the standard term used to classify all areas under federal jurisdiction pursuant to Section 404 of the Clean Water Act. Historically, the U.S. Army Corps of Engineers (Corps) has exerted jurisdiction over a broad scope of waters, including territorial seas; coastal and inland "navigable" lake, rivers, and streams; tributaries to navigable waters; interstate waters; and other waters such as isolated lakes and intermittent streams that could conceivably play a role in interstate commerce. Isolated "waters" are defined as non-tidal areas that are not part of a tributary to interstate or navigable waters that occur above the headwaters (average annual flow less than 5 cubic feet per second/cfs). The Corps has historically also had jurisdiction over special aquatic sites, such as vegetated shallows, mudflats, riffle and pool complexes, and wetlands that are both isolated from or adjacent to interstate and/or navigable waters and their tributaries.

Since the January 9, 2001, ruling by the Supreme Court on Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers (No. 99-1178), the Corps' jurisdiction under Section 404 has been redefined to specifically focus only on territorial seas, coastal and inland "navigable" lakes, rivers, and streams; tributaries to navigable waters; interstate waters; and waters and wetlands that are "adjacent" to interstate and/or navigable waters and their tributaries. Adjacent "waters" are those that border, neighbor, are contiguous with, or are within "reasonable proximity" to interstate and/or navigable waters and their tributaries and that can be construed to be "connected" through hydrologic, ecological, or other processes. The Corps has further refined its jurisdiction by separating "waters" such as streams into three different classes – perennial, intermittent, and ephemeral – with the latter not being subject to some of the same permitting restrictions as the first two.

For delineation purposes, waters of the United States are commonly divided into "wetlands" and "other waters of the United States," which includes territorial seas; navigable lakes, rivers, and streams; interstate waters; tributaries to navigable waters; and water bodies that could be defined as "adjacent."

Under Section 404, the Corps has defined wetlands, a special aquatic site, as:

Those areas that are inundated or saturated by surface or ground waters at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. (33 CFR 328.3)

Riffle and pool complexes, another special aquatic site, are defined as "steep gradient sections of streams" in which "rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles" (40 CFR 230.45(a)).

Section 10

Predating Section 404, the Corps' jurisdiction was limited to "waters" subject to Section 10 of the Rivers and Harbor Act (1899). The Corps continues to oversee Section 10 jurisdictional waters, which are navigable waters that are subject to the ebb and flow of the tide, and/or those that are presently used, have been used in the past, or could be used for interstate transport or foreign commerce. Section 10 jurisdiction extends to mean high water (MHW) and includes tidal areas presently subject to tidal influence, as well as unfilled areas currently behind levees that were historically below MHW.

Other Regulatory Agencies

In addition to the Corps, there are several other regulatory agencies that have jurisdiction over aquatic habitats such as wetlands, bays, coastal areas, lakes, rivers, and streams. In California, these agencies include the California Department of Fish and Game (CDFG), Regional Water Quality Control Board (RWQCB), the California Coastal Commission (CCC), and, in the San Francisco Bay area, the Bay Conservation and Development Commission (BCDC). The RWQCB has typically exerted jurisdiction over the same features as the Corps, but, in light of the SWANCC ruling, it is possible now that it will claim jurisdiction over features such as isolated wetlands and waters that the Corps no longer regulates. RWQCB's regulatory authority comes either from administration of Section 401 of the federal Clean Water Act or state legislative acts such as the Porter-Cologne Act. For this and other reasons, features delineated as potentially isolated are included in this study.

The CCC oversees implementation of the federal Coastal Act and has a much broader interpretation of wetlands subject to its purview than the Corps. The CCC uses a version of the U.S. Fish and Wildlife Service's (USFWS) Cowardin wetland classification approach (Cowardin et al.1979) that has been modified by CDFG such that presence of only one of three potential indicators is required for an area to be categorized as a wetland or aquatic feature. The Seashore, which has been inventorying its wetlands as directed by the Park Service in its 2000 Management Policies, initially used a one-parameter approach, as well, due partly to the fact that most of the Seashore is subject to CCC oversight. However, because of problems with this approach, the Seashore has now reverted to a two-parameter approach that is more in keeping with the Park Service wetland delineation methodology and the Cowardin wetland definition.

For private landowners and local and state agencies, CDFG also has some overlapping jurisdiction through issuance of Streambed Alteration Agreements. This agency has historically had a more limited jurisdiction than the Corps, focusing specifically on lakes, major tidal sloughs, rivers, and streams, where streams are defined as "....a body of water

that flows at least periodically or intermittently through a bed or channel having banks...." CDFG also typically includes riparian areas adjacent to rivers and streams within its jurisdiction.

Methodology for Delineating Section 404 Jurisdiction

In tidal areas, Section 404 jurisdiction, by definition, extends to the high tide line (HTL). According to the Corps, the HTL means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds. (33 CFR 328). The HTL for the Delineation Study Area was calculated as 8.09 ft National American Vertical Datum 1988 (NAVD88). Areas below the HTL that support more than 5 percent cover of vegetation are classified as wetlands, and non-vegetated areas are classified as "waters of the U.S."

In non-tidal areas, the Corps has jurisdiction over areas below Ordinary High Water (OHW) in water features such as navigable streams, rivers, and lakes; interstate waters; and tributaries to navigable waters. In streams, OHW typically corresponds to flooding events with recurrence intervals <1.5-2 years and is represented in all water bodies by a physical demarcation or "OHW mark" on the shore or bank that has been established by fluctuations of the water. As with tidal areas, vegetated areas (areas with > 5 percent vegetation cover) below the OHW mark are classified as wetlands.

If adjacent or bordering, neighboring, or contiguous "waters" are present above the HTL or OHW, then Corps jurisdiction extends to the limit of the adjacent feature. Corps jurisdiction in vegetated areas that are adjacent to "waters" such as bays, lakes, rivers, and streams is determined by using the three criteria outlined in the Corps of Engineers Wetlands Delineation Manual (1987 Manual; Environmental Laboratory 1987). Potential jurisdictional wetlands must meet all three criteria, which are presence of hydrophytic vegetation, hydric soils, and wetland hydrology. The soil, hydrology, and vegetation criteria used to make wetland determinations are summarized below. Unvegetated areas that are considered "adjacent" must exhibit at least two of three criteria used to delineate wetlands (i.e., hydric soils and hydrology).

Wetlands Criteria

Hydrology. An area exhibits wetland hydrology characteristics if it is inundated or if the soil is saturated at a sufficient frequency and duration to support wetland vegetation during the growing season under normal circumstances. Areas that are only episodically (< 5 percent of the growing season) inundated or saturated or never inundated or

saturated are not wetlands. Evidence of wetland hydrology is determined by presence of either one primary indicator or two secondary indicators. Primary hydrologic indicators include standing water, water table within the top 12 inches of the soil surface, or saturation within the top 12 inches of the soil surface, drift lines, sediment depositions, and drainage patterns. Standing water is recorded in inches for the average depth found within the wetland. If standing water is not present, the soil is checked for an elevated water table and/or saturation in the upper 12 inches. Examination of these indicators requires digging a soil pit to a depth of 16 inches, observing the level at which water stands or saturation occurs in the hole. If no signs of primary hydrologic indicators are present, then, secondary hydrologic indicators are used, which include oxidized root or pore channels, algal matting, water marks/water-stained vegetation, etc. Indirect indicators of hydrology must be interpreted with caution in areas with artificial hydrology such as irrigation.

Vegetation. Plant species identified were assigned a wetland indicator status according to the *National List of Plant Species That Occur in Wetlands: California (Region 0)* (Reed 1988). This indicator status refers to the probability that a particular plant species is found in wetland habitats within specific regions of the United States and was developed by USFWS in cooperation with a number of federal agencies (Table 1). Positive or negative signs are used to more specifically define frequency of occurrence in wetlands. A positive (+) sign indicates a frequency toward the higher end of a category (more frequently found in wetlands), and a negative sign (-) indicates a frequency toward the lower end of a category (less frequently found in wetlands). Some plant species are either not listed (NL), or there is insufficient information available to determine an indicator status (NI: no indicator). The initial plant list was developed in 1988 for Region 10 (California) and other regions in the United States, and a draft revision of this list was released in 1996, but it has not been finalized.

Table 1. Plant Wetland Indicator Status Classification System (Reed 1988)			
Indicator	Definition	Frequency of	
Categories		Occurrence in Wetlands	
OBL	Obligate, always found in wetlands	>99 percent	
FACW	Facultative wetland, usually found in wetlands	67-99 percent	
FAC	Facultative, equal in wetlands or non-wetlands	34-66 percent	
FACU	Facultative upland, usually found in non-wetlands	1-33 percent	
UPL/NI	Upland/No Indicator, not found in local wetlands	<1 percent	

Plants with OBL, FACW, FAC+, and FAC classifications are considered hydrophytic species. In using the routine wetland delineation method described in the 1987 *Manual*, the dominant plants in the area are listed. If more than 50 percent of the dominant species have a wetland indicator status of OBL, FACW, and/or FAC, the wetland vegetation criteria is satisfied.

Soils. An area exhibits a hydric soil characteristic if it is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor

growth and regeneration of hydrophytic vegetation. The National Technical Committee for Hydric Soils has established several criteria for hydric soils, including histosols or organic soils; soils with aquic or periaquic moisture regimes; and soils that are ponded or that are frequently flooded for a long duration during the growing season. Long duration is defined as the period of inundation related to flooding from a single event that persist for 7 days to 1 month in length, and frequently flooded refers to events that occur with a 2-year recurrence interval. A list of hydric soil series, complexes, and taxonomic inclusions for Marin County are found in the Official List of Hydric Soil Map Units for Marin County, California (SCS 1992). Many soil series or complexes will not necessarily be hydric, but will contain hydric inclusions such as drainageways.

Persistent flooding of soils creates anaerobic conditions, which changes the chemistry of the soil, causing a visual change in soil coloration. Oxygen depletion usually makes the soil darker or, in some cases, greyer such as in gleying. When ponded or saturated for long periods, iron can be leached or depleted from the soil. Areas of the soil where oxygen is introduced either when the soil drains or through oxidation of areas around roots and in pore spaces can lead to oxidation of remaining iron in soils that creates a characteristic red staining commonly referred to as mottling or oxidized pore channels or rhizospheres. The matrix and mottle colors in soils are identified using the MunsellTM Soil Color Chart (Kollmorgen Instruments Corporation 1994). The matrix color is the predominant soil color and mottles are contrasting color spots within the soil matrix. The soil chart characterizes soil color according to hue, value, and chroma. Hue measures the overall soil color, value describes the lightness or darkness of the hue, and chroma describes the amount of grayness in the color (USACE 1987). Wetland soils are characterized as those with a chroma of (2) if mottles are present and those with a chroma of (0) or (1) if no mottles are present.

The hydric soil criterion is met if soils have low-chroma and/or mottling (described above) and/or other special characteristics such as iron or manganese concretions, gleying, sulfidic odor, high organic content, or organic streaking that has resulted from prolonged inundation or saturation (USACE 1987).

"Waters of the US" Criteria

As noted earlier, areas that are flooded or ponded for a sufficient duration to actually preclude vegetation from establishing can be subject to Section 404 jurisdiction as "other waters of the U.S." Non-tidal rivers, streams, and drainages with an average annual flow of greater than 5 cfs are classified as being "below the headwaters," and areas of these rivers, streams, and drainages that are below the OHW mark are considered Section 404 jurisdictional "other waters" of the U.S. These jurisdictional features often show evidence of an OHW "mark" and a discernible "bed and bank" and can include perennial, intermittent, and ephemeral drainages. Streams or drainages with average annual flow less than 5 cfs are considered to be "above the headwaters" and are therefore considered isolated and not currently subject to Corps' jurisdiction. Other potential jurisdictional water features include "adjacent" lakes, ponds, and areas that have less than 5 percent

vegetation cover, but that still meet wetland hydrology and soil criteria or show evidence of an OHW mark.

The common definition of OHW relies principally on visual indicators of frequent flooding rather than on established stream gage data or any type of hydrologic analysis. The Corps defines OHW as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (CFR 328.3(e)).

Visual indicators can be difficult, if not impossible, to discern in shallowly entrenched systems with large floodplains (e.g., Laguna de Santa Rosa in Sonoma County) or in manipulated systems, such as those that have been subjected to mining or clearing activities or "improved" through levee construction or channelization. Determination of OHW in these types of systems must rely either entirely or to some degree on use of recorded hydrologic information such as stream gage data. Unfortunately, there are no official stream gages in the Delineation Study Area and immediate vicinity.

Methodology for Delineating Corps Section 10 Jurisdiction

Section 10 jurisdiction extends up to Mean High Water (MHW). MHW is the average height of all high tides. MHW is typically determined from the nearest tide level station and then surveyed in the field from a benchmark of known elevation. The nearest tide level station to the Delineation Study Area is the Inverness water level station formerly maintained by the National Oceanic and Atmospheric Administration (NOAA) Field and Operations Division (NOAA Station 9415020) at southern end of Tomales Bay. MHW for the Study Area was calculated to be 5.13 ft NAVD88 or 2.49 ft National Geodetic Vertical Datum of 1929 (NGVD29). Areas either currently below or historically below 5.13 ft NAVD88 were mapped as Section 10 waters using topographic contours onto digital aerial imagery in ArcView 3.3. The U.S. Coast Survey maps from 1862 were used to determine the probable historic extent of Section 10 waters, although these maps did not specify absolute elevations.

Literature Review Activities

Prior to conducting field studies, available reference materials were reviewed. These include the National Wetland Inventory (NWI) map for the Inverness quadrangle (April 1991), the Soil Survey of Marin County California (U.S. Soil Conservation Service 1985), Hydric Soils List for Marin County (U.S. Soil Conservation Service March 1992), and a wetland delineation that was conducted as part of the feasibility study in 1993 (PWA et al. 1993). Information from these types of materials is typically used to help determine where wetlands are likely to occur in the Delineation Study Area prior to field survey.

The NWI maps characterize wetlands and waters of the United States according to the Classification of Wetlands and Deepwater Habitats of the United States developed by USFWS (Cowardin et al. 1979). Wetlands mapped in the NWI are overlaid on top of USGS topographic maps and include wetland and aquatic features other than creeks and drainages. Because NWI is prepared from high-altitude aerial photography, mapped wetlands are typically those that are readily discernible in aerial photographs, such as perennially ponded marshes, stock ponds, lakes, and forested riparian areas along streams and drainages. It is less likely to incorporate seasonal or saturated wetlands that pond only seasonally or are primarily saturated through the growing season and support a lowgrowing emergent vegetation cover that is indistinct in aerial photographs from adjacent grasslands (e.g., wet meadows, flats, seeps, etc.) The accuracy of NWI maps undoubtedly varies within regions of the United States. A reassessment of a selected portion of one quadrangle (Tomales Point) by the USFWS during 2000 using interpretation of a different set of aerial photographs suggested that the initial NWI efforts may have underestimated wetland acreage by as much as 53 percent (David Schirokauer, pers comm.). A second component of assessing the adequacy of NWI for the Seashore's wetland inventory involved conducting field investigations of polygons that appeared likely to have wetlands based on the plant communities present (e.g., predominance of rushes and sedges) despite the fact that NWI had mapped no wetlands in the area. As with the USFWS remapping, these field efforts again suggested a significant underestimation of wetlands within the Seashore and the north district of GGNRA by NWI.

Other valuable tools in evaluating the potential for wetlands are the Vegetation Communities map for the Project Area (Parsons and Allen 2004) and the Soil Survey of Marin County, California (U.S. Soil Conservation Service 1985). The soil survey map can indicate potential areas where hydric soils or soils formed by wetland hydrologic processes exist. These maps either show soil types or series where all the soils within the mapped area have major horizons that are similar in composition, thickness, or arrangements, they show less definitive grouping such as complexes, which consist of two or more soils or miscellaneous areas that occur in such an intricate pattern or in such small areas that they cannot be shown separately on maps (SCS 1985). Most of these soil series and complexes contain "inclusions" of other soils from other taxonomic classes (SCS 1985). In addition to the soil survey map, the SCS often produces Hydric Soil Lists for each county, which are soils that meet the definition and criteria developed by the National Technical Committee for Hydric Soils (SCS 1992). The list for Marin County was published in 1992. This list specifies which of the soil series, complexes, and inclusions are considered hydric and also describes any "hydric landforms" within these soil groupings such as drainageways, beach, etc.

Field Survey Activities

The wetland delineation was conducted by Lorraine Parsons (wetland ecologist, Seashore) using the routine method described by the Corps (1987). Leslie Allen (wetland ecologist, Seashore), Amelia Ryan (wetland ecologist, Seashore), Chelsea Donovan

(wetland ecologist, Seashore), and Kristen Ward (wetland ecologist, Golden Gate National Recreation Area) assisted with the delineation. The delineation was conducted on the following dates in 2003 (February 14, November 19, November 25) and 2004 (February 20, March 3, March 9, March 12, April 6, April 9, May 18, June 2, August 10, and August 12). The Corps requires that data on soil, hydrology, and vegetation be recorded on standard data forms. Sampling point locations were consecutively numbered with potential jurisdictional wetland locations denoted with an "A" after the number and potential non-jurisdictional upland locations denoted with a "C" or "D" after the number. Sites with a "B" after the number were areas located at the wetland-upland boundary. Completed data forms are provided in Appendix A. A list of all plant species observed is provided in Appendix B. Potential jurisdictional wetlands and waters, as well as potential non-jurisdictional isolated features, were mapped at a scale of at least 1 inch = 200 feet on a color digital orthoguad aerial imagery using GIS (ArcView 3.3 or ArcView 8.1; ESRI). Information maps within the report were prepared at varying scales. using opaque overlays in ArcView 3.3. Formal delineation maps were prepared in ArcView 8.1 using transparent overlays at a scale of 1 inch = 200 feet, with detail maps inserted of smaller wetland features at scales varying from 1 inch = 25 feet to 1 inch = 100 feet.

Because large portions of the East Pasture are irrigated during the summer to improve forage for cattle, we felt that using hydric soil and indirect hydrologic indicators would be somewhat unreliable for delineation purposes in irrigated areas. For this reason, we installed a series of six (6) shallow monitoring wells in October 2002. The PVC wells were installed along an elevational gradient from the lowest portion of the property in the north to the highest portion in the south adjacent to the dairy facility (see figure in Appendix C). Due to ongoing agricultural activities such as mowing, manure spreading, etc., wells were strategically placed adjacent to existing infrastructure such as fences, irrigation pipes, etc. Depth of the wells ranged from 2.5 feet to 3 feet deep. Starting in January 2003, the wells were monitored on a weekly basis throughout the winter and spring through May 2003. Monitoring frequency dropped to once a month in June 2003. Monitoring is still being conducted. Data from monitoring wells were graphed using Microsoft Excel and are presented in Appendix C. Precipitation data from the Park Service's Bear Valley weather station are included to enable a comparison between groundwater levels and rainfall totals.

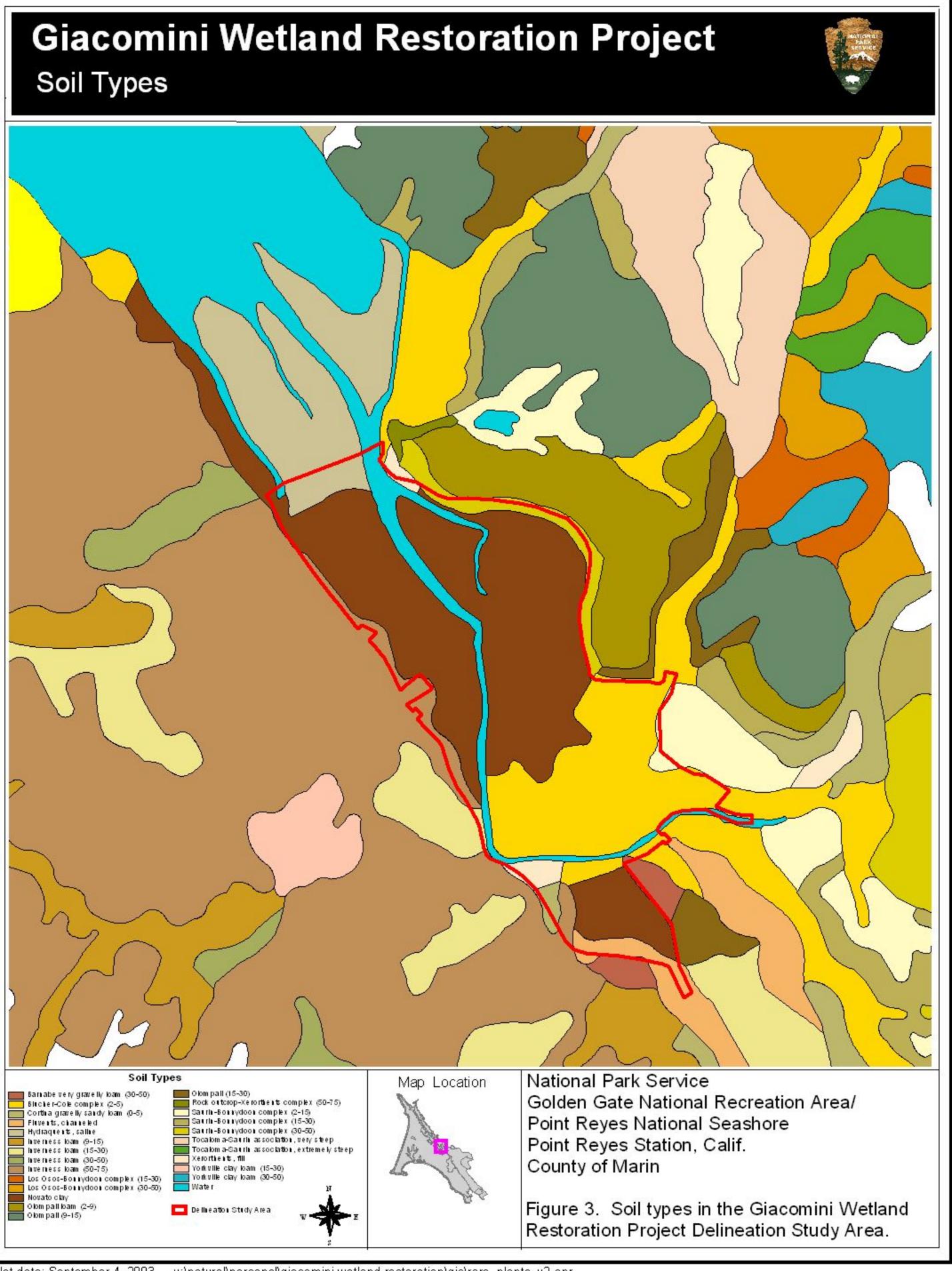
STUDY AREA BACKGROUND

Geology and Soils

The nature of the Delineation Study Area has been sharply defined by this region's unique geologic and land-use history. The San Andreas Fault, responsible for the 1906 Earthquake that devastated San Francisco, runs directly through the Delineation Study Area and Tomales Bay. Movement of the Pacific and Continental Plates has produced striking differences in the geologic nature of the lands on the west and east sides of Tomales Bay by displacing lands along this major fault as much as several hundred miles (Shuford and Timossi 1989).

The eastern portion of the Tomales Bay watershed is dominated by the Franciscan formation, composed of sandstone, graywacke, shale, some volcanic and metamorphic rock, and greenstone (U.S. Soil Conservation Service 1985). The Franciscan Formation is typically associated with the higher elevation ridges, mountains, and hills that run along Marin County's western perimeter. Directly adjacent to the Delineation Study Area lays a lower-elevation coastal terrace known as the Point Reyes Mesa. This streamshaped marine terrace is composed of marine sediments with layers of gravel alluvium (A.A. Rich and Associates et al. 1987). Soil types mapped along the terrace include Olompali loam and the Saurin-Bonnydoon complex, neither of which are characterized as hydric (U.S. Soil Conservation Service 1985; Figure 3). West of Tomales Bay on the steeply sloped Inverness Ridge – and within most of the Seashore – granitic rock such as quartz-diorite and granodiorite dominate, forming the backbone of the Point Reyes Peninsula (U.S. Soil Conservation Service 1985). Overlying the granitic rock in most areas are shale, sandstone, porcelainite, and chert, but, in some areas, the dominant parent material is mudstone, siltstone, and greenish sandstone that is referred to as the Drakes Bay or Purisma Formation (U.S. Soil Conservation Service 1985). Soils on the portion of the Inverness Ridge directly adjacent to the western boundary of the Delineation Study Area are mainly comprised of the Inverness loam series, ranging from 15 to 75 percent slopes (U.S. Soil Conservation Service 1985; Figure 3).

The Delineation Study Area is comprised primarily of low-elevation lands bounded by Inverness Ridge and the Point Reyes Mesa to the west and east and by Bear Valley to the south. Prior to the 1860s, approximately one-third to one-half of the Giacomini Ranch was actually subtidal or unvegetated intertidal habitat (PWA et al. 1993, Niemi and Hall 1996). The historic coastal salt marsh was relegated to the southeastern corner of the Giacomini Ranch near the existing dairy facility and in the Olema Marsh and Olema Creek floodplains (PWA et al. 1993). This marsh complex represented a significant percentage of the existing salt marsh present at that time in Tomales Bay, with tidal influence at that time believing to extend as far south as Bear Valley during storm tides (Evens 1993). However, during the latter half of the 19th century, sedimentation rates rose dramatically, resulting in rapid deltaic aggradation of coarse alluvium in the southern end of Tomales Bay. This increase in sedimentation probably resulted from an increase in logging and other changes in land use practices (PWA et al. 1993, Niemi and Hall



1996), but was undoubtedly exacerbated by the geologic instability characteristic of this region. It has been estimated that, between 1860 and 1950, approximately 5 vertical feet of sediment deposited within southern Tomales Bay, creating 650 acres of new vegetated intertidal habitat (PWA et al. 1993). The greatest sedimentation occurred between 1860-1910 (PWA et al. 1993). The 1906 Earthquake may have subsequently "drowned" some of this deltaic aggradation. There were reports in Bolinas Lagoon of subsidence of up to 1 foot, however, evidence of similar subsidence events in Tomales Bay were not as clear-cut (Gilbert 1908). Sedimentation in the delta continued to be high until at least the 1950s, when construction of several dams and reservoirs within the Marin Municipal Water District (MMWD)-owned portion of the Tomales Bay watershed began reducing sediment input (PWA et al. 1993, Niemi and Hall 1996).

Sedimentation continued to occur in Olema Marsh, driven by large, episodic events associated with 1982 and 1998 floods. However, Olema Marsh had already been diked in the early 1900s by construction of Levee Road, which restricted tidal influence and essentially forced this area to convert from a brackish tidal marsh to a freshwater wetland. Following construction of the levee, filling of the lands bayward of the levee also occurred. Bear Valley Creek now flows through an impounded freshwater marsh, Olema Marsh, to Lagunitas Creek through a culvert under Levee Road and a channel that has been excavated in the filled land to the north. As with many artificial systems, functioning of Olema Marsh upstream of Levee Road has deteriorated during recent years due to increased sedimentation within the marsh that has decreased hydraulic capacity and precluded flow through at least one of the culverted drainages. Olema Creek is also culverted underneath Levee Road, however, in recent years, this highly altered stream has started to reclaim its historic floodplain in Stewart's Flat and possibly reestablish some of the conditions that once led people to refer to this area as Olema Lake.

Soil types mapped within the Delineation Study Area are consistent with this area's unique history (Figure 3). The primary soil substrate in the northern 60 percent of the Giacomini Ranch and the northern 80 percent of Olema Marsh consists of Novato Clay (U.S. Soil Conservation Service 1985). Novato Clay is described as "very deep, very poorly drained soil...in saltwater marshes ...formed in alluvium derived from various kinds of rock" (U.S. Soil Conservation Service 1985). It is characterized as hydric, specifically within salt marshes (U.S. Soil Conservation Service 1992). The southernmost portion of Olema Marsh, as well as the portion of Bear Valley Creek flowing into the Marsh, consists of Fluvents, channeled, a hydric soil complex commonly formed in floodplains (Figure 3).

The southeastern corner of the Giacomini Ranch, as well as large sections of the land along Levee Road and the southern portion of Lagunitas Creek, is mapped as Blucher Cole complex (Figure 3; U.S. Soil Conservation Service 1985). The Blucher-Cole complex is also formed in alluvium from various kinds of rock, although this mapping unit is typically found in basins and on alluvial fans. Both components of this mapping unit are characterized as very deep soils that are somewhat poorly drained with seasonally high water tables and occasional periods of flooding (U.S. Soil Conservation

Service 1985). The Blucher component is characterized as hydric, specifically within drainageways (U.S. Soil Conservation Service 1992).

Soil borings conducted in 2003, however, indicate that soil patterns within the Giacomini Ranch are much more complex than the soil map would suggest. The historic salt marsh areas in the southern and eastern portions of the East Pasture typically have deep, intermixed estuarine clays and peats overlain with a thin (~0.3 –0.5 m) loam or clayey loam layer (Kamman Hydrology & Engineering, in prep.). The loams probably date to the period in which the Project Area was isolated from tidal and freshwater flow influence and started being actively farmed. The very southern portion of the East Pasture has a very thick (2.5 m) layer of silts and sands that appears to have resulted from the Giacominis' efforts to deliberately direct flood overflows from Lagunitas Creek to this portion of the property (Kamman Hydrology & Engineering, in prep.). Conversely, sediment in many of the historic subtidal areas directly adjacent to historic and current Lagunitas Creek channels are comprised of loam or silty loam overlain on interbedded silt, clays, and sands. This interbedded layer rests on a very deep layer of extremely permeable coarse-grained sands and gravels that were probably deposited by historic bedload and suspended sediment transport during storm events (Kamman Hydrology & Engineering, in prep.).

The undiked salt marsh north of the Giacomini Ranch has been mapped as almost exclusively Hydraquents, saline, with slightly smaller pockets of Novato Clay and Xerorthents, fill, at the base of the Tomales Bay trailhead, directly north of the East Pasture and the outlet of Tomasini Creek into Tomales Bay (Figure 3). Hydraquent, saline, soil types are hydric and consist of "nearly level soils along the coast" typified by "stratified deposits of silt and clay with thin layers of peat" that are "continuously waterlogged" (U.S. Soil Conservation Service 1985). Xerorthents, fill, is comprised of soil material that has been moved mechanically and mixed (U.S. Soil Conservation Service 1985). This unit was also mapped at the corner of Sir Francis Drake Boulevard and Levee Road near White House Pool and along the northern portion of Bear Valley Road (Figure 4). Xerorthents, fill, is characterized as having a hydric inclusion, Swamps.

Unlike many of the diked salt marshes in San Francisco Bay, the Delineation Study Area does not appear to have subsided much and, in some areas, may have actually aggraded due to episodic sedimentation events, flood overflows, and agricultural activities (e.g., filling, land-leveling). Subsidence or decreases in elevation on the diked Giacomini Ranch may have been minimized by not only the coarse nature of the sediments present, but the relatively rapid pace of deltaic deposition, which probably prohibited substantial vegetation recruitment and dieback and, therefore, formation of undecomposed plant material or "peat" layers. When areas are drained through diking, fine-grained sediments compress, and peat is broken down, leading to compaction of soils and often substantial lowering of elevations. Topographic information suggests that elevations in the northern end are perhaps 1-2 feet lower than the adjacent undiked marsh, while elevations at the southern end are actually slightly above intertidal elevations. In Olema Marsh, elevations have increased substantially relative to historic conditions, because, at least historically, sediment from Bear Valley Creek naturally deposited in this very "flat"

portion or reach of the creek. In addition, large episodic sedimentation events associated with the 1982 and 1998 floods contributed enough alluvium from the Inverness Ridge that the marsh's geomorphology was dramatically reshaped during this period. For example, following the 1998 flood, the course of Bear Valley Creek shifted from the western to the eastern portion of Olema Marsh.

Hydrology

From an estuarine perspective, the Delineation Study Area represents the mixing zone for oceanic tides from the Pacific Ocean and freshwater fluvial flows from several perennial/seasonal creeks and drainages, including Lagunitas, Olema, Bear Valley, Fish Hatchery, and Tomasini creeks, as well as several smaller drainages (Figure 4). Tomales Bay is characterized as a typical "classic," winter-stratified estuary, with salinities ranging from freshwater near 0-5 ppt in the winter to brackish and even saline (15-30 ppt) in the summer and fall. Both Fish Hatchery and Tomasini Creeks, which flow through the diked West and East Pastures, respectively, are tidally influenced to some degree, because their so-called "one-way" tidegate or flashboard dam structures are malfunctioning, allowing tidal inflow. The downstream portions of both Olema Creek and Bear Valley Creek are also tidal, although Bear Valley Creek is only tidally influenced in the westernmost portion of the creek (Kamman Hydrology & Engineering, in prep.). Another source of freshwater influences within the Study Area is seep flow from groundwater sources along Inverness Ridge and Point Reyes Mesa, which again relates strongly to this area's unique and unstable geologic history. These seeps either emerge from coarse alluvial layers at the base of the Point Reyes Mesa or the base of Inverness Ridge and then sheetflow out onto the relatively level pastures, drainages, or freshwater marshes (Figure 4). These freshwater influences appear to be mediated to some extent by localized subsidence and a potential influence on the groundwater table within the outer portions of the pasture from Lagunitas Creek, which is tidal (Figure 4). As noted earlier, most of the East Pasture is actively spray- or flood-irrigated during the summer to increase forage for cattle.

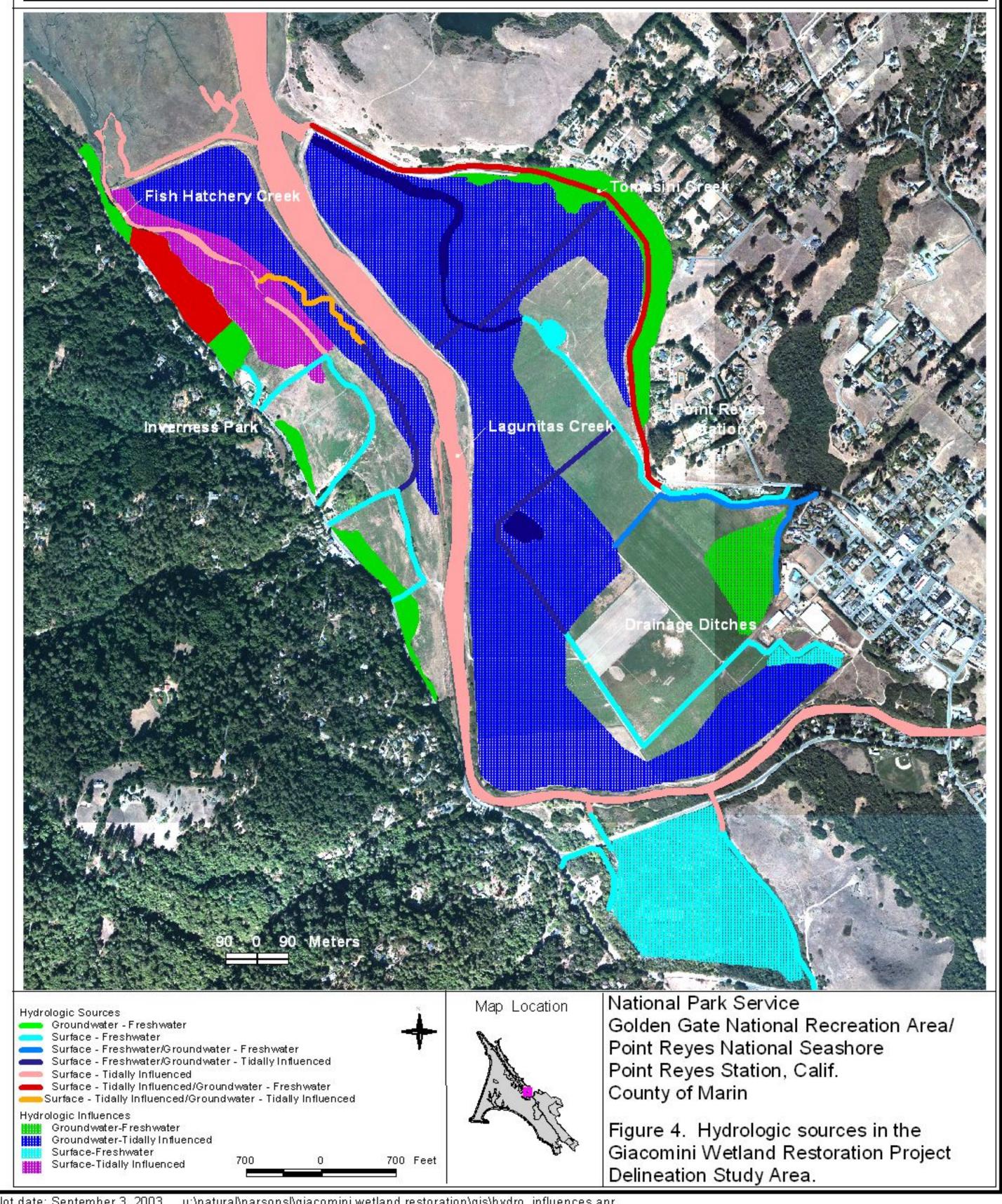
Vegetation Communities

This hydrologic complexity undoubtedly accounts for the wide variety of wetland habitats present in the Delineation Study Area, including freshwater marsh, vernal marsh, seasonal wetland, wet meadow, tidal/diked salt marsh, tidal/diked brackish marsh, moist grassland, scrub-shrub riparian, and forested riparian (Parsons and Allen 2004; Figure 5). Even some of the limited coastal scrub habitat present incorporates a mesic component, with perennial or seasonal seep flow on the Point Reyes Mesa creating a unique vegetation community dominated by both arroyo willow (*Salix lasiolepis*) and coyote brush (*Baccharis pilularis*). Approximately 50 percent of the Giacomini Ranch has been mapped as Wet Pasture (Figure 5). Wet Pasture is managed grassland dominated by grasses and herbs that are predominantly facultative or obligate hydrophytes or wetland species. Lower elevation portions of the West Pasture and a smaller portion of the East Pasture also incorporate another vegetation community, Salt Marsh Pasture, that supports

Giacomini Wetland Restoration Project

Sources of Hydrology

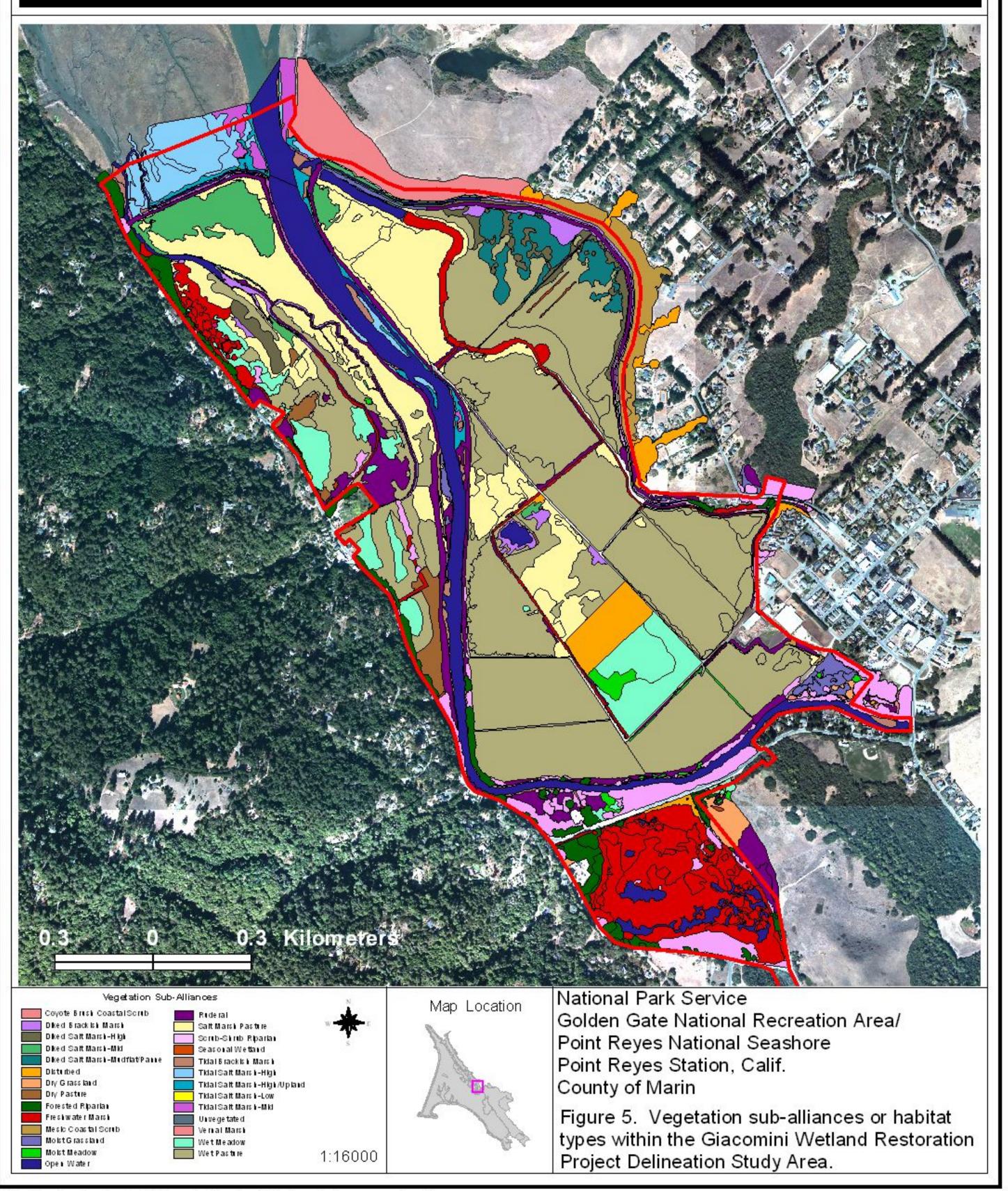




Giacomini Wetland Restoration Project

Vegetation Communities



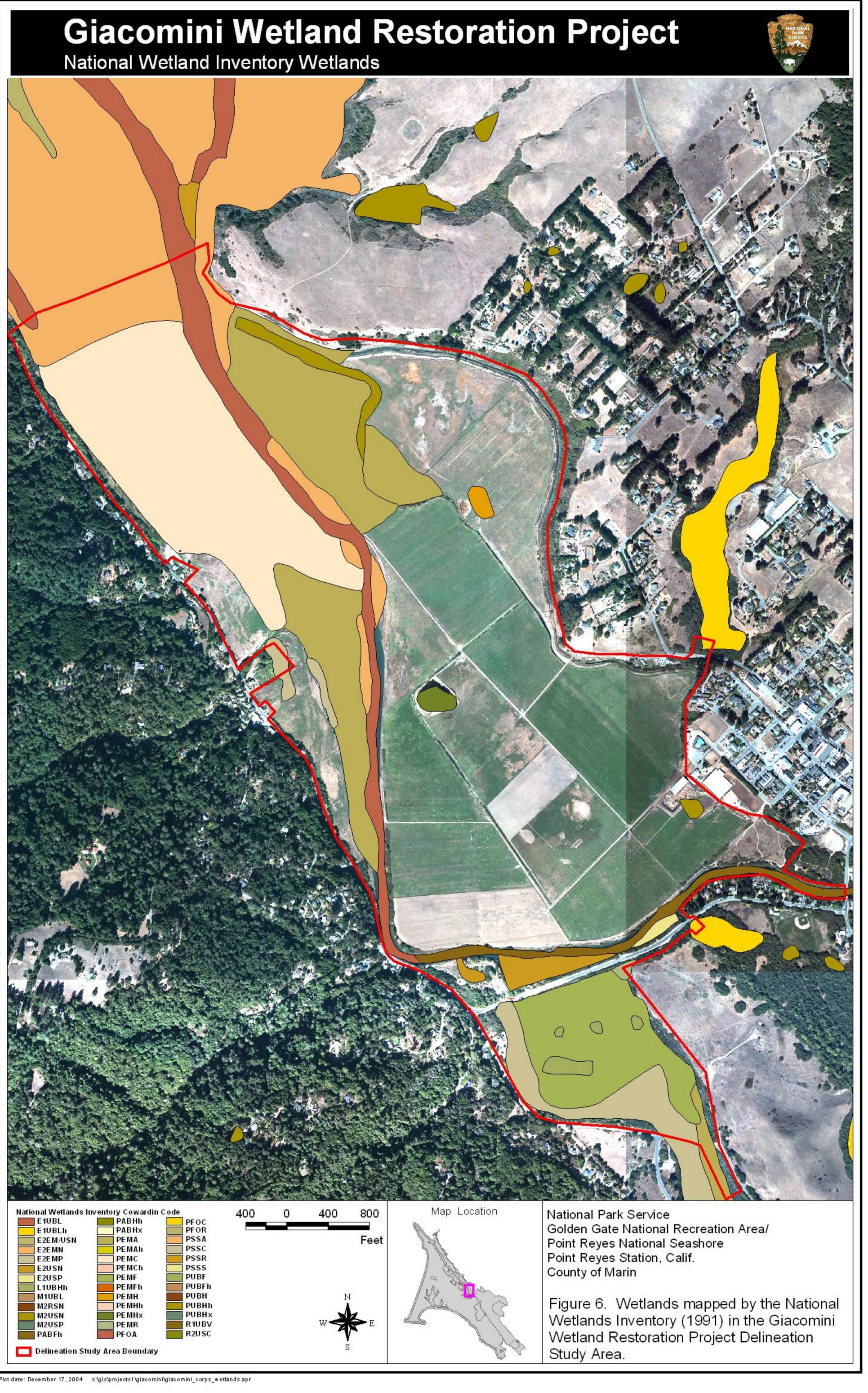


the halophytic grass, saltgrass (*Distichlis spicata*) and other halophytic herbs such as alkali heath (*Frankenia salina*), as well as pastoral grasses such as creeping bent grass (*Agrostis stolonifera*) and rough blue grass (*Poa trivialis*; Figure 5). Scrub-shrub and Forested Riparian communities primarily occur along the western boundary of the West Pasture, the southern portion of Lagunitas Creek; Wildlife Conservation Board lands near White House Pool and the Green Bridge; the western and southern edges of Olema Marsh; and along limited portions of Tomasini and Fish Hatchery Creeks and other small drainages (Figure 5). Grazing has eliminated riparian habitat along most of the drainages within the pastures themselves. Outboard of the Lagunitas Creek levee and downstream of the Giacomini Ranch, the predominant vegetation communities are Tidal Salt Marsh, Tidal Brackish Marsh, and, to a lesser extent, Moist Grassland (Figure 5). Olema Marsh supports extensive patches of Freshwater Marsh comprised principally of cattails (*Typha angustifolia*) and tules (*Scrirpus californicus* and *acutus*) and was at least once considered the most extensive freshwater marsh in Marin County (Shuford and Timossi 1989; Figure 5).

Previous Delineation Efforts

NWI. Seventeen (17) NWI wetland types were mapped within the Project Area and vicinity by the USFWS (1991; Figure 6). The NWI map characterized much of the undiked marsh north of the pastures as estuarine emergent, regularly flooded (E2EMN). Lagunitas Creek was characterized as estuarine subtidal unconsolidated bottom subtidal (E1UBL). Fish Hatchery Creek was characterized as palustrine emergent permanently flooded diked and semi-permanently flooded (PEMHh and PEMF). Tomasini Creek was characterized as palustrine emergent seasonal tidal (PEMR) where it enters the Project Area, and as estuarine intertidal stream bed regularly flooded (E2SBN) as it reaches Tomales Bay. The northern half of the West Pasture was characterized as palustrine emergent seasonally flooded (PEMC), and the southern half of the West Pasture was characterized as palustrine emergent temporarily flooded (PEMA). It is unclear whether the entire East Pasture or only the northern half of the East Pasture was classified as palustrine emergent temporarily flooded (PEMA). The north end of the old slough in the East Pasture was characterized as palustrine unconsolidated bottom permanently flooded diked (PUBHh), but none of the drainage ditches in the East Pasture were delineated.

As part of the baseline survey efforts conducted in 2002-2004, a modified Cowardin methodology was used to map wetlands at a greater level of detail than the 1991 NWI survey (Allen and Parsons, *in prep.*). Approximately 90 percent of the area surveyed for this report qualified as a Cowardin wetland. The actual Project Area encompasses a total of 563 acres of upland, wetlands and open water. As the proposed Project may have direct or indirect impacts on areas upstream, downstream, or immediately surrounding the Project Area, approximately 56 additional acres in the vicinity of the Project Area were surveyed. The modified Cowardin approach resulted in delineation of 594 individual wetland units or polygons, totaling approximately 556 acres in surface area. Among these 594 polygons, more than 100 different classifications of wetlands and aquatic habitat were designated.

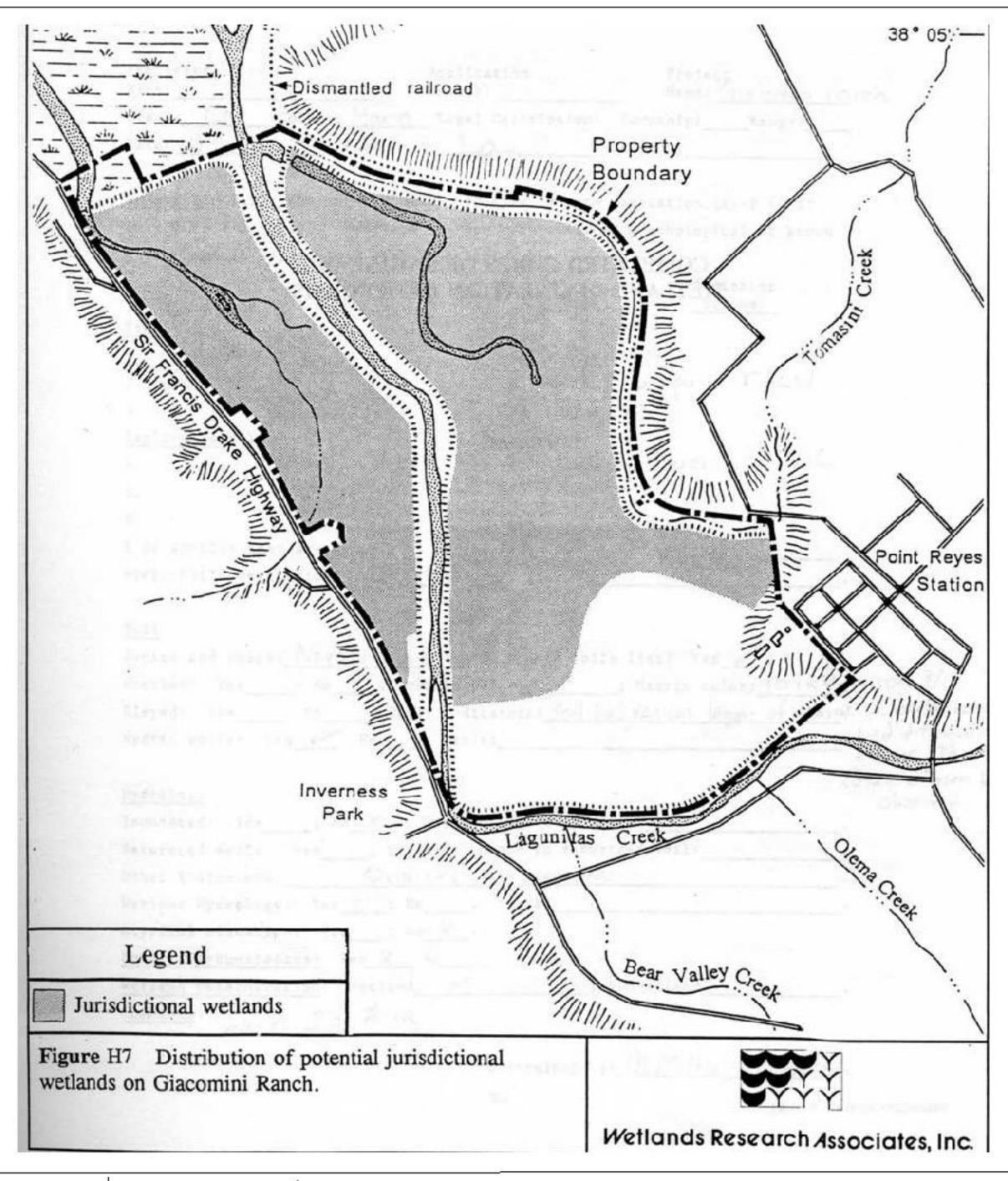


Feasibility Study. As part of the wetland restoration feasibility study conducted in 1993, a wetland reconnaissance was performed on the Giacomini Ranch to determine the potential acreage of potential Corps' jurisdictional wetlands (PWA et al. 1993). This reconnaissance was conducted in March and April 1992 using a combination of field surveys, including some transects, and installation of shallow groundwater monitoring wells in the irrigated East Pasture. The study concluded that potential jurisdictional wetlands and "other waters" totaled 108 acres in the West Pasture and 191 acres in the East Pasture (PWA et al. 1993; Figure 7). These potential jurisdictional features were mapped in the northern two-thirds of the West Pasture and the northern two-thirds of the East Pasture, with potential non-jurisdictional uplands concentrated in the highest elevation lands in the southern portions of both pastures (Figure 7). The extent of potential jurisdictional Section 10 waters was not evaluated.

Giacomini Wetland Restoration Project

Previous Wetland Delineation Efforts







Map Location

National Park Service Golden Gate National Re

Golden Gate National Recreation Area/ Point Reyes National Seashore Point Reyes Station, Calif.

County of Marin

Figure 7. Map showing potential Section 404 jurisdictional wetlands mapped during wetland delineation conducted in 1993 in Giacomini Wetland Restoration Project Delineation Study Area.

RESULTS

The Delineation Study Area includes tidal and non-tidal wetlands and "other waters" subject to Corps' jurisdiction under both Section 404 and Section 10 regulations. Areas potentially subject to Corps' jurisdiction are shown in Figures 8 and 17 and in greater detail in Figures 9-16 and Sheets 1-2. Opaque overlays are used in Figures 8-17, but Sheets 1-2 use transparent overlays that enable readers to view areas on the digital aerial images underneath the overlays.

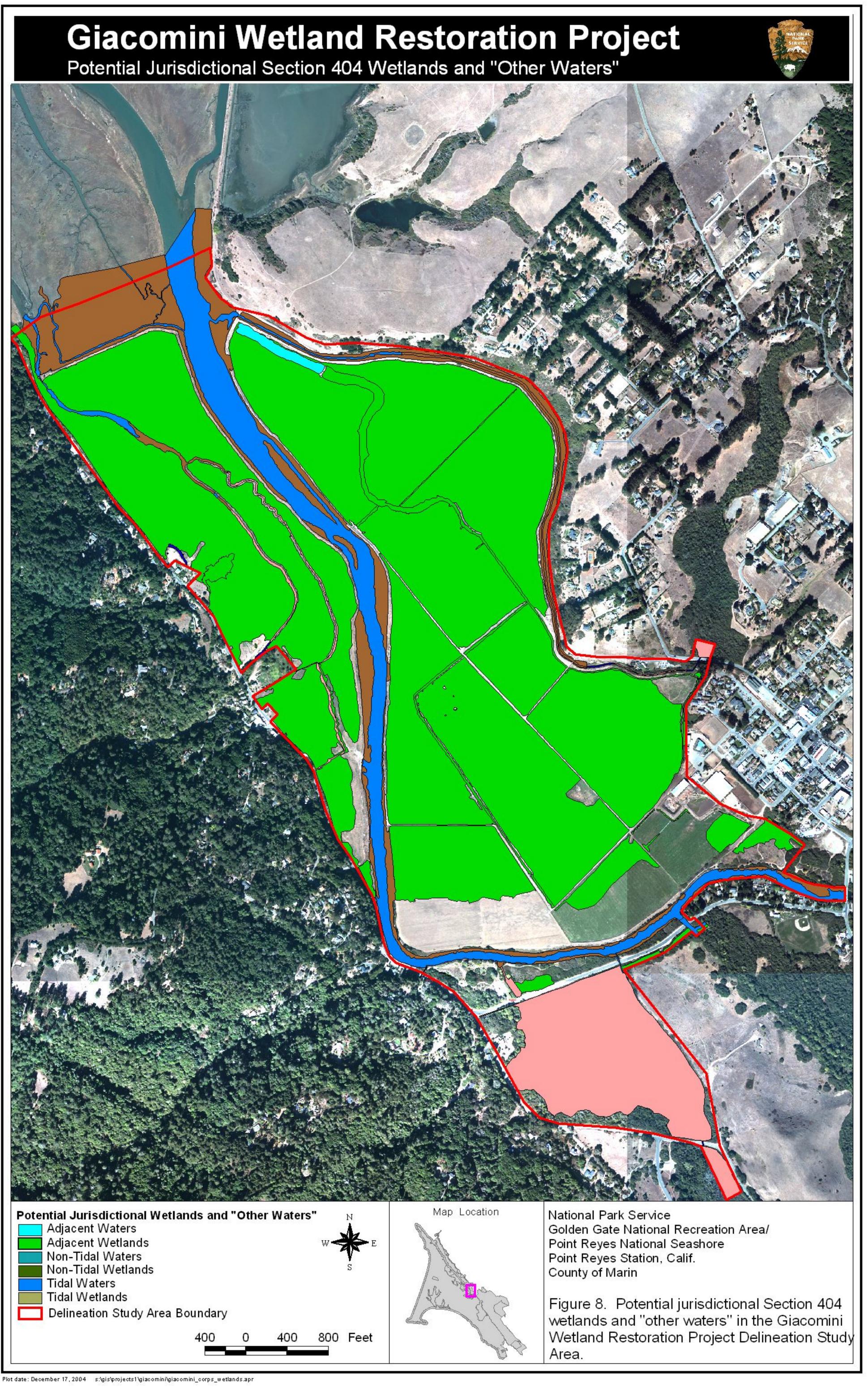
Potential Jurisdictional Section 404 Waters of the United States

Tidal

Within the Delineation Study Area, potential jurisdictional tidal features were defined as wetlands and waters that fell below the High Tide Line (HTL), which was calculated as 8.06 ft NAVD88 using the observed high tide at Golden Gate (7.2 ft Mean Lower Low Water/MLLW) and correction factor for Inverness (0.4 ft) and then converting the MLLW datum to the NAVD88 datum. Most of the tidal areas occurred in Lagunitas Creek either on the outboard side of the Giacomini Ranch levees or just downstream of the Green Bridge and in the undiked marsh north of the Giacomini Ranch (Figures 8, 9, 11, 12, 13, and 16). These areas are inundated tidally either daily during high tides or more infrequently during higher high or extreme high tides. Due to the strong fluvial influences within the Delineation Study Area, the elevation gradient between Lagunitas Creek and adjacent marsh plains and "shelves" is discontinuous rather than gently sloping due to the presence of alluvial levees and steep, vertical creek banks. During extreme high tides, tidal waters will overtop the alluvial levees or high vertical banks and overwash onto the marsh floodplains and "shelves" that occur along manmade levees.

Tidal influence within this section of Lagunitas Creek is strongly controlled by freshwater flows from the upstream watershed, as well as other tributaries, particularly Olema Creek (Kamman Hydrology & Engineering, *in prep.*). Upstream reservoirs, including Kent, Alpine, and Nicasio, and, to a lesser extent, private water diversions and wells regulate the amount of freshwater in Lagunitas Creek, thereby significantly affecting salinity dynamics in the downstream tidal reaches. Tidal influence can apparently extend as far upstream as the North Marin Water District groundwater well – approximately 1 mile upstream of the Green Bridge near Point Reyes Station — during a fall high tide when freshwater flows are at their lowest. Within the Delineation Study Area, salinities remain low throughout the winter and spring. During the summer, salinities increase, ranging from saline at the northern end to brackish at the southern end, although, within this brackish "range," salinities can vary considerably, even on a daily basis, due apparently to changes in freshwater release rates from the reservoirs and other factors.

Some degree of muted tidal action also occurs in Tomasini Creek and the southern portion of the West Pasture, where tidegate structures have failed to some degree and



allowed tidal inflow. The improperly functioning flashboard structure on Tomasini does not restrict the upper part of the tidal range, but rather precludes full draining of water from the creek, promoting subtidal rather than intertidal conditions in the northern portion of the creek.

The improperly functioning Fish Hatchery Creek tidegate in the West Pasture has acted to mute both the upper and lower part of the tidal range. Currently, following replacement of the failed culverts in 2003 with modified tidegates that still allow some tidal inflow, the upper part of the tidal range is restricted to 5.25 feet (Kamman Hydrology & Engineering, in prep.). During normal high tides, overbank flooding in the northern portion of the West Pasture and the Freshwater Marsh is limited, with most of the tidal influence restricted to the creek and its tributary, the Old Slough. Substantial overbank flooding does occur during extreme high tide series (tides > 6.8 ft MLLW), however, the flooding generated by tidal action in the pasture is difficult to separate from that of storm-related freshwater flooding from Fish Hatchery Creek and surface runoff from southern portions of the West Pasture sheetflowing down into the lowest elevation portion of the pasture and ponding. Even during periods when waters from the adjacent undiked marsh flow into the West Pasture via the concrete spillway, these waters are typically a mixture of spring tides and flood flows from Lagunitas Creek, Fish Hatchery Creek, and other small drainages that flow into this portion of Tomales Bay. In these muted tidal areas, the potential extent of tidal wetlands and waters was assessed, then, by using 1) observations of wrack deposited during high tides and 2) information from two (2) years of monthly water quality sampling throughout the Giacomini Ranch that demarcates the extent of tidal influence during the year, particularly during the summer and fall when decreased freshwater flow increases the upstream extent of tidal influence.

Waters. Potential jurisdictional tidal waters occurred in Lagunitas Creek upstream to the Green Bridge (boundary of the Delineation Study Area); tributaries to Lagunitas Creek in the undiked marsh; downstream portion of Tomasini Creek just before it flows into Tomales Bay; downstream portion of Fish Hatchery Creek just before it flows through the culvert into the undiked marsh; and downstream portions of Bear Valley and Olema Creeks before the confluence with Lagunitas Creek (Figures 8, 9, 11, 13, 14, 16; Sheets 1-2). These tidal waters would principally be subtidal and intertidal mudflat areas that supported less than 5 percent vegetation cover. The upstream boundary of tidal waters was characterized either through anecdotal information on the extent of tidal influence (1 mile upstream of the Green Bridge on Lagunitas Creek); data from water level loggers and hydraulic modeling (Olema, Bear Valley, and Tomasini Creeks; Kamman Hydrology & Engineering, *in prep.*), and/or through salinity data recorded on a monthly basis at various stations along Tomasini and Fish Hatchery Creeks between 2002 and 2004.

Wetlands. Potential jurisdictional tidal wetlands occurred in vegetated areas or areas with more than 5 percent cover of vegetation below the HTL (Figures 8, 9, 11, 12, 13, 14, and 16; Sheets 1-2). Most of the "tidal" wetlands were located in the northern portion of the Delineation Study Area such as the intertidal marsh plain in the undiked marsh north of Giacomini Ranch, central bars in the middle of Lagunitas Creek, and fringe tidal salt marsh on the outboard portion of the Giacomini Ranch levees. Dominant species in these

areas included halophytes such as saltgrass (FACW), jaumea (*Jaumea carnosa*; OBL), pickleweed (*Salicornia virginica*; OBL), arrow grass (*Trigochlin maritima*; OBL), and alkali heath (*Frankenia salina*; FACW+).

However, tidal wetlands also included areas characterized by more brackish or even glycophytic species in the upstream portions of Lagunitas Creek and Tomasini Creek. Brackish and glycophytic plant species present in the tidal wetlands along Lagunitas and Tomasini Creeks primarily included alkali bulrush (Scirpus maritimus; OBL), California bulrush (Scirpus californicus; OBL), arroyo willow (Salix lasiolepis; FACW), and some glycophytic herbs such as water parsley (Oenanthe sarmentosa; OBL), annual beard grass (Polypogon monspeliensis; FACW+), etc. Salinities within Lagunitas Creek typically remain in brackish range up to at least the Green Bridge directly south of the Giacomini Ranch and perhaps even further upstream. Tidal wetlands also occurred inside the levee in the northern portion of the West Pasture, where the tidegates have failed and allow a substantial amount of tidal inflow. Plant species in the tidal wetlands along Fish Hatchery Creek ranged from halophytic species such as saltgrass (FACW) and pickleweed (OBL) to glycophytic ones such as creeping bentgrass (FACW), rough bluegrass (FACW), white clover (Trifolium repens; FACU+), meadow barley (Hordeum brachyantherum; FACW), and creeping wildrye (Leymus triticoides; FAC+).

Non-Tidal

The extent of non-tidal waters and wetlands within the Delineation Study Area is low compared to tidal and adjacent wetlands and waters. Potential jurisdictional non-tidal wetlands and waters include features that fall below the Ordinary High Water (OHW) mark in non-tidal streams and drainages and non-tidal portions of streams and drainages. For delineation purposes, OHW was typically inferred from field indicators such as abrupt break in bank topography: most of the drainages have been dredged or even rerouted at some point, creating steep vertical banks.

While these creeks and drainages may not be considered truly "navigable," they could be characterized as "tributaries" to navigable waters, i.e., Lagunitas Creek and Tomales Bay. Fish Hatchery, Bear Valley, 1906, Silver Hills, and several small drainages in the northern portion of the West Pasture are perennial. The upstream portion of Tomasini Creek dries up in the late summer and early fall, possibly due to upstream diversions. Several other drainages that flow into the Giacomini's West Pasture are seasonal, drying up in the early spring.

Waters. Potential jurisdictional non-tidal waters included unvegetated portions of Fish Hatchery Creek near Sir Francis Drake, Tomasini Creek near Mesa Road, the 1906 Creek near Sir Francis Drake Boulevard, and a small culverted drainage near White House Pool (Figures 8, 10, 12, 13, and 15; Sheets 1-2). The upstream portions of these creeks support less than 5 percent vegetation cover below the OHW mark. The lack of plant cover in the streambeds may result from the riparian overstory present on the creek banks, which is dominated by species such as red alder (*Alnus rubra*; FACW) and arroyo willow (FACW). Further downstream, the reduced flow velocities associated with a

decrease or flattening in channel gradient might encourage establishment by hydrophytic plant species. One other non-tidal water feature occurs on the County of Marin's White House Pool park. This small drainage is culverted to run underneath Sir Francis Drake and then flows into Lagunitas Creek (Figure 15, Sheet 2).

Wetlands. Potential jurisdictional non-tidal wetlands include vegetated portions of Olema Marsh, Fish Hatchery, Tomasini, Bear Valley, Silver Hills, 1906 creeks, and several other small drainages in the Giacomini's West Pasture (Figures 8, 9, 11, 12, 14, and 15; Sheets 1-2; Appendix A: Sampling Locations 44A, 45A, and 46). These portions or reaches of creeks and drainages support more than 5 percent vegetation cover below the OHW mark. Again, reduced flow velocities associated with a decrease or flattening of the creek gradient might promote recruitment of hydrophytic plant species in the creek bed. The portion of Bear Valley Creek that flows through Olema Marsh is largely concentrated on the marsh's east side, although impoundment of creek waters has led the creek's course through the marsh to be somewhat indistinguishable. For the purposes of this delineation, the entire marsh was mapped as Non-Tidal Wetland, because most of it falls below OHW, including portions of the riparian habitat that fringes the marsh (Figure 14; Sheet 2; Appendix A: Sampling Locations 44A, 45A, and 46). However, the very northern portion of Bear Valley Creek near Levee Road was mapped as Tidal Waters (Figure 14; Sheet 2).

Some of the dominant plant species within these Non-Tidal Wetland areas included water parsley (OBL), western mannagrass (*Glyceria occidentalis*; OBL), hydrocotyle (*Hydrocotyle ranunculoides*; OBL), willowherb (*Epilobium ciliatum*; FACW), lady's thumb (*Polygonum persicaria*; FACW) knotweed (*Polygonum punctatum*; OBL), rush (*Juncus effusus*; OBL), California bulrush (OBL), cattails (*Typha* spp.; OBL), etc.

Adjacent

Adjacent wetlands and waters comprised the largest group of potential jurisdictional features delineated in the Delineation Study Area. These features were either physically proximate or contiguous with either Tidal or Non-Tidal Wetlands and Waters. In areas where features were not contiguous with tidal and non-tidal features, the proximity, as well as the strong hydrologic and ecological interaction between leveed areas and Lagunitas Creek, became the rationale for classifying these features as potentially "adjacent." Adjacent waters and wetlands include features that met the "three" criteria: wetland hydrology, hydric soils, and hydrophytic vegetation, although waters typically support less than 5 percent vegetation. As noted earlier, because the East Pasture is irrigated during the summer, secondary hydrologic indicators and hydric soil features become more difficult to interpret. For this reason, we installed a series of shallow monitoring wells that were assessed weekly during 2002-2003 winter and spring and less frequently through spring 2004.

The complex hydrology of southern Tomales Bay, which is characterized by tidal and freshwater surface flow, as well as fresh and tidally influenced groundwater, creates an equally complex mosaic of wetlands in the Delineation Study Area. Groundwater plays

an important role in the Giacomini Ranch and Olema Marsh. Along the perimeter of the Giacomini Ranch, groundwater emerges from the base of the adjacent Inverness Ridge and Point Reves Mesa and appears to both sheetflow across the soil surface and percolate through the soil, draining from the higher elevation "edges" to the lower portions of the pasture. Not surprisingly, because of the varied sources and locations of groundwater, groundwater tables did not necessarily follow an elevational gradient within the pastures (Appendix C). This seep flow causes a seasonal elevation in the shallow groundwater table within the pastures, often saturating the ground surface through spring or even later. Most of the shallow monitoring wells in the East Pasture showed that the groundwater tables rose to within 12- to 18 inches of the ground surface for an average of 5- to 6 consecutive weeks during the winter and spring (Appendix C: EP1-3 and EP5), although at least one well (EP6) near the dairy was actually inundated for five (5) months in spring 2003 (Appendix C). The water table typically dropped below 30-35 inches in the summer, except for EP3, which showed an anomalous rise in fall 2003 prior to the rainy season that was probably related to summer and fall irrigation flooding by the dairy ranchers (Appendix C).

In addition, the groundwater table in areas adjacent to the Lagunitas Creek levee appears to be influenced to some degree by tidal action within Lagunitas Creek (Kamman Hydrology & Engineering, Inc., *in prep.*). The groundwater table in areas directly adjacent to the Lagunitas Creek levee, particularly those with alluvial subsurface soils deposited when the creek was not leveed, appeared to rise and fall with the tide with a varying amount of lag respective to tidal heights in Lagunitas Creek proper. This tidal influence either results from direct exchange of waters from Lagunitas Creek through porous alluvial subsoils or, more likely, through hydraulic pressure of tides on the largely freshwater-driven groundwater table. Most of the groundwater in areas directly adjacent to the levees is slightly to moderately saline, ranging from 1.0- to 30 ppt. However, even in areas without tidal influence, salinities in the groundwater often exceeded 0.5 – 1 ppt, ranging from 3 to as high as 50 ppt (Park Service, *unpub. data*). These increased salinities may result from freshwater-driven groundwater interacting with residual salts in clay-dominated portions of the substrate that were exposed to tidal action when the Giacomini Ranch was not diked.

Surface water flows also contribute to maintenance of wetlands and waters within the Delineation Study Area. Frequent overbank headwater flooding events along Fish Hatchery and Bear Valley creeks promotes recharge of the shallow groundwater table and prolonged surface ponding, particularly in Olema Marsh where Levee Road and the culverts act to impound waters and increase water residence time. Surface run-off and precipitation probably also maintain water levels in the drainage ditches of the East Pasture during the winter and spring. (During the summer and fall, water levels within the ditches are maintained with pumped water obtained by the Giacominis from the North Marin Water District for irrigating the pastures to increase forage for dairy cattle.) In the center of the East Pasture, where groundwater influences appear to be minimal based on the deep groundwater table (EP4; Appendix C), wetland hydrology during the winter and spring actually appears to have developed from shallow perching of run-off and precipitation on the soil surface caused by the low permeability of the clay loam soils and

densely matted stolons and rhizomes of the dominant pasture grasses (e.g., *Agrostis stolonifera*, *Poa trivialis*): Almost 2- to 3 inches of water was observed ponding on the soil surface at many sampling points in this area approximately 18 days after the last rainfall event. In the unmanaged pasture in which well EP4 is located, this unique ponding effect appeared to encourage establishment by other plant species strongly associated with wetlands such as annual beardgrass (*Polypogon monspeliensis*; FACW) despite the fact that groundwater table was consistently below the top 12 inches of the soil surface, and the soil was not saturated below the top 2 inches of the soil surface.

The presence of wetland hydrology was typically determined through use of primary indicators such as inundation or saturation within the top 12- to 18-inches of the soil surface 14- to 18 days after the last major rainfall event. In addition, secondary indicators such as oxidized pore channels were often present, as well, but the groundwater-driven nature of the wetland hydrology in these areas minimized the potential for other primary and secondary indicators associated with surface flooding such as sediment deposits, algal matting, matted vegetation, etc. In areas where irrigation is not performed, either a very low chroma (0 or 1) or the presence of mottles in soils with a chroma of 2 distinguished sampling points with hydric soils. In general, adjacent wetlands in the pastures had clay loam soils with a chroma of 2 and abundant, prominent mottles.

One of the anomalies encountered during field surveys, at least in the West Pasture, involved a seeming disconnect between primary indicators of hydrology such as the presence of inundation or saturation and the presence of hydric soil features (mottles) and secondary hydrology indicators (oxidized pore channels). In several areas of the West Pasture, there was no visible presence of inundation or saturation only 7 days after the last rainfall event within the soil surface, and, yet, there were common or abundant mottles and oxidized pore channels. This anomaly cannot be explained simply by timing, because, at the time the survey was performed, there had been no dry periods or significant breaks in precipitation, and precipitation totals, at least to that point in time, approximated that of normal rainfall years. In these anomalous areas, wetland determination was based on primary hydrologic indicators and the composition of the plant community, particularly perennial species that might be considered indicators of long-term hydrologic conditions.

Waters. One adjacent water feature was mapped within the Delineation Study Area. It is located in the northern portion of the Giacomini Ranch East Pasture and represents an unvegetated portion of a historic slough that once flowed into Tomales Bay, but has been cut off by construction of the Lagunitas Creek levee (Figures 8 and 9; Sheet 1). Possibly to enhance hunting opportunities, the Giacominis constructed another interior berm just southward of the levee and probably used to actively dredge to discourage colonization by emergent plant species. To this day, this Old Slough "pond" remains almost entirely unvegetated (vegetation cover < 5 percent).

Wetlands. "Adjacent" wetlands mapped within the Delineation Study Area occurred in the East and West Pastures of the Giacomini Ranch, County Parks lands, and Olema

Marsh (Figures 8 -13 and 16; Sheets 1-2; Appendix A: Sampling Locations 1A-46). Most of the plants within the adjacent wetlands were either FACW or OBL, with FAC species restricted to more marginal wetlands and even upland areas. The very wet nature of the Delineation Study Area, combined with the cool, moist climate of this coastal region, favors establishment of hydrophytic species even in upland areas that have no prolonged saturation or inundation. Plants in the adjacent wetlands at the Giacomini Ranch, Olema Marsh, and Olema Creek areas typically included species characteristic of the Wet Pasture, Salt Marsh Pasture, Freshwater Marsh, Scrub Shrub, and Forested Riparian vegetation communities described in the Study Area background.

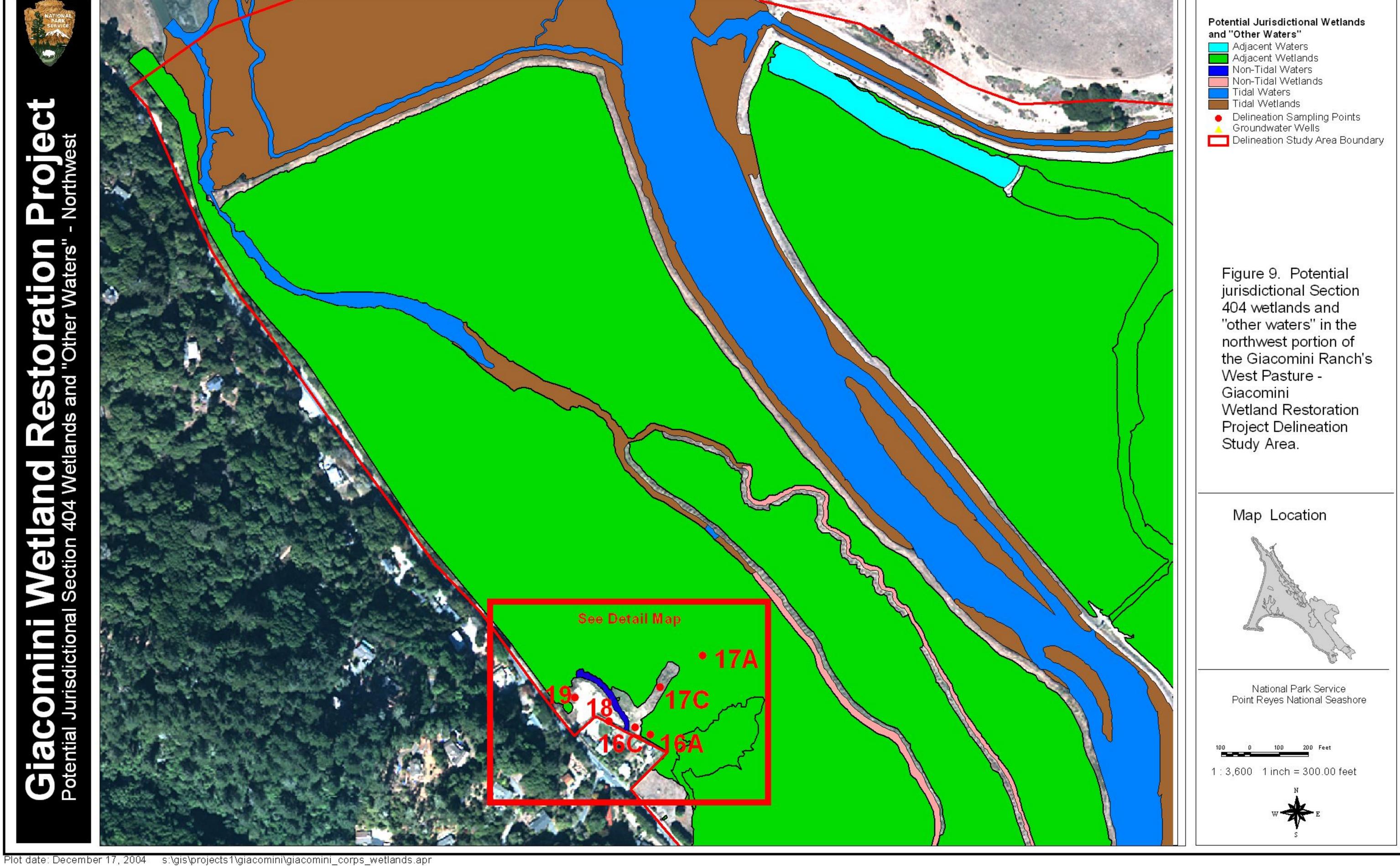
The adjacent wetlands within the County Parks lands at the south end of the Giacomini Ranch near the dairy facility and at White House Pool (Figure 16; Appendix A: Sampling Locations 21A, 23A, and 30A), however, often supported a more ruderal mix of plant species such as goldenrod (Euthamia occidentalis; OBL), rush (Juncus effusus; OBL), rush (Juncus patens; FAC), water parsley (OBL), teasel (Dipsacus sp.), and wild mustard (Brassica nigra; NL) that defied classification into one vegetation community, probably due to the amount of past and ongoing disturbance present. These adjacent wetlands also included some seasonal wetland features that pond during the spring due to perching of surface flows on substrates that have been compacted either through foot traffic and/or Dominant plant species ranged from goldenrod (OBL) and annual fill activities. bluegrass (Poa annua; FACW-) at the White House Pool park to mixtures of common velvet grass (Holcus lanatus; FAC), ryegrass (Lolium sp.; FAC), barley (Hordeum marinum var. gussoneanum; FAC), dock (Rumex conglomeratus; FACW), rush (Juncus patens), and others at the County park near the dairy facility. Interestingly, one of the primary hydrologic sources for adjacent wetlands at the County park near the dairy facility appears to be seep discharge from the adjacent Point Reyes Mesa terrace that emerges from the base of the mesa and sheet flows across property. Both algal matting and matted vegetation were observed within this adjacent wetland area, pointing to prolonged surface ponding of these seep flows, as well as ponding of precipitation, surface run-off, and episodic overbank flooding from Lagunitas Creek during high flow events.

Potential Non-Jurisdictional Isolated Waters

Potential non-jurisdictional isolated wetland and waters occur in areas that have wetland hydrology, but that are physically part of or "adjacent" to navigable waters and their tributaries. One potential non-jurisdictional isolated wetland was located in the Delineation Study Area. It occurred on the eastern side of Olema Marsh in the grassland-dominated "shutter ridge" that separates the Bear Valley and Olema Creek watersheds (Figure 14; Sheet 2; Appendix A: Sampling Location 47). The depressional feature appears to have been potentially created through past earthwork activity and does not appear to have an outlet that would enable it to be hydrologically connected to Olema Marsh.

Potential Jurisdictional Section 10 Waters of the Rivers and Harbors Act

As noted earlier, Potential Section 10 jurisdictional areas are navigable waters that are subject to the ebb and flow of the tide, and/or those that are presently used, have been used in the past, or could be used for interstate transport or foreign commerce. It also includes unfilled areas currently behind levees that were historically below MHW. Within the Delineation Study Area, Potential Section 10 jurisdictional areas consisted of areas that are either currently below the MHW elevation of 5.13 ft NAVD88 (Lagunitas Creek, Tomasini Creek, Fish Hatchery Creek, Bear Valley Creek in Olema Marsh, Olema Creek near Levee Road), as well as historically below MHW (the northern and western portions of the Giacomini Ranch and portions of Olema Marsh and Olema Creek floodplain; Figure 17). Potential historic Section 10 jurisdiction was estimated by overlaying the 1862 U.S. Coast Survey map on the digital aerial imagery and performing heads-up digitizing on the open water and tidal creek subtidal and intertidal areas in the Giacomini Ranch, Olema Marsh, and Olema Creek floodplains that appeared likely to be below MHW at that time.



Giacomini Wetland Restoration Project Potential Jurisdictional Section 404 Wetlands and "Other Waters" - Inverness Park 19 16C •16A Potential Jurisdictional Wetlands and "Other Waters" Map Location Golden Gate National Recreation Area/ Adjacent Waters Adjacent Wetlands 25 Feet Point Reyes National Seashore Non-Tidal Waters Point Reyes Station, California 1:700 1 inch = 58.3 feet Non-Tidal Wetlands County of Marin Tidal Waters

Figure 10. Detail map of potential jurisdictional

Section 404 wetlands and "other waters" near

north Inverness Park.

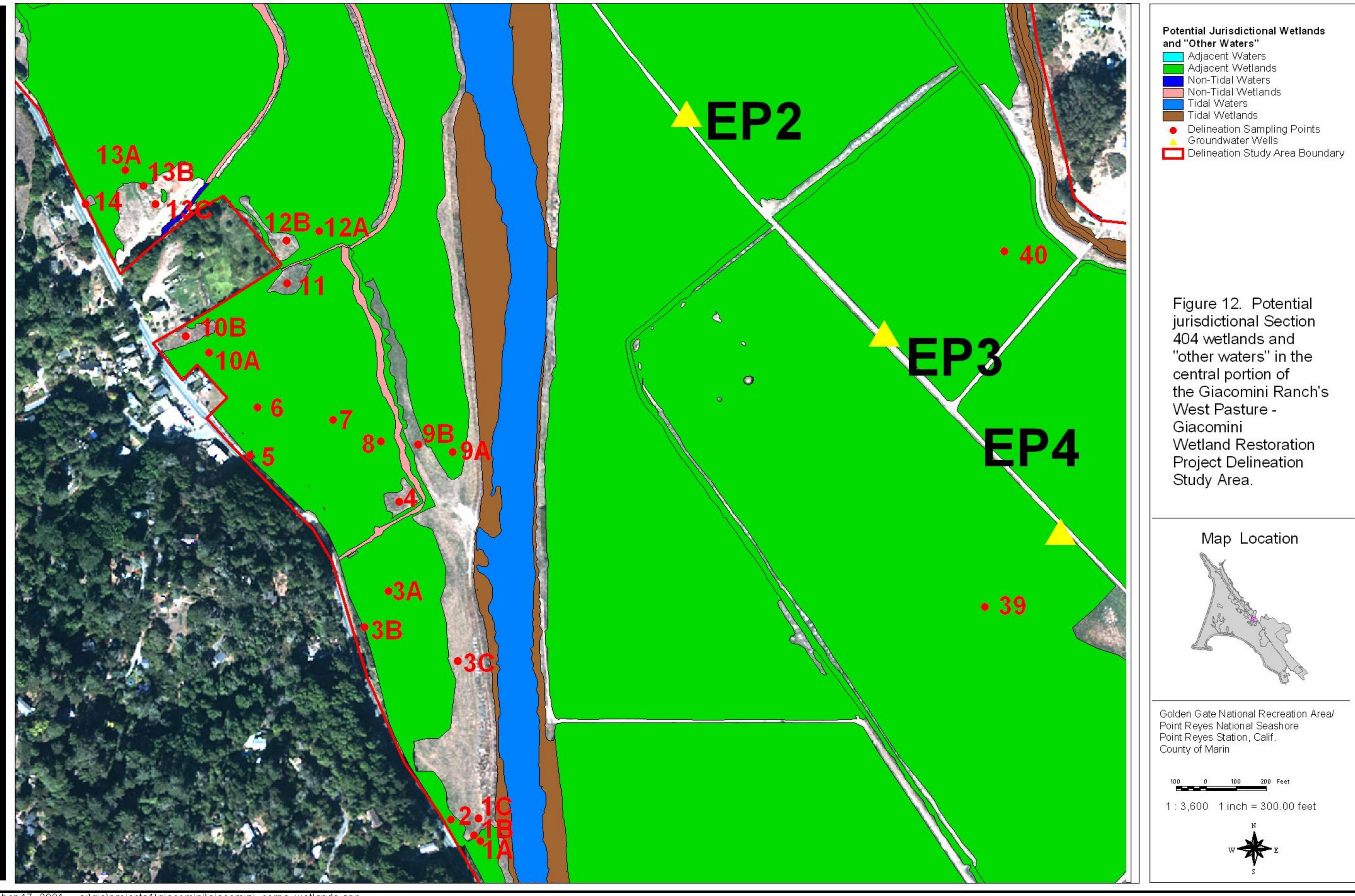
Tidal Wetlands

Groundwater Wells

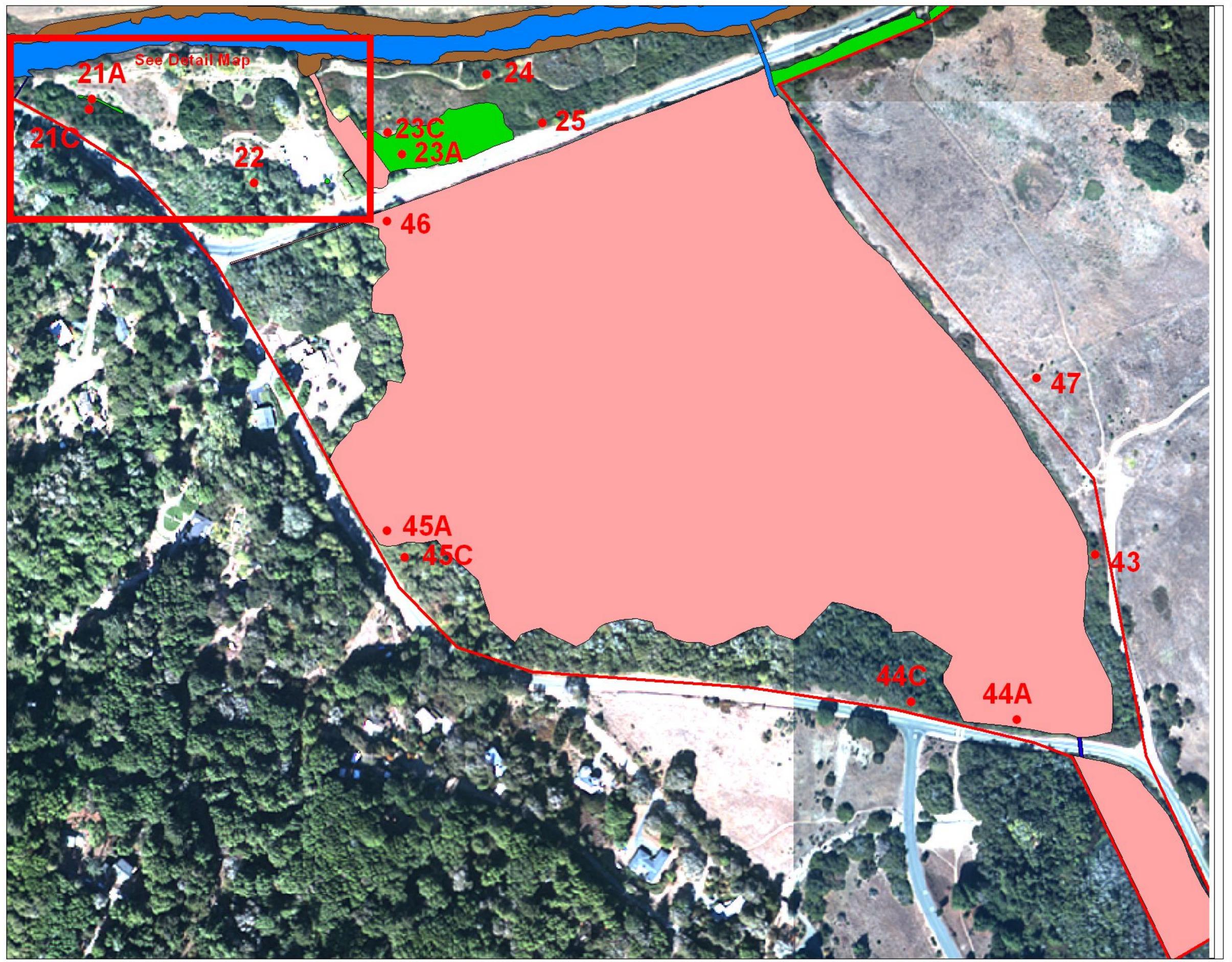
Delineation Sampling Points

Delineation Study Area Boundary

Potential Jurisdictional Wetlands and "Other Waters" Adjacent Waters Adjacent Wetlands Non-Tidal Waters Non-Tidal Wetlands Tidal Waters Project - Northeast Tidal Wetlands Delineation Sampling PointsGroundwater Wells Delineation Study Area Boundary Figure 11. Potential jurisdictional Section 404 wetlands and "other waters" in the northeast portion of the Giacomini Ranch's East Pasture -Giacomini Wetland Restoration Project Delineation Study Area. Map Location Golden Gate National Recreation Area/ Point Reyes National Seashore Point Reyes Station, Calif. County of Marin 1:3,600 1 inch = 300.00 feet EP2 Plot date: December 17, 2004 s:\gis\projects1\giacomini\giacomini_corps_wetlands.apr



Potential Jurisdictional Wetlands and "Other Waters" Adjacent Waters Adjacent Wetlands Non-Tidal Waters Non-Tidal Wetlands Tidal Waters Tidal Wetlands Delineation Sampling PointsGroundwater Wells Delineation Study Area Boundary • 38 Figure 13. Potential jurisdictional Section 404 wetlands and • 39 "other waters" in the central portion of the Giacomini Ranch's East Pasture -Giacomini Wetland Restoration Project Delineation Study Area. Map Location Golden Gate National Recreation Area/ Point Reyes National Seashore Point Reyes Station, Calif. County of Marin 1:3,600 1 inch = 300.00 feet Plot date: December 17, 2004 s:\gis\projects1\giacomini\giacomini_corps_wetlands.apr



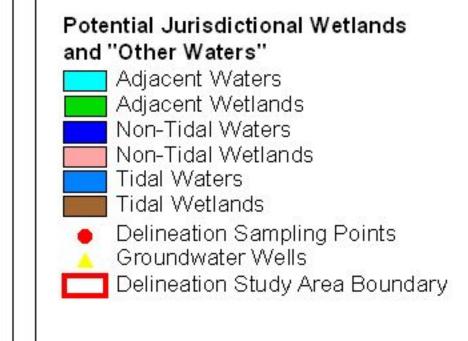
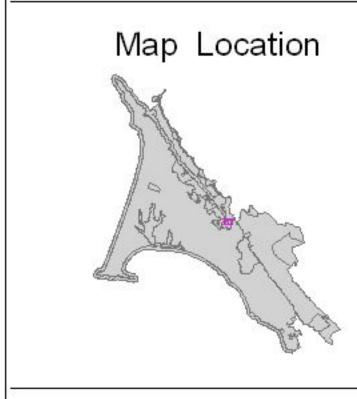


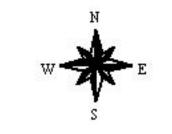
Figure 14. Potential jurisdictional Section 404 wetlands and "other waters" in the White House Pool County Park, Olema Marsh, and Bear Valley Creek areas- Giacomini Wetland Restoration Project Delineation Study Area.



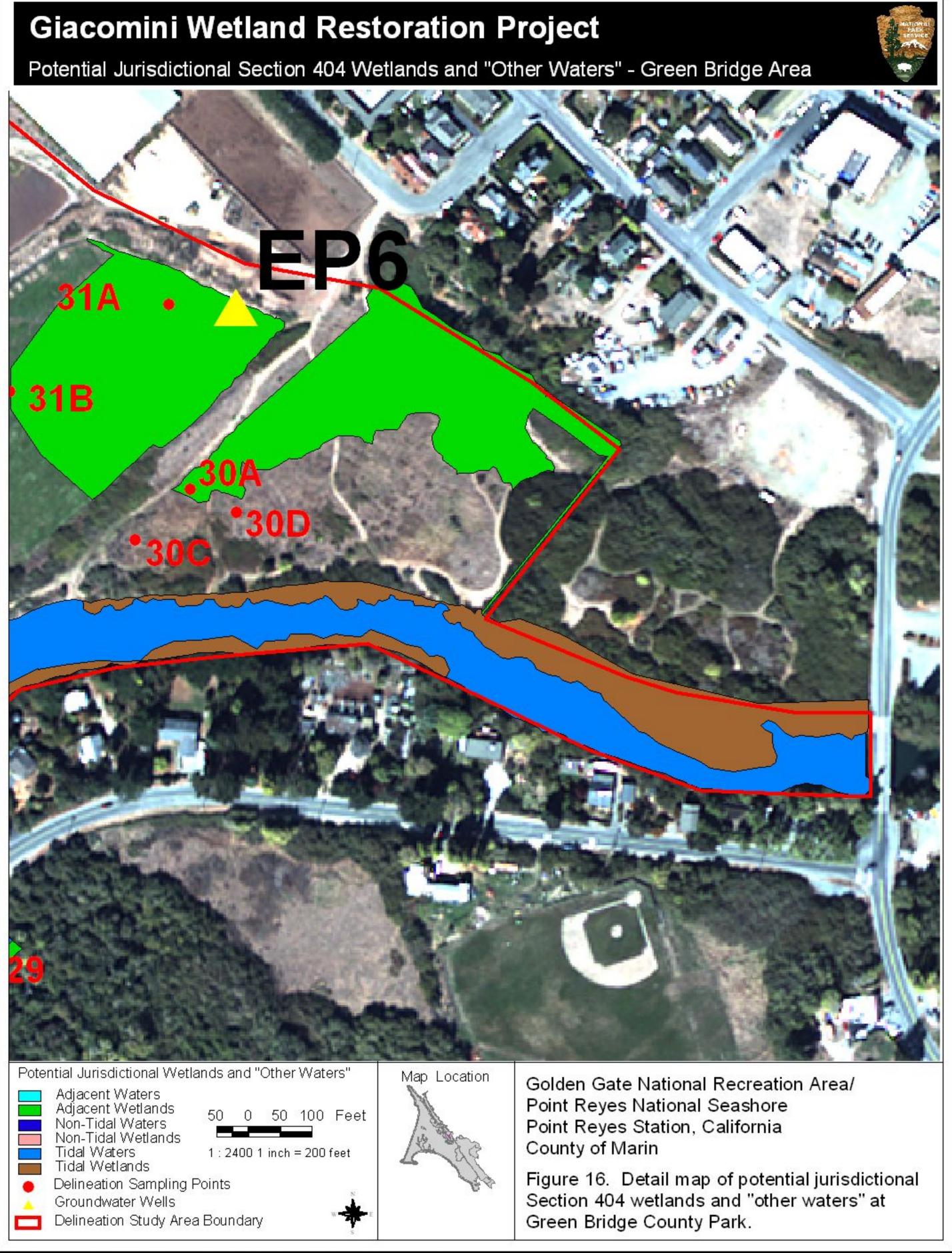
Golden Gate National Recreation Area/ Point Reyes National Seashore Point Reyes Station, Calif. County of Marin

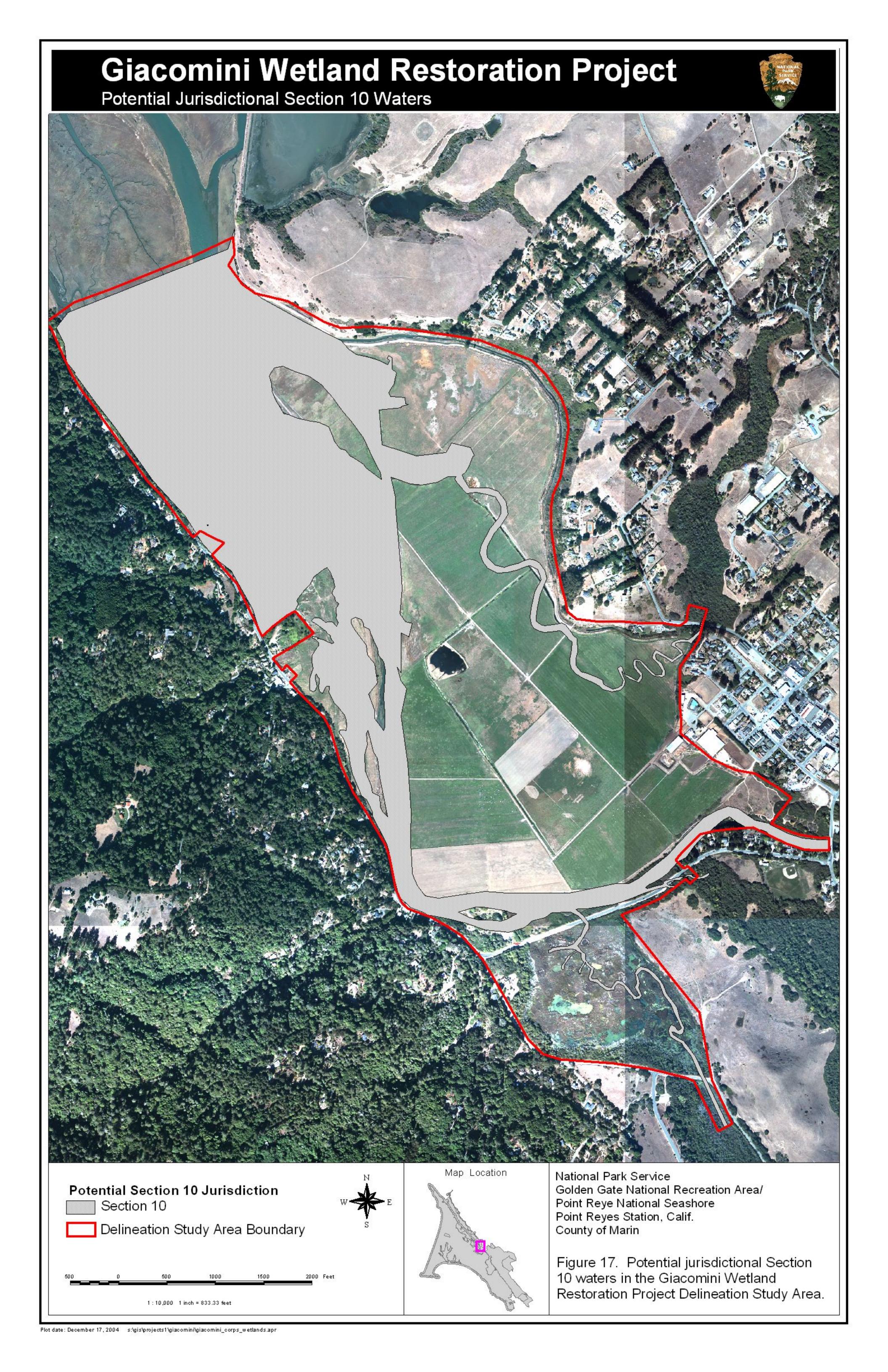


1:3,000 1 inch = 250.00 feet



Giacomini Wetland Restoration Project Potential Jurisdictional Section 404 Wetlands and "Other Waters" - White House Pool **County Park Parking Lot** Sir Francis Drake Boulevard/ Levee Road Potential Jurisdictional Wetlands and "Other Waters" Map Location Golden Gate National Recreation Area/ Adjacent Waters Adjacent Wetlands 30 Feet Point Reyes National Seashore Non-Tidal Waters Point Reyes Station, California 1:1000 1 inch = 83.3 feet Non-Tidal Wetlands County of Marin Tidal Waters Tidal Wetlands Figure 15. Detail map of potential jurisdictional Delineation Sampling Points Section 404 wetlands and "other waters" at Groundwater Wells Delineation Study Area Boundary White House Pool County Park.





POTENTIAL JURISDICTION OF CORPS OF ENGINEERS

Potential Section 404 Jurisdictional Wetlands and Waters of the United States

The Corps regulates several types of activities in waters of the United States, which includes navigable waters, tributaries to navigable waters, special aquatic sites (e.g., wetlands), and areas that are "adjacent" to navigable waters. These waters are regulated under Section 404 of the Clean Water Act (40 CFR Section 328.3). Based on our review of the literature and field surveys, we have concluded that the following jurisdictional features were or were not present.

"Other Waters" of the United States

Tidal

Potential jurisdictional tidal waters present in the Delineation Study Area consisted of unvegetated (<5 percent vegetation cover) areas below the High Tide Line (HTL) in Lagunitas Creek and the downstream portions of Tomasini, Fish Hatchery, Bear Valley, and Olema Creeks. Total acreage (square-footage) of potential jurisdictional tidal waters was:

• **Tidal Waters:** 43.88 acres (1,911,412.8 square feet)

Non-Tidal

Potential jurisdictional non-tidal waters consisted of unvegetated areas below the Ordinary High Water (OHW) elevation. Non-Tidal Waters were mapped in small portions of Fish Hatchery Creek, Tomasini Creek, 1906 drainage, and at least one small drainage near White House Pool. Total acreage (square-footage) of potential jurisdictional Non-Tidal Waters was:

• Non-Tidal Waters: 0.36 acres (15,681.6 square feet)

"Adjacent"

Potential jurisdictional Section 404 "adjacent" waters consisted of one small portion of a historic slough in the Giacomini Ranch East Pasture that has been hydrologically disconnected from Tomales Bay by the Lagunitas Creek levee. Total acreage (square-footage) of potential jurisdictional "Adjacent" Waters was:

• "Adjacent" Waters: 1.93 acres (84,070.8 square feet)

Special Aquatic Sites -- Wetlands

Tidal

Potential jurisdictional tidal wetlands were comprised of vegetated areas (>5 percent vegetation cover) below the HTL. Within the Delineation Study Area, tidal wetlands included the undiked marsh plain north of the Giacomini Ranch, fringing marsh along Lagunitas Creek, and fringing marsh along the downstream portions of Tomasini Creek and the Silver Hills drainage outlet. It also included diked portions of Fish Hatchery Creek in the northern portion of the West Pasture that are flooded during high tides (see Results for explanation). Total acreage (square-footage) of potential jurisdictional tidal wetlands was:

• **Tidal Wetlands** 54.99 acres (2,395,364.4 square feet)

Non-Tidal

Potential jurisdictional Non-Tidal Wetlands consisted of vegetated areas (vegetation cover > 5 percent) below the OHW. Within the Delineation Study Area, Non-Tidal Wetlands included vegetated, upstream portions of Fish Hatchery Creek, the Old Slough in the Giacomini Ranch West Pasture, and Tomasini Creek. It also included most of Silver Hills drainage channel that flows parallel to Levee Road and is then culverted to flow through the White House Pool County park. By far, the largest portion of Non-Tidal Wetlands occurred in Olema Marsh, which largely falls below OHW and is heavily vegetated. Total acreage (square-footage) of potential jurisdictional non-tidal wetlands was:

• Non-Tidal Wetlands: 49.85 acres (2,171,466 square feet)

"Adjacent"

Potential jurisdictional Section 404 "adjacent" wetlands represented most of the potential jurisdictional features delineated in the Study Area. "Adjacent" wetlands consisted of vegetated areas directly adjacent to Tidal and Non-Tidal Waters and Wetlands that could be considered connected either through hydrology (e.g., groundwater movement) or ecologically (e.g., movement of organisms). These potential jurisdictional features included most of the potential jurisdictional features in the Giacomini Ranch pasturelands and selected areas in Olema Creek and in County park lands near White House Pool and the Green Bridge/dairy facility area. Total acreage (square-footage) of potential jurisdictional Section 404 "adjacent" wetlands was:

• "Adjacent" Wetlands: 385.63 acres (16,798,042.8 square feet)

Potential Section 10 Jurisdictional Waters

Potential jurisdictional Section 10 waters consisted of navigable waters either presently or historically subject to tidal influence that fall below Mean High Water (MHW). In the Delineation Study Area, potential jurisdictional Section 10 waters included Lagunitas, Tomasini, Fish Hatchery, Bear Valley, and Olema Creek. In addition, it included portions of the Giacomini Ranch, Olema Marsh, and Olema Creek floodplains that were historically subtidal or intertidal and therefore below MHW before being diked or culverted/bridged. Total acreage (square-footage) of potential jurisdictional Section 10 waters was:

• **Section 10 Waters**: 249.28 acres (10,858,713.3 square feet)

OTHER REGULATORY ISSUES

The potential jurisdictional wetlands and waters identified in this study may fall subject to the jurisdiction of other regulatory agencies such as RWQCB, CCC, and, and, depending upon land ownership, CDFG. In addition, these agencies may regulate features such as isolated waters and wetlands that are not regulated currently by the Corps.

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.

APPENDICES

Appendix A. Corps Datasheets

Project/Site:	Giacomini W	Vetland Restora	ation Project, Gia	comini Rand	ch, Poi	int Reye	es	Date:	11/19/03
Applicant/Owner:	Point Reyes	National Seas	hore					County:	Marin
Investigator:	Lorraine Par	rsons and Lesli	e Allen					State:	CA
Site Location:	Very southe	rn end of West	Pasture in riparia	an habitat]	
Do Normal Circum	stances exist	on the site?		Yes	_ √	No		Community	Adjacent Wetland
Is the site significa	ntly disturbed	d (Atypical Site	uation)?	Yes		No	_√	Transect ID:	
Is the area a potent	tial Problem <i>A</i>	Area?		Yes		No	_√	Plot ID:	1A
(If needed, expl	ain on revers	e.)							
VEGETATION									
Dominant Plant Sp	oecies	Stratum	Indicator	Domir	nant Pla	nt Specie	es	Stratum	Indicator
Salix lasiolepis		Tree	FACW					_	
2. Oenanthe sarmento	osa	Herb	OBL					_	
3. Rumex sp.		Herb						_	
4.								_	
5								_	
6.								_	
7									
8								_	_
Percent of Dominant Spe	cies that are OBL	_, FACW or FAC (e	excluding FAC-).	/= 100%					
Remarks: Vegetative crit	erion is met. Dor	minant vegetation is	greater than 50% hvo	drophytic.					
J				. ,					
HYDROLOGY									
	Recorded Data	a (Describe in Rem	narks):		Wetland Hydrology Indicators:				
		Stream, Lake or T	ide Gauge		Primary Indicators:				
		Aerial Photograph	ns		Inundated				
		Other					Satur	ated in Upper 12 inc	hes
√	No Recorded I	Data Available					Water	Marks	
					Drift Lines				
Field Observations:						√	Sedin	nent Deposits	
							Drain	age Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	S	Secondary	y Indicate	ors (2 or more requir	ed):
						\checkmark	Oxidi	zed Root Channels i	n Upper 12 inches
Depth to Fre	ee Water in Pit:			(in.)			Water	r-Stained Leaves	
							Local	Soil Survey Data	
Depth to Sa	turated Soil:			(in.)	_		FAC-I	Neutral Test	
				_			Other	(Explain in Remark	s)
Remarks: Hydrologic cri sampling, but it was early e oxidized pore channels atte floodplain terrace adjacent	enough in the rainy ests to the fact that	season that it woul t the soil is probably	ld not be expected to professional frequently saturated/i	oroduce hydric on nundated from	condition	ns. The pood flows	resence of and then	of sediment deposits a	and faint, but common

Map Unit Na	me									
(Series and	Phase): Inver	ness Loam, 15 – 30	% Slopes	Drainage Class:						
Taxonomy (Subgroup):			Field Observations Confirm N	lapped Type? Yes	No √				
Profile Desc	ription									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-2	A	10YR 3/1.5		_	Sandy loam					
2-12	A/B	10YR 3/2		No mottles	Sandy loam – coarse gra	ivel				
Hydric Soil I			0							
-	Histosol	_	Concretions	stant in Confess I array in Constr Caile						
-	Histic Epipedon	_		tent in Surface Layer in Sandy Soils						
-	Sulfidic Odor	<u> </u>	Organic Streaking	,						
-	Aquic Moisture	_	Listed on Local Hydric Soils List							
_	Reducing Cond	itions	Listed on Nationa	l Hydric Soils List						
_	Gleyed or Low-0	Chroma Colors	Other (Explain in	Remarks)						
Remarks: H	lydric soil criterion is ı	met. While no mottling wa	s present in soils with a	chroma of 2, the presence of wetland hy	drology points to the soils be	ing hydric.				
WETLAND	DETERMINATIO	N								
Hydrophytic	: Vegetation Present?	√ Yes	No							
	drology Present?	√ √ Yes	— No							
Hydric Soils	o,	Y Yes	No	Is this Sampling Point Within a Wetla	and? √ Yes	No				
		<u></u>		<u> </u>	<u></u>					
events by ov	verflow from headwate		oodwaters recede, wat	Lagunitas Creek. The site is probably ter table levels remain within the top 1 lge.						

		(1967	COE Wetlands	Delinea	tion i	nanuai)		
Project/Site:	Giacomini V	Vetland Restora	tion Project, Giaco	mini Rand	ch, Poi	nt Reye	:S	Date:	11/19/03
Applicant/Owner:	Point Reyes	National Seash	nore					County:	Marin
Investigator:	Lorraine Par	rsons and Leslie	e Allen					State:	CA
Site Location:	Very southe	rn end of West	Pasture near levee)					
Do Normal Circums	stances exist	on the site?		Yes	_√	No		Community	Upland
Is the site significa	ntly disturbe	d (Atypical Situ	uation)?	Yes		No	\checkmark	Transect ID:	
Is the area a potent	ial Problem /	Area?		Yes		No	$\overline{\ \ }$	Plot ID:	1B
(If needed, expl	ain on revers	se.)				_			
EGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domii	nant Pla	nt Specie	s	Stratum	Indicator
Dactylis glomerata		Herb	FACU						
2. Brassica nigra		Herb	NL						
3. Agrostis stolonifera		Herb	FAC+, FACW						
4. Conium maculatum			FAC						
5									
6.									
7								_	
8. Percent of Dominant Spe				-				_	
Remarks: Vegetative crit adicata (NL), Mentha pules					ytic. Oth	er species	s present	include <i>Bromus hord</i> a	aceus (UPL), Hypochaeris
TEROLOGI	Recorded Dat	a (Describe in Rem	arks):		Wetlar	d Hydrol	oav India	ators:	
<u></u>		Stream, Lake or Ti	•			rimary In			
		Aerial Photograph	ıs			_	Inund	ated	
		Other					hes		
√	No Recorded	Data Available			_		— Water	Marks	
	-						Drift L	ines	
Field Observations:							Sedim	ent Deposits	
							Draina	nge Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	s	econdary	/ Indicato	rs (2 or more requir	ed):
						_√	Oxidiz	ed Root Channels i	n Upper 12 inches
Depth to Fre	e Water in Pit:			(in.)			Water	-Stained Leaves	
							Local	Soil Survey Data	
Depth to Sa	turated Soil:			(in.)			FAC-N	leutral Test	
					_		Other	(Explain in Remarks	s)
Remarks: Hydrologic crit been 2.03 inches of rainfall evees into adjacent pasture	in the prior two we								

SOII S

SUILS						
Map Unit Na	me					
(Series and F	Phase): In	verness Loam, 15 – 30	% Slopes	Drainage Class:		
Taxonomy (S	Տubgroup)։ ——			Field Observations Confirm M	lapped Type? Yes —	No√
Profile Descr	ription			-		
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.	
0-4	A	10YR 3/2		Very few/distinct	Sandy loam	
4-12	A/B	10YR 3/2		No mottles	Sandy loam	
Hydric Soil II	ndicators:					
_	Histosol	<u>_</u>	Concretions			
_	Histic Epipe	don	High Organic Con	tent in Surface Layer in Sandy Soils		
_	Sulfidic Odo	r	Organic Streaking	յ in Sandy Soils		
	Aquic Moist	ure Regime	Listed on Local H	ydric Soils List		
_	Reducing Co	onditions	Listed on National	I Hydric Soils List		
_	Gleved or Lo	ow-Chroma Colors	Other (Explain in I	Remarks)		
_		_		,,		
Remarks: H	ydric soil criterion	is NOT met. While mottling v	was present, there were	very few mottles, suggesting that the soi	ils are not hydric.	
VACETI AND		FIGN				
WEILAND	DETERMINAT	ION				
Hydrophytic	Vegetation Preser	nt? Yes	√ No			
Wetland Hyd	drology Present?	Yes	√ No			
Hydric Soils	Present?	Yes	√ No	Is this Sampling Point Within a Wetla	nd? Yes $\sqrt{}$	No No
Remarks: Sa	ampling point is lo	cated on a levee adjacent to	Lagunitas Creek. An	y precipitation or run-off probably flow	vs into adjacent pastures or flo	oodplain.

Project/Site:	Giacomini Wetland Rest	oration Project, Giac	omini Ranch	, Point Reye	es	Date:	11/19/03	
Applicant/Owner:	Point Reyes National Se	•				County:	Marin	
Investigator:	Lorraine Parsons and Le					State:	CA	
_						State.		
Site Location:	Very southern end of We	est Pasture near leve	ee					
	stances exist on the site		Yes _	√ No		Community	Upland	
Is the site significantly disturbed (Atypical Situation)?			Yes _	No		Transect ID:		
s the area a potent	ial Problem Area?		Yes _	No	_√	Plot ID:	1C	
(If needed, expl	ain on reverse.)							
EGETATION								
Dominant Plant Sp	ecies Stratum	Indicator	Dominar	nt Plant Speci	es	Stratum	Indicator	
Raphanus sativus	Herb	NL		·		_	_	
2. Cirsium vulgare	Herb	FAC				_		
3. Trifolium repens	Herb	FAC						
4. Hypochaeris radica	s radicata Herb NL							
5. Lolium sp.	Herb	FAC				_		
6. Bromus sp.	Herb							
7.						_	_	
8								
ercent of Dominant Spe	cies that are OBL, FACW or FA	C (excluding FAC-).	/= 60%					
emarks: Vegetative crit	erion is met. Dominant plant sp	ecies are greater than 50%	hydrophytic. Ho	owever, the pla	nts prese	nt are marginal hydro	phytic species.	
YDROLOGY								
	Recorded Data (Describe in	Remarks):	W	etland Hydro	logy Indi	cators:		
	Stream, Lake	or Tide Gauge		Primary Indicators:				
	Aerial Photogr	raphs			Inund	ated		
	Other				Satur	ated in Upper 12 inc	hes	
\checkmark	No Recorded Data Available				Water	Marks		
	_				— Drift I	ines		
Field Observations:					— Sedin	nent Deposits		
					_	age Patterns in Wet	lands	
Depth of Su	rface Water:		(in.)	Secondar	_	ors (2 or more requi		
•			- ' '	√	-	zed Root Channels i	-	
Depth to Fre	ee Water in Pit:		(in.)		_	-Stained Leaves	• •	
200			_ ```		_	Call Common Data		

Remarks: Hydrologic criterion is NOT met. No direct observation of saturation or inundation was observed, but it was the fall prior to most of the rainy season. There was 2.03 inches of rainfall in the two weeks prior to sampling. Oxidized pore channels were common and distinct in the upper 2- to 3 inches, but there were no other secondary indicators. This area is located in a higher elevation portion of the pasture, and any waters probably drain off. Primary hydrologic sources included precipitation and surface runoff from adjacent uplands.

(in.)

FAC-Neutral Test

Other (Explain in Remarks)

Depth to Saturated Soil:

JUILJ							
Map Unit Nar	ne						
(Series and P	hase): Inve	erness Loam, 15 – 30	% Slopes	Drainage Class:			
Taxonomy (S	Subgroup):			Field Observations Confirm M	apped Type? Yes –	No	√
Profile Descr	iption						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.		
0-12	A/B	10YR 3/3		No mottles	Fine sandy loam		
					Gravel in lower layers		
Hydric Soil Ir	ndicators:						
_	Histosol		Concretions				
<u>-</u>	Histic Epipedo	on	High Organic Co	ntent in Surface Layer in Sandy Soils			
_	Sulfidic Odor		Organic Streakin	g in Sandy Soils			
	Aquic Moisture	e Regime	Listed on Local F	lydric Soils List			
_	Reducing Con	ditions	Listed on Nationa	al Hydric Soils List			
_	Gleyed or Low	r-Chroma Colors	Other (Explain in	Remarks)			
Remarks: Hy	dric soil criterion is	s NOT met. Soil is not low o	chroma (3), so soils are	not hydric.			
WETLAND	DETERMINATI	ON					
Hydrophytic	Vegetation Present	? <u>√</u> Yes	No				
Wetland Hyd	rology Present?	Yes	√ No				
Hydric Soils	Present?	Yes	√ No	Is this Sampling Point Within a Wetla	nd? Yes	√ No	
Remarks: Sa portions of the		ated in a higher elevation	portion of the West Pa	asture of the Giacomini Ranch. Any pro	ecipitation or run-off probab	ly flows into	lower

	(198	7 COE Wetland	s Delinea	ation iv	lanua	l)			
Project/Site:	Giacomini Wetland Restora	ation Project, Giac	omini Ran	ch, Poir	nt Reye	es	Date:	11/25/03	
Applicant/Owner:	Point Reyes National Seas	shore					County:	Marin	
Investigator:	Lorraine Parsons and Lesl	ie Allen					State:	CA	
Site Location:	Southern end of West Pas	ture near SFD							
Do Normal Circum	stances exist on the site?		Yes	√	No		Community	Adjacent Wetland	
Is the site significa	ntly disturbed (Atypical Sit	uation)?	Yes		No	√	Transect ID:		
Is the area a poten	tial Problem Area?		Yes		No	1	Plot ID:	2A	
(If needed, exp	ain on reverse.)								
VEGETATION									
Dominant Plant S		Indicator	Domi	nant Plan	t Specie	es	Stratum	Indicator	
Aesculus californica		NL FACIAL					_		
Rubus discolor Rubus ursinus	Shrub Shrub	FACW							
		OBL							
					_				
5. 6.							_		
7.							_		
8.			-				_	-	
Percent of Dominant Spe	ecies that are OBL, FACW or FAC (evaluding EAC-)	/= 75%				_		
•	•								
Remarks: Vegetative cri	terion is met. Dominant vegetation is	s <u>greater than</u> 50% hydi	rophytic.						
HYDROLOGY	Decembed Date (December in Dec			Matlan	J. I. I. and an all				
	Recorded Data (Describe in Rer Stream, Lake or	· · · · · · · · · · · · · · · · · · ·		Wetland Hydrology Indicators: Primary Indicators:					
	Aerial Photograp	-		Inundated					
	Other			-		— Satur	ated in Upper 12 inc	hes	
√ No Recorded Data Available				-		_	· Marks		
	— No Recolued Data Available					_			
					- 1	Drift L			
Field Observations:					٧	_	nent Deposits		
D. 41 -40	for Make		C	l <u> </u>		_	age Patterns in Wet		
Depth of Su	ırface Water:		_ (in.)	Se			ors (2 or more requi	•	
					٧	_	zed Root Channels i	n upper 12 inches	
Depth to Fr	ee Water in Pit:		_ (in.)			_	-Stained Leaves		
						_	Soil Survey Data		
Depth to Sa	turated Soil:		_ (in.)			_	Neutral Test		
				Other (Explain in Remarks)					

Remarks: Hydrologic criterion is met. No direct observation of saturation or inundation was observed in the fall prior to most of the rainy season. There was 1. 49 inches of rainfall in the two weeks prior to sampling, but it was early enough in the season that it would not be expected to create hydric conditions. Sediment deposits as evidenced by matted vegetation and signs of prolonged ponding (watermarked detritus) were observed. Also, there were distinct and common oxidized pore channels. This sampling point occurs at the base of the Inverness Ridge, where it appears that groundwater seeps under Sir Francis Drake Blvd into the West Pasture and creates favorable conditions for a fringe of riparian vegetation.

Map Unit Nam	ne					
(Series and P	hase): Inve	rness Loam, 15 – 30	% Slopes	Drainage Class:		
Taxonomy (So	ubgroup):			Field Observations Confirm M	apped Type? Yes	No √
Profile Descri	iption					
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.	
0-12	A/B	10YR 3/2		Prominent/Abundant		
Hydric Soil In	dicators:		Concretions			
	Histic Epipedor	n	High Organic Co	ntent in Surface Layer in Sandy Soils		
	Sulfidic Odor	_	Organic Streakin	g in Sandy Soils		
	Aquic Moisture	Regime	Listed on Local I	Hydric Soils List		
_	Reducing Cond	ditions	Listed on Nation	al Hydric Soils List		
		-Chroma Colors	Other (Explain in	-		
Remarks: Hy	dric soil criterion is	met. Mottling was abunda	ant in soils with low chr	oma (2), suggesting that the soils are hydr	ic.	
VETLAND	DETERMINATIO	ON				
Hydronhytic \	Vegetation Present?	√ Yes	No			
,a.opyac		√ Yes	No			
Wetland Hydr	ology Present?					

11/25/03 Marin CA Upland
CA Upland
Upland
•
•
2C
2C
20
Indicator
alifornicus (NL), Cynosu
ies
ınds
ed):
ay.
u Upper 12 inches
•
•
•

Inverness Loam, Matrix Co (Munsell II 10YR 3/2	olor	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast No mottles	Texture, C	Yes - Concretions, etc. ots of gravel an	No	<u>√</u>
on (Munsell M			Mottle Abundance/Size/Contrast	Texture, C	Concretions, etc.		<u> </u>
on (Munsell M			Abundance/Size/Contrast	Structure,	etc.	nd sand	
on (Munsell M			Abundance/Size/Contrast	Structure,	etc.	nd sand	
sol		Concretions					
Epipedon		High Organic Co	ntent in Surface Layer in Sandy So	ils			
ic Odor		Organic Streakin	g in Sandy Soils				
Moisture Regime		Listed on Local I	lydric Soils List				
ing Conditions		Listed on Nation	al Hydric Soils List				
_			•				
iterion is NOT met. No n	mottles were pre	sent in the low chr	oma (2) soil, suggesting that the soils	are NOT hydric.			
MINATION							
Dragont?	V	l No					
							
		<u>. </u>					
Y	Yes <u>v</u>	No	Is this Sampling Point Within a W	/etland?	Yes	√ No	
	### AINATION Present?	Moisture Regime cing Conditions d or Low-Chroma Colors riterion is NOT met. No mottles were pre MINATION Present? Yes Yes Yes Yes Yes Yes Yes Yes Yes	ic Odor Organic Streakin Moisture Regime Listed on Local H Cing Conditions Listed on Nations d or Low-Chroma Colors Other (Explain in Citerion is NOT met. No mottles were present in the low chr MINATION Present? Yes √ No Sent? Yes √ No Yes √ No Yes √ No int is located in riparian area adjacent to Sir Francis Dral	Organic Streaking in Sandy Soils Moisture Regime Listed on Local Hydric Soils List Listed on National Hydric Soils List Other (Explain in Remarks) Other (Explain in Remarks) Other (Soils List Other (Explain in Remarks) INDATION OTHER OTH	Organic Streaking in Sandy Soils Moisture Regime Listed on Local Hydric Soils List Listed on National Hydric Soils List d or Low-Chroma Colors Other (Explain in Remarks) Criterion is NOT met. No mottles were present in the low chroma (2) soil, suggesting that the soils are NOT hydric. MINATION Present? Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V	Organic Streaking in Sandy Soils Moisture Regime Listed on Local Hydric Soils List Listed on National Hydric Soils List d or Low-Chroma Colors Other (Explain in Remarks) Other (Explain in Remarks) Other (Soils List d or Low-Chroma Colors Other (Explain in Remarks) Other (Soils List d or Low-Chroma Colors Other (Explain in Remarks) Other (Explain in Remarks) In No mottles were present in the low chroma (2) soil, suggesting that the soils are NOT hydric. In No mottles were present in the low chroma (2) soil, suggesting that the soils are NOT hydric. In No mottles were present in the low chroma (2) soil, suggesting that the soils are NOT hydric. In No mottles were present in the low chroma (2) soil, suggesting that the soils are NOT hydric. In No mottles were present in the low chroma (2) soil, suggesting that the soils are NOT hydric. In No mottles were present in the low chroma (2) soil, suggesting that the soils are NOT hydric.	Organic Streaking in Sandy Soils Moisture Regime Listed on Local Hydric Soils List Listed on National Hydric Soils List d or Low-Chroma Colors Other (Explain in Remarks) Other (Explain in Remarks) Other (Soil, suggesting that the soils are NOT hydric. MINATION Present? Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V

	(198	7 COE Wetland	s Deline	ation i	vianua	1)		
Project/Site:	Giacomini Wetland Restor	ation Project, Giac	omini Rar	nch, Po	int Reye	es	Date:	11/19/03
Applicant/Owner:	Point Reyes National Seas	shore					County:	Marin
Investigator:	Lorraine Parsons and Les	ie Allen					State:	CA
Site Location:	Southern end of West Pas	ture						
Do Normal Circum	stances exist on the site?		Yes	√_	No		Community	Adjacent Wetland
	intly disturbed (Atypical Si	tuation)?	Yes		No	_√	Transect ID:	
•	tial Problem Area?		Yes		No_		Plot ID:	3A
(If needed, exp	lain on reverse.)							
/ECETATION								
/EGETATION Dominant Plant S	pecies Stratum	Indicator	Dom	inant Pla	nt Specie	es	Stratum	Indicator
Glyceria occidental		OBL						_
2.								
3.							_	
4.							_	
5							_	
6							_	
7.							_	
8							_	
Percent of Dominant Spe	ecies that are OBL, FACW or FAC (excluding FAC-).	/= 100%					
Remarks: Vegetative cri pulegium (OBL), and Agro	terion is met. Dominant vegetation sis stolonifera (FACW).	s <u>greater than</u> 50% hydi	ophytic. Oth	ner plant s	species pr	esent inc	ude <i>Juncus balticus</i> (OBL), Rumex sp., Mentha
TI DICOLOGI	Recorded Data (Describe in Re	marks):		Wetla	nd Hvdro	loav Indi	cators:	
	Stream, Lake or	•		Wetland Hydrology Indicators: Primary Indicators:				
	Aerial Photograp	ohs		l _				
	Other		Saturated in Upper 12 inches					hes
√	No Recorded Data Available					Wate	Marks	
	_			-		— Drift I	_ines	
Field Observations:				1 -		— Sedin	nent Deposits	
				_			age Patterns in Wetl	ands
Depth of Su	ırface Water:		(in.)	5	Secondar	_	ors (2 or more requir	
			_		1	Oxidi	zed Root Channels i	n Upper 12 inches
Depth to Fr	ee Water in Pit:		(in.)	-		Wate	r-Stained Leaves	
			_	_		— Local	Soil Survey Data	
Depth to Sa	aturated Soil:		(in.)	-		_	Neutral Test	
-			_			Other	(Explain in Remark	s)
Remarks: Hydrologic cri	terion appears to be met. No direct	observation of saturation	n or inundati	ion was o	bserved ir	n the fall p	prior to most of the rain	nv season. While there had

Remarks: Hydrologic criterion appears to be met. No direct observation of saturation or inundation was observed in the fall prior to most of the rainy season. While there had been 2.03 inches rainfall in the two weeks prior to sampling, it was early enough in the rainy season that this would not be expected to produce hydric conditions. Only one secondary indicator was observed: there were prominent, abundant oxidized pore channels. While the presence of only one secondary indicator would suggest that the hydrologic criterion was not met, the fact that this area is probably saturated from groundwater/seep flows from the Inverness Ridge rather than flooded with surface flows that would create some of the other indicators suggests that this area does probably have wetland hydrology.

(Series and Pha	ase): Nova	sto Clay								
		alo Clay		Drainage Class:						
Taxonomy (Sul	ogroup):		Field Observations Confirm Mapped Type? Yes $\sqrt{}$							
Profile Descrip	tion									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-4	A				Organic sandy material					
4-12+	A/B	10YR 3/2		Prominent/Abundant	Clay loam					
Hydric Soil Indi										
	Histosol	_	Concretions							
	Histic Epipedon	1 _	High Organic Conte	ent in Surface Layer in Sandy Soils						
	Sulfidic Odor	_	Organic Streaking in	n Sandy Soils						
	Aquic Moisture	Regime	Listed on Local Hyd	dric Soils List						
	Reducing Cond	ditions	Listed on National Hydric Soils List							
	Gleyed or Low-	-Chroma Colors	Other (Explain in Re	Other (Explain in Remarks)						
			<u> </u>							
Remarks: Hyd	ric soil criterion is	met. Mottling was abundar	nt in soils with low chroma	a (2), suggesting that the soils are hydri	ic.					
VETLAND D	DETERMINATIO	NC								
Hydrophytic Ve	egetation Present?	? √ Yes	No							
Wetland Hydro	logy Present?	√ Yes	No							
Hydric Soils Pr		√ √ Yes	No Is	s this Sampling Point Within a Wetla	and? √ Yes No					
					ss Ridge, where it appears that groundwater see					

	(1987 COE Wetland	as Deline	ation i	vianua	1)			
Project/Site:	Giacomini Wetland Res	storation Project, Gia	acomini Rar	nch, Po	int Reye	es	Date:	11/19/03	
Applicant/Owner:	Point Reyes National S		County:	Marin					
Investigator:	Lorraine Parsons and L	_eslie Allen					State:	CA	
Site Location:	Southern end of West I	Pasture near levee					1		
Do Normal Circum	stances exist on the sit	e?	Yes	·	No		Community	Adjacent Wetland	
Is the site significa	intly disturbed (Atypical	l Situation)?	Yes		No	1	Transect ID:		
Is the area a poten	tial Problem Area?		Yes		No	_√	Plot ID:	3B	
(If needed, expl	lain on reverse.)								
/EGETATION									
Dominant Plant Sp	pecies Stratum		Dom	inant Pla	nt Specie	es	Stratum	Indicator	
1. Salix lasiolepis	Tree	FACW	↓ <u> </u>						
2. Rubus ursinus	Shrub	FACW	↓ —						
3. Oenanthe sarmento		OBL	┥ —						
4. Mentha pulegium	Herb	OBL	┤ —						
5.			┤ —						
6. 7.			┥ —						
8.		<u> </u>	┥ —						
	ecies that are OBL, FACW or FA	AC (avaluding EAC)	/= 100%					<u> </u>	
•									
Americanum (FAC), Rorippe	terion is met. Dominant vegetate on palustris (OBL), and Chenopo	tion is <u>greater tnan</u> 50% ny dium ambrosioides (FAC).	dropnytic. Ot	ner speci	es presen	t include :	Rumex congiomeratu	s (FACVV), Solanum	
	Recorded Data (Describe in	n Remarks):		Wetlar	nd Hydrol	logy Indi	cators:		
<u> </u>	Stream, Lake	e or Tide Gauge		Primary Indicators:					
	Aerial Photo	graphs		Inundated					
	Other			Saturated in Upper 12 inches					
\checkmark	No Recorded Data Availabl	e				Wate	r Marks		
	_			-		— Drift I	Lines		
Field Observations:				1 -		— Sedin	nent Deposits		
		-		_	age Patterns in Wetl	ands			
Depth of Surface Water: (in.)					Secondary Indicators (2 or more required):				
					√ Oxidized Root Channels in Upper 12 inches				
Depth to Fr	ee Water in Pit:		(in.)	_	Water-Stained Leaves				
			_			Local	Soil Survey Data		
Depth to Sa	nturated Soil:		(in.)	FAC-Neutral Test					
			_	_		Other	(Explain in Remark	s)	
Remarks: Hydrologic crit	terion appears to be met. No d	direct observation of saturation	tion or inundati	ion was o	bserved ir	n the fall p	prior to most of the rain	nv season. While there had	

Remarks: Hydrologic criterion appears to be met. No direct observation of saturation or inundation was observed in the fall prior to most of the rainy season. While there had been 2.03 inches rainfall in the two weeks prior to sampling, it was early enough in the rainy season that this would not be expected to produce hydric conditions. Only one secondary indicator was observed: there were prominent, abundant oxidized pore channels. While the presence of only one secondary indicator would suggest that the hydrologic criterion was not met, the fact that this area is probably saturated from groundwater/seep flows from the Inverness Ridge rather than flooded with surface flows that would create some of the other indicators suggests that this area does probably have wetland hydrology.

SOILS							_					
Map Unit Nar	me											
(Series and F	Phase): Inve	erness Loam, 50 - 75	% Slopes	Drainage Class:								
Taxonomy (Subgroup):				Field Observations Confirm Mapped Type? Yes								
Profile Descr	ription						—					
Depth	·•	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,							
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.							
0-12	A/B	10YR 3/2		Abundant/Prominent	·		_					
							_					
Hydric Soil Ir	ndicators:											
_	Histosol	_	Concretions									
_	Histic Epipedo	on	High Organic Conte	ent in Surface Layer in Sandy Soils								
_	Sulfidic Odor	_	Organic Streaking i	n Sandy Soils								
	Aquic Moisture	e Regime	Listed on Local Hyd	dric Soils List								
_	Reducing Con		Listed on National I	Hydric Soils List								
_	√ Gleyed or Low	v-Chroma Colors	Other (Explain in Re	emarks)								
	<u> </u>		<u> </u>									
Remarks: Hy	/dric soil criterion is	met. Mottling was abundar	nt in soils with low chroma	(2), suggesting that the soils are hydric	3.							
VETLAND	DETERMINATION	ON					_					
⊔vdronhytic	: Vegetation Present	? J No										
	_	 _										
•	drology Present?	√ No	 1.	- 41-1- Comming Daint Within a Watla	10 / Van	Na						
Hydric Soils		No		s this Sampling Point Within a Wetla		No	_					
				Boulevard at the base of the Inverness a fringe of riparian vegetation.	s Ridge, where it appears that	t groundwater see	≱					

		(1967)	COE Wetland	S Deline	ation i	ianuai	'		
Project/Site:	Giacomini Wetland Restoration Project, Giacomini Ranch, Point Reyes							Date:	11/19/03
Applicant/Owner:	Point Reyes	National Seas	County:	Marin					
Investigator:	Lorraine Par	rsons and Leslie	e Allen					State:	CA
Site Location:	Southern er	nd of West Past	ure						
Do Normal Circum	stances exist	on the site?		Yes	1	No		Community	Upland
Is the site significa	ntly disturbe	d (Atypical Situ	uation)?	Yes		No	1	Transect ID:	
Is the area a poten	tial Problem /	Area?		Yes		No	_√	Plot ID:	3C
(If needed, expl	ain on revers	se.)							
VEGETATION									
Dominant Plant Sp	oecies	Stratum	Indicator	Dom	inant Pla	nt Specie	es	Stratum	Indicator
1. Lolium sp.		Herb	FAC					_	
2. Dactylis glomerata		Herb	FACU	. —					
3. Holcus lanatus		Herb	FACW	. —					
4.									
5. 6.								_	
7.								_	
8.								_	
Percent of Dominant Spe	cies that are OBI	FACW or FAC (e	xcluding FAC-)	/= 66%					
Remarks: Vegetative crit plant species include <i>Raph</i>	terion is met. Do nanus sativus (NL)	ominant plant specie , <i>Trifolium fragiferun</i>	es are <u>greater than</u> 50º n (FACW-), <i>Trifolium n</i>	% hydrophytio ∍pens (FAC),	c. Howeve Lotus con	er, the pla	ents prese (FAC).	nt are marginal hydro	phytic species. Also, other
	Recorded Dat	a (Describe in Rem	arks):		Wetlan	d Hydrol	ogy Indic	ators:	
		Stream, Lake or T	<u> </u>		Primary Indicators:				
		Aerial Photograph	ıs		Inundated				
		Other			Saturated in Upper 12 inches				
	No Recorded	Data Available			Water Marks				
					_		Drift L	ines	
Field Observations:					Sediment Deposits				
					_			ige Patterns in Wetl	
Depth of Su	ırface Water:			(in.)	s	, -		rs (2 or more requir	•
= =	14/. / 1 - 5/2			<i>p</i>	_	٧	_	ed Root Channels i	n Upper 12 inches
Depth to Fr	ee Water in Pit:			(in.)	_		_	Stained Leaves	
Danish 4 : O	Aurotod C-!!			(im)	Local Soil Survey Data				
Depth to Sa	turated Soil:	-		_ (in.)	FAC-Neutral Test Other (Explain in Remarks)				
Remarks: Hydrologic cri	terion is NOT me	t. No direct observ	ation of saturation or i	nundation wa	s observe	d in the fa	_		

Remarks: Hydrologic criterion is NOT met. No direct observation of saturation or inundation was observed in the fall prior to most of the rainy season. While there had been 2.03 inches rainfall in the two weeks prior to sampling, it was early enough in the rainy season that this would not be expected to produce hydric conditions. Oxidized pore channels were few and faint, anothere were no other secondary indicators. This area is located in a higher elevation portion of the pasture, and any waters from precipitation or surface run-off probably drain off to lower areas.

SUILS											
Map Unit Nan	ne					=					
(Series and Phase): Novato Clay			Drainage Class:								
Taxonomy (Subgroup):				Field Observations Confirm Mapped Type? Yes √ No							
Profile Descri	iption										
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,						
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.						
0-12+	A/B	10YR 3/2		No mottles	Silt loam						
Hydric Soil In	ndicators:					_					
_	Histosol	_	Concretions								
_	Histic Epipedo	on	High Organic C	gh Organic Content in Surface Layer in Sandy Soils							
_	Sulfidic Odor	_	Organic Streak	ing in Sandy Soils							
	Aquic Moisture	e Regime	Listed on Local	l Hydric Soils List							
_	Reducing Con	ditions	Listed on Natio	Listed on National Hydric Soils List							
_ _	Gleyed or Low	y-Chroma Colors	Other (Explain i	Other (Explain in Remarks)							
Remarks: Hyd	dric soil criterion is	NOT met. No mottles were	present in the low ch	nroma (2) soil, suggesting that the soils are	NOT hydric.						
WETLAND	DETERMINATION	ON									
l											
	Vegetation Present	? <u>√</u> Yes	No								
_	rology Present?	Yes	_√ No								
Hydric Soils I	Hydric Soils Present? Yes No										
Remarks: Sa portions of th		ated in a higher elevation p	portion of the West F	Pasture of the Giacomini Ranch. Any pro	recipitation or run-off probably flows into lov	er/					

		(1967	COE Wetland	is Delinea	tion i	nanuai)			
Project/Site:	Giacomini V	Vetland Restora	tion Project, Giad	comini Rand	ch, Poi	nt Reye	:S	Date:	11/25/03	
Applicant/Owner:	Point Reyes National Seashore							County:	Marin	
Investigator:	Lorraine Pa	rsons and Leslie	e Allen					State:	CA	
Site Location:	Southern er	nd of West Pastu	ure near diverted	drainage						
Do Normal Circums	stances exist	on the site?		Yes	_ \	No		Community	Upland	
ls the site significa	ntly disturbe	d (Atypical Situ	uation)?	Yes		No	_ √	Transect ID:		
Is the area a potent	tial Problem <i>i</i>	Area?		Yes		No	1	Plot ID:	4	
(If needed, expl	ain on revers	se.)				•				
EGETATION										
Dominant Plant Sp	ecies	Stratum	Indicator	Domir	nant Pla	nt Specie	s	Stratum	Indicator	
1. Lolium multiflorum		Herb	FAC					_	_	
2. Trifolium fragiferum		Herb	FACW-					<u> </u>	<u> </u>	
Geranium molle Cirsium vulgare		Herb Herb	NL FAC					<u> </u>	<u> </u>	
		Heib	FAC							
5.										
6.										
7. 8.								-	-	
Percent of Dominant Spe Remarks: Vegetative crit plant species include Brom	erion is met. De	ominant plant specie	es are greater than 50°	/= 75% % hydrophytic.	Howeve	er, the pla	nts prese	nt are marginal hydro	phytic species. Also, othe	
YDROLOGY										
	_ Recorded Dat	a (Describe in Rem	•			d Hydrol				
		Stream, Lake or Ti	-		P	rimary In				
		Aerial Photograph	S		_	Inundated				
V	No Recorded	Other Data Available			_		Saturated in Upper 12 inches Water Marks			
	_				_		_	Orift Lines		
Field Observations:							– Sedim	ent Deposits		
							– Draina	age Patterns in Wetl	ands	
Depth of Su	rface Water:			(in.)	S	econdary	_	ors (2 or more requir		
				_	Oxidized Root Channels in Upper 12 inches					
Depth to Fre	ee Water in Pit:			(in.)			 Water	-Stained Leaves		
		•		_			Local	Soil Survey Data		
Depth to Sa	turated Soil:			(in.)	FAC-Neutral Test					
				_	Other (Explain in Remarks)					
Remarks: Hydrologic crit 1.49 inches rainfall in the to secondary indicators. Area	vo weeks prior to	sampling, it was earl	y enough in the rainy :	season that thi	s would					

SUILS											
Map Unit Name	e										
(Series and Ph	nase): Nov	vato Clay		Drainage Class:							
Taxonomy (Su	ıbgroup):			Field Observations Confirm Mapped Type? Yes √ No							
Profile Descrip	otion										
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,						
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)		Structure, etc.						
0-12+	A/B	10YR 3/2		No mottles	Sandy loam fill with chunks of granite						
Hydric Soil Ind			0								
_	Histosol	<u>-</u>	Concretions								
_	Histic Epipedo	n <u> </u>		gh Organic Content in Surface Layer in Sandy Soils							
_	Sulfidic Odor	-		ing in Sandy Soils							
	Aquic Moistur	_		Hydric Soils List							
	Reducing Con	ditions	Listed on National Hydric Soils List								
_	Gleyed or Low	y-Chroma Colors	Other (Explain i	in Remarks)							
Remarks: Hyd	ric soil criterion is	NOT met. No mottles were	e present in the low ch	nroma (2) soil, suggesting that the soils are I	NOT hydric.						
WETLAND [DETERMINATI	ON									
				<u> </u>							
Hydrophytic V	egetation Present	? <u>√</u> Yes	No								
Wetland Hydro	ology Present?	Yes	√ No								
Hydric Soils P	resent?	Yes	√ No	Is this Sampling Point Within a Wetlan	nd? Yes 🔨 No						
	mpling point is location in point is location.	ated in a higher elevation	portion of the West F	Pasture of the Giacomini Ranch. Area app	pears to be fill from maintenance of ditch and						

		(196	7 COE Wetland		ation iv	lanuai	<i>)</i>			
Project/Site:	Giacomini V	Vetland Restora	Date:	2/20/04						
Applicant/Owner:	Point Reyes	National Seas	County:	Marin						
Investigator:	Lorraine Par	rsons and Krist	en Ward					State:	CA	
Site Location:	Southern en	nd of West Past	ure near SFD							
Do Normal Circum	stances exist	on the site?		Yes	√	No		Community	Upland	
Is the site significa	ntly disturbe	d (Atypical Sit	uation)?	Yes		No		Transect ID:		
Is the area a poten	tial Problem A	Area?		Yes		No	$\overline{}$	Plot ID:	5	
(If needed, expl	ain on revers	se.)				•				
/EGETATION										
Dominant Plant Sp	oecies	Stratum	Indicator	Dom	inant Plai	nt Specie	s	Stratum	Indicator	
1. Salix lasiolepis		Tree	FACW					_		
2. Rubus ursinus		Shrub	FACW					_		
3. Juncus balticus		Herb	OBL							
4. Holcus lanatus		Herb	FACW							
5.								_		
6.								_		
7. 8.								_		
								_		
Percent of Dominant Spe Remarks: Vegetative crit				/= 100% % hydrophytic	·.					
IYDROLOGY										
TEROLOGI	Recorded Data	a (Describe in Ren	narks):		Wetlan	d Hydrol	ogy Indic	cators:		
		Stream, Lake or T	-		Wetland Hydrology Indicators: Primary Indicators:					
		Aerial Photograph	hs				Inund	ated		
		Other					Satur	ated in Upper 12 inc	hes	
√	No Recorded	Data Available			Water Marks					
							— Drift L	ines		
Field Observations:							 Sedin	nent Deposits		
						Drainage Patterns in Wetlands				
Depth of Su	ırface Water:			(in.)	S	econdary	_	ors (2 or more requi		
				_		√	Oxidi	zed Root Channels i	n Upper 12 inches	
Depth to Fr	ee Water in Pit:			(in.)	-		 Water	-Stained Leaves		
-		-		_			_ Local	Soil Survey Data		
Depth to Sa	turated Soil:		12	(in.)	-		_	Neutral Test		
					Other (Explain in Remarks)					

Remarks: Hydrologic criterion does NOT appear to be met. Saturation was 12 inches below the soil surface only 3 days after the last rainfall, and there had been no significant break in precipitation prior to sampling (4.04 inches in prior two 18 days). Oxidized pore channels were distinct and abundant in some horizons, but there were no other secondary indicators. The fact that saturation was well below the soil surface only 7 days after the last rainfall and that there had been no significant break in precipitation suggests that this area does not have wetland hydrology.

SUILS											
Map Unit Name)										
(Series and Phase): Inverness Loam, 50 to 75 Taxonomy (Subgroup):			75 % Slopes	Drainage Class:							
				Field Observations Confirm M	Field Observations Confirm Mapped Type? Yes $$ No						
Profile Descrip	tion										
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,						
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.						
0-12+	A/B	10YR 2/1		No mottles	Sandy loam with fill						
Hydric Soil Ind	icators:										
	Histosol		Concretions	Concretions							
	Histic Epipe	edon	High Organic Co	ontent in Surface Layer in Sandy Soils							
	Sulfidic Od	or	Organic Streaki	g in Sandy Soils							
	Aquic Mois	ture Regime	Listed on Local	lydric Soils List							
	Reducing C	onditions	Listed on Nation	al Hydric Soils List							
	Gleyed or L	ow-Chroma Colors	Other (Explain i	n Remarks)							
				ma (1), suggesting that the soils are hydric lerefore, soils are NOT hydric.	. However, the lack of wetland hydrology and the						
WETLAND D	ETERMINA	TION									
Hydrophytic Ve	egetation Prese	ent? √ Yes	No								
Wetland Hydro	logy Present?	Yes	√ No								
Hydric Soils Present? Yes Ves Ves Ves Ves Ves Ves Ves											
While adjacent	riparian areas	were actually saturated to	the surface, the water	table here was actually 12 inches below	hat this area is fill from road construction. the soil surface only 7 days since the last er table appears to be well below the soil						

Project/Site:	Giacomini W	etland Restora	ation Project, Giac	omini Ranch,	Point Rey	es	Date:	11/25/03		
Applicant/Owner:	Point Reyes	National Seas	hore				County:	Marin		
Investigator:	Lorraine Pars	sons and Lesli	e Allen				State:	CA		
Site Location:	Southern end	d of West Past	ture near SFD							
Do Normal Circum				Yes	√ No		Community	Adjacent Wetland		
Is the site significa			uation\?	Yes	No	-1	Transect ID:	Aujacent Welland		
is the area a poten	-		uation):	Yes	No	- N	Plot ID:			
•		162	NO	<u> </u>	FIOUID.	6				
(If needed, expl	ain on reverse	∌.)								
EGETATION										
Dominant Plant Sp	pecies	Stratum	Indicator	Dominan	t Plant Speci	es	Stratum	Indicator		
Trifolium fragiferum						-				
2. Agrostis stolonifera		Herb	FACW	-						
3. Scirpus pungens		Herb	OBL							
4. Juncus phaeocepha	alus	Herb	FACW							
5.										
6										
7.										
8										
ercent of Dominant Spe	cies that are OBL,	, FACW or FAC (e	excluding FAC-).	/= 100%						
emarks: Vegetative crit	erion is met. Dor	minant vegetation i	s greater than 50% hyd	Irophytic. Other p	olant species r	resent inclu	de Cyperus eragro	stis (FACW).		
· ·		3	,	. , .			,, 0	,		
YDROLOGY										
IDROLOGI	Recorded Data	(Describe in Ren	narks):	w	etland Hydro	logy Indica	tors:			
	_	` Stream, Lake or T	•			ndicators:				
		Aerial Photograp	hs	Inundated						
		Other			√ Saturated in Upper 12 inches					
•	No Recorded D	Oata Available				Water I	Marks			
√						Drift Lines				
							103			
√ Field Observations:										
√ Field Observations:						Sedime	ent Deposits ge Patterns in Wet	lands		

Remarks: Hydrologic criterion is met. Saturation was observed in the top 12 inches in the fall prior to most of the rainy season. While there had been 1.49 inches rainfall in the two weeks prior to sampling, it was early enough in the rainy season that this would not be expected to produce hydric conditions. It was actually more saturated in upper 6 inches than lower 6 inches. Oxidized pore channels were prominent and abundant.

(in.)

(in.)

Depth to Free Water in Pit:

Depth to Saturated Soil:

Oxidized Root Channels in Upper 12 inches

Water-Stained Leaves Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

Map Unit Na	ame									
Series and	Phase): Nov	/ato Clay		Drainage Class:						
Taxonomy ((Subgroup):			lapped Type? Yes √ No						
Profile Desc	cription									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Abundance/Size/Contrast	Structure, etc.					
0-8	A	10YR 3/2			Fine sandy loam					
8-12+	В	10YR 3/1		Prominent/Abundant	Coarse sandy clay					
lydric Soil I	Indicators:									
_	Histosol	_	Concretions							
_	Histic Epipedo	on	High Organic Co	ntent in Surface Layer in Sandy Soils						
_	Sulfidic Odor	_	Organic Streakin	g in Sandy Soils						
	Aquic Moistur	e Regime	Listed on Local Hydric Soils List							
-	Reducing Con	ditions	Listed on Nation	isted on National Hydric Soils List						
-	√ Gleyed or Low	<i>y</i> -Chroma Colors	Other (Explain in	Remarks)						
Remarks: H	lydric soil criterion is	s met. Mottling was abunda	ant in soils with low chro	ma (2 and 1), suggesting that the soils ar	re hydric.					
VETLAND	DETERMINATI	ON								
	Vegetation Present	 _	No							
Vetland Hyd	drology Present?	_√ Yes	No							
Hydric Soils	Present?	_√ Yes	No	Is this Sampling Point Within a Wetla	and? <u>√</u> Yes No					
	ancis Drake Blvd into t				ss Ridge, where it appears that groundwater seeps even during the fall when there had been no or					

Project/Site:	Giacomin	i Wetland Restora	ation Project, Giac	omini Ranch, F	oint Rey	es	Date:	2/20/04
Applicant/Owner	Point Rey	es National Seas	hore				County:	Marin
Investigator:	Lorraine F	Parsons and Kristo	en Ward				State:	CA
Site Location:	Southern	end of West Past	ure				1	
Do Normal Circu	mstances ex	Community	Adjacent Wetland					
Is the site signifi	cantly disturl	bed (Atypical Sit	uation)?	Yes	No	$\overline{}$	Transect ID:	
Is the area a pote	ential Probler	n Area?		Yes	No	1	Plot ID:	7
/EGETATION							l	
Dominant Plant	Species	Stratum	Indicator	Dominant F	Plant Speci	es	Stratum	Indicator
Trifolium fragifer	um	Herb	FACW-					
Trifolium repens		Herb	FAC					
Lolium sp.		Herb	FAC					
4. Rumex sp.		Herb						
5.				-			_	_
6.		_					_	_
7.							_	_
8				-			_	
Percent of Dominant S	Species that are C	DBL, FACW or FAC (e	xcluding FAC-).	/= 100%				
Remarks: Vegetative	criterion is met.	Dominant vegetation is	s <u>greater than</u> 50% hyd	lrophytic.				
HYDROLOGY								
	Recorded I	Data (Describe in Ren	narks):	Wet	and Hydro	logy Indi	cators:	

Recorded Date	a (Describe in Remarks):		Wetland Hydrology In	dicators:
	Stream, Lake or Tide Gauge		Primary Indicato	ors:
	Aerial Photographs		Inu	ndated
	Other		√ Sat	turated in Upper 12 inches
√ No Recorded	Data Available		Wa	ter Marks
			Dri	ft Lines
Field Observations:			Sec	diment Deposits
			Dra	ainage Patterns in Wetlands
Depth of Surface Water:		(in.)	Secondary Indic	ators (2 or more required):
			√ Oxi	idized Root Channels in Upper 12 inches
Depth to Free Water in Pit:	12	(in.)	Wa	ter-Stained Leaves
			Loc	cal Soil Survey Data
Depth to Saturated Soil:	5	(in.)	FA	C-Neutral Test
		_	Oth	ner (Explain in Remarks)

Remarks: Hydrologic criterion is met. Soils were saturated in the upper 12 inches 3 days after the last significant rainfall. There had been 4.03 inches of rainfall in the last 14 to 18 days. Based on the water table level, it was assumed that the soils would remain saturated for at least 14 to 18 days without rainfall. There were also prominent and abundant oxidized pore channels.

Map Unit Nar	me								
(Series and F	Phase): Nov	ato Clay		Drainage Class:					
Taxonomy (S	Subgroup):			Field Observations Confirm Mapped Type? Yes √ No					
Profile Descr	ription								
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-12+	A/B	10YR 3/2		Common/Faint	Sandy loam with pockets of sand (fill?)				
Hydric Soil Ir	ndicators:		Concretions						
-	Histic Epipedo	<u> </u>		tent in Surface Layer in Sandy Soils					
-	Sulfidic Odor	<u> </u>	Organic Streaking	•					
_	Aquic Moisture	- Regime	Listed on Local Hy						
_	Reducing Con		Listed on National						
_			Other (Explain in F	•					
_	Gleyed of Low	-Cilioliia Colors	— Other (Explain in i	(endiks)					
Remarks: Hy	ydric soil criterion is	s met. Mottling was present	in soils with low chroma	(2), suggesting that the soils are hydric.					
WETLAND	DETERMINATION	ON							
		- 1							
	Vegetation Present		No						
Wetland Hyd	rology Present?	√ Yes	No						
Hydric Soils	Present?	_√ Yes	No	Is this Sampling Point Within a Wetla	ınd? <u>√</u> Yes No				
		ated in pasture area adjace he West Pasture and creates			s Ridge, where it appears that groundwater see				

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site:	Giacomini W	/etland Restora	ation Project, Giad	comini Ranch	h. Poir	nt Reve	es.	Date:	2/20/04
Applicant/Owner:		National Seas			.,	ii i ioye		County:	Marin
		sons and Krist						-	CA
Investigator:								State:	
Site Location:	Southern en	d of West Past	ure						
Do Normal Circum	stances exist	on the site?		Yes	1	No		Community	Adjacent Wetland
Is the site significa	intly disturbed	d (Atypical Sit	uation)?	Yes		No	1	Transect ID:	
Is the area a poten	s the area a potential Problem Area?					No	1	Plot ID:	8
(If needed, expl	lain on revers	e.)							
EGETATION								•	
Dominant Plant Sp		Stratum	Indicator	Domina	ant Plan	t Specie	es	Stratum	Indicator
 Trifolium fragiferum Lolium sp. 	<u> </u>	Herb Herb	FACW-						
3. Rumex sp.		Herb	TAC					_	_
4.		11010							_
5.	•		_					_	_
6.	,								
7.								_	
8.								_	
Percent of Dominant Spe	ecies that are OBL	., FACW or FAC (e	excluding FAC-).	/= 100%					
Remarks: Vegetative crit	terion is met. Do	minant vegetation i	s greater than 50% hyd	drophytic.					
IYDROLOGY									
	Recorded Data	a (Describe in Ren	narks):		Wetland	d Hydrol	ogy Indi	cators:	
		Stream, Lake or 1	=		Pr	imary In	dicators		
		Aerial Photograph	hs				_ Inund		
		Other				√	Satur —	ated in Upper 12 inc	hes
	No Recorded I	Data Available					Wate	r Marks	
							Drift	Lines	
Field Observations:	:						Sedir	nent Deposits	
							_	age Patterns in Wet	
Depth of Su	ırface Water:			_ (in.)	Se			ors (2 or more requi	
						√	_	zed Root Channels i	in Upper 12 inches
Depth to Fr	ee Water in Pit:		15	_ (in.)			_	r-Stained Leaves	
							Loca	Soil Survey Data	

Remarks: Hydrologic criterion is met. Soils were saturated in the upper 12 inches 3 days after the last significant rainfall. There had been 4.03 inches of rainfall in the last 14 to 18 days. Based on the water table level, it was assumed that the soils would remain saturated for at least 14 to 18 days without rainfall. There were also distinct and abundant oxidized pore channels. Primary hydrologic sources are surface run-off, precipitation, and groundwater.

(in.)

FAC-Neutral Test Other (Explain in Remarks)

Depth to Saturated Soil:

Map Unit Nar	me										
Series and F	Phase): No	ovato Clay		Drainage Class:							
Faxonomy (S	Subgroup):			√ No							
Profile Descr	ription										
Depth (inches) 0-12+	Horizon A/B	Matrix Color (Munsell Moist) 10YR 3/2	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast Few/Faint	Texture, Concretions, Structure, etc.						
lydric Soil Ir	ndicators:										
_	Histosol	_	Concretions								
_	Histic Epiped	_	_	ntent in Surface Layer in Sandy Soils							
_	Sulfidic Odo	<u> </u>	Organic Streaking	g in Sandy Soils							
	Aquic Moistu	ıre Regime	Listed on Local H	ydric Soils List							
	Reducing Co	nditions	Listed on Nationa	ll Hydric Soils List							
_	√ Gleyed or Lo	w-Chroma Colors	Other (Explain in	Remarks)							
lemarks: Hy	ydric soil criterion	is met. Mottling was present	in soils with low chroma	a (2), suggesting that the soils are hydric.							
/ETLAND	DETERMINAT	TON									
lydrophytic	Vegetation Preser	nt? √ Yes	No								
	rology Present?	√ √ Yes	No								
lydric Soils		√ Yes	No	Is this Sampling Point Within a Wetla	nd? √ Yes	No					
		cated in pasture area adjact the West Pasture and create		e Boulevard at the base of the Inverness		at groundwater see					

		(1987	COE Wetland	ds Delinea	tion N	<i>l</i> lanual)		
Project/Site:	Giacomini W	es	Date:	11/19/03, 2/20/04					
Applicant/Owner:	Point Reyes	National Seasl	nore					County:	Marin
Investigator:	Lorraine Par	sons, Leslie All	en, and Kristen \	Ward				State:	CA
Site Location:	Southern en	d of West Past	ure near levee						
Do Normal Circum	stances exist	on the site?		Yes	√	No		Community	Adjacent Wetland
ls the site significa	ntly disturbed	d (Atypical Situ	uation)?	Yes		No		Transect ID:	
Is the area a potent	tial Problem <i>A</i>	Area?		Yes		No	$\overline{\ }\sqrt{\ }$	Plot ID:	9A
(If needed, explain on reverse.)									
EGETATION								I	
Dominant Plant Sp	oecies	Stratum	Indicator	Domi	nant Pla	nt Specie	s	Stratum	Indicator
1. Trifolium fragiferum									
2. Trifolium repens	FAC					_			
3. Lolium perenne	B. Lolium perenne Herb FAC							_	
4								_	<u> </u>
5									
6.								_	
7								<u> </u>	
8								_	
Percent of Dominant Spe	cies that are OBL	., FACW or FAC (e	xcluding FAC-).	/= 100%					
Remarks: Vegetative crit	erion is met. Do	minant vegetation is	greater than 50% hy	drophytic. Oth	her speci	es preser	t include	Rumex sp. and Planta	ago major (FACW).
IYDROLOGY									
	Recorded Data	a (Describe in Rem	arks):		Wetlar	nd Hydrol	ogy Indic	cators:	
		Stream, Lake or T	ide Gauge		P	rimary In	dicators	:	
		Aerial Photograph	ıs			√	Inund	lated	
		Other					Satur	ated in Upper 12 incl	nes
\checkmark	No Recorded I	Data Available					Water	Marks	
							Drift L	_ines	
Field Observations:							Sedin	nent Deposits	
					_		Drain	age Patterns in Wetl	ands
Depth of Su	rface Water:	2 0	n 2/20/04	(in.)	s	econdary	/ Indicate	ors (2 or more requir	ed):
						\checkmark	Oxidi	zed Root Channels i	n Upper 12 inches
Depth to Fre	ee Water in Pit:			(in.)	_		Water	r-Stained Leaves	
				_			Local	Soil Survey Data	
Depth to Sa	turated Soil:			(in.)	_		FAC-I	Neutral Test	
					_		Other	(Explain in Remarks	s)

Remarks: Hydrologic criterion is met. Area was inundated 3 days after last significant rainfall. There had been 4.03 inches of rainfall in the prior 14 to 18 days. Secondary indicator was also observed: there were faint, but common oxidized pore channels. Primary hydrologic sources are groundwater, surface run-off, and precipitation.

Map Unit Nar	me								
(Series and F	Phase): Nova	ato Clay		Drainage Class:					
Taxonomy (S	Subgroup):		Field Observations Confirm Mapped Type? Yes γ						
Profile Descr	ription								
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	<u> </u>		Structure, etc.				
0-12+	A/B	10YR 3/2	Common/Faint	Fine sandy loam					
Hydric Soil Ir	Indicators:		Concretions						
_	Histic Epipedon	<u> </u>		tent in Surface Layer in Sandy Soils					
_	Sulfidic Odor	_	Organic Streaking						
		_	Listed on Local Hy	•					
_	Aquic Moisture	Regime	,						
<u>-</u> -		_	Listed on National						
- - -	Aquic Moisture	litions		Hydric Soils List					
Remarks: Hy	Aquic Moisture Reducing Cond √ Gleyed or Low-6	litions	Listed on National Other (Explain in R	Hydric Soils List					
	Aquic Moisture Reducing Cond √ Gleyed or Low-6	Chroma Colors met. Mottling was present	Listed on National Other (Explain in R	Hydric Soils List Remarks)					
WETLAND	Aquic Moisture Reducing Cond Gleyed or Low- lydric soil criterion is	chroma Colors met. Mottling was present	Other (Explain in R	Hydric Soils List Remarks)					
WETLAND Hydrophytic	Aquic Moisture Reducing Cond √ Gleyed or Low-	chroma Colors met. Mottling was present	Listed on National Other (Explain in R	Hydric Soils List Remarks)					

		(196	7 COE Wetland	S Delineat	ion iv	lanuai	<u> </u>		
Project/Site:	Giacomini W	etland Restora	ation Project, Giac	omini Ranc	h, Poi	nt Reye	S	Date:	11/19/03
pplicant/Owner:	Point Reyes	National Seas	hore					County:	Marin
vestigator:	Lorraine Pars	sons and Lesli	e Allen					State:	CA
ite Location:	Southern end	d of West Past	ure near levee						
o Normal Circum	stancas avist	on the site?		Yes	٦١	No		Community	Upland
the site significa			uation)?	Yes	<u> </u>	No	٦/	Transect ID:	Оріана
the area a potent	-		uation):	Yes		No	1	Plot ID:	9B
(If needed, expl		103		110		i lot ib.			
(ii ficcaca, expi	ani on reverse	··)							
GETATION									
Dominant Plant Sp 1. Hordeum murinum	pecies	Stratum Herb	Indicator NI	Domin	ant Plai	nt Specie	s	Stratum	Indicator
· ·		Herb	NL					<u> </u>	
2. Raphanus sativus			FAC					<u> </u>	
3. Lolium perenne		Herb						_	<u> </u>
4. Cirsium vulgare		Herb	FACU					_	_
5			-					_	
6.									
7.								<u> </u>	_
8				-					
rcent of Dominant Spe	cies that are OBL,	, FACW or FAC (e	excluding FAC-).	/= 25%					
marks: Vegetative crit	erion is NOT met.	Dominant plant	species is less than 50	% hydrophytic.					
DROLOGY									
	Recorded Data	(Describe in Ren	narks):		Wetlan	d Hydrol	ogy Indic	ators:	
		Stream, Lake or 1	ide Gauge		Р	rimary In	dicators:		
		Aerial Photograp	hs				Inunda	ated	
		Other			<u></u>		Satura	ted in Upper 12 inc	hes
√	No Recorded D	Data Available					 Water	Marks	
	_						_ Drift L	ines	
Field Observations:							- Sedim	ent Deposits	
							_	ge Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	S	econdary	Indicato	rs (2 or more requir	ed):
				_			Oxidiz	ed Root Channels i	n Upper 12 inches
Depth to Fre	ee Water in Pit:			(in.)	_		– Water	Stained Leaves	

Remarks: Hydrologic criterion is NOT met. No direct observation of saturation or inundation was observed in the fall prior to most of the rainy season. While there had been 2.03 inches rainfall in the two weeks prior to sampling, it was early enough in the rainy season that this would not be expected to produce hydric conditions. There were no oxidized pore channels or other primary or secondary indicators. This area is located in a higher elevation portion of the pasture, and any precipitation or surface runoff waters probably drain off to lower areas.

(in.)

Depth to Saturated Soil:

Local Soil Survey Data

FAC-Neutral Test
Other (Explain in Remarks)

JUILJ							
Map Unit Nam	ne						
(Series and Ph	hase): Nov	vato Clay		Drainage Class:			
Taxonomy (Su	ubgroup):			Field Observations Confirm Ma	firm Mapped Type? Yes √ No ——		
Profile Descrip	ption						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.		
0-12+	A/B	10YR 3/2		No mottles			
Hydric Soil Inc	dicators:						
	Histosol	_	Concretions				
	Histic Epipedo	on	High Organic Co	ontent in Surface Layer in Sandy Soils			
	Sulfidic Odor	_	Organic Streaking	ng in Sandy Soils			
	Aquic Moistur	e Regime	Listed on Local I	Hydric Soils List			
	Reducing Con	nditions	Listed on Nation	nal Hydric Soils List			
	Gleyed or Lov	v-Chroma Colors	Other (Explain in	n Remarks)			
		_	_				
Remarks: Hyd	dric soil criterion is	NOT met. No mottles were	present in the low chr	roma (2) soil, suggesting that the soils are I	NOT hydric.		
WETLAND I	DETERMINATI	ON					
Hydrophytic V	egetation Present	? Yes	√ No				
Wetland Hydro	ology Present?	Yes	√ No				
Hydric Soils P	Present?	Yes	√ No	Is this Sampling Point Within a Wetlan	nd? Yes	<u>√</u> No	
Remarks: Sar portions of the		ated in a higher elevation p	portion of the West Pa	asture of the Giacomini Ranch. Any pre	ecipitation or run-off prob	ably flows into lower	

		(1987	COE Wetland	ds Delinea	ation N	lanual)		
Project/Site:	Giacomini W	etland Restora	tion Project, Gia	comini Ran	ch, Poi	nt Reye	es	Date:	2/20/04
Applicant/Owner:	Point Reyes	National Seasl	nore					County:	Marin
Investigator:	Lorraine Pars	sons and Kriste	en Ward					State:	CA
Site Location:	Directly south	n of Gradjansk	Residence in W	/est Pasture	9				
Do Normal Circums	stances exist	on the site?		Yes	√	No		Community	Adjacent Wetland
Is the site significa	ntly disturbed	(Atypical Situ	uation)?	Yes		No	1	Transect ID:	
Is the area a potent	ial Problem A	rea?		Yes		No		Plot ID:	10A
(If needed, explain on reverse.)									
VEGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domi	nant Plai	nt Specie	es	Stratum	Indicator
Holcus lanatus		Herb	FACW					_	
	Mentha pulegium Herb OBL							_	
3. Rumex sp.		Herb		-				_	
4. Trifolium repens		Herb	FAC					_	
5. Trifolium fragiferum		Herb	FACW-	-					
6. Geranium carolinan 7.	<u>um</u>	Herb	NL					_	
8.									
-	oios that are OPI	EACW or EAC (o	valuding EAC \	/= 80%				-	
Percent of Dominant Spe									_
Remarks: Vegetative crit	erion is met. Dor	ninant vegetation is	greater than 50% hy	ydrophytic.					
HYDROLOGY									
	Recorded Data	(Describe in Rem	arks):		Wetlan	d Hydrol	ogy Indic	cators:	
	- ;	Stream, Lake or T	ide Gauge		Р	rimary In	dicators:		
		Aerial Photograph	ıs				Inund	ated	
		Other				√	Satura	ated in Upper 12 inc	nes
\checkmark	No Recorded D	ata Available					Water	Marks	
	_						Drift L	ines	
Field Observations:							- Sedim	ent Deposits	
					_		— Draina	age Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	S	econdary	/ Indicate	ors (2 or more requir	ed):
						\checkmark	Oxidiz	zed Root Channels i	n Upper 12 inches
Depth to Fre	ee Water in Pit:		5	(in.)			Water	-Stained Leaves	
		_					Local	Soil Survey Data	
Depth to Sa	turated Soil:		2	(in.)			FAC-N	Neutral Test	
							Other	(Explain in Remarks	s)
Remarks: Hydrologic crite	erion is met. Soils	were saturated in	the upper 12 inches	3 days after the	e last sign	ificant rai	nfall. The	re had been 4.03 incl	nes of rainfall in the prior 14

Remarks: Hydrologic criterion is met. Soils were saturated in the upper 12 inches 3 days after the last significant rainfall. There had been 4.03 inches of rainfall in the prior 14 to 18 days. Based on the water table level, it was assumed that the soils would remain saturated for at least 14 to 18 days without rainfall. There were also distinct and abundant oxidized pore channels. Source of hydrology appears to be seep flow and possibly a small drainage from the Inverness Ridge.

Map Unit Na	·····					
•			. 0/ 01	Darlan a Olasa		
(Series and I	Phase): Inver	ness Loam, 50 to 75	% Slopes	Drainage Class:		
Taxonomy (Subgroup):			Field Observations Confirm M	apped Type? Yes	No √
Profile Desc	ription					
Depth	•	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.	
0-12	A/B	10YR 2/2		No mottles		
Hydric Soil I	Indicators:		Concretions			
-	Histic Epipedon	-		ontent in Surface Layer in Sandy Soils		
-	Sulfidic Odor	<u> </u>		ing in Sandy Soils		
=	Aquic Moisture	Regime	_	Hydric Soils List		
-	Reducing Cond	itions	Listed on Natio	nal Hydric Soils List		
_	Gleyed or Low-	Chroma Colors	Other (Explain i	in Remarks)		
Remarks: H	Hydric soil criterion is	met. Although no mottles	were present in soils	with chroma of (2), wetland hydrology was	definitely present, so soils are	e hydric.
WETLAND	DETERMINATIO	N				
Lydrophytic	: Vegetation Present?	√ Yes	No			
	_					
•	drology Present?	√ Yes	No	Lanca Carata Barangara ara	. 10 / 1	NI.
Hydric Soils	Present?	_√ Yes	No	Is this Sampling Point Within a Wetla	nd? <u>√</u> Yes	No
	seeps under Sir Franci			r Francis Drake Boulevard at the base of favorable conditions for wetlands. There		

DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

		(198	7 COE Wetland	as Delinea	tion i	vianua	1)		
Project/Site:	Giacomini Wo	etland Restor	ation Project, Gia	comini Rand	h, Po	int Reye	es	Date:	2/20/04
Applicant/Owner:	Point Reyes I	National Seas	shore					County:	Marin
Investigator:	Lorraine Pars	sons and Kris	ten Ward					State:	CA
Site Location:	Directly south	n of Gradjansl	ki Residence in W	est Pasture					
Do Normal Circum	stances exist	on the site?		Yes	1	No		Community	Upland
Is the site significa	antly disturbed	(Atypical Si	tuation)?	Yes		No	$\overline{\ \ }$	Transect ID:	
Is the area a poten	tial Problem A	rea?		Yes		No	$\overline{\ \ }$	Plot ID:	10B
(If needed, exp	lain on reverse	e.)				-			
VEGETATION									
Dominant Plant S	•	Stratum	Indicator	Domir	ant Pla	nt Specie	es	Stratum	Indicator
1. Hordeum (probably		Herb	NI					_	
2. Plantago lanceolati	<u> </u>	Herb	FAC+						
Rumex pulcher Geranium carolinai	num	Herb Herb	NL					_	
4. Geranium carolinai 5. Vicia sativa ssp. sa		Herb	FACU						
6. Hemizonia conges		Herb	NL						
7.		TIEID	INL					_	_
8.		-	· -					_	_
Percent of Dominant Spe	ecies that are OBL.	FACW or FAC (excluding FAC-).	/= 17%				_	<u> </u>
Remarks: Vegetative cri									
HYDROLOGY									
		(Describe in Re Stream, Lake or				-	logy Indicators		
		Aerial Photograp	=		•	i iii iai y ii	Inund		
		Other			_		_	ated in Upper 12 inc	hes
V	No Recorded D				_			· Marks	
	— No Recorded D	dia Available			_		_		
					_		Drift I		
Field Observations	:				_		_	nent Deposits	
					_		_	age Patterns in Wetl	
Depth of Si	urface Water:			(in.)	٤			ors (2 or more requir	
				(° -)	_	√	_	zed Root Channels i	n opper 12 inches
Depth to Fr	ree Water in Pit:			(in.)	_		_	r-Stained Leaves	
				<i>a</i> \	_		_	Soil Survey Data	
Depth to Sa	aturated Soil:			(in.)			FAC-I	Neutral Test	

Remarks: Hydrologic criterion is NOT met. No direct observation of saturation or inundation was observed during the rainy season, lessthan 3 days since the last significant rainfall. There had been 4.03 inches of rainfall in the prior 14 to 18 days. Oxidized pore channels were few and faint, and there were no other secondary indicators. This area is located in a higher elevation portion of the pasture, and any precipitation or surface runoff waters probably drain off to lower areas.

Other (Explain in Remarks)

OOILO							
Map Unit Name	e						
(Series and Ph	nase):	Inverness Loam, 50 to 7	75% Slopes	Drainage Class:			
Taxonomy (Su	ıbgroup): —			Field Observations Confirm M	apped Type? Yes	No	√
Profile Descrip	otion						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist	d) Abundance/Size/Contrast	Structure, etc.		
0-5+	A/B	10YR 3/3		No mottles	Fill composite		
Hydric Soil Ind			0				
	Histosol		Concretions				
	Histic Epip	į	` `	Content in Surface Layer in Sandy Soils			
	Sulfidic O	•		king in Sandy Soils			
	Aquic Moi	sture Regime	Listed on Loca	al Hydric Soils List			
	Reducing	Conditions	Listed on Natio	onal Hydric Soils List			
	Gleyed or	Low-Chroma Colors	Other (Explain	in Remarks)			
Remarks: Hyd	ric soil criteric	on is NOT met. The soil did no	ot have low chroma (3)	, suggesting that the soils are NOT hydric.			
WETLAND [DETERMINA	ATION					
Hydrophytic V	egetation Pres	sent? Yes	√ No				
Wetland Hydro	ology Present?	? Yes	√ No				
Hydric Soils P	resent?	Yes	√ No	Is this Sampling Point Within a Wetla	nd? Yes	√ No	
		located in a higher elevation ower portions of the pasture		Pasture of the Giacomini Ranch created	by historic fill activities. Ar	ny precipitation	on or

		(1987	COE Wetland	is Delinea	ition Manual)		
Project/Site:	Giacomini W	etland Restora	ition Project, Giad	comini Rand	ch, Point Reyes	Date:	2/20/04
Applicant/Owner:	Point Reyes	National Seasl	hore			County:	Marin
Investigator:	Lorraine Pars	sons and Kriste	en Ward			State:	CA
Site Location:	Directly south	n of Gradjansk	i Residence in W	est Pasture)		
Do Normal Circum	stances exist	on the site?		Yes	√ No	Community	Upland
Is the site significa	ntly disturbed	(Atypical Situ	uation)?	Yes	No	Transect ID:	
Is the area a potent	tial Problem A	rea?		Yes	No v	Plot ID:	11
(If needed, expl	ain on reverse	e.)					
EGETATION							
Dominant Plant Sp	oecies	Stratum	Indicator	Domii	nant Plant Species	Stratum	Indicator
1. Trifolium repens		Herb	FACU+				_
2. Plantago major		Herb	FACW-				_
3. Rumex pulcher		Herb	FAC+				
4. Trifolium fragiferum		Herb	NI				
5. Poa annua		Herb	FACW				_
6. Mentha pulegium		Herb	OBL				_
7. 8.							-
Percent of Dominant Spe	 _			/= 67%			
Remarks: Vegetative crit present include: Cirsium v		ninant vegetation is	s <u>greater than</u> 50% hy	drophytic, but t	the plant species are son	mewhat marginal wetland	d ones. Other plant specie
	Recorded Data	(Describe in Rem	narks):		Wetland Hydrology II	ndicators:	
		Stream, Lake or T	=		Primary Indicate	ors:	
		Aerial Photograph	ns			undated	
		Other			Sa	turated in Upper 12 inc	hes
	No Recorded D	ata Available			Wa	ater Marks	
					Dr	ift Lines	
Field Observations:					Se	diment Deposits	
					Dr	ainage Patterns in Wet	lands
Depth of Su	ırface Water:			(in.)	Secondary India	cators (2 or more requi	red):
					O	idized Root Channels	in Upper 12 inches
Depth to Fro	ee Water in Pit:			(in.)	Wa	ater-Stained Leaves	
					Lo	cal Soil Survey Data	
Depth to Sa	turated Soil:			(in.)	FA	C-Neutral Test	
					Ot	her (Explain in Remark	s)
Remarks: Hydrologic cri	terion is NOT met.	No direct observ	ation of saturation or i	nundation was	observed during the rai	ny season, less than 3 d	ays since the last significan

Remarks: Hydrologic criterion is NOT met. No direct observation of saturation or inundation was observed during the rainy season, less than 3 days since the last significant rainfall. There had been 4.03 inches of rainfall in the prior 14 to 18 days. Oxidized pore channels were few and faint, and there were no other secondary indicators. This area is located in a higher elevation portion of the pasture, and any precipitation or surface runoff waters probably drain off to lower areas.

JUILS							
Map Unit Nam	ne						
(Series and P	hase): Inv	erness Loam, 50 to 75	% Slopes	Drainage Class:			
Taxonomy (S	ubgroup):			Field Observations Confirm M	apped Type? Yes	No	√
Profile Descri	iption						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.		
0-15	A/B	10YR 3/3		No mottles	Fill composite		
Hydric Soil In	dicators:						
	Histosol	<u>_</u>	Concretions				
_	Histic Epipedo	on	High Organic Co	ontent in Surface Layer in Sandy Soils			
	Sulfidic Odor	<u> </u>	Organic Streakii	ng in Sandy Soils			
	Aquic Moistur	e Regime	Listed on Local	Hydric Soils List			
_	Reducing Con	nditions	Listed on Nation	nal Hydric Soils List			
	Gleyed or Lov	v-Chroma Colors	Other (Explain in	n Remarks)			
_	<u> </u>						
Remarks: Hy	dric soil criterion i	s NOT met. The soil did not	have low chroma (3),	suggesting that the soils are NOT hydric.			
WETLAND	DETERMINATI	ION					
Hydrophytic \	Vegetation Present	t? <u>√</u> Yes	No				
Wetland Hydr	rology Present?	Yes	√ No				
Hydric Soils F	Present?	Yes	√ No	Is this Sampling Point Within a Wetland	nd? Yes	√ No	
	impling point is loc vs into lower portio		to a drainage ditch t	hat was apparently created by historic f	ill activities. Any precipitation	on or run-off	

Project/Site:	Giacomini Wetland Restor	ation Project, Giac	omini Ranch	, Poin	t Reye	s	Date:	3/3/04
Applicant/Owner:	Point Reyes National Seas	shore					County:	Marin
nvestigator:	Lorraine Parsons and Krist	ten Ward					State:	CA
Site Location:	Directly east of Gradjanski	Residence in Wes	st Pasture					
Do Normal Circum	stances exist on the site?		Yes	√	No		Community	Adjacent Wetland
s the site significa	ntly disturbed (Atypical Sit	tuation)?	Yes		No	$\overline{}$	Transect ID:	
-	tial Problem Area?	•	Yes		No	$\overline{}$	Plot ID:	12A
	ain on reverse.)		-				1	
(,,	,							
EGETATION								
Dominant Plant Sp	pecies Stratum	Indicator	Domina	nt Plant	Specie	s	Stratum	Indicator
1. Lolium	Herb	FAC						
2. Trifolium repens	Herb	FACU+						
3. Juncus patens	Herb	FAC					_	
4								
5.							_	
6								
7. 8.								
1							_	<u> </u>
ercent of Dominant Spe	cies that are OBL, FACW or FAC (excluding FAC-).	/= 66%					
emarks: Vegetative crit	terion is met. Dominant vegetation	is greater than 50% hyd	Irophytic. Other	plant sp	ecies pr	esent inc	lude <i>Mentha pulegiun</i>	m (OBL), Rumex sp.
YDROLOGY								
	Recorded Data (Describe in Re	marks):	١	Vetland	Hydrol	ogy Indio	cators:	
	Stream, Lake or	Tide Gauge		Pri	mary In	dicators	:	
	Aerial Photograp	hs				Inund	ated	
	Other				√	Satur	ated in Upper 12 inc	hes
\checkmark	No Recorded Data Available					Water	Marks	
	_					Drift L	ines	
Field Observations:						Sedin	nent Deposits	
						– Drain	age Patterns in Wetl	ands
Depth of Su	ırface Water:		(in.)	Se	condary	Indicate	ors (2 or more requir	ed):

Remarks: Hydrologic criterion is met. Saturation was observed in the rainy season (6.41 inches in the prior 14 to 18 days), and depth to saturation suggests that it would persist at least 14 to 18 days after the last rainfall. In addition, prominent, abundant oxidized pore channels were observed. Sampling point is located on alluvial floodplain adjacent to Fish Hatchery Creek and another small drainage ditch. Area probably receives flood overflows, as well as elevated water table during winter.

(in.)

(in.)

Depth to Free Water in Pit:

Depth to Saturated Soil:

Oxidized Root Channels in Upper 12 inches

Water-Stained Leaves

Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

SOII S

Map Unit Nar	me				
(Series and F	Phase): Inve	erness Loam, 50 to 75	5 % Slopes	Drainage Class:	
Taxonomy (S	Subgroup):			Field Observations Confirm M	apped Type? Yes No $\sqrt{}$
Profile Descr	ription				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches) 0-12	Horizon A/B	(Munsell Moist) 10YR 2/1	(Munsell Moist)	Abundance/Size/Contrast Common/Prominent	Structure, etc. Loamy clay interbedded with alluvium
Hydric Soil Ir	ndicators:				
_	Histosol	_	Concretions		
_	Histic Epipedo	n 	_	tent in Surface Layer in Sandy Soils	
_	Sulfidic Odor	_	Organic Streaking	j in Sandy Soils	
	Aquic Moisture	e Regime	Listed on Local H	ydric Soils List	
_	Reducing Cond	ditions	Listed on Nationa	l Hydric Soils List	
_	√ Gleyed or Low	-Chroma Colors	Other (Explain in	Remarks)	
Pomarke: Hi	vdric soil critorion is	met Mottling was abunda	nt in soils with low chron	na (1), suggesting that the soils are hydri	ic
Kemarks. 11	yunc son chienon is	met. Mottling was abunda	TICHT SONS WITH TOW CHICH	na (1), suggesting that the solis are riyun	0.
VETLAND	DETERMINATION	ON			
	Vegetation Present?		No		
Wetland Hyd	Irology Present?	_√ Yes	No		
Hydric Soils	Present?	√ Yes	No	Is this Sampling Point Within a Wetla	nd? <u>√</u> Yes No
		ated on alluvial floodplain ater table during winter.	adjacent to Fish Hatch	ery Creek and another small drainage	e ditch. Area probably receives flood

	(1987	COE Wetland	s Delineat	ion Manu	al)		
Project/Site:	Giacomini Wetland Restorati	on Project, Giac	omini Ranc	h, Point Rey	/es	Date:	3/3/04
Applicant/Owner:	Point Reyes National Seasho	ore				County:	Marin
Investigator:	Lorraine Parsons and Krister	n Ward				State:	CA
Site Location:	Directly east of Gradjanski Re	esidence in Wes	st Pasture				
Do Normal Circum	stances exist on the site?		Yes	√ No		Community	Upland
ls the site significa	ntly disturbed (Atypical Situa	ation)?	Yes	No	√	Transect ID:	
ls the area a poten	tial Problem Area?		Yes	No	√	Plot ID:	12C
(If needed, expl	ain on reverse.)						
EGETATION							
Dominant Plant Sp		Indicator	Domin	ant Plant Spec	ies	Stratum	Indicator
Lolium Trifolium repens	Herb Herb	FACU+					
2. Trifolium repens 3.	11610	TACOT				_	
4.		-				-	
5.	<u> </u>					_	
6.							
7.							
8.							
ercent of Dominant Spe	cies that are OBL, FACW or FAC (exc	cluding FAC-).	/= 50%				
FACU). Other plant speci	erion is NOT met. Dominant vegetatic es were: Poa trivialis (FACW), Taraxact I), Silybum marianum (NL), and Poa ann	um officinale (FACU)					
	Recorded Data (Describe in Rema	rks):		Wetland Hydr	ology Indic	ators:	
	Stream, Lake or Tid	=		Primary	Indicators:		
	Aerial Photographs				Inunda		
ı	Other					ted in Upper 12 inc	hes
	No Recorded Data Available —				Water		
Field Observations					Drift Li		
Field Observations:						ent Deposits	anda
Depth of Su	rface Water:		(in.)	Seconda		ge Patterns in Wetl rs (2 or more requir	
2001.0100			_	√ √	-	ed Root Channels i	-

Remarks: Hydrologic criterion does NOT appear to be met. Saturation was observed in the rainy season (6.41 inches in the prior 14 to 18 days) in the top 12 inches, but it was only 6 days since the last rainfall. Based on the depth to saturation, it is estimated that the saturation/water table would exceed 12 to 18 inches after 14- to 18 days with no rainfall. Oxidized pore channels were observed, but they were rather faint. Sampling point is located in a fill mound on the alluvial floodplain adjacent to Fish Hatchery Creek and another small drainage ditch. Area probably receives flood overflows, but the topography encourages quick drainage.

10

(in.)

(in.)

Water-Stained Leaves Local Soil Survey Data

FAC-Neutral Test
Other (Explain in Remarks)

Depth to Free Water in Pit:

Depth to Saturated Soil:

SUILS					
Map Unit Nan					
(Series and P	'hase):	Inverness Loam, 50 to 7	75 % Slopes	Drainage Class:	
Taxonomy (S	Subgroup):			Field Observations Confirm Ma	apped Type? Yes No √
Profile Descri	iption				
Depth	·-	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-12	A/B	10YR 3/2		Faint	Alluvium with some clay pockets
Hydric Soil In	ndicators:				
_	Histosol		Concretions		
_	Histic Ep	ipedon	High Organic Co	ontent in Surface Layer in Sandy Soils	
_	Sulfidic ()dor	Organic Streakir	ng in Sandy Soils	
_	Aquic Mo	oisture Regime	Listed on Local	Hydric Soils List	
_	Reducing	g Conditions	Listed on Nation	nal Hydric Soils List	
	Gleyed o	r Low-Chroma Colors	Other (Explain in	n Remarks)	
_		-			
Remarks: Hy	dric soil crite	ion is NOT met. Mottling was	only faint in soils with low	w chroma (2), suggesting that the soils are	probably NOT hydric.
WETLAND	DETERMIN	IATION			
				T	
Hydrophytic \	Vegetation Pre	esent? Yes	_√_ No		
Wetland Hydr	rology Presen	t? Yes	√ No		
Hydric Soils I	Present?	Yes	√ No	Is this Sampling Point Within a Wetlan	nd? Yes No
		s located in a fill mound on the ut the topography encourage		jacent to Fish Hatchery Creek and anoth	her small drainage ditch. Area probably

Project/Site:	Giacomini V	Wetland Restora	tion Project, Giac	omini Ran	ch, Poi	int Reye	S	Date:	3/3/04
Applicant/Owner:	Point Reyes	s National Seash	nore					County:	Marin
Investigator:	Lorraine Pa	rsons and Kriste	en Ward					State:	CA
Site Location:	Directly nor	th of Gradjanski	Residence in We	st Pasture	near s	spoil pile			
Do Normal Circum	stances exis	t on the site?		Yes	V	No		Community	Adjacent Wetland
Is the site significa	ntly disturbe	ed (Atypical Situ	uation)?	Yes		No	$\overline{}$	Transect ID:	.,
Is the area a poten	-		,	Yes		No	$\frac{}{}$	Plot ID:	13A
(If needed, expl	ain on revers	se.)				-			-
		•							
VEGETATION									
Dominant Plant Sp	oecies	Stratum	Indicator	Domi	nant Pla	nt Specie	s	Stratum	Indicator
1. Lolium sp.		Herb	FAC					_	
2. Trifolium repens		Herb	FACU+					_	
3. Mentha pulegium		Herb	OBL						
4. Rumex sp.		Herb						_	
5.								_	
6.								_	
7.									
8								_	<u> </u>
Percent of Dominant Spe	cies that are OB	L, FACW or FAC (ex	xcluding FAC-).	/= 66%					
Remarks: Vegetative crit						species pre	esent inc	lude <i>Stellaria media</i> (FACU), Ranunculus
HYDROLOGY	Pocordod Da	ta (Describe in Rem	aarke):		Wotlan	nd Hydrolo	av India	eatore:	
	_ Recorded Da	Stream, Lake or Ti	-			rimary Inc			
		Aerial Photograph	=				Inund		
		Other				√	Satura	ated in Upper 12 inc	hes
√	No Recorded	Data Available					Water	Marks	
							Drift L	ines	
Field Observations:							Sedin	nent Deposits	
							Drain	age Patterns in Wetl	ands
Depth of Su	ırface Water:			(in.)	S	econdary	Indicate	ors (2 or more requir	ed):
					_		Oxidiz	zed Root Channels i	n Upper 12 inches
Depth to Fro	ee Water in Pit:			(in.)	_		Water	-Stained Leaves	
					_		Local	Soil Survey Data	
Depth to Sa	turated Soil:		0	(in.)	_		_	Neutral Test	
					<u> </u>		Other	(Explain in Remarks	s)

Remarks: Hydrologic criterion is met. Saturation was observed in the rainy season (6.41 inches in the prior 14 to 18 days), and depth to saturation suggests that it would persist at least 14 to 18 days after the last rainfall. Sampling point is located on floodplain adjacent to Inverness Ridge. It appears that groundwater seeps from the base of the Ridge and both sheetflows and percolates through the soil across this sloped pasture toward Fish Hatchery Creek. Water table remains elevated for a long time during the winter and spring.

SUILS					
Map Unit Nar	ne				
(Series and P	Phase): Nov	ato Clay		Drainage Class:	
Taxonomy (S	Subgroup):			Field Observations Confirm M	apped Type? Yes √ No ——
Profile Descr	iption				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-12	A/B	10YR 2/2			Loam intermixed with alluvium
Hydric Soil Ir	ndicators:				
_	Histosol	<u> </u>	Concretions		
_	Histic Epipedo	n	High Organic Co	ontent in Surface Layer in Sandy Soils	
	Sulfidic Odor		Organic Streaki	ng in Sandy Soils	
	Aquic Moisture	e Regime	Listed on Local	Hydric Soils List	
	Reducing Con	ditions	Listed on Nation	nal Hydric Soils List	
<u> </u>	Gleyed or Low	-Chroma Colors	Other (Explain i	n Remarks)	
Remarks: Hy	ydricsoil criterion ap	ppears to be met. Wetland	hydrology was clearly	present, so soils must be hydric.	
WETLAND	DETERMINATION	ON			
Hydrophytic	Vegetation Present	? <u>√</u> Yes	No		
Wetland Hyd	rology Present?	_√ Yes	No		
Hydric Soils	Present?	√ Yes	No	Is this Sampling Point Within a Wetla	nd? <u>√</u> Yes No
					n the base of the Ridge and both sheetflows for a long time during the winter and spring.

Project/Site:	Giacomini W	etland Restora	ation Project, Giac	omini Ranch,	Point Reye	es	Date:	3/3/04
Applicant/Owner:	Point Reyes	National Seas	hore				County:	Marin
nvestigator:	Lorraine Pars	sons and Kriste	en Ward				State:	CA
Site Location:	Directly north	า of Gradjanski	i Residence in We	st Pasture ne	ear spoil pile)		-
Do Normal Circum	stances exist	on the site?		Yes	√ No		Community	Upland
Is the site significa	ntly disturbed	I (Atypical Sit	uation)?	Yes	No	$\overline{}$	Transect ID:	
ls the area a poten	tial Problem A	rea?	-	Yes	No	1	Plot ID:	13B
(If needed, expl	ain on reverse	e.)		_				
EGETATION						·		
Dominant Plant Sp	pecies	Stratum	Indicator	Dominan	nt Plant Specie	es	Stratum	Indicator
1. Lolium sp.		Herb	FAC					
2. Trifolium repens		Herb	FACU+					
3.								
4.								_
5								
6.								_
7. 8.				-				<u> </u>
								-
ercent of Dominant Spe	cies that are OBL,	, FACW or FAC (e	excluding FAC-).	/= 66%				
lemarks: Vegetative cri	erion is NOT met.	Dominant vegeta	ation is <u>less than</u> 50% h	ydrophytic. Othe	er plant species	present in	clude <i>Rumex</i> sp.	
YDROLOGY								
	_	(Describe in Rem		W	etland Hydrol		ators:	
		Stream, Lake or T Aerial Photograph	<u> </u>		Primary In	idicators: Inunda	ted	
		nonan i notograpi				_	ted in Upper 12 inc	hes
		Other						
ا		Other						
						Water I	Marks	
	No Recorded D					Water I Drift Li	Marks nes	
√ Field Observations:	No Recorded D					Water I Drift Li Sedime	Marks nes ent Deposits	
Field Observations:	No Recorded D			(in.)	Secondary	Water I Drift Li Sedime	Marks nes	ands

Remarks: Hydrologic soil criterion does NOT appear to be met. Saturation was observed in the rainy season in the top 12 inches, but it was only 6 days since the last rainfall, and there had been 6.41 inches of rainfall in the prior 14 to 18 days. Based on the depth to saturation, it is estimated that the depth to saturation/water table would exceed 12 to 18 inches after 14- to 18 days with no rainfall. Oxidized pore channels were observed, but they were faint and few. Sampling point is located in a fill area on the alluvial floodplain adjacent to Fish Hatchery Creek. Area probably receives flood overflows, but the topography encourages quick drainage.

9

(in.)

(in.)

Water-Stained Leaves Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

Depth to Free Water in Pit:

Depth to Saturated Soil:

SUILS					
Map Unit Nam	ne				
(Series and Pl	hase):	Inverness Clay Loam, 5	0 to 75 % Slopes	Drainage Class:	
Taxonomy (So	ubgroup):			Field Observations Confirm Ma	apped Type? Yes No √
Profile Descri	ption				
Depth	-	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-12	A/B	10YR 2/2		None	Loam intermixed with alluvium
Hydric Soil In	dicators:		-		
_	Histosol		Concretions		
_	Histic Ep	•	High Organic Co	ontent in Surface Layer in Sandy Soils	
_	Sulfidic C)dor .	Organic Streakir	ng in Sandy Soils	
	Aquic Mo	oisture Regime	Listed on Local	Hydric Soils List	
_	Reducing	g Conditions	Listed on Nation	nal Hydric Soils List	
 	Gleyed o	r Low-Chroma Colors	Other (Explain in	n Remarks)	
		=	<u> </u>		
Remarks: Hy	dric soil criter	ion is NOT met. There were no	o mottles in the low chro	oma (2) soils and no wetland hydrology, wh	ich suggests that soils are NOT hydric.
WETLAND	DETERMIN				
1				T	
Hydrophytic \	egetation Pro	esent? Yes	_√_ No		
Wetland Hydr	ology Present	t? Yes	_√_ No		
Hydric Soils F	resent?	Yes	√ No	Is this Sampling Point Within a Wetlan	nd? Yes No
Remarks: San topography e			Iluvial floodplain adjac	ent to Fish Hatchery Creek. Area proba	bly receives flood overflows, but the

Project/Site:	Giacomini W	etland Restora	ation Project, Giac	omini Ranch	. Point Re	ves	Date:	3/3/04
Applicant/Owner:		National Seas	•		.,	.,	County:	Marin
		sons and Krist						CA
nvestigator:							State:	
Site Location:	Directly north	n of Gradjanski	i Residence in We	st Pasture n	ear spoil _l	oile		
Do Normal Circumstances exist on the site? Yes							Community	Upland
s the site significa	ntly disturbed	d (Atypical Sit	uation)?	Yes	No	٦	Transect ID:	
s the area a poten	tial Problem A	Area?		Yes	No	٦	√ Plot ID:	13C
(If needed, expl	ain on revers	e.)						
CETATION								
Dominant Plant Sp	ecies	Stratum	Indicator	Domina	nt Plant Spe	cies	Stratum	Indicator
1. Lolium		Herb	FAC					
2. Trifolium repens		Herb	FACU+	-				
3. Poa annua		Herb	FACW					
4.								_
5								
6. 7.								_
8.				-				
ercent of Dominant Spe	oigo that are OPI	EACW or EAC (a	avaluding EAC \	/= 66%			· · · · · · · · · · · · · · · · · · ·	
•		•						
emarks: Vegetative crit	erion is met. Do	minant vegetation i	s <u>greater than</u> 50% hyd	rophytic. Other	plant specie	s presen	it include <i>Lotus cornicula</i> :	tus (FAC).
/DROLOGY	Decembed Date	/Describe in Den	andra).		Matland Llu	ualamı l	la diactoro	
	_ Recorded Data	a (Describe in Ren Stream, Lake or T		'	Vetland Hyd Primar	rology i / Indicat		
		Aerial Photograpl	=				undated	
		Other			√ Saturated in Upper 12 inches			ches
√	No Recorded I	Data Available				w	ater Marks	
	_				Drift Lines			
Field Observations:							ediment Deposits	
					Drainage Patterns in Wetlands			lands
Depth of Su	rface Water:			(in.)	Second		_	
				-	Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 inche			

Remarks: Hydrologic criterion does NOT appear to be met. Saturation was observed in the rainy season in the top 12 inches, but it was only 6 days since the last rainfall, and there had been 6.41 inches in the prior 14 to 18 days. Based on the depth to saturation, it is estimated that the depth to saturation/water table would exceed 12 to 18 inches after 14- to 18 days with no rainfall. Oxidized pore channels were NOT observed, not even faint ones. Sampling point is located in a fill area used as road and dumping spot on the alluvial floodplain adjacent to Fish Hatchery Creek. Area probably receives flood overflows, but the topography encourages quick drainage.

11

(in.)

(in.)

Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test

Other (Explain in Remarks)

Depth to Free Water in Pit:

Depth to Saturated Soil:

OOILO					
Map Unit Name	е				
(Series and Ph	ase):	Inverness Clay Loam, 50	J to 75 % Slopes	Drainage Class:	
Taxonomy (Su	bgroup):			Field Observations Confirm Ma	apped Type? Yes No √
Profile Descrip	otion				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-12	A/B	10YR 2/2		None	Loam intermixed with alluvium
Hydric Soil Ind	licators:				
	Histosol	_	Concretions		
	Histic Ep	ipedon	High Organic Co	ntent in Surface Layer in Sandy Soils	
	Sulfidic ()dor	Organic Streaking	ıg in Sandy Soils	
	Aquic Mo	oisture Regime	Listed on Local H	Hydric Soils List	
_	Reducing	g Conditions	Listed on Nation:	al Hydric Soils List	
	Gleyed o	r Low-Chroma Colors	Other (Explain in	Remarks)	
		-			
Remarks: Hyd	Iric soil crite	rion is NOT met. There were no	mottles in the low chror	ma (2) soils and no wetland hydrology, whi	ich suggests that soils are NOT hydric.
WETLAND [DETERMIN	IATION			
Hydrophytic V	egetation Pro	esent? Yes	_√ No		
Wetland Hydro	ology Presen	t? Yes	√ No		
Hydric Soils P	resent?	Yes	√ No	Is this Sampling Point Within a Wetlar	nd? Yes√_ No
		s located in a fill area used as a pography encourages quick dr		pot on the alluvial floodplain adjacent to	Fish Hatchery Creek. Area probably receives

Project/Site:	Giacomini V	Vetland Restora	ation Project, Giac	omini Rand	ch, Po	int Reye	es	Date:	3/3/04
Applicant/Owner:		National Seas						County:	Marin
		rsons and Kriste						1	CA
Investigator:				-t Dt	-1	OFD		State:	
Site Location:	Directly nort	n of Gradjanski	Residence in We	est Pasture	along	SFD			
Do Normal Circum				Yes		No		Community	Upland
Is the site significa	-		uation)?	Yes		No	_√_	Transect ID:	
s the area a potential Problem Area?						No		Plot ID:	14
(If needed, expl	(If needed, explain on reverse.)								
EGETATION									
Dominant Plant Sp	ecies	Stratum Herb	Indicator FAC	Domir	nant Pla	ant Specie	es	Stratum	Indicator
Lolium Trifolium repens		Herb	FACU+						_
3. Hypochaeris radica	ta	Herb	NL NL	-				-	-
4.								_	_
5.									
6.				-					_
7.									
8									
Percent of Dominant Spe	cies that are OBI	L, FACW or FAC (e	xcluding FAC-).	/= 33%					
Remarks: Vegetative crit oulcher (FAC+), Taraxacur	erion is NOT met m officinale (FACU	t. Dominant vegeta l), and <i>Mentha pule</i> ູ	ation is <u>less than</u> 50% h gium (OBL).	ydrophytic. O	ther pla	nt species	present	include <i>Geranium car</i>	olinanum (FACU), Rumex
YDROLOGY									
	_ Recorded Dat	a (Describe in Rem	· ·			nd Hydrol			
		Stream, Lake or T Aerial Photograph	=		'	Primary In	aicators Inunc		
		Other			_	<u>√</u>	_	ated in Upper 12 inc	hes
ا	No Popordod	Data Available			_	· ·	_	r Marks	
	- No Recorded	Data Available			_		_		
E I O					_		Drift I		
Field Observations:					_		_	nent Deposits	lau da
Depth of Su	rface Water:			(in.)	-	Secondary	_	age Patterns in Wet ors (2 or more requi	
200 31 00				_	`	. Jeen day		zed Root Channels i	
Depth to Fro	ee Water in Pit:		12	(in.)	_		_	r-Stained Leaves	
•				- ` <i>'</i>	_		_	Soil Survey Data	

Remarks: Hydrologic criterion would NOT appear to be met. Saturation was observed in the rainy season in the top 12 inches, but it was only 6 days since the last rainfall, and there had been 6.41 inches in the prior 14 to 18 days. Based on the depth to saturation, it is estimated that the depth to saturation/water table would exceed 12 to 18 inches after 14- to 18 days with no rainfall. Oxidized pore channels were NOT observed, not even faint ones. Sampling point is located on floodplain adjacent to Inverness Ridge and adjacent to Sir Francis Drake Road. In adjacent areas, it appears that groundwater seeps from the base of the Ridge and both sheetflows and percolates through the soil across this sloped pasture toward Fish Hatchery Creek. This seep flow helps sustain some riparian habitat right on the edge of Sir Francis Drake. However, at this point, there is a break in the riparian habitat that does not appear disturbance-related and may correlate with some discontinuities in the seep flow patterns.

(in.)

FAC-Neutral Test Other (Explain in Remarks)

9

Depth to Saturated Soil:

SOILS						
Map Unit Na	me					
(Series and	Phase): Inv	erness Loam, 50 to 75	5 % Slopes	Drainage Class:		
Taxonomy (Subgroup):			Field Observations Confirm M	apped Type? Yes	No √
Profile Desc	ription					
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.	
0-12	A/B	10YR 2/2		Common/Distinct	Loam intermixed with all	luvium/Fill
Hydric Soil I	ndicators:					
_	Histosol	_	Concretions			
_	Histic Epiped	on	High Organic Co	ntent in Surface Layer in Sandy Soils		
_	Sulfidic Odor		Organic Streakin	g in Sandy Soils		
	Aquic Moistu	re Regime	Listed on Local I	Hydric Soils List		
_	Reducing Co	nditions	Listed on Nation	al Hydric Soils List		
_	√ Gleyed or Lo	w-Chroma Colors	Other (Explain in	Remarks)		
Remarks: H	vdric soil criterion	does NOT annear to be met	t While soils would an	pear to be hydric due to the presence of n	nottles in low chroma (2) soi	ls the fact that the
				nese mottles may be artifact of road and o		is, the last that the
WETLAND	DETERMINAT	ION				
Hydrophytic	Vegetation Presen	t? Yes	√ No			
Wetland Hyd	drology Present?	Yes	√ No			
Hydric Soils	Present?	Yes	√ No	Is this Sampling Point Within a Wetla	nd? Yes	_√_ No
groundwate seep flow he	r seeps from the ba elps sustain some r	se of the Ridge and both sl	heetflows and percola edge of Sir Francis D	and adjacent to Sir Francis Drake Road ates through the soil across this sloped rake. However, at this point, there is a seep flow patterns.	I pasture toward Fish Hato	hery Creek. This

Project/Site:	Giacomini Wetland Resto	oration Project, Giac	omini Ranch	n, Point Reyes	Date:	6/2/04
Applicant/Owner:	Point Reyes National Sea	ashore			County:	Marin
nvestigator:	Lorraine Parsons				State:	CA
Site Location:	Near Lucchesi Residence	e in West Pasture				
Do Normal Circum	stances exist on the site?	?	Yes	√ No	Community	Adjacent Wetland
s the site significa	ntly disturbed (Atypical S	Situation)?	Yes	No \	Transect ID:	
s the area a poten	tial Problem Area?		Yes	No 1	/ Plot ID:	15
(If needed, expl	ain on reverse.)					
EGETATION						
Dominant Plant Sp	pecies Stratum	Indicator	Domina	nt Plant Species	Stratum	Indicator
1. Lolium multiflorum	Herb	FAC				
2. Hordeum marinum	Herb	FAC				
3		_				_
4.						
5.						
6.						_
7.					<u> </u>	
7. 8. ercent of Dominant Spe	cies that are OBL, FACW or FAC	on is greater than 50% hyd				
8. ercent of Dominant Spe emarks: Vegetative crit esent include <i>Juncus bui</i> IL), <i>Poa annua</i> (FACW).	·	on is greater than 50% hyd	rophytic. Subdo			
7. 8. ercent of Dominant Spe emarks: Vegetative crit esent include <i>Juncus bui</i> IL), <i>Poa annua</i> (FACW).	erion is met. Dominant vegetatio onius (FACU), Ranunculus muricai	on is <u>greater than</u> 50% hyd tus (FACW+), <i>Gyceria occ</i>	rophytic. Subdo cidentalis (OBL),	, Rumex pulcher (FAC	C+), Lotus comiculatus (F	
8. ercent of Dominant Spe emarks: Vegetative crit esent include <i>Juncus bui</i> IL), <i>Poa annua</i> (FACW).	erion is met. Dominant vegetatio fonius (FACU), Ranunculus murical Recorded Data (Describe in R	on is greater than 50% hydraus (FACW+), Gyceria occ	rophytic. Subdo cidentalis (OBL),	, Rumex pulcher (FAC	C+), Lotus corniculatus (F	
7. 8. ercent of Dominant Spe	erion is met. Dominant vegetatio onius (FACU), Ranunculus muricai	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo cidentalis (OBL),	Rumex pulcher (FAC	C+), Lotus corniculatus (F	
8. ercent of Dominant Spe emarks: Vegetative crit resent include <i>Juncus bui</i> IL), <i>Poa annua</i> (FACW).	erion is met. Dominant vegetatio fonius (FACU), Ranunculus muricai Recorded Data (Describe in R	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo cidentalis (OBL),	Rumex pulcher (FAC	c+), Lotus corniculatus (F	AC), Hemizonia congest
8. ercent of Dominant Spe emarks: Vegetative crit resent include <i>Juncus bui</i> NL), <i>Poa annua</i> (FACW).	erion is met. Dominant vegetatio fonius (FACU), Ranunculus muricai Recorded Data (Describe in Rotream, Lake o Aerial Photogra	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo cidentalis (OBL),	Netland Hydrology I Primary Indicat In Sa	c+), Lotus corniculatus (F ndicators: ors: undated	AC), Hemizonia congest
7. 8. ercent of Dominant Spe emarks: Vegetative crit resent include <i>Juncus bul</i> AL), <i>Poa annua</i> (FACW).	Recorded Data (Describe in R Stream, Lake o Aerial Photogra	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo cidentalis (OBL),	Netland Hydrology I Primary Indicat In Sa	ndicators: ors: undated aturated in Upper 12 inc	AC), Hemizonia congest
7. 8. ercent of Dominant Spe emarks: Vegetative crit esent include Juncus bui IL), Poa annua (FACW).	erion is met. Dominant vegetatio fonius (FACU), Ranunculus muricationius (FACU), Ranunculus (FACU), Ranunc	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo cidentalis (OBL),	Wetland Hydrology I Primary Indicat In Sa	ndicators: ors: undated aturated in Upper 12 indater Marks	AC), Hemizonia congest
7. 8. ercent of Dominant Spe emarks: Vegetative crit esent include Juncus bul IL), Poa annua (FACW).	erion is met. Dominant vegetatio fonius (FACU), Ranunculus muricationius (FACU), Ranunculus (FACU), Ranunc	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo cidentalis (OBL),	Wetland Hydrology I Primary Indicat In Sa W	ndicators: ors: undated aturated in Upper 12 includer Marks rift Lines ediment Deposits	ches
7. 8. ercent of Dominant Spe emarks: Vegetative crit resent include Juncus but IL), Poa annua (FACW). YDROLOGY Field Observations:	erion is met. Dominant vegetatio fonius (FACU), Ranunculus muricationius (FACU), Ranunculus (FACU), Ranunc	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo cidentalis (OBL),	Wetland Hydrology I Primary Indicat In Sa W Di Se	ndicators: ors: undated aturated in Upper 12 indater Marks	ches
7. 8. ercent of Dominant Spe emarks: Vegetative crit resent include Juncus but IL), Poa annua (FACW). YDROLOGY Field Observations:	Recorded Data (Describe in R Stream, Lake o Aerial Photogra Other No Recorded Data Available	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo	Wetland Hydrology I Primary Indicat In Sa W Di Secondary Indi	ndicators: ors: undated atturated in Upper 12 includer Marks rift Lines ediment Deposits rainage Patterns in Wet	ches clands red):
7. 8. ercent of Dominant Spe emarks: Vegetative crit resent include Juncus bui NL), Poa annua (FACW). TDROLOGY Field Observations: Depth of Su	Recorded Data (Describe in R Stream, Lake o Aerial Photogra Other No Recorded Data Available	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo	Wetland Hydrology I Primary Indicat In Sa W Di Secondary Indi O:	ndicators: ors: undated aturated in Upper 12 includer Marks rift Lines ediment Deposits rainage Patterns in Wet cators (2 or more requi	ches clands red):
7. 8. ercent of Dominant Spe emarks: Vegetative crit resent include Juncus bui NL), Poa annua (FACW). TDROLOGY Field Observations: Depth of Su	Recorded Data (Describe in R Stream, Lake o Aerial Photogra Other No Recorded Data Available	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo	Wetland Hydrology I Primary Indicat In Sa W Di Secondary Indi Secondary Indi Secondary Indi Secondary Indi	ndicators: ors: undated aturated in Upper 12 included fater Marks rift Lines ediment Deposits rainage Patterns in Wet cators (2 or more requi	ches clands red):
7. 8. ercent of Dominant Spe emarks: Vegetative crit resent include Juncus but NL), Poa annua (FACW). YDROLOGY Field Observations: Depth of Su Depth to Fre	Recorded Data (Describe in R Stream, Lake o Aerial Photogra Other No Recorded Data Available	on is greater than 50% hydratus (FACW+), Gyceria occurrent occurre	rophytic. Subdo	Wetland Hydrology I Primary Indicat In Sa W Di Secondary Indi V Lc	ndicators: ors: undated aturated in Upper 12 inc ater Marks rift Lines ediment Deposits rainage Patterns in Wet cators (2 or more requi xidized Root Channels ater-Stained Leaves	ches clands red):

Remarks: Hydrologic criterion would appear to be met. Soil was not saturated or inundated in June, but sampling was conducted long after rains had ceased. Oxidized pore channels were distinct and common in the top 2 inches. While there were no other secondary indicators, it is likely that soil tends to be saturated, rather than inundated with sheetflow, thereby decreasing the potential for most of the other primary and secondary indicators such as algal mats, sediment deposits, water-stained vegetation, etc. This area appears to be a slightly elevated mound of fill in a floodplain that primarily receives groundwater from the Inverness Ridge through sheetflow and percolation through the soil. This area appeared to be saturated during the rainy season, although no formal sampling was conducted at that time, and it is drier than some of the surrounding, unfilled pasturelands.

Map Unit Nar	me				
(Series and F	Phase): Nov	ato Clay		Drainage Class:	
Taxonomy (S	xonomy (Subgroup):			lapped Type? Yes √ No ——	
Profile Descr	ription				
Depth (inches) 0-12	Horizon A/B	Matrix Color (Munsell Moist) 10YR 3/2	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast ???	Texture, Concretions, Structure, etc. Very compacted fill composite
Hydric Soil Ir	ndicators:		Concretions		
_	Histic Epipedo	 n		ontent in Surface Layer in Sandy Soils	
_	Sulfidic Odor	_	Organic Streakir	ng in Sandy Soils	
	Aquic Moisture	Regime	Listed on Local	Hydric Soils List	
_	Reducing Cond	ditions	Listed on Nation	al Hydric Soils List	
-	Gleyed or Low	-Chroma Colors	Other (Explain in	Remarks)	
Remarks: Hy	ydric soil criterion w	ould appear to be met. W	Vetland hydrology appe	ars to be present, so soils must be hydric.	
VETLAND	DETERMINATION	ON			
Hvdrophytic	Vegetation Present?	? √ Yes	No		
	rology Present?	√ Yes	No		
Hydric Soils		√ Yes	No	Is this Sampling Point Within a Wetla	ınd? √ Yes No
and percolati	ion through the soil.		e saturated during th		from the Inverness Ridge through sheetflow npling was conducted at that time, and it is

		(1967	COE Wetlan	us Delinea	LIOII IVI	anuai)		
Project/Site:	Giacomini W	etland Restora	tion Project, Gia	comini Rand	h, Poin	t Reye	s	Date:	3/3/04
Applicant/Owner:	Point Reyes	National Seasi	nore					County:	Marin
Investigator:	Lorraine Par	sons and Kriste	en Ward					State:	CA
Site Location:	Directly east	of Lucchesi Re	esidence in Wes	t Pasture					-
Do Normal Circum	stances exist	on the site?		Yes	√	No		Community	Adjacent Wetland
Is the site significa	ntly disturbed	d (Atypical Situ	uation)?	Yes		No		Transect ID:	
Is the area a poten	Yes		No	$\overline{}$	Plot ID:	16A			
(If needed, expl	(If needed, explain on reverse.)								
VEGETATION									
Dominant Plant Sp	oecies	Stratum	Indicator	Domin	nant Plant	Specie	s	Stratum	Indicator
1. Lolium multiflorum		Herb	FAC	↓					
2. Trifolium repens		Herb	FACU+	<u> </u>				_	
3. Juncus balticus		Herb	OBL					_	
4. Holcus lanatus	_	Herb	FAC	<u> </u>				_	_
5								_	_
6.				-					_
7. 8.								-	_
Percent of Dominant Spe	cies that are OBL	., FACW or FAC (e	kcluding FAC-).	/= 75%					
Remarks: Vegetative crit	terion is met. Do	minant vegetation is	greater than 50% h	ydrophytic.					
HYDROLOGY									
	Recorded Data	a (Describe in Rem	arks):		Wetland	Hydrol	ogy Indic	ators:	
		Stream, Lake or T	=		Pri	mary In	dicators:		
		Aerial Photograph	S				_ Inund	ated	
		Other				√	Satura	ated in Upper 12 inc	hes
\checkmark	No Recorded I	Data Available					Water	Marks	
	_						Drift L	ines	
Field Observations:							– Sedin	ent Deposits	
							_	age Patterns in Wetl	ands
Depth of Su	ırface Water:			(in.)	Sec	condary	_	ors (2 or more requi	
						1	Oxidiz	ed Root Channels i	n Upper 12 inches
Depth to Fr	ee Water in Pit:		8	(in.)		•	 Water	-Stained Leaves	
•							– Local	Soil Survey Data	
Depth to Sa	turated Soil:		2	(in.)			_	leutral Test	
255 10 00				```''			_	(Explain in Remark	s)
				I				, -p	-,

Remarks: Hydrologic criterion is met. Saturation was observed in the rainy season (6.41 inches in the prior 14 to 18 days), and depth to saturation suggests that it would persist at least 14 to 18 days after the last rainfall. However, oxidized pore channels were faint/distinct and few. Sampling point is located on floodplain adjacent to Inverness Ridge and the 1906 Drainage. The area has been probably been filled with spoil material from creek excavation historically, but flood overflow and groundwater sustains saturation long enough to create wetland hydrology.

Map Unit Nar	me									
Series and F	Phase): Inve	rness Loam, 50 to 75	5 % Slopes	Drainage Class:						
Taxonomy (S	Subgroup):			Field Observations Confirm M	apped Type? Yes No $\sqrt{}$					
Profile Descr	ription									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-12	A/B	10YR 3/2		Common/Faint	Alluvial material					
Hydric Soil Ir	ndicators:		Concretions							
_	Histic Epipedo	 n		ent in Surface Layer in Sandy Soils						
_	Sulfidic Odor	·· —	Organic Streaking	•						
_	Aguic Moisture	Regime	Listed on Local Hy	•						
-	Reducing Cond	_	Listed on National							
_		-Chroma Colors	Other (Explain in R							
Remarks: Hy	ydric soil criterion ap	ppears to be met. While m	nottles were faint, they we	re common and present in a soil with lo	w chroma (2), suggesting that soils are hydric.					
VETLAND	DETERMINATION	ON								
Hydrophytic	Vegetation Present?	y √ Yes	No							
Wetland Hvd	rology Present?	√ √ Yes	No No							
,		√ √ Yes	No	Is this Sampling Point Within a Wetland? \(\sqrt{Yes} \) No						
Hydric Soils	Present?	η 103	110							

Project/Site: Applicant/Owner:	Giacomini W							
Applicant/Owner:	Giacomini vv	etland Restora	tion Project, Giad	omini Ranch	, Point Reye	es	Date:	3/3/04
	Point Reyes	National Seash	nore				County:	Marin
nvestigator:	Lorraine Par	sons and Kriste	en Ward				State:	CA
ite Location:	Directly east	of Lucchesi Re	esidence in West	Pasture				
Oo Normal Circums	stances exist	on the site?		Yes	√ No		Community	Upland
s the site significa	ntly disturbed	d (Atypical Sitւ	uation)?	Yes	No	_√	Transect ID:	
the area a potent	tial Problem A	Area?		Yes	No	_√	Plot ID:	16C
(If needed, expl	ain on revers	e.)						
GETATION						ı		
Dominant Plant Sp	pecies	Stratum	Indicator	Dominar	nt Plant Specie	es	Stratum	Indicator
1. Lolium multiflorum		Herb	FACUL					
Trifolium repens Taraxacum officinal	lo	Herb	FACU+					
· ———	<u>e</u>	Herb	FACU					
4.			-					
5.								
6. 7.								
8. ercent of Dominant Spe	cies that are OBL	, FACW or FAC (ex	xcluding FAC-).	/= 33%				
8. ercent of Dominant Speremarks: Vegetative crit		•			er species prese	ent include	: Poa annua (FACV	V), Rumex acetosella (FA
8. ercent of Dominant Speremarks: Vegetative crit and Brassica nigra (NL).	erion is NOT met.	Dominant vegeta	tion is <u>less than</u> 50% h	nydrophytic. Othe				V), Rumex acetosella (FA
8. rcent of Dominant Spermarks: Vegetative crit and Brassica nigra (NL).	erion is NOT met.	Dominant vegetar	tion is <u>less than</u> 50% h	nydrophytic. Othe	Vetland Hydrol	logy Indica		V), Rumex acetosella (FA
8. rcent of Dominant Spermarks: Vegetative critical Brassica nigra (NL).	erion is NOT met.	a (Describe in Rem Stream, Lake or Ti	tion is <u>less than</u> 50% h	nydrophytic. Othe		logy Indica	ators:	V), Rumex acetosella (Fi
8. rcent of Dominant Spermarks: Vegetative crituand Brassica nigra (NL).	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph	tion is <u>less than</u> 50% h	nydrophytic. Othe	Vetland Hydrol	logy Indica ndicators: Inunda	ators:	
8. rcent of Dominant Spermarks: Vegetative crite and Brassica nigra (NL). DROLOGY	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is <u>less than</u> 50% h	nydrophytic. Othe	Vetland Hydrol	logy Indica ndicators: Inunda	ators: ted ted in Upper 12 inc	
8. ercent of Dominant Speremarks: Vegetative crit and Brassica nigra (NL).	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is <u>less than</u> 50% h	nydrophytic. Othe	Vetland Hydrol	logy Indica ndicators: Inunda Satura	ators: ted ted in Upper 12 inc	
8. rcent of Dominant Spermarks: Vegetative crite and Brassica nigra (NL). DROLOGY	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is <u>less than</u> 50% h	nydrophytic. Othe	Vetland Hydrol	logy Indica ndicators: Inunda Satural Water I	ators: ted ted in Upper 12 inc	
8. rcent of Dominant Spermarks: Vegetative crit and Brassica nigra (NL).	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is <u>less than</u> 50% h	nydrophytic. Othe	Vetland Hydrol	logy Indica ndicators: Inunda Satural Water I Drift Li	ators: ted ted in Upper 12 inc Marks nes	hes
8. rcent of Dominant Spermarks: Vegetative critical Brassica nigra (NL). DROLOGY Field Observations:	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is <u>less than</u> 50% h	nydrophytic. Othe	Vetland Hydrol Primary In	logy Indica ndicators: Inunda Satural Water I Drift Li Sedime	ators: ted ted in Upper 12 inc Marks nes ent Deposits	hes
8. rcent of Dominant Spermarks: Vegetative critical Brassica nigra (NL). DROLOGY Field Observations:	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is <u>less than</u> 50% h	v	Vetland Hydrol Primary In	logy Indica ndicators: Inunda Saturat Water I Drift Li Sedime	ators: ted ted in Upper 12 inc Marks nes ent Deposits ge Patterns in Wetl rs (2 or more requir	hes
8. rcent of Dominant Spermarks: Vegetative critical Brassica nigra (NL). DROLOGY Field Observations: Depth of Su	Recorded Data	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is <u>less than</u> 50% h	v	Vetland Hydrol Primary In	logy Indica dicators: Inunda Satural Water I Drift Li Sedime Drainae	ators: ted ted in Upper 12 inc Marks nes ent Deposits ge Patterns in Wetl rs (2 or more requir	hes lands red):
8. Procent of Dominant Specemarks: Vegetative criticand Brassica nigra (NL). TOROLOGY Field Observations: Depth of Su	Recorded Data No Recorded I	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is less than 50% h	ydrophytic. Othe	Vetland Hydrol Primary In	logy Indica ndicators: Inunda Satural Water I Drift Li Sedime Drainae y Indicator Oxidize Water-	ators: ted ted in Upper 12 inc Marks nes ent Deposits ge Patterns in Wetl s (2 or more required Root Channels in	hes lands red):
8. ercent of Dominant Specemarks: Vegetative criticand Brassica nigra (NL). //DROLOGY Field Observations: Depth of Su	Recorded Data No Recorded I	a (Describe in Rem Stream, Lake or Ti Aerial Photograph Other	tion is less than 50% h	ydrophytic. Othe	Vetland Hydrol Primary In	logy Indica ndicators: Inunda Saturar Water I Drift Li Sedime Drainar y Indicator Oxidize Water Local S	ators: ted ted in Upper 12 inc Warks nes ent Deposits ge Patterns in Wetl rs (2 or more required Root Channels i Stained Leaves	hes lands red):

JUILJ							
Map Unit Nar	ne						
(Series and P	hase): Inve	erness Loam, 50 to 75	5 % Slopes	Drainage Class:			
Taxonomy (S	Subgroup):			Field Observations Confirm M	apped Type? Yes	No	√
Profile Descr	iption						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.		
0-12	A/B	10YR 3/2			Alluvial material		
Hydric Soil Ir	ndicators:						
	Histosol		Concretions				
	Histic Epipedo	on	High Organic C	ontent in Surface Layer in Sandy Soils			
_	Sulfidic Odor		Organic Streaki	ing in Sandy Soils			
	Aquic Moistur	e Regime	Listed on Local	Hydric Soils List			
_	Reducing Con	ditions	Listed on Natio	nal Hydric Soils List			
	Gleyed or Low	r-Chroma Colors	Other (Explain i	in Remarks)			
_		_					
Remarks: Hy	dric soil criterion is	s NOT met. No mottles wer	e present in a soil with	n low chroma (2), therefore, suggesting that	t soils are NOT hydric.		
WFTI AND	DETERMINATI	ON					
1121271112	<u>DETERMINATION</u>	<u> </u>					
Hydrophytic	Vegetation Present	? Yes	√ No				
Wetland Hyd	rology Present?	Yes	√ √ No				
Hydric Soils	Present?	Yes	√ No	Is this Sampling Point Within a Wetla	nd? Yes	√ No	
		ated on floodplain adjacer ly drain quickly due to the		ge. The area has been filled substantially.	ly with spoil material from c	reek excava	tion,

	(190	7 COE Wetland	S Delineat	ion Manua	ii)		
Project/Site:	Giacomini Wetland Restora	ation Project, Giac	omini Ranch	n, Point Reye	es	Date:	4/6/04
Applicant/Owner:	Point Reyes National Seas	hore				County:	Marin
Investigator:	Lorraine Parsons and Che	sea Donovan				State:	CA
Site Location:	Directly east of Lucchesi R	esidence in West	Pasture				
Do Normal Circum	stances exist on the site?		Yes	√ No		Community	Adjacent Wetland
_	ntly disturbed (Atypical Sit	uation)?	Yes	No No		Transect ID:	
Is the area a poten			Yes	No		Plot ID:	17A
(If needed, expl	ain on reverse.)						
VEGETATION					•		
Dominant Plant Sp		Indicator	Domina	nt Plant Specie	es	Stratum	Indicator
Agrostis stolonifera	Herb	FACW					_
2. 3.							
4.							
5.							
6.							
7.							
8.						-	<u> </u>
-	cies that are OBL, FACW or FAC (/= 100%				
	rerion is met. Dominant vegetation rum (FACW). Other species present						, Distichlis spicata (FACW),
HYDROLOGY							
	Recorded Data (Describe in Rer	•	,	Wetland Hydro		ators:	
	Stream, Lake or T	=		Primary Ir	ndicators: Inunda	ted	
	Other			-	_	ted in Upper 12 inc	hes
V	No Recorded Data Available				— Water I		
-	_			-	— Drift Li	nes	
Field Observations:					Sedime	ent Deposits	
					Draina	ge Patterns in Wetl	ands
Depth of Su	rface Water:		_ (in.)	1	-	s (2 or more requir	-
<u>.</u>			_			ed Root Channels i	n Upper 12 inches
Depth to Fro	ee Water in Pit:		_ (in.)			Stained Leaves	
Donth to So	turated Sails		(in)			Soil Survey Data	
Depth to Sa	turated Soil:		_ (in.)	-		eutral Test Explain in Remark:	s)
Domonico, Uniduale :::	orion would announts bet. O-:	was not activated !-	 	Other (Explain in Remarks)			

Remarks: Hydrologic criterion would appear to be met. Soil was not saturated or inundated in April, and sampling was conducted 10 days after the last significant rainfall. However, there had been only 1.16 inches of rainfall in the past 30 days. Oxidized pore channels were abundant. While there were no other secondary indicators, it is likely that soil tends to be saturated from groundwater, rather than inundated with sheetflow, thereby decreasing the potential for most of the other primary and secondary indicators such as algal mats, sediment deposits, water-stained vegetation, etc. Sampling point is located on floodplain adjacent to Inverness Ridge.

SOILS						
Map Unit Na	ame				<u> </u>	
(Series and Phase): Novato Clay Taxonomy (Subgroup):			Drainage Class:			
		Field Observations Confirm Mapped Type? Yes √ No				
Profile Desc	cription					
Depth (inches) 0-12	Horizon A/B	Matrix Color (Munsell Moist) 10YR 3/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast Abundant/Distinct	Texture, Concretions, Structure, etc. Clay Loam	
Hydric Soil I	Indicators:		Concretions			
-	Histic Epipedon		High Organic Content in Surface Layer in Sandy Soils			
<u>-</u>	Sulfidic Odor	_	Organic Streakir	Organic Streaking in Sandy Soils		
=	Aquic Moisture Regime		Listed on Local Hydric Soils List			
-	Reducing Conditions		Listed on National Hydric Soils List			
_	√ Gleyed or Low-	-Chroma Colors	Other (Explain in Remarks)			
Remarks: H	lydric soil criterion is	met. While mottles are not	t required to be preser	nt in a soil with a chroma of (1), they were a	abundant, suggesting that soils are hydric.	
WETLAND	DETERMINATION	ON				
Hydrophytic Vegetation Present? ✓ Yes			No			
Wetland Hydrology Present? <u>√</u> Yes			No			
Hydric Soils Present? <u>√</u> Yes			No	Is this Sampling Point Within a Wetla	ınd? <u>√</u> Yes No	
through she		on through the soil, as wel			teer from the base of the Inverness Ridge d Fish Hatchery Creek. Groundwater table is	

	(19	87 COE Wetland	s Delinea	tion N	<i>l</i> lanual)		
Project/Site:	Giacomini Wetland Resto	oration Project, Giac	omini Rand	ch, Poi	nt Reye	es	Date:	4/6/04
Applicant/Owner:	Point Reyes National Sea	ashore					County:	Marin
Investigator:	Lorraine Parsons and Ch	elsea Donovan					State:	CA
Site Location:	Directly east of Lucchesi	Residence in West	Pasture					
	stances exist on the site?	•	Yes	٦/	No		Community	Upland
	ently disturbed (Atypical S		Yes		No	1	Transect ID:	Оріана
_	tial Problem Area?	ituation, i	Yes		No	1	Plot ID:	17C
(If needed, explain on reverse.)								
VEGETATION								
Dominant Plant S	pecies Stratum	Indicator	Domir	nant Pla	nt Specie	s	Stratum	Indicator
1. Lolium multiflorum	Herb	FAC					_	
2. Trifolium repens	Herb	FACU+						
3. Cerastium sp.	Herb						_	
4. Hordeum sp.	Herb						_	
Geranium dissectu	m Herb	NL					_	
6. Rumex pulcher	Herb	FAC+						
7. Vulpia bromoides	Herb	FACW						
8. Aira caryophyllea	Herb	NL					_	
Remarks: Vegetative cri	terion is NOT met. Dominant veg	etation is <u>less than</u> 50% h	nydrophytic.					
	Recorded Data (Describe in R	emarks):		Wetlan	d Hydrol	ogy Indic	ators:	
	Stream, Lake o	r Tide Gauge		Р	rimary In	dicators:		
	Aerial Photogra	phs		_		Inund	ated	
	Other					Satura	ated in Upper 12 inc	hes
	No Recorded Data Available					Water	Marks	
				<u> </u>		Drift L	ines	
Field Observations	:					Sedin	ent Deposits	
						Drain	age Patterns in Wetl	ands
Depth of St	urface Water:		_ (in.)	s	econdary		ors (2 or more requir	
				_		Oxidiz	zed Root Channels i	n Upper 12 inches
Depth to Fr	ee Water in Pit:		(in.)	l _		Water	-Stained Leaves	
				<u> </u>		Local	Soil Survey Data	
Depth to Sa	aturated Soil:		(in.)	_		_	Neutral Test	
I				Ī		Other	(Explain in Bamark	۵۱

Remarks: Hydrologic criterion is NOT met. Soil was not saturated or inundated in April, and sampling was conducted only after 10 days after the last significant rainfall. However, there had been only 1.16 inches of rainfall in the past 30 days. There were possibly some oxidized pore channels, but they were not distinct, and there were no other primary or secondary indicators. Sampling point is located on floodplain adjacent to the 1906 Drainage. The area has been filled substantially with spoil material from creek excavation, and any flood overflows probably drain quickly due to the rounded topography.

SUILS							
Map Unit Nam	е						
(Series and Ph	nase): Inve	erness Loam, 50 to 75	% Slopes	Drainage Class:			
Taxonomy (Su	ubgroup):			Field Observations Confirm M	lapped Type? Yes	No	√
Profile Descrip	ption						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist	t) Abundance/Size/Contrast	Structure, etc.		
0-12	A/B	10YR 3/3		No mottles	Sandy loam fill mix		
Hydric Soil Inc	dicators:						
	Histosol		Concretions				
_	Histic Epipedo	n	High Organic (Content in Surface Layer in Sandy Soils			
	Sulfidic Odor	_		king in Sandy Soils			
	Aquic Moisture	e Regime	Listed on Loca	al Hydric Soils List			
	Reducing Con	ditions	Listed on Nation	onal Hydric Soils List			
_	Gleyed or Low	-Chroma Colors	Other (Explain	in Remarks)			
Remarks: Hyd	dric soil criterion is	NOT met. Soils did not have	ve a low chroma (3),	, therefore, suggesting that soils are NOT hy	/dric.		
WETLAND I	DETERMINATION	ON					
Hydrophytic V	egetation Present	? <u> </u>	_√ No				
Wetland Hydro	ology Present?	Yes	_√_ No				
Hydric Soils P	resent?	Yes	√ No	Is this Sampling Point Within a Wetla	and? Yes	√ No	
		ated on floodplain adjacen y drain quickly due to the		age. The area has been filled substantiall hy.	ly with spoil material from cre	eek excavat	ion,

DATA FORM

Project/Site:	Giacomini Wetland Res	storation Project, Giac	omini Rancl	n, Po	int Reyes	Date:	3/9/04
Applicant/Owner:	Point Reyes National S	Seashore				County:	Marin
nvestigator:	Lorraine Parsons and A	Amelia Ryan				State:	CA
Site Location:	Directly east of Lucche	esi Residence in north	West Pastu	e			
	stances exist on the sit		Yes	1	No	Community	Adjacent Wetlan
s the site significa	antly disturbed (Atypica	I Situation)?	Yes	\	No	Transect ID:	
_	itial Problem Area?	. •	Yes	$\frac{1}{}$	No	Plot ID:	18
=	lain on reverse.)					- 1.001.51	
(ii iieeueu, exp	iaiii oii ieveise.)						
EGETATION							
Dominant Plant S	pecies Stratum	Indicator	Domina	nt Pla	nt Species	Stratum	Indicator
Poa trivialis	Herb	FACW				<u> </u>	
2. Juncus phaeoceph	nalus Herb	FACW				<u> </u>	
3. Potentilla anserina	Herb	OBL				<u> </u>	
4. Lythrum hyssopifol	lium Herb	FACW					
5. Trifolium repens	Herb	FACU+					
6. Cyperus eragrostis	Herb	FACW					
7.							
7. 8.							
8.	cies that are OBL, FACW or F.	AC (excluding FAC-).	/= 83%				<u> </u>
8. ercent of Dominant Spe	ecies that are OBL, FACW or F	_			Failabia.		<u> </u>
8. ercent of Dominant Spo	ecies that are OBL, FACW or Factorion is met. Dominant vegeta	_		speci	es are: <i>Epilobiur</i>	n sp.	
8. ercent of Dominant Spo		_		r speci	es are: <i>Epilobiu</i> i	n sp.	
8. ercent of Dominant Sports emarks: Vegetative cri	terion is met. Dominant vegeta	ation is <u>greater than</u> 50% hyd	Irophytic. Other				
8ercent of Dominant Sporemarks: Vegetative cri	terion is met. Dominant vegeta	ation is greater than 50% hyd	Irophytic. Other	Wetlar	nd Hydrology In	dicators:	
8ercent of Dominant Sporemarks: Vegetative cri	Recorded Data (Describe in Stream, Lake	n Remarks): e or Tide Gauge	Irophytic. Other	Wetlar	nd Hydrology In Primary Indicato	dicators:	
8ercent of Dominant Sporemarks: Vegetative cri	Recorded Data (Describe in Stream, Lake	n Remarks): e or Tide Gauge	Irophytic. Other	Wetlar	nd Hydrology In Primary Indicato Inu	dicators: rs: ndated	
8ercent of Dominant Sporemarks: Vegetative cri	Recorded Data (Describe in Stream, Lake	n Remarks): e or Tide Gauge	Irophytic. Other	Wetlar	nd Hydrology In Primary Indicato Inu	dicators:	hes
8. ercent of Dominant Sporemarks: Vegetative cri	Recorded Data (Describe in Stream, Lake	n Remarks): e or Tide Gauge	Irophytic. Other	Wetlar	nd Hydrology In Primary Indicato Inu Sat	dicators: rs: ndated	hes
8. Percent of Dominant Spe	Recorded Data (Describe in Stream, Lake Aerial Photo	n Remarks): e or Tide Gauge	Irophytic. Other	Wetlar	nd Hydrology In Primary Indicato Inu Sat	dicators: rs: ndated urated in Upper 12 inc	hes
8. Percent of Dominant Specemarks: Vegetative cri	Recorded Data (Describe ir Stream, Lake Aerial Photo Other No Recorded Data Available	n Remarks): e or Tide Gauge	Irophytic. Other	Wetlar	nd Hydrology In Primary Indicato Inu Sat Wa	dicators: rs: ndated urated in Upper 12 inc ter Marks	hes

	;	Stream, Lake or Tide Gauge		Primary Indi	cators:
		Aerial Photographs			Inundated
		Other			Saturated in Upper 12 inches
√	No Recorded D	ata Available			Water Marks
,					Drift Lines
Field Observations:				·	Sediment Deposits
					Drainage Patterns in Wetlands
Depth of Sur	rface Water:		(in.)	Secondary I	ndicators (2 or more required):
					Oxidized Root Channels in Upper 12 inches
Depth to Fre	e Water in Pit:		(in.)		Water-Stained Leaves
					Local Soil Survey Data
Depth to Sat	urated Soil:		(in.)		FAC-Neutral Test
					Other (Explain in Remarks)

Remarks: Hydrologic criterion would appear to be met. Soil was saturated in March. Sampling was conducted only 10 days after the last large rainfall, and there had been 4.08 inches of rainfall in the last 14 to 18 days. However, it appeared likely that saturation would persist at least 14 to 18 days. There were several secondary indicators, including distinct, common oxidized pore channels, algal matting, and matted vegetation. Spread of creek excavation materials on west bank of 1906 drainage has created a berm effect, encouraging ponding of water in a depressional feature adjacent to the Lucchesi residence fence. Use of heavy machinery in this area for creek excavation has altered the topography in this area, creating man-induced wetlands (atypical situations) that have the potential to be seasonal wetlands (problem areas). Primary hydrologic sources appear to be precipitation and surface run-off and, perhaps during very extreme flood events, overbank flooding from the 1906 drainage.

SUILS							
Map Unit Name							
(Series and Phase	:): Invern	ness Loam, 50 to 75	% Slopes	Drainage Class:			
Taxonomy (Subgr	oup):			Field Observations Confirm Ma	pped Type? Y	/es No	·
Profile Description	n .						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concre	etions,	
· · · · · · · · · · · · · · · · · · ·	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.		
0-12	A/B	10YR 2/1		No mottles	Very clayey, prob	bably Novato Clay	/
Hydric Soil Indicat	tors:			-			
	Histosol		Concretions				
	Histic Epipedon	<u> </u>	High Organic Cor	ntent in Surface Layer in Sandy Soils			
	Sulfidic Odor	<u> </u>	Organic Streaking	g in Sandy Soils			
	Aquic Moisture R	Regime	Listed on Local H	lydric Soils List			
 .	Reducing Condit	ions	Listed on Nationa	al Hydric Soils List			
<u> </u>	Gleyed or Low-C	hroma Colors	Other (Explain in	Remarks)			
	0.0,02.0.20			Nomano,			
Remarks: Hydric	soil criterion is m	net. Soil had a low chroma	a of (1), and mottles are	e not required, therefore, the soils are hydri	ic		
11011		10th 00th 11dd 4 10th 21th 21th	101 (1), and mounts and	5 Hot Toquitou, 2.5.5.5.5, 2.6 55 2 2			
WETLAND DET	FRMINATIO						
VIC. 27.110 22.		<u> </u>					
Hydrophytic Vege	tation Present?	√ Yes	No				
Wetland Hydrolog		√ √ Yes	— No				
Hydric Soils Prese	•	√ Yes	No	Is this Sampling Point Within a Wetlan	d? √ Yes	N	lo
materials on west	bank of 1906 dra	inage has created a berr	m effect, encouraging	is i residence and fenceline on west bank g ponding of water in the depressional fe ced wetlands (atypical situations) that h	eature. Use of hea	avy machinery in	n this area

Project/Site:	Giacomini V	Vetland Restora	ation Project, Giad	comini Rand	ch, Po	int Reyes	Date:	3/9/04
Applicant/Owner:	Point Reyes	National Seasl	hore				County:	Marin
Investigator:	Lorraine Pa	rsons and Amel	lia Ryan				State:	CA
Do Normal Circum	stances exist	on the site?		Yes	√	No	Community	Adjacent Wetland
Is the site significa	ntly disturbe	d (Atypical Situ	uation)?	Yes	$\frac{1}{\sqrt{1}}$	No	Transect ID:	
Is the area a poten	tial Problem	Area?		Yes	$\overline{}$	No	Plot ID:	19
(If needed, expl	lain on revers	se.)				_		
/EGETATION							I	
Dominant Plant Sp	pecies	Stratum	Indicator	Domir	nant Pla	ant Species	Stratum	Indicator
1. Mentha pulegium		Herb	OBL					
Rumex conglomera		Herb	FACW					
3. Cyperus eragrostis		Herb	FACW					
4. Poa trivialis		Herb	FACW					
5								
6.							<u></u>	
			-					
7.								
7. 8.								
7.	ecies that are OBI	L, FACW or FAC (e	excluding FAC-).	/= 100%				
7. 8.								
7. 8. Percent of Dominant Spe Remarks: Vegetative crit								
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	terion is met. Do	ominant vegetation is	s greater than 50% hy			nd Hydrology		
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	terion is met. Do	ominant vegetation is a (Describe in Rem Stream, Lake or T	s <u>greater than</u> 50% hy narks): iide Gauge			Primary Indica	ators:	
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	terion is met. Do	ominant vegetation is a (Describe in Rem Stream, Lake or T Aerial Photograph	s <u>greater than</u> 50% hy narks): iide Gauge			Primary Indica	ators: nundated	
7. 8. Percent of Dominant Spe	terion is met. Do	ominant vegetation is a (Describe in Rem Stream, Lake or T	s <u>greater than</u> 50% hy narks): iide Gauge			Primary Indica	ators: nundated Saturated in Upper 12 inc	ihes
7. 8. Percent of Dominant Spe	Recorded Dat	ominant vegetation is a (Describe in Rem Stream, Lake or T Aerial Photograph	s <u>greater than</u> 50% hy narks): iide Gauge			Primary Indica	ators: nundated	rhes
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Dat	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge			Primary Indica √ S	ators: nundated Saturated in Upper 12 inc	ches
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Dat	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge			Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks	rhes
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Dat	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge			Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks Drift Lines	
7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY	Recorded Dat	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge		- - - -	Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks Orift Lines Sediment Deposits	lands
7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY	Recorded Dat No Recorded	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge	drophytic.	- - - -	Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations: Depth of Su	Recorded Dat No Recorded	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge	drophytic.	- - - -	Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet dicators (2 or more requi	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations: Depth of Su	Recorded Dat No Recorded ::	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge	drophytic.	- - - -	Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet dicators (2 or more requi	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations: Depth of Su	Recorded Dat No Recorded ::	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s <u>greater than</u> 50% hy narks): iide Gauge	drophytic.	- - - -	Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet dicators (2 or more requi	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations: Depth of Su	Recorded Dat No Recorded urface Water:	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): iide Gauge	(in.)	- - - -	Primary Indica	ators: nundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet dicators (2 or more requi Dxidized Root Channels in Water-Stained Leaves Local Soil Survey Data	lands red): in Upper 12 inches

algal matting and matted vegetation. Use of heavy machinery in this area for creek excavation has altered the topography in this area, creating man-induced wetlands (atypical situations) that have the potential to be seasonal wetlands (problem areas). Primary hydrologic sources appear to be precipitation and surface run-off and, perhaps during very extreme flood events, overbank flooding from the 1906 drainage.

Map Unit Nar	me											
(Series and F	Phase): Inve	rness Loam, 50 to 75	5 % Slopes	Drainage Class:								
Taxonomy (S	Subgroup):			Field Observations Confirm Mapped Type? Yes No v								
Profile Descr	ription											
Depth (inches) 0-12	Horizon A/B	Matrix Color (Munsell Moist) 10YR 3/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast No mottles	Texture, Concretions, Structure, etc. Coarse sandy loam							
Hydric Soil Ir												
_	Histosol Histic Epipedo	_	Concretions	ontent in Surface Layer in Sandy Soils								
_	Sulfidic Odor	' <u>-</u>	_	ng in Sandy Soils								
_	Aquic Moisture	Regime		Hydric Soils List								
_	Reducing Cond	_		nal Hydric Soils List								
_		Chroma Colors	Other (Explain i	•								
Remarks: Hy	ydric soil criterion is	met. Soil had a low chrom	na of (1), and mottles a	are not required, therefore, the soils are hyd	dric.							
WETLAND	DETERMINATION	ON										
Hydrophytic	Vegetation Present?	√ Yes	No									
	rology Present?	√ Yes	No									
Hydric Soils		√ Yes	No No	Is this Sampling Point Within a Wetla	ınd? √ Yes	No						
				jacent to Lucchesi residence. Use of he ands (atypical situations) that have the								

		(
Project/Site:	Giacomini Wetla	and Restorati	on Project, Whit	e House P	ool, Poin	t Reyes	s	Date:	3/9/04
Applicant/Owner:	Point Reyes Nat	tional Seash	ore					County:	Marin
Investigator:	Lorraine Parson	s and Amelia	a Ryan					State:	CA
Site Location:	Riparian area ad	djacent to Sir	Francis Drake I	Blvd south	of West F	Pasture	€		
Do Normal Circum	stances exist on	the site?		Yes	√ 1	No		Community	Adjacent Wetland
Is the site significa	ntly disturbed (A	typical Situa	ation)?	Yes	i	No	√	Transect ID:	
Is the area a poten	tial Problem Area	1?		Yes	i	No	√	Plot ID:	20A
(If needed, expl	ain on reverse.)					,			
VEGETATION									
Dominant Plant Sp	pecies	Stratum	Indicator	Domi	nant Plant	Species		Stratum	Indicator
Salix lasiolepis		Tree	FACW						
2. Oenanthe sarmente		Herb	OBL						
3. Scirpus microcarpu		Herb	OBL						
4. Poa trivialis		Herb	FACW						
5. Juncus patens		Herb	FAC						
6.									
7.								-	
8				-					
Percent of Dominant Spe	cies that are OBL, FA	CW or FAC (exc	cluding FAC-).	/= 100%					
Remarks: Vegetative crit	terion is met. Domina	nt vegetation is	greater than 50% hyd	drophytic.					
HYDBOLOGY									
HYDROLOGY	Recorded Data (De	scribe in Pema	rke):		Wetland I	Hydrolog	av Indica	tors:	
		am, Lake or Tid	-			nary Indi		iors.	
		al Photographs	_			√ √	Inundat	ed	
	Othe				l —	•	•	ed in Upper 12 inc	hes
$\sqrt{}$	No Recorded Data						Water N		
	_				<u> </u>		Drift Lir	nes	
Field Observations:					 		•	nt Deposits	
							-	e Patterns in Wetl	ands
Depth of Su	ırface Water:		2	(in.)	Sec	ondarv I	•	s (2 or more requir	
				_ ` ′					n Upper 12 inches
Depth to Fr	ee Water in Pit:			(in.)	-		-	Stained Leaves	••
				- ` ′			-	oil Survey Data	
Denth to Sa	turated Soil:			(in.)			-	eutral Test	
235 10 00				_	l —	1	-	Evnlain in Remark	e)

Remarks: Hydrologic criterion is met. Inundation was present in early March. Sampling was conducted only 10 days after the last large rainfall, and there had been 4.08 inches of rainfall in the last 14 to 18 days. However, it appeared likely that saturation would persist at least 14 to 18 days. Algae were also present in the water, suggesting long-term ponding. This area is a depressional area fed by a seep off the Inverness Ridge, and seep flows are bermed to some extent by the created and/or alluvial levee bordering Lagunitas Creek.

SOII S

SOILS						
Map Unit Nan	пе					
(Series and P	hase): Inve	rness Loam, 15 to 30	% Slopes	Drainage Class:		
Taxonomy (S	ubgroup):			Field Observations Confirm M	apped Type? Yes	No √
Profile Descri	ption					
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.	
0-12	A/B	10YR 2/2		No mottles	Gravelly, clayey loam	
Hydric Soil In	dicators:					
	Histosol	_	Concretions			
_	Histic Epipedor	<u> </u>	High Organic Co	ntent in Surface Layer in Sandy Soils		
	Sulfidic Odor	<u> </u>	Organic Streakin	ng in Sandy Soils		
	Aquic Moisture	Regime	Listed on Local I	Hydric Soils List		
	Reducing Cond	litions	Listed on Nation	al Hydric Soils List		
	Gleyed or Low-	Chroma Colors	Other (Explain in	Remarks)		
		_	_			
	dric soil criterion is es that the soils are hy		a of (2), and there were	e no mottles. However, the presence of ir	nundation more than 14 to 18 days si	nce the last
WETLAND	DETERMINATIO	DN				
Hydrophytic \	Vegetation Present?	√ Yes	No			
Wetland Hydr	ology Present?	_√ Yes	No			
Hydric Soils I	Present?	√ Yes	No	Is this Sampling Point Within a Wetla	nd? <u>√</u> Yes I	No
	npling point is a der gunitas Creek.	oressional area fed by a s	eep off the Inverness	Ridge, and seep flows are bermed to s	some extent by the created and/or	alluvial levee

Project/Site:	Giacomini We	tland Restora	ation Project, White	e House Pool	l. Point Rev	es	Date:	3/9/04
Applicant/Owner:	Point Reyes N				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		County:	Marin
							-	
vestigator:	Lorraine Parso	ons and Ame	iia Ryan				State:	CA
ite Location:	Levee area ad	jacent to Sir	Francis Drake Blv	d south of We	est Pasture			
o Normal Circum	stances exist o	n the site?		Yes	√ No		Community	Upland
the site significa	antly disturbed (Atypical Sit	uation)?	Yes	No	√	Transect ID:	
the area a poten	tial Problem Ar	ea?		Yes	No	√	Plot ID:	20C
(If needed, exp	lain on reverse.)						
	•							
						J		
GETATION								
Dominant Plant S	pecies	Stratum	Indicator FAC	Dominan	t Plant Specie	s	Stratum	Indicator
Holcus lanatus		Herb Herb	NL PAC					<u> </u>
 Brassica nigra Vicia sativa ssp. sa 	ativa	Herb	FACU				·	
3. Vicia sativa ssp. sa 4. Geranium carolinar		Herb	NL NL				· -	_
5. Artemisia douglasia		Herb	FACW					
6. Phalaris aquatica		Herb	FAC+					-
7.								_
8.								
rcent of Dominant Spe	ecies that are OBL. F	ACW or FAC (e	excluding FAC-).	/= 100%			-	
•		•						
marks: vegetative cri	terion is NOT met.	Dominant vegeta	ation is <u>less than</u> 50% hy	/aropnytic.				
DROLOGY								
DROLOGY	Recorded Data (I			W	etland Hydrol		ators:	
DROLOGY	St	ream, Lake or T	ide Gauge	W	etland Hydrol Primary In	dicators:		
DROLOGY	St As	ream, Lake or T erial Photograpl	ide Gauge	W	=	dicators: Inunda	ted	hes
	St As	ream, Lake or T erial Photograpl ther	ide Gauge	w	=	dicators:InundaSatura	ted ted in Upper 12 incl	hes
DROLOGY	St As	ream, Lake or T erial Photograpl ther	ide Gauge	W	=	dicators: Inunda Satura Water	ted ted in Upper 12 incl Warks	hes
	St As	ream, Lake or T erial Photograpl ther	ide Gauge	W	=	dicators: Inunda Satura Water Drift Li	ted led in Upper 12 incl Marks nes	hes
DROLOGY √ Field Observations:	St As	ream, Lake or T erial Photograpl ther	ide Gauge		=	dicators: Inunda Satura Water Drift Li	ted ted in Upper 12 incl Marks nes ent Deposits	
√ Field Observations:	St As	ream, Lake or T erial Photograpl ther	ide Gauge	(in.)	Primary In	dicators: Inunda Satura Water Drift Li Sedime	ted led in Upper 12 incl Marks nes	ands

Remarks: Hydrologic criterion is NOT met. Soil was not saturated or inundated in early March, and sampling was conducted only 10 days after the last large rainfall. In addition, there had been 4.08 inches of rainfall in the last 14 to 18 days, and the month itself was quite wet. There were no other primary or secondary indicators. The area is located on either a created or alluvial levee bordering Lagunitas Creek. Topographic position (top of levee) probably encourages quick draining of any creek overbank flows.

(in.)

(in.)

Water-Stained Leaves

Local Soil Survey Data

FAC-Neutral Test
Other (Explain in Remarks)

Depth to Free Water in Pit:

Depth to Saturated Soil:

SUILS						
Map Unit Name						
(Series and Pha	se):	Inverness Loam, 15 to 3	0 % Slopes	Drainage Class:		
Taxonomy (Sub	group): _			Field Observations Confirm Ma	apped Type? Yes —	No √
Profile Descript	ion					
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.	
0-12	A/B	10YR 3/2		No mottles	Fine sandy loam	
<u> </u>						
Hydric Soil Indi	cators:					
	Histosol	_	Concretions			
	Histic Epip	edon	High Organic Co	ontent in Surface Layer in Sandy Soils		
	Sulfidic Oc	dor _	Organic Streakir	ng in Sandy Soils		
	Aquic Moi:	sture Regime	Listed on Local I	Hydric Soils List		
	Reducing	Conditions	Listed on Nation	nal Hydric Soils List		
	Gleyed or	Low-Chroma Colors	Other (Explain in	ı Remarks)		
			<u> </u>			
		on is NOT met. Soil had a low only creek overbank flows.	chroma of (2), and there	e were no mottles. Sandiness of soil and to	ppographic position (top of levee	e) probably
WETLAND D	ETERMIN	ATION				
				T		
Hydrophytic Ve	getation Pres	sent? Yes	_√ No			
Wetland Hydrol	ogy Present?	? Yes	_√_ No			
Hydric Soils Pre	esent?	Yes	_√ No	Is this Sampling Point Within a Wetlar	nd? Yes $\sqrt{}$	No No
		located on either a created or raining of any creek overbank		ing Lagunitas Creek. Topographic posit	tion (top of levee) and sanding	ess of soils

		(198	7 COE Wetland	s Delineat	ion ivia	anuai)		
Project/Site:	Giacomini W	etland Restora	ation Project, Whit	e House Po	ol, Poir	nt Rey	es	Date:	3/9/04
Applicant/Owner:	Point Reyes	National Seas	hore					County:	Marin
Investigator:	Lorraine Pars	sons and Ame	lia Ryan					State:	CA
Site Location:	Depressiona	l area along pa	ath in White House	e Pool Cour	ity Park	(1	
Do Normal Circum	stances exist	on the site?		Yes	1	No		Community	Adjacent Wetland
ls the site significa	ntly disturbed	l (Atypical Sit	uation)?	Yes		No	$\overline{\ \ }$	Transect ID:	
Is the area a poten	tial Problem A	rea?		Yes	√	No		Plot ID:	21A
(If needed, expl	ain on reverse	e.)							
EGETATION									
Dominant Plant Sp 1. Euthamia occidenta		Stratum Herb	Indicator OBL	Domina	ant Plant	Specie	S	Stratum	Indicator
2. Poa annua?		Herb	FACW-						
3.			-	-					
4.									
5.									
6.									
7. 8.								_	_
ercent of Dominant Spe	eiee that are OPI	FACW or FAC (avaluding FAC \	/= 100%				<u> </u>	
Remarks: Vegetative crit			_						
YDROLOGY									
	_	(Describe in Ren	•		Wetland	-			
		Stream, Lake or T Aerial Photograpl	-		Prii	mary In	dicators Inunc		
		Aeriai Priotograpi Other	13			√		ated ated in Upper 12 inc	hes
V	No Recorded D					٧	_	· Marks	
		- L.L. / IT GIIGOTO					– Drift I		
Field Observations:							_	nent Deposits	
							_	age Patterns in Wetl	ands

Remarks: Hydrologic criterion is met. Saturation was present in early March. Sampling was conducted only10 days after the last large rainfall, and there had been 4.08 inches of rainfall in the last 14 to 18 days. However, it appeared likely that saturation would persist at least 14 to 18 days. Secondary indicators were oxidized pore channels (distinct, abundant) and algal matting. This area is a depressional feature that encourages ponding of precipitation and surface run-off by low permeability of clay soils.

(in.)

(in.)

(in.)

Secondary Indicators (2 or more required):

Water-Stained Leaves

Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

Oxidized Root Channels in Upper 12 inches

Depth of Surface Water:

Depth to Free Water in Pit:

Depth to Saturated Soil:

SOILS					
Map Unit Nam	пе				
(Series and P	hase):	Xerothents, fill		Drainage Class:	
Taxonomy (S	ubgroup):			Field Observations Confirm M	lapped Type? Yes √ No
Profile Descri	ption				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches) Horizon		(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-5 A		10YR 3/1		No mottles	Clay material
5-12+	A/B	10YR 2/2		No mottles	Gravelly clayey loam
Hydric Soil In	Histosol		Concretions		
_	Histic Ep	· -	` `	ontent in Surface Layer in Sandy Soils	
	Sulfidic	Odor	Organic Streakin	-	
	Aquic Mo	oisture Regime	Listed on Local I	Hydric Soils List	
_	Reducin	g Conditions	Listed on Nation	al Hydric Soils List	
_	√ Gleyed o	or Low-Chroma Colors	Other (Explain in	Remarks)	
Remarks: Hy saturation with			na of (1), so, therefore, n	no mottles are required. Low permeability	of clay soil layer probably sustains ponding and
WETLAND	DETERMIN	NATION			
Hydrophytic \ Wetland Hydr Hydric Soils F	ology Presen	<u> </u>	No No No	Is this Sampling Point Within a Wetla	and? <u>√</u> Yes No
					may point to a fill episode in this past, as this turation of surface run-off and precipitation.

Project/Site:	Giacomini W	etland Restora	ation Project, Whit	e House Po	ol, Point Re	eyes	Date:	3/9/04
Applicant/Owner:	Point Reyes	National Seasl	hore				County:	Marin
nvestigator:	Lorraine Pars	sons and Amel	lia Ryan				State:	CA
Site Location:	Area along p	ath in White H	ouse Pool County	/ Park				
Do Normal Circum	stances exist	on the site?		Yes	√ No		Community	Upland
Is the site significa	ntly disturbed	l (Atypical Situ	uation)?	Yes	No	_ √	Transect ID:	
Is the area a potent	s the area a potential Problem Area? (If needed, explain on reverse.)						Plot ID:	21C
(If needed, expl	ain on reverse	e.)						
EGETATION							<u> </u>	
Dominant Plant Sp	oecies	Stratum	Indicator	Domina	ant Plant Spec	ies	Stratum	Indicator
1. Salix lasiolepis		Tree	FACW				_	_
2. Rubus ursinus		Shrub	FACW					
3. Conium maculatum		Herb	FACW				_	_
4.							_	
5.							_	
6.								
6. 7.								
6. 7. 8.								
6. 7. 8.	cies that are OBL	, FACW or FAC (e	excluding FAC-).	/= 100%				
6. 7. 8. Percent of Dominant Spe		•						
6. 7. 8. Percent of Dominant Spe		•						
6. 7. 8. Percent of Dominant Spe	erion is met. Dor	•	s <u>greater than</u> 50% hyd	drophytic.	Wetland Hydr	ology India	cators:	
6. 7. 8. Percent of Dominant Spe	erion is met. Dor	minant vegetation is	s greater than 50% hyd	drophytic.	=	ology Indic		
6. 7. 8. Percent of Dominant Spe	Recorded Data	minant vegetation is	s greater than 50% hyd narks): ide Gauge	drophytic.	=			
6. 7. 8. Percent of Dominant Spe	Recorded Data	ninant vegetation is	s greater than 50% hyd narks): ide Gauge	drophytic.	=	Indicators:		ches
6. 7. 8. Percent of Dominant Spe	Recorded Data	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	=	Indicators: Inund Satura	ated	ches
6. 7. 8. Percent of Dominant Spe	Recorded Data	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	=	Indicators: Inund Satura	ated ated in Upper 12 inc Marks	ches
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	=	Indicators: Inund Satura Water Drift L	ated ated in Upper 12 inc Marks ines	ches
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	=	Indicators: Inund Satura Water Drift L	ated ated in Upper 12 inc Marks ines nent Deposits	
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit YDROLOGY Field Observations:	Recorded Data	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	Primary	Indicators: Inund Satura Water Drift L Sedin Draina	ated ated in Upper 12 inc Marks ines	lands
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit YDROLOGY Field Observations:	Recorded Data No Recorded D	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	Primary	Indicators: Inund Satur: Water Drift L Sedin Draina	ated ated in Upper 12 inc Marks ines ent Deposits age Patterns in Wet	lands red):
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit YDROLOGY Field Observations: Depth of Su	Recorded Data No Recorded D	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	Primary	Indicators: Inund Satura Water Drift L Sedin Draina ary Indicato	ated ated in Upper 12 inc Marks .ines nent Deposits age Patterns in Wet ors (2 or more requi	lands red):
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit YDROLOGY Field Observations: Depth of Su	Recorded Data No Recorded D	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	Primary	Indicators: Inund Satura Water Drift L Sedin Draina ary Indicato Water	ated ated in Upper 12 inc Marks ines nent Deposits age Patterns in Wet ors (2 or more required Root Channels	lands red):
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit IYDROLOGY Field Observations: Depth of Su Depth to Fre	Recorded Data No Recorded D	ninant vegetation is (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hyd narks): ide Gauge	drophytic.	Primary	Indicators: Inund Satur: Water Drift L Sedin Draina ary Indicato Water Local	ated ated in Upper 12 inc Marks Lines ment Deposits age Patterns in Wet ors (2 or more required Root Channels in Stained Leaves	lands red):

Remarks: Hydrologic criterion did NOT appear to be met. The area is located in a floodplain terrace riparian stand set back from Lagunitas Creek in White House Pool County Park. Soil was almost saturated at bottom of 13" hole, but sampling wasconducted in early March, only 10 days after the last large rainfall. In addition, there had been 4.08 inches of rainfall in the last 14 to 18 days, and the month itself was quite wet. There were no secondary indicators, although there appeared to be possibly sediment deposits. However, sediment deposits may have occurred during some creek flooding event with recurrence interval greater than 1.5-2 years.

SOII S

SOILS											
Map Unit Na	ame										
(Series and	Phase):	Xerothents, Fill	<u> </u>		Drainage Class:						
Taxonomy (Subgroup):				Field Observations Confirm Mapped Type? Yes						
Profile Desc	ription										
Depth		Matrix (Color	Texture, Concretions,							
(inches)	Horizon		II Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, e					
0-12	A/B	10YR 3/	10YR 3/2		No mottles	Clayey loam	with a lot of	sand and gravel			
Hydric Soil	Indicators:			Concretions							
	Histic Ep	inadan	-	_	ntent in Surface Layer in Sandy Soils						
-	Sulfidic	•		Organic Streakin	•						
-		oisture Regime		Listed on Local I	•						
		g Conditions			al Hydric Soils List						
-		_			•						
-	Gleyed c	r Low-Chroma Colo	ors <u> </u>	Other (Explain in Remarks)							
					were no mottles. The lack of hydric featur flooding rather than floods with recurrence			ediment deposits			
WETLAND	DETERMIN	NATION									
Hydrophytic	Vegetation Pr	esent? $\sqrt{}$	Yes	No							
Wetland Hy	drology Presen	t?	Yes	_√_ No							
Hydric Soils	Present?		Yes	_√_ No	Is this Sampling Point Within a Wetla	nd? Y	'es	_√_ No			
filled histori during flood	cally dating ba	ck to the turn of the nce intervals > 1.5-2	e 20 th century. 2 years. Durir	While sediment dep ng the past 50 years,	dplain terrace area that supports ripariosits were observed, it is likely that the this area has had two very large stormentation in the southern portion of Tom	is is a result of is: a 50-year st	episodic flo orm in 1982	ooding that occurs 2 and a 10-year			

Project/Site:	Giacomini Wetland Restor	ation Project, Whit	e House P	ool, Po	oint Rey	es	Date:	3/9/04
Applicant/Owner:	Point Reyes National Seas	shore					County:	Marin
Investigator:	Lorraine Parsons and Ame	elia Ryan					State:	CA
Site Location:	Depressional area in south	nern portion of Whi	te House F	Pool C	ounty P	ark		
Do Normal Circum	stances exist on the site?		Yes	√	No		Community	Upland
Is the site significa	ntly disturbed (Atypical Si	tuation)?	Yes		No	$\overline{\ \ }$	Transect ID:	
Is the area a poten	tial Problem Area?		Yes		No		Plot ID:	22
(If needed, expl	ain on reverse.)		_					
EGETATION								
Dominant Plant Sp	pecies Stratum	Indicator	Domir	nant Pla	ant Specie	es	Stratum	Indicator
1. Salix lasiolepis	1. Salix lasiolepis Tree FACW						_	
2. Rubus ursinus	Shrub	FACW					_	
3. Cirsium vulgare	Herb	FACU					_	
4. Juncus patens	Herb	FAC	-				_	
5. Juncus effusus	Juncus effusus Herb OBL						_	_
6.		-						
7. 8.	ecies that are OBL, FACW or FAC (excluding FAC-).	/= 80%					
7. 8. Percent of Dominant Spe	ecies that are OBL, FACW or FAC (terion is met. Dominant vegetation	<u> </u>						
7. 8. Percent of Dominant Spe	terion is met. Dominant vegetation	is greater than 50% hyd						
7	terion is met. Dominant vegetation Recorded Data (Describe in Re	is greater than 50% hyd			nd Hydrol			
7. 8. Percent of Dominant Spe	Recorded Data (Describe in Re Stream, Lake or	is greater than 50% hyd marks): Tide Gauge			nd Hydrol Primary In	dicators:		
7	terion is met. Dominant vegetation Recorded Data (Describe in Re	is greater than 50% hyd marks): Tide Gauge			-	dicators:	ated	ches
7. 8. Percent of Dominant Spe	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp	is greater than 50% hyd marks): Tide Gauge			-	Inund Satura		rhes
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp	is greater than 50% hyd marks): Tide Gauge			-	Inund Satura	ated ated in Upper 12 inc Marks	thes
7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp Other No Recorded Data Available	is greater than 50% hyd marks): Tide Gauge			-	Inund Satura Water Drift L	ated ated in Upper 12 inc Marks	rhes
7. 8. Percent of Dominant Specemarks: Vegetative crit	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp Other No Recorded Data Available	is greater than 50% hyd marks): Tide Gauge		- - - -	Primary In	Inund Satura Water Drift L Sedin	ated ated in Upper 12 inc Marks ines ent Deposits age Patterns in Wet	lands
7. 8. Percent of Dominant Spe Remarks: Vegetative cris YDROLOGY Field Observations:	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp Other No Recorded Data Available	is greater than 50% hyd marks): Tide Gauge		- - - -	Primary In	Inund Satura Water Drift L Sedin Draina	ated Marks ines nent Deposits age Patterns in Weters (2 or more requi	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative cris YDROLOGY Field Observations: Depth of Su	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp Other No Recorded Data Available	is greater than 50% hyd marks): Tide Gauge	drophytic.	- - - -	Primary In	Inund Satura Water Drift L Sedin Draina J Validation	ated ated in Upper 12 inc Marks ines ent Deposits age Patterns in Wet ors (2 or more requi	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative crit YDROLOGY Field Observations: Depth of Su	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp Other No Recorded Data Available	is greater than 50% hyd marks): Tide Gauge	drophytic.	- - - -	Primary In	dicators: Inund Satura Water Drift L Sedin Draina Undicato Water Water Water	ated ated in Upper 12 inc Marks ines hent Deposits age Patterns in Wet ors (2 or more requi ted Root Channels -Stained Leaves	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative cris IYDROLOGY Field Observations: Depth of Su Depth to Fr	Recorded Data (Describe in Re Stream, Lake or Aerial Photogram Other No Recorded Data Available urface Water:	is greater than 50% hyd marks): Tide Gauge	_ (in.)	- - - -	Primary In	Inund Satur: Water Drift L Sedin Drain: Undicate Water Local	ated ated in Upper 12 inc Marks ines anent Deposits age Patterns in Wet ors (2 or more requi ted Root Channels -Stained Leaves Soil Survey Data	lands red):
7. 8. Percent of Dominant Spe Remarks: Vegetative cris IYDROLOGY Field Observations: Depth of Su	Recorded Data (Describe in Re Stream, Lake or Aerial Photograp Other No Recorded Data Available	is greater than 50% hyd marks): Tide Gauge	drophytic.	- - - -	Primary In	Inund Satur: Water Drift L Sedin Drain: y Indicate Oxidi: Water Local	ated ated in Upper 12 inc Marks ines hent Deposits age Patterns in Wet ors (2 or more requi ted Root Channels -Stained Leaves	lands red): in Upper 12 inches

in a small depression in the floodplain terrace of Lagunitas Creek, although it is not immediately adjacent to the creek. The area may receive some surface run-off from Sir Francis Drake Boulevard to the south. Texture of soil probably encourages quick draining of any creek overbank flows during larger storm events or surface run-off from Sir Francis Drake Boulevard.

SOILS										
Map Unit Nam	ie									
(Series and Ph	nase): Xer	othents, Fill		Drainage Class:						
Taxonomy (Su	ubgroup):			Field Observations Confirm Mapped Type? Yes $$ No						
Profile Descrip	ption									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-12	A/B	10YR 3/2		No mottles	Sandy clay loam with fill on top					
Hydric Soil Inc	dicators:									
	Histosol	_	Concretions							
<u></u>	Histic Epipedo	on	High Organic Cor	ntent in Surface Layer in Sandy Soils						
<u></u>	Sulfidic Odor	_	Organic Streaking	g in Sandy Soils						
	Aquic Moistur	e Regime	Listed on Local H	Hydric Soils List						
	Reducing Con	ditions	Listed on Nationa	al Hydric Soils List						
	Gleyed or Low	y-Chroma Colors	Other (Explain in	Remarks)						
		NOT met. Soil had a low che surface run-off from Sir Fran		were no mottles. Texture of soil probably	encourages quick draining of any creek overbank					
WETLAND I	DETERMINATI	ON								
Hydrophytic V	egetation Present	? <u>√</u> Yes	No							
Wetland Hydro	ology Present?	Yes	_√_ No							
Hydric Soils P	resent?	Yes	√ No	Is this Sampling Point Within a Wetlar	nd? Yes No					
may receive s	ome surface run-o		Boulevard to the south	 Texture of soil probably encourages 	not immediately adjacent to the creek. The area squick draining of any creek overbank flows					

DATA FORM

			7 COE Wetland)		
Project/Site:	Giacomini V	Wetland Restora	ation Project, Whit	e House Po	ool, Po	int Rey	es	Date:	3/9/04
Applicant/Owner:	Point Reyes	s National Seasl	hore					County:	Marin
Investigator:	Lorraine Pa	rsons and Amel	ia Ryan					State:	CA
Site Location:	Depression	al floodplain are	k		-				
Do Normal Circum	stances exis	t on the site?	√	No		Community	Adjacent Wetland		
Is the site significa	antly disturbe	ed (Atypical Situ	uation)?	Yes		No	$\overline{}$	Transect ID:	
Is the area a poten	-		,	Yes	$\sqrt{}$	No		Plot ID:	23A
(If needed, exp							-	1	
/COST ATION									
/EGETATION Dominant Plant S	necies	Stratum	Indicator	Domin	nant Plai	nt Specie	s	Stratum	Indicator
Euthamia occidenta		Herb	OBL		idiit i idi	пороск		<u> </u>	- Indicator
2. Dipsacus sativa		Herb	NL					_	
3. Oenanthe sarment	osa	Herb	OBL					_	
4. Juncus patens		Herb	FAC						
5. Juncus effusus		Herb	OBL					_	
6. Rubus ursinus		Shrub	FACW						
7.								_	
8.								_	
Percent of Dominant Spe	ecies that are OB	L, FACW or FAC (e	xcluding FAC-).	/= 100%					
Remarks: Vegetative cri	terion is met. De	ominant vegetation is	greater than 50% hyd	drophytic. Oth	er specie	es presen	t include	Erechtites minima (NI	L) and <i>Brassica nigra</i> (NL).
IYDROLOGY									
	Recorded Da	ta (Describe in Rem	narks):		Wetlan	d Hydrol	ogy Indic	cators:	
		Stream, Lake or T	_		Pi	rimary In	dicators	:	
		Aerial Photograph	ıs		_		_ Inund		
,		Other			_	√	Satur	ated in Upper 12 inc	hes
	No Recorded	Data Available			_		Water	r Marks	
					_		Drift L	Lines	
Field Observations	:					√	Sedin	nent Deposits	

Reco	rded Data (Describe in Remarks):		wetiand Hydrology Indicators:		
	Stream, Lake or Tide Gauge		Primary Inc	dicators:	
	Aerial Photographs			Inundated	
	Other		√	Saturated in Upper 12 inches	
√ No Re	ecorded Data Available			Water Marks	
				Drift Lines	
Field Observations:			√	Sediment Deposits	
				Drainage Patterns in Wetlands	
Depth of Surface Wa	ater:	(in.)	Secondary	Indicators (2 or more required):	
				Oxidized Root Channels in Upper 12 inches	
Depth to Free Water	in Pit: 8	(in.)		Water-Stained Leaves	
				Local Soil Survey Data	
Depth to Saturated S	Soil: 6	(in.)		FAC-Neutral Test	
			√	Other (Explain in Remarks)	

Remarks: Hydrologic criterion is met. Saturation and free water was present. Sampling was conducted in early March, only10 days after the last large rainfall, and there had Remarks: Hydrologic criterion is met. Saturation and free water was present. Sampling was conducted in early March, only10 days after the last large rainfall, and there had been 4.08 inches of rainfall in the last 14 to 18 days. However, it appeared likely that saturation would persist at least 14 to 18 days. Another primary indicator was sediment deposits, which probably results from overflow of the Bear Valley Creek drainage onto its floodplain when this was the primary outlet for the creek. (Since 1998, drainage pattern of Bear Valley Creek has shifted to flow through another culvert further east, and the adjacent drainage channel now principally drains the Silver Hills drainage.) A secondary indicator was algal matting. This area is a depressional basin within a former floodplain terrace for Bear Valley Creek that probably still receives both surface and subsurface hydrologic influences from the remnant channel, which now principally drains the Silver Hills drainage. Currently, however, the primary hydrologic sources are probably surface run-off from Sir Francis Drake Boulevard and a drainage that flows into the basin from a small culvert located east of the Silver Hills drainage. Saturation is promoted by the clayey nature of the loam soils present.

SUILS								
Map Unit Name								
(Series and Phase):	Blucher-Cole complex, 2	to 5 percent slopes	Drainage Class:					
Taxonomy (Subgroup):			Field Observations Confirm Mapped Type? Yes $$ No					
Profile Description								
Depth	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
(inches) Horiz	· · · · · · · · · · · · · · · · · · ·	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-12 A/B	10YR 2/1	No mottles	Clayey loam					
Hydric Soil Indicators:	enl	Concretions						
	Epipedon		tent in Surface Layer in Sandy Soils					
	ic Odor	Organic Streaking	• •					
	_		•					
	Moisture Regime	Listed on Local H	•					
Redu	cing Conditions	Listed on Nationa	l Hydric Soils List					
Gleye	d or Low-Chroma Colors	Other (Explain in	Remarks)					
			no mottles are required. Low permeability at the area has been filled to some degre	y of clayey loam soil probably sustains saturation ee, as well.				
WETLAND DETERM	MINATION							
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present? Remarks: Sampling poi	sent? $\frac{}{}$ Yes $\frac{}{}$ Yes	No No No No	Is this Sampling Point Within a Wetla ace for Bear Valley Creek that probabl	nd? _√_ Yes No y still receives both surface and subsurface				
hydrologic influences fr probably surface run-of	om the remnant channel, which no	ow principally drains th I and a drainage that flo	e Silver Hills drainage. Currently, how	t located east of the Silver Hills drainage.				

Project/Site:	Giacomini W	etland Restora	tion Project, Whi	te House P	ool, Po	oint Rey	es	Date:	3/9/04
Applicant/Owner:	Point Reyes	National Seash	nore					County:	Marin
Investigator:	Lorraine Par	sons and Amel	ia Ryan					State:	CA
Site Location:	Depressiona	I Area in White	House Pool Co	unty Park					
Do Normal Circums	stances exist	on the site?		Yes	/	No		Community	Upland
Is the site significa	ntly disturbed	d (Atypical Sitւ	ıation)?	Yes		No	_√	Transect ID:	
Is the area a potent	ial Problem A	Area?		Yes		No		Plot ID:	23C
(If needed, explain on reverse.)									
VEGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domi	nant Pla	nt Specie	es .	Stratum	Indicator
Euthamia occidenta	lis	Herb	OBL					_	
2. Dipsacus sativus		Herb	NL						
3. Conium maculatum		Herb	FACW						
4. Erechtites minima		Herb	NL					_	
5			-					<u> </u>	
6. 7.								_	
8.								_	
Percent of Dominant Spe	cies that are OBI	FACW or FAC (ex	ccluding FAC-)	/= 50%				<u>-</u>	
Remarks: Vegetative crit	erion is met. Doi	minant vegetation is	equal to 50% nyarop	onytic.					
HYDROLOGY									
	Recorded Data	(Describe in Rem	arks):		Wetlar	nd Hydrol	ogy Indic	ators:	
		Stream, Lake or Ti	de Gauge		P	rimary In	dicators:		
		Aerial Photograph	s		_		Inund	ated	
		Other					Satura	ted in Upper 12 inc	hes
√	No Recorded [Data Available					Water	Marks	
	_						Drift L	ines	
Field Observations:					_		Sedim	ent Deposits	
					_		Draina	ige Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	s	Secondary	/ Indicate	rs (2 or more requir	ed):
					_		Oxidiz	ed Root Channels i	n Upper 12 inches
Depth to Fre	ee Water in Pit:			(in.)	_		Water	Stained Leaves	
					_		Local	Soil Survey Data	
Depth to Sa	turated Soil:			(in.)	_		_	leutral Test	
					I _		Other_	(Explain in Remarks	s)

Remarks: Hydrologic criterion is NOT met. There were no primary or secondary hydrologic indicators, and sampling was conducted in early March, 10 days after the last large rainfall. In addition, there had been 4.08 inches of rainfall in the last 14 to 18 days, and the month itself was quite wet. Sampling point is a depressional basin within a former floodplain terrace for Bear Valley Creek that probably still receives both surface and subsurface hydrologic influences from the remnant channel, which now principally drains the Silver Hills drainage. Currently, however, the primary hydrologic sources are probably surface run-off from Sir Francis Drake Boulevard and a drainage that flows into the basin from a small culvert located east of the Silver Hills drainage. The sampling point is located in a slightly higher elevation portion of the basin relative to Sampling Point 23A and, therefore, does not appear to have wetland hydrology.

SOII S

SOILS										
Map Unit Nan	пе									
(Series and P	hase):	Blucher-Cole complex, 2	to 5 percent slopes	Drainage Class:						
Taxonomy (S	ubgroup):			Field Observations Confirm Ma	Field Observations Confirm Mapped Type? Yes $$ No					
Profile Descri	ption									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, e	etc.				
0-12 A/B		10YR 2/2		No mottles	Clayey loam	1				
Hydric Soil In	dicators: Histosol		Concretions							
_	Histic Ep	ipedon	High Organic Cor	ntent in Surface Layer in Sandy Soils						
_	Sulfidic (Odor	Organic Streaking	g in Sandy Soils						
	Aguic Mo	pisture Regime	Listed on Local H	ydric Soils List						
_	Reducing	Conditions	Listed on Nationa	l Hydric Soils List						
	Gleyed o	r Low-Chroma Colors	Other (Explain in	•						
		_								
		rion is NOT met. Soil had a low degree, as well.	chroma of (2), but there	were no mottles. While it is possible that	this soil isthe m	napped type	, it is als	so likely that the		
WETLAND	DETERMIN	IATION								
Hydrophytic \	•		No							
Wetland Hydr		t? Yes	_√_ No							
Hydric Soils F	Present?	Yes	√ No	Is this Sampling Point Within a Wetland? Yes No						
probably still Currently, how	receives both wever, the pri	surface and subsurface hydro	logic influences from t	a depressional basin within a former fl the remnant channel, which now princi from Sir Francis Drake Boulevard and	ipally drains th	e Silver Hi	lls drair	nage.		

Project/Site:	Giacomini We	etland Restora	ation Project, White	e House P	ool, Po	oint Rey	es	Date:	3/9/04
Applicant/Owner:	Point Reyes I	National Seasl	hore					County:	Marin
nvestigator:	Lorraine Pars	sons and Amel	lia Ryan					State:	CA
Site Location:	Riparian Area	a along path in	n White House Poo	ol County F	Park				
Do Normal Circum				Yes	V	No		Community	Upland
s the site significa	uation)?	Yes		- No	$\overline{}$	Transect ID:	- Opiaila		
s the area a poten	Yes		No	Ì	Plot ID:	24			
(If needed, exp						-			
GETATION Dominant Plant S	necies	Stratum	Indicator	Domi	nant Pla	nt Specie	25	Stratum	Indicator
Salix lasiolepis	pecies	Tree	FACW		Iluii	пк орган			
2. Rubus ursinus		Shrub	FACW						
3. Lonicera involucrat	ta	Herb	FAC						
4. Ribes menziesii		Herb	NL/new name?					_	_
5. Oenanthe sarment	rosa	Herb	OBL					_	_
6.	rmentosa Herb OBL							_	_
0.									
7.									
7. 8.	cies that are OBL,	FACW or FAC (e	xcluding FAC-).	/= 100%					
8. ercent of Dominant Spe		•							
8. ercent of Dominant Spe		•							
8. ercent of Dominant Speemarks: Vegetative cri		•							
8. ercent of Dominant Speemarks: Vegetative cri	iterion is met. Dom	•	s <u>greater than</u> 50% hyd		Wetlar	nd Hydrol	ogy India	cators:	
8. ercent of Dominant Sparemarks: Vegetative cri	Recorded Data	ninant vegetation is (Describe in Rem Stream, Lake or T	s greater than 50% hyd narks): ide Gauge			nd Hydrol Primary In	dicators	:	
7. 8. Percent of Dominant Spacemarks: Vegetative cri	Recorded Data	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge				dicators Inund	: ated	
7. 8. Percent of Dominant Spacemarks: Vegetative cri	Recorded Data	ninant vegetation is (Describe in Rem Stream, Lake or T	s greater than 50% hyd narks): ide Gauge				dicators Inund	:	thes
7. 8. Percent of Dominant Spacemarks: Vegetative cri	Recorded Data	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge				dicators Inund Satur	: ated	ches
7. 8. Percent of Dominant Sporter of Proceedings of Procedure Control of	Recorded Data	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge				dicators Inund Satur	: ated ated in Upper 12 inc · Marks	ches
7. 8. Percent of Dominant Sporter Comments: Vegetative cri	Recorded Data S A No Recorded Da	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge				dicators Inund Satur Water Drift I	: ated ated in Upper 12 inc · Marks	thes
7. 8. Percent of Dominant Spe Remarks: Vegetative cri	Recorded Data S A No Recorded Da	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge				dicators Inund Satur Water Drift I	: lated ated in Upper 12 inc · Marks .ines	
7. 8. Percent of Dominant Spercent Of Dominant Sper	Recorded Data S A No Recorded Da	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge		- - - -	Primary In	dicators Inund Satur Water Drift I Sedin	: ated ated in Upper 12 inc Marks Lines nent Deposits	lands
7. 8. Percent of Dominant Spercent of Section 8.	Recorded Data S A O No Recorded Data :	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge	rophytic.	- - - -	Primary In	dicators Inund Satur Water Drift I Sedin Drain Vindicate	ated ated in Upper 12 inc Marks Lines nent Deposits age Patterns in Wetlors (2 or more required	lands red):
7. 8. Percent of Dominant Spercent of Section 8.	Recorded Data S No Recorded Data :	(Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hyd narks): ide Gauge	rophytic.	- - - -	Primary In	dicators Inund Satur Watel Drift I Sedin Drain Vindicate Watel	ated ated in Upper 12 inc Marks Lines nent Deposits age Patterns in Wetlors (2 or more requir	lands red):

Remarks: Hydrologic criterion did NOT appear to be met. The area is located in a slightly depressional feature within the floodplain terrace riparian area adjacent to Lagunitas Creek in White House Pool County Park. Soil was moist at the bottom of the hole, but not saturated. Sampling was conducted in early March, only10 days after the last large rainfall. In addition, there had been 4.08 inches of rainfall in the last 14 to 18 days, and the month itself was quite wet. There were no secondary indicators, although there appeared to be at least one primary indicator, sediment deposits. However, based on the location of the sampling point, sediment deposits may have occurred during some creek flooding event with recurrence interval greater than 1.5-2 years. The depressional feature probably ponds water for a short time (~ 5 days), but is dry by 14- to 18 days.

Other (Explain in Remarks)

SOILS										
Map Unit Nan	ne									
(Series and P	hase): Blu	cher-Cole complex, 2	to 5 percent slopes	Drainage Class:						
Taxonomy (S	ubgroup):			Field Observations Confirm M	lapped Type? Yes √ No ——					
Profile Descri	iption				_					
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-12	A/B	10YR 2/2		No mottles	Clayey loam					
Hydric Soil In	dicators:									
	Histosol		Concretions							
_	Histic Epipedo	on	High Organic Con	tent in Surface Layer in Sandy Soils						
	Sulfidic Odor	_	Organic Streaking	ı in Sandy Soils						
	Aquic Moistur	e Regime	Listed on Local H	ydric Soils List						
_	Reducing Con	ditions	Listed on Nationa	l Hydric Soils List						
_	Gleyed or Low	r-Chroma Colors	Other (Explain in Remarks)							
				were no mottles. The lack of hydric featur looding rather than floods with recurrence	res in the soil suggests that sediment deposits e intervals < 2 years.					
WETLAND	DETERMINATI	ON								
Hydrophytic \	Vegetation Present	? √ Yes	No							
Wetland Hydr	rology Present?	Yes	√ No							
Hydric Soils I	Present?	Yes	√ No	Is this Sampling Point Within a Wetla	ınd? Yes _ <u>√</u> No					
riparian habit 2 years. Duri	at. While sediment ng the past 50 year	deposits were observed, s, this area has had two ve	it is likely that this is a ery large storms: a 50-	result of episodic flooding that occur	errace area of Lagunitas Creek that supports so during floods with recurrence intervals > 1.5-m in 1998. The former particularly was shown					

Project/Site:	Giacomini vi	reliand Resiona	ation Project, Wh	ile nouse Pc	001, PO	oint Rey	62	Date:	3/9/04
Applicant/Owner:	Point Reyes	National Seas	hore					County:	Marin
Investigator:	Lorraine Par	rsons and Ame	lia Ryan					State:	CA
Site Location:	Riparian Are	ea along Sir Fra	ıncis Drake in Wi	nite House P	ool Co	ounty Pa	ark		-
Do Normal Circum	stances exist	on the site?		Yes	√	No		Community	Upland
Is the site significa	ntly disturbed	d (Atypical Site	uation)?	Yes		No	√	Transect ID:	
Is the area a poten	e area a potential Problem Area?						√	Plot ID:	25
(If needed, explain on reverse.)						_			
/EGETATION									
Dominant Plant Sp	oecies	Stratum	Indicator	Domin	nant Plan	nt Specie	es	Stratum	Indicator
Salix lasiolepis		Tree	FACW	<u> </u>				_	
2. Rubus ursinus		Shrub	FACW	l				_	
3.								_	
4.									
5.	6.							_	
6.									
6. 7.									
6. 7. 8.									
6. 7.	cies that are OBL	., FACW or FAC (e	excluding FAC-).	/= 100%					
6. 7. 8.									
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit									
6. 7. 8. Percent of Dominant Spe	terion is met. Do		s <u>greater than</u> 50% hy		Wetlan	nd Hydrol	ogy Indic	ators:	
6. 7. 8. Percent of Dominant Spe	terion is met. Do	minant vegetation is	s greater than 50% hy			nd Hydrol			
6. 7. 8. Percent of Dominant Spe	terion is met. Do	minant vegetation is	s greater than 50% hy narks): ide Gauge			-			
6. 7. 8. Percent of Dominant Spe	terion is met. Do	minant vegetation is a (Describe in Ren Stream, Lake or T	s greater than 50% hy narks): ide Gauge			-	dicators:		hes
6. 7. 8. Percent of Dominant Spe	Recorded Data	a (Describe in Rem Stream, Lake or T Aerial Photograph	s greater than 50% hy narks): ide Gauge			-	dicators:InundaSatura	ated	hes
6. 7. 8. Percent of Dominant Spercents: Vegetative crit	Recorded Data	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge			-	dicators:InundaSatura	ated ated in Upper 12 inc Marks	hes
6. 7. 8. Percent of Dominant Spercents: Vegetative crit	Recorded Data	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge			-	dicators: Inunda Satura Water Drift L	ated ated in Upper 12 inc Marks	hes
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge			-	dicators: Inunda Satura Water Drift L Sedim	ated ated in Upper 12 inc Marks ines	
6. 7. 8. Percent of Dominant Speckers: Vegetative crit	Recorded Data	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge		P:	rimary In	dicators: Inunda Satura Water Drift L Sedim Draina	ated nted in Upper 12 inc Marks ines nent Deposits	lands
6. 7. 8. Percent of Dominant Spercents: Vegetative crit	Recorded Data	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge	rdrophytic.	P:	rimary In	dicators: Inunda Satura Water Drift L Sedim Draina	ated Marks ines ent Deposits ge Patterns in Wet	lands red):
6. 7. 8. Percent of Dominant Spercents: Vegetative crit	Recorded Data	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge	rdrophytic.	P:	rimary In	dicators:	ated Marks ines ent Deposits ge Patterns in Wetlers (2 or more requires	lands red):
6. 7. 8. Percent of Dominant Spercents: Vegetative crit	Recorded Data No Recorded	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge	/drophytic.	P:	rimary In	dicators: Inunda Satura Water Drift L Sedim Draina Inunda Vindicato Water Water	ated Marks ines ent Deposits age Patterns in Weters (2 or more required Root Channels is	lands red):
6. 7. 8. Percent of Dominant Sperice of Domin	Recorded Data No Recorded	a (Describe in Rem Stream, Lake or T Aerial Photograph Other	s greater than 50% hy narks): ide Gauge	/drophytic.	P:	rimary In	dicators: Inunda Satura Water Drift L Sedim Draina Indicato Oxidiz Water Local	ated ated in Upper 12 inc Marks ines eent Deposits age Patterns in Wetl ors (2 or more required Root Channels in Stained Leaves	lands red):

Remarks: Hydrologic criterion is NOT met. The area is located in a slightly depressional feature within the floodplain terrace riparian area adjacent to Sir Francis Drake Boulevard. There were no primary or secondary hydrologic indicators, and sampling was conducted in early March, only 10 days after the last large rainfall. In addition, there had been 4.08 inches of rainfall in the last 14 to 18 days, and the month itself was quite wet. Sampling point is a depressional feature. Currently, the primary hydrologic sources are probably surface run-off from Sir Francis Drake Boulevard and a drainage that flows into the basin from a small culvert located east of the Silver Hills drainage. However, hydrologic inputs do not appear to be sufficient to create wetland hydrology.

Map Unit Na	me									
(Series and	Phase): Bluche	er-Cole complex, 2	to 5 percent slopes	Drainage Class:						
Taxonomy (axonomy (Subgroup):			Field Observations Confirm Mapped Type? Yes √ No						
Profile Desc	ription									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-12	A/B	10YR 2/2		No mottles	Clayey loam					
Hydric Soil I	ndicators: Histosol		Concretions							
-	Histic Epipedon	_		tent in Surface Layer in Sandy Soils						
-	Sulfidic Odor	_	Organic Streaking	•						
-	Aquic Moisture R	enime	Listed on Local H	•						
-	Reducing Conditi	_	Listed on National							
-	Gleyed or Low-Cl	_	Other (Explain in I	•						
	ydricsoil criterion is NO		hroma of (2), but there w	vere no mottles.						
		•								
Hydrophytic	Vegetation Present?	_√ Yes	No							
Wetland Hyd	drology Present?	Yes	√ No							
Hydric Soils	Present?	Yes	√ No	Is this Sampling Point Within a Wetlar	nd? Yes √ No					
					nt to Sir Francis Drake Boulevard. There we appear to be sufficient to create wetland					

Project/Site:	Giacomini We	tland Restora	ation Project, Olem	na Creek, F	Point F	Reyes		Date:	4/9/04
Applicant/Owner:	Point Reyes N	National Seash	hore					County:	Marin
Investigator:	Lorraine Parso	ons and Chels	sea Donovan					State:	CA
Site Location:	Riparian Area	along Sir Fra	ıncis Drake in Whi	te House F	Pool C	ounty P	ark		
Do Normal Circums	stances exist o	n the site?		Yes	√	No		Community	Upland
Is the site significa	intly disturbed	(Atypical Situ	uation)?	Yes	•	No	$\overline{\ \ }$	Transect ID:	
Is the area a potent	rea a potential Problem Area? Yes No						$\overline{\ \ }$	Plot ID:	26
(If needed, expl	lain on reverse.	.)				_			
/EGETATION									
Dominant Plant Sp	pecies	Stratum	Indicator	Domir	nant Pla	ant Specie	s	Stratum	Indicator
1. Salix lasiolepis		Tree	FACW						
2. Fraxinus latifolia		Tree	FACW					_	
Ribes menziesii 3.		Shrub	NL/new name?						
4. Toxicodendron dive	ersilobum	Shrub	NL					_	
		Herb	FAC						
Equisetum arvense	setum arvense Herb FAC								
5. Equisetum arvense6.		Tielb	17.0						
6. 7.		TIEID							
6.		TIGID							
6. 7.				/= 60%					
6. 7. 8.	ecies that are OBL, I	FACW or FAC (ex	excluding FAC-).						
6. 7. 8. Percent of Dominant Spe	ecies that are OBL, I	FACW or FAC (ex	excluding FAC-).						
6. 7. 8. Percent of Dominant Spe	ecies that are OBL, I	FACW or FAC (ex	excluding FAC-).						
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	ecies that are OBL, I terion is met. Domi	FACW or FAC (exinant vegetation is	s greater than 50% hydrarks):		Wetlan	nd Hydrol	ogy Indic	ators:	
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	ecies that are OBL, iterion is met. Domi	FACW or FAC (exinant vegetation is	s greater than 50% hydrarks): ide Gauge			nd Hydrol Primary In	dicators:		
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	ecies that are OBL, I terion is met. Domi Recorded Data (FACW or FAC (exinant vegetation is (Describe in Remitream, Lake or Tiverial Photograph	s greater than 50% hydrarks): ide Gauge			-	dicators:	ated	
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data (FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Tiberial Photograph)	s greater than 50% hydrarks): ide Gauge			-	dicators: Inunda Satura	ated ated in Upper 12 inc	hes
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	ecies that are OBL, I terion is met. Domi Recorded Data (FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Tiberial Photograph)	s greater than 50% hydrarks): ide Gauge			-	dicators: Inunda Satura	ated	hes
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data (FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Tiberial Photograph)	s greater than 50% hydrarks): ide Gauge			-	dicators: Inunda Satura	ated ated in Upper 12 inc Marks	hes
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data (A No Recorded Data	FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Tiberial Photograph)	s greater than 50% hydrarks): ide Gauge			-	dicators: Inunda Satura Water Drift L	ated ated in Upper 12 inc Marks	hes
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit	Recorded Data (A No Recorded Data	FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Tiberial Photograph)	s greater than 50% hydrarks): ide Gauge			-	dicators:Inund:SaturaWaterDrift LSedim	ated ated in Upper 12 inc Marks ines	
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations:	Recorded Data (A No Recorded Data	FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Titerial Photograph)	s greater than 50% hydrarks): ide Gauge		- - - -	Primary In	dicators: Inunda Satura Water Drift L Sedim Draina	ated Ated in Upper 12 inc Marks Ines Inent Deposits Age Patterns in Wetlers (2 or more requires	ands ed):
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations:	Recorded Data (Si Ai No Recorded Da	FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Titerial Photograph)	s greater than 50% hydrarks): ide Gauge	rophytic.	- - - -	Primary In	dicators: Inunda Satura Water Drift L Sedim Draina	ated ated in Upper 12 inc Marks ines ent Deposits age Patterns in Wetl	ands ed):
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations: Depth of Su	Recorded Data (Si Ai No Recorded Da	FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Titerial Photograph)	s greater than 50% hydrarks): ide Gauge	rophytic.	- - - -	Primary In	dicators:	ated Ated in Upper 12 inc Marks Ines Inent Deposits Age Patterns in Wetlers (2 or more requires	ands ed):
6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit HYDROLOGY Field Observations: Depth of Su	Recorded Data (Some No Recorded Data (No Recorded	FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Titerial Photograph)	s greater than 50% hydrarks): ide Gauge	rophytic.	- - - -	Primary In	dicators: Inunda Satura Water Drift L Sedim Draina Indicato Water	ated ated in Upper 12 inc Marks ines ent Deposits age Patterns in Wetl ors (2 or more requir	ands ed):
Field Observations: Depth of Su	Recorded Data (Some No Recorded Data (No Recorded	FACW or FAC (exinant vegetation is (Describe in Remotream, Lake or Titerial Photograph)	s greater than 50% hydrarks): ide Gauge	rophytic.	- - - -	Primary In	dicators: Inunda Satura Water Drift L Sedim Draina Indicato Water Local	ated ated in Upper 12 inc Marks ines age Patterns in Wetl ors (2 or more requir ted Root Channels i	ands ed):

Remarks: Hydrologic criterion did NOT appear to be met. The area is located in a floodplain terrace riparian area adjacent to Sir Francis Drake Boulevard in White House Pool County Park. There was no inundation, free water in the hole, or saturation. Sampling was conducted in early April, only 12 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. There were some very faint oxidized pore channels, and there appeared to be at least one primary indicator, sediment deposits. However, based on the location of the sampling point, sediment deposits may have occurred during some creek flooding event with recurrence interval greater than 1.5-2 years.

SUILS									
Map Unit Nam	е								
(Series and Ph	nase): Blu	cher-Cole complex, 2	to 5 percent slopes	Drainage Class:					
Taxonomy (Su	Taxonomy (Subgroup):			Field Observations Confirm Mapped Type? Yes √ No					
Profile Descrip	ption				-				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-12	A/B	10YR 3/3		No mottles					
Hydric Soil Inc	dicators:								
-	Histosol		Concretions						
	Histic Epipedo	on	High Organic Con	tent in Surface Layer in Sandy Soils					
	Sulfidic Odor	_	Organic Streaking	ı in Sandy Soils					
	Aquic Moistur	re Regime	Listed on Local H	ydric Soils List					
	Reducing Cor	nditions	Listed on National	l Hydric Soils List					
_	Gleved or Lov	v-Chroma Colors	Other (Explain in I	Remarks)					
_	,	_	_	•					
Remarks: Hyd	dricsoil criterion is	NOT met. Soil did not have	e a low chrom (3).						
			()						
WETLAND I	DETERMINATI	ION							
Hydrophytic V	egetation Present	i? √ Yes	No						
Wetland Hydro	ology Present?	Yes	√ No						
Hydric Soils P	resent?	Yes	√ No	Is this Sampling Point Within a Wetlan	nd? Yes No				
it is likely that very large stor	this is a result of rms: a 50-year sto	episodic flooding that occu	urs during floods with storm in 1998. The form	recurrence intervals > 1.5- 2 years. Du	evard. While sediment deposits were observed, uring the past 50 years, this area has had two eated huge sedimentation in the southern				

	(198	37 COE Wetlands	s Delinea	tion I	Manua	l)		
Project/Site:	Giacomini Wetland Resto	ration Project, Olem	a Creek, F	Point R	Reyes		Date:	4/9/04
Applicant/Owner:	Point Reyes National Sea	shore					County:	Marin
Investigator:	Lorraine Parsons and Che	elsea Donovan					State:	CA
Site Location:	Riparian Area along Sir F	ancis Drake in Whit	te House P	Pool C	ounty P	ark		
Do Normal Circum	stances exist on the site?		Yes	1	No		Community	Upland
s the site significantly disturbed (Atypical Situation)? Yes					No	√	Transect ID:	
s the area a potential Problem Area? Ye					No	√	Plot ID:	27
(If needed, exp	lain on reverse.)							
EGETATION								
Dominant Plant S		Indicator	Domin	nant Pla	nt Specie	es	Stratum	Indicator
Salix lasiolepis Rubus ursinus	Tree Shrub	FACW						
		FACW						
	Teib —	- FACW						
4.							_	
5. 6.							_	
7.							_	_
8.		-					_	
Percent of Dominant Spe	ecies that are OBL, FACW or FAC	(excluding FAC-).	/= 100%					
Remarks: Vegetative cri	terion is met. Dominant vegetation	is greater than 50% hydr	rophytic.					
YDROLOGY								
	Recorded Data (Describe in Re	emarks):		Wetlar	nd Hydrol	ogy Indic	cators:	
	Stream, Lake or	=		P	Primary In	dicators:	:	
	Aerial Photogra	phs		_		Inund		
	Other			_		Satura	ated in Upper 12 inc	hes
	No Recorded Data Available					Water	Marks	
						Drift L	ines	
Field Observations:				_	√	— Sedin	nent Deposits	
				_		 Draina	age Patterns in Wet	lands
Depth of Su	urface Water:		(in.)	S	Secondar	_ y Indicato	ors (2 or more requi	red):
			-			Oxidi	zed Root Channels	in Upper 12 inches
Depth to Fr	ee Water in Pit:		(in.)			Water	-Stained Leaves	
						Local	Soil Survey Data	
Depth to Sa	aturated Soil:		(in.)			FAC-N	Neutral Test	
				_		Other	(Explain in Remark	s)

Remarks: Hydrologic criterion did NOT appear to be met. The area is located in a floodplain terrace riparian area adjacent to Sir Francis Drake Boulevard east of White House Pool County Park. There was no inundation, free water in the hole, or saturation. Sampling was conducted in early April, only 12 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. There appeared to be at least one primary indicator, sediment deposits, but there were no other primary or secondary indicators. Based on the location and elevation of the sampling point, sediment deposits may have occurred during some flooding event along Olema Creek with recurrence interval greater than 1.5-2 years.

SOILS											
Map Unit Name											
(Series and Phas	se): Blud	cher-Cole complex, 2	to 5 percent slopes	pes Drainage Class:							
Taxonomy (Sub	exonomy (Subgroup):			Field Observations Confirm Mapped Type? Yes √							
Profile Descripti	on			-	-						
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.						
0-12	A/B	10YR 2/1		No mottles							
Hydric Soil Indic	Histosol Histic Epipedo Sulfidic Odor Aquic Moisture Reducing Con Gleyed or Low	e Regime ditionsChroma Colors	Organic Streaking Listed on Local H Listed on Nationa Other (Explain in l	ydric Soils List Il Hydric Soils List Remarks)	tion of the Sampling Point, it would appear that it						
WETLAND DE	ETERMINATI	ON									
Hydrophytic Veg Wetland Hydrold	•	? <u>√</u> Yes Yes	No √ No								
Hydric Soils Pre	sent?	Yes	√ No	Is this Sampling Point Within a Wetlan	and?Yes√_No						
observed, it is lil had two very lar	kely that this is a ge storms: a 50-	a result of episodic flooding	g that occurs during fl 10-year storm in 1998.		evard. While sediment deposits were 2 years. During the past 50 years, this area has o have created huge sedimentation in the						

Project/Site:	Giacomini W	Vetland Restora	ation Project, Olem	na Creek, P	oint R	Reyes		Date:	4/9/04
Applicant/Owner:	Point Reyes	National Seas	hore					County:	Marin
nvestigator:	Lorraine Par	rsons and Chel	sea Donovan					State:	CA
Site Location:	Riparian Are	ea along Sir Fra	ncis Drake in Whi	te House P	ool C	ounty Pa	ark		_
on Normal Circum				Yes	ما	No		Community	Upland
	of the stances exist on the site ? Yes $\sqrt{}$ No $\sqrt{}$				Transect ID:	Оріана			
s the area a potent	-		uation):	Yes		- No	\	Plot ID:	28
(If needed, expl						_			
EGETATION									
Dominant Plant Sp	oecies	Stratum	Indicator	Domin	ant Pla	nt Specie	S	Stratum	Indicator
Salix lasiolepis		Tree	FACW					_	
2. Fraxinus latifolia		Tree	FACW					_	_
3. Rubus discolor		Shrub	FACW					_	-
4 5.				-					_
6.									<u> </u>
7.								_	_
8.									
ercent of Dominant Spe	cies that are OBL	 L, FACW or FAC (e	excluding FAC-).	/= 100%					- '
emarks: Vegetative crit				rophytic.					
smarks. Vegetative on	chon is med.	ommant vegetation i	greater than 50 % fly a	ropriyuo.					
YDROLOGY									
	Recorded Data	a (Describe in Ren	narks):		Wetlar	nd Hydrol	ogy Indi	cators:	
-		Stream, Lake or T	_		P	rimary In			
		Aerial Photograph	าร				_ Inund		
,		Other					_	ated in Upper 12 inc	hes
	No Recorded I	Data Available					Water	Marks	
							Drift I	ines	
Field Observations:						_√	Sedin	nent Deposits	
							Drain	age Patterns in Wetl	lands
Depth of Su	ırface Water:			(in.)	S	Secondary		ors (2 or more requir	-
					_		Oxidi	zed Root Channels i	n Upper 12 inches
Depth to Fro	ee Water in Pit:			(in.)			Water	-Stained Leaves	

Remarks: Hydrologic criterion did NOT appear to be met. The area is located in an abandoned floodplain terrace riparian area adjacent to Sir Francis Drake Boulevard where Olema Creek flows underneath the road. There was no inundation, free water in the hole, or saturation. Sampling was conducted in early April, only 12 days after the last large rainfall (1.51 inches), although, prior to this rain event, the month of March had been pretty dry. There appeared to be at least one primary indicator, sediment deposits, but there were no other primary or secondary indicators. However, based on the location of the sampling point, sediment deposits may have occurred during some creek flooding event with recurrence interval greater than 1.5-2 years, as this area is significantly elevated above the base elevation of the creek. The primary hydrologic source for this area would appear to be surface run-off from Sir Francis Drake Boulevard.

(in.)

Depth to Saturated Soil:

Local Soil Survey Data FAC-Neutral Test

Other (Explain in Remarks)

SOILS											
Map Unit Na	me										
(Series and	Phase): B	lucher-Cole complex, 2	to 5 percent slopes	Drainage Class:							
Taxonomy (axonomy (Subgroup):			Field Observations Confirm Mapped Type? Yes No							
Profile Desc	ription										
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concreti	ons,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.						
0-12	A/B	10YR 2/2		No mottles							
Hydric Soil I	ndicators:										
_	Histosol	_	Concretions								
_	Histic Epipe	don	High Organic Con	tent in Surface Layer in Sandy Soils							
_	Sulfidic Odd	r	Organic Streaking	in Sandy Soils							
	Aquic Moist	ure Regime	Listed on Local H	ydric Soils List							
_	Reducing Co	onditions	Listed on Nationa	l Hydric Soils List							
_	Gleyed or Lo	ow-Chroma Colors	Other (Explain in	Remarks)							
_											
	ydric soil criterior ad maintenance act		chroma (2), but not the n	nottles required to classify it as hydric. It	is likely that soils in th	is area have been	affected				
WETLAND	DETERMINA'	TION									
Hydrophytic	Vegetation Prese	nt? <u>√</u> Yes	No								
Wetland Hyd	drology Present?	Yes	_√_ No								
Hydric Soils	Present?	Yes	√ No	Is this Sampling Point Within a Wetlan	nd? Yes	√ No					
observed, it had two very southern po	is likely that this is y large storms: a s rtion of Tomales E	s a result of episodic floodin 50-year storm in 1982 and a	g that occurs during fl 10-year storm in 1998. ological Survey). Mos	ea adjacent to Sir Francis Drake Boule oods with recurrence intervals > 1.5- 2 The former particularly was shown to t of the hydrologic inputs currently are	2 years. During the posterior have created huge s	ast 50 years, this sedimentation in	the				

Project/Site:	Giacomini Wetland Restora	ation Project, Olen	na Creek, Po	int Reyes		Date:	4/9/04
Applicant/Owner:	Point Reyes National Seas	hore				County:	Marin
nvestigator:	Lorraine Parsons and Chel	sea Donovan				State:	CA
Site Location:	Riparian Area along Sir Fra	ancis Drake in Wh	ite House Po	ol County	Park	-	
Do Normal Circum	stances exist on the site?		Yes	√ No		Community	Adjacent Wetland
s the site significa	the site significantly disturbed (Atypical Situation)?			No	$\overline{\ }\sqrt{\ }$	Transect ID:	
s the area a poten	tial Problem Area?		Yes	No	<u> </u>	Plot ID:	29
(If needed, expl	ain on reverse.)		_				
EGETATION							
Dominant Plant Sp	pecies Stratum	Indicator	Domina	nt Plant Spe	cies	Stratum	Indicator
Salix lasiolepis	Tree	FACW					
2. Prunus sp.	Tree	NL				_	
3. Rubus ursinus	Shrub	FACW				_	
4. Carex obnupta	Herb	OBL					
5.						_	_
6. 7.							
8.						_	
	ecies that are OBL, FACW or FAC (e	avaluding EAC \	/= 75%				
emarks: Vegetative crit	terion is met. Dominant vegetation i			rubra (FACV	V) and <i>Stach</i>	nys chamissonis (OBL	_) were also present.
YDROLOGY	Recorded Data (Describe in Ren	marks):	lv	Vetland Hydi	rology India	cators:	
-	Stream, Lake or 1	•		•	Indicators		
	Aerial Photograp	hs			Inund	ated	
	Other				Satur	ated in Upper 12 inc	ches
\checkmark	No Recorded Data Available				Water	Marks	
	_			$\overline{}$	Drift L	ines	
Field Observations:				$\overline{}$	Sedin	nent Deposits	
					Drain	age Patterns in Wet	lands
Depth of Su	ırface Water:		(in.)	Second	ary Indicate	ors (2 or more requi	red):

Remarks: Hydrologic criterion is met. The area is located in a relatively low elevation floodplain terrace riparian area adjacent to Olema Creek on the south side of Sir Francis Drake Boulevard. There was no inundation, free water in the hole, or saturation. Sampling was conducted in early April, only 12 days after the last large rainfall (1.51 inches), although, prior to this rain event, the month of March had been pretty dry. There appeared to be two primary indicators, sediment deposits and wrack lines. Based on the relatively low elevation of this sampling point, sediment deposits probably occurred during creek flooding event with recurrence interval less than 2 years.

(in.)

(in.)

Depth to Free Water in Pit:

Depth to Saturated Soil:

Oxidized Root Channels in Upper 12 inches

Water-Stained Leaves Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

Map Unit Nam	ie									
Series and Ph	hase): Bluc	cher-Cole complex, 2	to 5 percent slopes	Drainage Class:						
Γaxonomy (Sι	conomy (Subgroup):			Field Observations Confirm Mapped Type? Yes $$ No						
Profile Descrip	ption									
Depth	•	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
-12	A/B	10YR 2/1		No mottles						
ydric Soil Inc	dicators:		Concretions							
_	Histic Epipedor	 n		nt in Surface Layer in Sandy Soils						
_	Sulfidic Odor	_	Organic Streaking in	Sandy Soils						
_	Sulfidic Odor	Regime								
_ _ _	Sulfidic Odor Aquic Moisture	_	Listed on Local Hyd	ric Soils List						
_ _ 	Sulfidic Odor Aquic Moisture Reducing Cond	_		ric Soils List ydric Soils List						
_ _ _ _	Sulfidic Odor Aquic Moisture Reducing Cond	ditions	Listed on Local Hydr	ric Soils List ydric Soils List						
Remarks: Hyd	Sulfidic Odor Aquic Moisture Reducing Conc Gleyed or Low-	ditions -Chroma Colors	Listed on Local Hydronic Listed on National H	ric Soils List ydric Soils List						
	Sulfidic Odor Aquic Moisture Reducing Conc Gleyed or Low-	ditions -Chroma Colors met. Soil had a low enoug	Listed on Local Hydronic Listed on National H	ric Soils List ydric Soils List marks)						
ETLAND [Sulfidic Odor Aquic Moisture Reducing Conc √ Gleyed or Low- dric soil criterion is	ditions -Chroma Colors met. Soil had a low enoug	Listed on Local Hydronic Listed on National H Other (Explain in Re	ric Soils List ydric Soils List marks)						
ETLAND [Sulfidic Odor Aquic Moisture Reducing Conc √ Gleyed or Low- dric soil criterion is	ditions -Chroma Colors met. Soil had a low enoug	Listed on Local Hydronic Listed on National House Other (Explain in Research Community of the Chroma (1) that mottles a	ric Soils List ydric Soils List marks)						

		•	7 COE Wetland						
Project/Site:	Giacomini W	etland Restora	ation Project, Gree	en Bridge F	ark, P	oint Re	/es	Date:	4/9/04
Applicant/Owner:	Point Reyes	National Seas	hore					County:	Marin
Investigator:	Lorraine Par	sons and Chel	sea Donovan					State:	CA
Site Location:	Depressiona	l basin in Gree	en Bridge County I	Park south	of Gia	comini l	Rnch		
Do Normal Circum	mal Circumstances exist on the site? Yes <u>√</u> No						Community	Adjacent Wetland	
Is the site significa	te significantly disturbed (Atypical Situation)? Yes No √						Transect ID:		
Is the area a potent	tial Problem A	rea?		Yes	$\overline{}$	No		Plot ID:	30A
(If needed, expl	ain on reverse	e.)				•		1	
/EGETATION									
Dominant Plant Sp	oecies	Stratum	Indicator	Domi	nant Pla	nt Specie	es	Stratum	Indicator
Holcus lanatus		Herb	FAC					_	
2. Lolium sp.		Herb	FAC					_	
Rumex conglomera	ntus	Herb	FACW						
4.								_	
5.								_	
6.								_	
7.								_	_
8.									
Percent of Dominant Spe	cies that are OBL	, FACW or FAC (e	excluding FAC-).	/= 100%					
Remarks: Vegetative crit	terion is met. Dor	 minant vegetation i	s greater than 50% hyd	Irophytic.					
HYDROLOGY									
	Recorded Data	(Describe in Ren	narks):		Wetlan	d Hydrol	ogy Indi	cators:	
		Stream, Lake or T	ide Gauge		Р	rimary In	dicators	:	
		Aerial Photograpl	hs				Inunc	lated	
		Other					Satur	ated in Upper 12 inc	hes
√	No Recorded D	Data Available					Wate	r Marks	
	_				l —		— Drift I	Lines	
Field Observations:					1 —		_	nent Denosits	

Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
Stream, Lake or Tide Gauge	Primary Indicators:
Aerial Photographs	Inundated
Other	Saturated in Upper 12 inches
√ No Recorded Data Available	Water Marks
	Drift Lines
Field Observations:	Sediment Deposits
	Drainage Patterns in Wetlands
Depth of Surface Water: (in.)	Secondary Indicators (2 or more required):
	√ Oxidized Root Channels in Upper 12 inches
Depth to Free Water in Pit: (in.)	Water-Stained Leaves
	Local Soil Survey Data
Depth to Saturated Soil: (in.)	FAC-Neutral Test
	√ Other (Explain in Remarks)

Remarks: Hydrologic criterion is met. Sampling was conducted in early April, only 12 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. However, at least two secondary indicators were observed: faint, abundant oxidized pore channels and algal matting. In addition, detritus appeared to be discolored from ponding of water and matted. Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that spills into and ponds within this depressional basin, surface run-off from adjacent uplands, and occasional creek overflow during very large storm events.

SOILS													
Map Unit Nan	ne												
(Series and Phase):		Blucher-Cole complex, 2	to 5 percent slopes	Drainage Class:	Drainage Class:								
Taxonomy (Subgroup):				Field Observations Confirm M	Field Observations Confirm Mapped Type? Yes No								
Profile Descri	iption												
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,								
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.								
0-14	A/B	10YR 3/2		Distinct, abundant	Sandy loam								
Hydric Soil In	idicators:												
	Histosol		Concretions										
Histic Epipedon			High Organic Content in Surface Layer in Sandy Soils										
Sulfidic Odor			Organic Streaking in Sandy Soils										
	Aquic M	oisture Regime	Listed on Local Hydric Soils List										
_	Reducin	g Conditions	Listed on National Hydric Soils List										
_	√ Gleyed o	r Low-Chroma Colors	Other (Explain in Remarks)										
_	<u>, </u>	_											
		rion is met. Soil had a low chrom rea to dispose of excavated mater		e soil did not match the mapped type, wh Ranch.	nich is not surprising as it is po	ossible that the							
WETLAND	DETERMIN	NATION											
Hydrophytic Wetland Hydric Soils I	rology Preser		No No No	Is this Sampling Point Within a Wetla	nd? √ Yes	No							
flow from the	adjacent Poi			Bridge County Park. Primary hydrolo pressional basin, surface run-off fron									

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

			7 COE Wetland								
Project/Site:	ation Project, Gree	en Bridge Pai	rk, Point R	eyes	Date:	4/9/04					
Applicant/Owner:				County:	Marin						
Investigator:	sea Donovan				State:	CA					
Site Location:	al basin in Gree	of Giacomini Rnch									
Do Normal Circum	stances exist	on the site?	Yes	√ No		Community	Upland				
Is the site significa	d (Atypical Sit	uation)?	Yes	No	√	Transect ID:					
Is the area a poten	tial Problem A	Area?		Yes	√ No		Plot ID:	30B			
(If needed, expl	lain on revers	e.)									
EGETATION							•				
	Dominant Plant Species Stratum Indicator					ies	Stratum	Indicator			
1. Leymus triticoides		Herb	FAC+								
2. Juncus balticus		Herb	OBL								
3.							_				
4	-		-	-							
5.							_	_			
6.	<u> </u>							_			
7.							_				
8.											
Percent of Dominant Spe	cies that are OBL	_, FACW or FAC (e	excluding FAC-).	/= 100%				_			
Remarks: Vegetative crit	terion is met. Do	minant vegetation i	s greater than 50% hyd	drophytic.							
YDROLOGY											
Recorded Data (Describe in Remarks):						ology Indi	cators:				
		Primary Indicators:									
		Aerial Photograpi	hs			Inun	dated				
		Other				Satu	rated in Upper 12 inc	ches			
√ No Recorded Data Available						Water Marks					
						Drift Lines					
Field Observations:					√ Sediment Deposits						
i leid Obsel valions.		· · · · · ·									
Depth of Surface Water: (in.)						Drainage Patterns in Wetlands Secondary Indicators (2 or more required):					
Depth of St	_ ^(in.)	Seconda	Oxidized Root Channels in Upper 12 inches								
.				(in.)				in opper 12 inches			
Depth to Fr	ee Water in Pit:				r-Stained Leaves						
						Loca	I Soil Survey Data				

Remarks: Hydrologic criterion did NOT appear to be met. Sampling was conducted in early April, only 12 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. However, one primary indicator was observed: sediment deposits. Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that spills into and ponds within this depressional basin, surface run-off from adjacent uplands, and occasional creek overflow during very large storm events. It is likely that the sediment deposits result from creek overbank flooding during storm events with recurrence intervals > 2 years. This sampling point is located at a slightly higher elevation than Sampling Point 30A.

(in.)

Depth to Saturated Soil:

FAC-Neutral Test

Other (Explain in Remarks)

SOII S

SOILS																
Map Unit Na	ame															
(Series and Phase):		Blucher-Cole complex, 2 to 5 percent slopes					Drainage Class:									
Taxonomy (Subgroup):						Field Observations Confirm Mapped Type? Yes No										
Profile Desc	ription															
Depth	Matrix Color			Mottle Colors			Mottle Texture, Concretions,									
(inches)	Horizon	(Mun	(Mu	nsell Moist)		Abundance/Size/Contrast				Structure, etc.						
0-14	A/B 10YR 3/2						No mottles	i		5	Sandy loa	m or Loar	ny sand			
Undria Cail I	Indicators.															
Hydric Soil Indicators: Histosol					cretions											
Histic Epipedon			High Organic Content in Surface Layer in Sandy Soils													
Sulfidic Odor				Organic Streaking in Sandy Soils												
Aquic Moisture Regime				Listed on Local Hydric Soils List												
Reducing Conditions			Listed on National Hydric Soils List													
Gleyed or Low-Chroma Colors			Other (Explain in Remarks)													
		rion is NOT met. ominis once used								d not ma	tch the ma	apped typ	e, which i	is not surp	orising	
WETLAND	DETERMI	NATION				1										
Hydrophytic	: Vegetation Pr	esent?	Yes		No											
Wetland Hydrology Present? Yes			$\sqrt{}$	No												
Hydric Soils Present? Yes			\	No	Is this	Sampling F	Point Wit	thin a W	etland?		Yes	1	No			
hydrologic s from adjace episodic floo	sources for this nt uplands, and oding events war ar storm in 199	s located in a slig s area appear to b d occasional cree vith recurrence in 8. The former pa	be seep flow frek overflow du tervals greate	rom the acuring very er than 2 ye	ljacent Point large storm e ars. During	t Reyes levents. g the pas	Mesa that sp While sedin at 50 years, t	pills into nent dep this area	and po posits we has ha	nds with ere pres d two ve	nin this d sent, it is ery large s	epression likely that storms:	nal basin It these re a 50-year	, surface esulted fr storm in	rom 1982	

Project/Site: Giacomini Wetland Restoration Project, Green Bridge Park, Point Reyes Date: Applicant/Owner: Point Reyes National Seashore County: Investigator: Lorraine Parsons and Chelsea Donovan State: Site Location: Depressional basin in Green Bridge County Park south of Giacomini Rnch Do Normal Circumstances exist on the site? Yes √ No Community Is the site significantly disturbed (Atypical Situation)? Yes No √ Transect ID: Is the area a potential Problem Area? Yes √ No Plot ID: (If needed, explain on reverse.)	4/9/04 Marin CA Upland			
Investigator: Lorraine Parsons and Chelsea Donovan State: Site Location: Depressional basin in Green Bridge County Park south of Giacomini Rnch Do Normal Circumstances exist on the site? Yes √ No Community Is the site significantly disturbed (Atypical Situation)? Yes No √ Transect ID: Is the area a potential Problem Area? Yes √ No Plot ID:	CA Upland			
Site Location: Depressional basin in Green Bridge County Park south of Giacomini Rnch Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Yes No √ Transect ID: Is the area a potential Problem Area? Yes √ No Plot ID:	Upland			
Do Normal Circumstances exist on the site? Yes $\sqrt{}$ No Community Is the site significantly disturbed (Atypical Situation)? Yes $\sqrt{}$ No $\sqrt{}$ Transect ID: Is the area a potential Problem Area? Yes $\sqrt{}$ No Plot ID:	·			
Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? Yes No Transect ID: Plot ID:	·			
Is the area a potential Problem Area?	30C			
	30C			
(If needed, explain on reverse.)				
VEGETATION				
Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum	Indicator			
1. Holcus lanatus Herb FAC				
2. Rumex conglomeratus Herb FACW				
3. Lolium sp. Herb FAC				
4. Brassica nigra Herb NL				
5				
6				
7				
	<u> </u>			
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). /= 75%				
Remarks: Vegetative criterion is met. Dominant vegetation is <u>greater than</u> 50% hydrophytic.				
HYDROLOGY				
Recorded Data (Describe in Remarks): Wetland Hydrology Indicators:				
Stream, Lake or Tide Gauge Primary Indicators:				
Aerial Photographs Inundated				
Other Saturated in Upper 12 inche	ies			
√ No Recorded Data Available Water Marks				
Drift Lines				
Field Observations: Sediment Deposits				
Drainage Patterns in Wetlan	ınds			
Depth of Surface Water: (in.) Secondary Indicators (2 or more require				
Oxidized Root Channels in	Upper 12 inches			
Depth to Free Water in Pit: (in.) Water-Stained Leaves				
Local Soil Survey Data	FAC-Neutral Test			

Remarks: Hydrologic criterion is NOT met. Sampling was conducted in early April, only 12 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. However, there were no other primary or secondary indicators. Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that spills into and ponds within this depressional basin, surface run-off from adjacent uplands, and occasional creek overflow during very large storm events. This area and 30B are slightly higher in elevation than 30A, perhaps resulting in faster drainage or leaching of any waters.

SUILS												
Map Unit Na	me											
(Series and I	Phase):	Blucher-Cole c	omplex, 2	to 5 percent slopes	Drainage Class:							
Taxonomy (\$	Subgroup):			Field Observations Confirm N		lapped Type?	Yes	No 	√			
Profile Desc	ription											
Depth	-	Matrix (Color	Mottle Colors	Mottle	Texture, Cond	retions,					
(inches)	Horizon	(Munse	II Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc	-					
0-14	A/B	10YR 3/	/2		Distinct, abundant????	Clay loam						
Hydric Soil I	ndicators:											
Histosol			_	Concretions								
_	Histic Ep	ipedon	_	High Organic Content in Surface Layer in Sandy Soils								
_	Sulfidic C	Odor	_	Organic Streaking in Sandy Soils								
	Aquic Mo	isture Regime		Listed on Local Hydric Soils List								
_	Reducing	Conditions	_	Listed on Nationa	al Hydric Soils List							
	√ Gleyed o	r Low-Chroma Colo	ors	Other (Explain in	Remarks)							
Remarks: H	lydric soil criter	ion appears to be i	met, howeve	er, they be misleading o	lue to site history. Mottle-like features	were present in so	il with chroma	a of (2), but i	t is			
					ot indicative of hydrology in the current lease of excavated materials from the Giac		id not match	the mapped	type,			
WETLAND	DETERMIN	IATION										
Hydrophytic	Vegetation Pre	esent? $\sqrt{}$	Yes	No								
Wetland Hydrology Present? Yes √ No												
Hydric Soils	Present?	?	Yes	No	Is this Sampling Point Within a Wetla	nd? Yes	s <u> </u>	<u> N</u> o				
Poiint 30A. F basin, surfact to not allow	Primary hydrolo ce run-off from for creation of	ogic sources for thi adjacent uplands,	s area appe and occasio . The mottli	ar to be seep flow from onal creek overflow dur ng observed in the chro	al basin on the north side of the Gree the adjacent Point Reyes Mesa that s ing very large storm events. However oma (2) soils may be an artifact of the	spills into and por r, these waters ap	nds within the pear to drain	is depression n quickly en	onal lough			

		(1987	7 COE Wetland	ls Delinea	tion l	Manual)		
Project/Site:	Giacomini We	etland Restora	ation Project, Giad	comini Rand	ch, Po	int Reye	s	Date:	3/12/04
Applicant/Owner:	Point Reyes I	National Seas	hore					County:	Marin
Investigator:	Lorraine Pars	ons and Ame	lia Ryan					State:	CA
Site Location:	Southeast portion of East Pasture at Giacomini Ranch; Nearest well (EP6)						1		
Do Normal Circum	stances exist of	on the site?		Yes	1	No		Community	Adjacent Wetland
Is the site significa			uation)?	Yes		- No	√	Transect ID:	- iajacom monama
			Yes		No	$\overline{\downarrow}$	Plot ID:	31A	
(If needed, expl	ain on reverse	·-)				-			
EGETATION									
Dominant Plant Sp	pecies	Stratum	Indicator	Domin	nant Pla	ınt Specie	s	Stratum	Indicator
1. Poa trivialis		Herb	FACW					_	
2. Agrostis stolonifera		Herb	FACW						
3. Trifolium repens		Herb	(FAC)1996						
4.			-					_	
5. 6.									
7.			-						
8.									
ercent of Dominant Spe	cies that are OBL,	FACW or FAC (e	excluding FAC-).	/= 100%					
Remarks: Vegetative crit lraft 1996 list, it was listed aclude Festuca arundinace YDROLOGY	as a FAC species w	ithin California, w							
	_	(Describe in Ren			Wetla	nd Hydrol	ogy Indi	cators:	
		Stream, Lake or T	=		ı	Primary In			
		\erial Photograpl Other	iis		_	√	_ Inund	ated ated in Upper 12 inc	hoo
-1					_	ν	_		iies
No Recorded Data Available					_	Water Marks Drift Lines			
Field Observations:					_	Drift Lines Sediment Deposits			
					_		_	age Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	-	Secondary	_	ors (2 or more requir	
				_	Oxidized Root Channels in Upper 12 inches				
Depth to Fre	ee Water in Pit:			(in.)	Water-Stained Leaves				

Remarks: Hydrologic criterion is met. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. While topographically this sampling point is at one of the highest elevations within the East Pasture, seep flow from the adjacent Point Reyes Mesa keeps the water table in this area for a long period through the winter and spring. Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that flows onto this pasture flat, irrigation flooding during the summer, surface run-off from adjacent uplands, and occasional Lagunitas Creek overflow during extremely large storm events. There may also possibly be some influence of Lagunitas Creek on the groundwater table in this area.

(in.)

Depth to Saturated Soil:

Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

SOII S

SOILS									
Map Unit Name									
(Series and Phase):	Blucher-Cole complex,	2 to 5 percent slopes	Drainage Class:	Drainage Class:					
Taxonomy (Subgroup):			Field Observations Confirm M	Field Observations Confirm Mapped Type? Yes $\sqrt{\ }$ No					
Profile Description									
Depth (inches) Horizo 0-14 A/B	Matrix Color (Munsell Moist) 10YR 3/2	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc. Clay loam					
Sulfid Aquic Reduc Gleye Remarks: Hydric soil cr	Epipedon ic Odor Moisture Regime cing Conditions d or Low-Chroma Colors iterion appears to be met. Soil fe	Organic Streaking Listed on Local Hy Listed on National Other (Explain in R	dric Soils List Hydric Soils List		based on hydrology				
WETLAND DETERM	MINATION								
	rent? Yes Yes This is a pasture flat located in the	southeast portion of the I	is this Sampling Point Within a Wetla East Pasture of the Giacomini Ranch ent Point Reyes Mesa keeps the wate	. While topographically th					

Project/Site:	Giacomini Wetland Restoration Project, Giacomini	S	Date:	3/12/04				
Applicant/Owner:	Point Reyes National Seashore		County:	Marin				
Investigator:	Lorraine Parsons and Amelia Ryan	State:	CA					
Site Location:	Southeast portion of East Pasture at Giacomi and EP6)	(EP5						
Do Normal Circum	stances exist on the site?	Yes	1	No		Community	Adjacent Wetland	
Is the site significa	ntly disturbed (Atypical Situation)?	Yes		No	$\overline{\ \ }$	Transect ID:		
Is the area a potent	tial Problem Area?	Yes		No		Plot ID:	31B	
(If needed, expl	ain on reverse.)			•				
VEGETATION	EGETATION							

	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1.	Poa trivialis	Herb	FACW			
2.	Agrostis stolonifera	Herb	FACW		· <u> </u>	
3.	Trifolium repens	Herb	(FAC)1996		· <u> </u>	
4.					· <u> </u>	
5.						
6.						
7.						
8.						
Perce	ent of Dominant Species that are OB	L, FACW or FAC (ex	ccluding FAC-).	/= 100%		

Remarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but in the draft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. Other species present include Festuca arundinacea (FAC-) and Rumex sp.

HYDROLOGY

Recorded Da	ita (Describe in Remarks):		Wetland Hydrology Indicators:			
	Stream, Lake or Tide Gauge		Primary Indicators:			
	Aerial Photographs		Inundated			
	Other		√ Saturated in Upper 12 inches			
√ No Recorded	l Data Available		Water Marks			
			Drift Lines			
Field Observations:			Sediment Deposits			
			Drainage Patterns in Wetlands			
Depth of Surface Water:		(in.)	Secondary Indicators (2 or more required):			
			Oxidized Root Channels in Upper 12 inches			
Depth to Free Water in Pit:	11-12	(in.)	Water-Stained Leaves			
			Local Soil Survey Data			
Depth to Saturated Soil:	7-8	(in.)	FAC-Neutral Test			
			Other (Explain in Remarks)			

Remarks: Hydrologic criterion is met. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. While topographically this sampling point is at one of the highest elevations within the East Pasture, seep flow from the adjacent Point Reyes Mesa keeps the water table in this area for a long period through the winter and spring. However, this area is a little drier than Sampling Point 31A. Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that flows onto this pasture flat, irrigation flooding during the summer, surface run-off from adjacent uplands, and occasional Lagunitas Creek overflow during extremely large storm events. There may also possibly be some influence of Lagunitas Creek on the groundwater table in this area.

SOILS								
Map Unit Nam	ie							
(Series and Ph	nase): Bluc	cher-Cole complex, 2 t	to 5 percent slopes	Drainage Class:				
Taxonomy (Su	.lbgroup):			Field Observations Confirm M	lapped Type? Yes √ No			
Profile Descrip	ption							
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,			
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.			
0-14	A/B	10YR 3/2			Clay loam			
Hydric Soil Inc	dicators:							
<u> </u>	Histosol	_	Concretions					
<u></u>	Histic Epipedo	n	High Organic Con	tent in Surface Layer in Sandy Soils				
<u></u>	Sulfidic Odor	_	Organic Streaking	in Sandy Soils				
	Aquic Moisture	e Regime	Listed on Local Hy	rdric Soils List				
	Reducing Con-	ditions	Listed on National	Hydric Soils List				
_	Gleyed or Low	r-Chroma Colors	Other (Explain in F	Remarks)				
Demorker Hy	drie soil oritorion o				s flood irrigated. However, based on hydrology			
				ls (2), the soils would appear to be hydric				
WETLAND I	DETERMINATION	ON						
Hydrophytic V	egetation Present?	? <u>√</u> Yes	No					
Wetland Hydro	ology Present?	_√ Yes	No					
Hydric Soils P	resent?	_√_ Yes	No	Is this Sampling Point Within a Wetla	ınd? <u>√</u> Yes No			
at one of the h	nighest elevations v	within the East Pasture, se	ep flow from the adjac		. While topographically this sampling point is er table in this area for a long period through nt 31A.			

Project/Site:	Giacomini Wetland Restoration Project, Giacon	s	Date:	3/12/04			
Applicant/Owner:	Point Reyes National Seashore		County:	Marin			
Investigator:	Lorraine Parsons and Amelia Ryan	State:	CA				
Site Location:	Southeast portion of East Pasture at Giacomini and EP6)	(EP5					
Do Normal Circums	stances exist on the site?	Yes	1	No		Community	Upland
Is the site significa	ntly disturbed (Atypical Situation)?	Yes		No	$\overline{\ \ }$	Transect ID:	
Is the area a potent	tial Problem Area?	Yes		No		Plot ID:	31C
(If needed, explain on reverse.)							
VEGETATION							

	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator				
1.	Poa trivialis	Herb	FACW							
2.	Agrostis stolonifera	Herb	FACW							
3.	Trifolium repens	Herb	(FAC)1996							
4.	Rumex sp.	Herb								
5.	Fesuca arundinacea	Herb	FAC-							
6.										
7.										
8.										
Perce	ent of Dominant Species that are OE	BL, FACW or FAC (e	excluding FAC-).	/= 75%						
Rema	Remarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but in the									

Remarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but in the draft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands.

HYDROLOGY

Re	ecorded Data (Describe in Remarks):	Wetland Hydrology Indicators:		
	Stream, Lake or Tide Gauge		Primary Indi	cators:
	Aerial Photographs			Inundated
	Other			Saturated in Upper 12 inches
√ No	o Recorded Data Available			Water Marks
				Drift Lines
Field Observations:				Sediment Deposits
				Drainage Patterns in Wetlands
Depth of Surface	Water:	(in.)	Secondary I	ndicators (2 or more required):
				Oxidized Root Channels in Upper 12 inches
Depth to Free Wa	ater in Pit:	(in.)		Water-Stained Leaves
				Local Soil Survey Data
Depth to Saturate	ed Soil:	(in.)		FAC-Neutral Test
				Other (Explain in Remarks)

Remarks: Hydrologic criterion is NOT met. There were no primary indicators such as inundation, saturation, or free water in the 14" hole. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. While the nearest groundwater well (EP5) did appear to have wetland hydrology based on the groundwater table being within 12-18 inches of the surface for 14 to 18 days, the well was unfortunately located in a topographic depression, and conditions did not appear to be reflective of this area. Primary hydrologic sources for this area appear to be irrigation flooding during the summer, precipitation, surface run-off from adjacent uplands, and occasional Lagunitas Creek overflow during extremely large storm events. There may also possibly be some influence of Lagunitas Creek on the groundwater table in this area.

SOILS									
Map Unit Nar	ne								
(Series and F	Phase): Bluc	her-Cole complex, 2	to 5 percent slopes	Drainage Class:					
Taxonomy (S	Subgroup):			Field Observations Confirm M	lapped Type? Yes √ No				
Profile Descr	iption								
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-14	A/B	10YR 3/2			Clay loam				
Hydric Soil Ir	ndicators:								
•	Histosol		Concretions						
_	Histic Epipedo	n	High Organic Con	tent in Surface Layer in Sandy Soils					
_	Sulfidic Odor	_	Organic Streaking	ı in Sandy Soils	n Sandy Soils				
_	Aquic Moisture	Regime	Listed on Local H	ydric Soils List					
_	Reducing Cond	ditions	Listed on National Hydric Soils List						
_	Gleyed or Low-	-Chroma Colors	Other (Explain in I	Other (Explain in Remarks)					
-	_	_	<u> </u>						
				mottles are unreliable, because this paspite the low chroma of soils (2).	sture area is flood irrigated. However, based on				
WETLAND	DETERMINATION	ON							
, , ,	Vegetation Present?		No						
Wetland Hyd	rology Present?	Yes	_√ No						
Hydric Soils	Present?	Yes	_√_ No	Is this Sampling Point Within a Wetla	ınd? YesNo				
				East Pasture of the Giacomini Ranch aracterized as having wetland hydrolo	. This area appears to be distance enough gy.				

Project/Site:	Giacomini Wetlar	nd Restora	tion Project, Giac	omini Rand	h, Poi	int Reye	es	Date:	3/12/04
Applicant/Owner:	Point Reyes National Seashore						County:	Marin	
Investigator:	Lorraine Parsons and Amelia Ryan						State:	CA	
Site Location:	Southeast portion of East Pasture at Giacomini Ranch; Nearest wells (EP5 and EP6)								
Do Normal Circumstances exist on the site? Yes √ No							Community	Upland	
Is the site significa	ntly disturbed (At	ypical Sitι	uation)?	Yes		No	$\overline{\ }\sqrt{\ }$	Transect ID:	
Is the area a potent	ial Problem Area	?		Yes		No		Plot ID:	32
(If needed, explain on reverse.)									
/EGETATION								<u>I</u>	
Dominant Plant Sp	ecies S	tratum	Indicator	Dominant Plant Species			s	Stratum	Indicator
1 Poa trivialis	F	lerb	FACW						

	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator		
1.	Poa trivialis	Herb	FACW					
2.	Spergularia rubra	Herb	FAC-					
3.								
4.								
5.								
6.								
7.								
8.					_			
Perce	ent of Dominant Species that are OE	SL, FACW or FAC (e	cluding FAC-).	/= 50%				
Rema	Remarks: Vegetative criterion is met. Dominant vegetation is equal to 50% hydrophytic. This Sampling Point was located in a very sparsely vegetated area (vegetation							

Remarks: Vegetative criterion is met. Dominant vegetation is <u>equal to</u> 50% hydrophytic. This Sampling Point was located in a very sparsely vegetated area (vegetation cover = 5-10%), suggestive of possible prolonged ponding conditions.

HYDROLOGY

Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
Stream, Lake or Tide Gauge	Primary Indicators:
Aerial Photographs	Inundated
Other	Saturated in Upper 12 inches
√ No Recorded Data Available	Water Marks
	Drift Lines
Field Observations:	Sediment Deposits
	Drainage Patterns in Wetlands
Depth of Surface Water: (in.)	Secondary Indicators (2 or more required):
	Oxidized Root Channels in Upper 12 inches
Depth to Free Water in Pit: (in.)	Water-Stained Leaves
	Local Soil Survey Data
Depth to Saturated Soil: (in.)	FAC-Neutral Test
	Other (Explain in Remarks)

Remarks: Hydrologic criterion is NOT met. There were no primary indicators such as inundation, saturation, or free water in the 14" hole, despite the fact that this area appear to be slightly depressional and sparsely vegetated, somewhat suggestive of possible prolonged ponding conditions. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. While the nearest groundwater well (EP5) did appear to have wetland hydrology based on the groundwater table being within 12-18 inches of the surface for 14 to 18 days, the well was unfortunately located in a topographic depression, and conditions did not appear to be reflective of this area. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, irrigation flooding during the summer, and occasional Lagunitas Creek overflow during extremely large storm events.

~!! **6**

SOILS									
Map Unit Nam	е								
(Series and Ph	nase): Blud	cher-Cole complex	, 2 to 5 percent slope	S Drainage Class:					
Taxonomy (St	ubgroup):			Field Observations Confirm N	lapped Type? Yes √ No ——				
Profile Descri	ption								
Depth	epth Matrix Color		Mottle Colors	Mottle	Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-15	A/B	10YR 3/2			Clay loam				
Hydric Soil Inc	dicators:								
Histosol		Concretions							
	Histic Epipedo	n	High Organic Cor	ntent in Surface Layer in Sandy Soils					
	Sulfidic Odor		Organic Streaking	g in Sandy Soils					
	Aquic Moisture	e Regime	Listed on Local F	/dric Soils List					
	Reducing Con-	ditions	Listed on National Hydric Soils List						
	Gleyed or Low	-Chroma Colors	Other (Explain in	Other (Explain in Remarks)					
				s mottles are unreliable, because this part be hydric despite the low chroma of soil	sture area is flood irrigated. However, based on s (2).				
WETLAND I	DETERMINATION	ON							
Hydrophytic V	egetation Present?	? <u>√</u> Yes	No						
Wetland Hydrology Present? Yes No			_√_ No						
Hydric Soils P	resent?	Yes	<u>√</u> No	Is this Sampling Point Within a Wetla	and? Yes No				
	vegetated, which s				East Pasture of the Giacomini Ranch. This area ne of sampling may indicate simply some past				

Project/Site:	Giacomini Wetland Restoration Project, Giacon	s	Date:	3/12/04			
Applicant/Owner:	Point Reyes National Seashore	County:	Marin				
Investigator:	Lorraine Parsons and Amelia Ryan	State:	CA				
Site Location:	Southeast portion of East Pasture at Giacomini and EP6)						
Do Normal Circums	stances exist on the site?	Yes	1	No		Community	Adjacent Wetland
Is the site significa	ntly disturbed (Atypical Situation)?	Yes		No	$\overline{\ \ }$	Transect ID:	
Is the area a potent	tial Problem Area?	Yes		No		Plot ID:	33
(If needed, expl	ain on reverse.)			_			
VEGETATION							

	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator		
1.	Glyceria occidentalis	Herb	OBL					
2.	Lilaea scilloides	Herb	OBL					
3.	Festuca arundinacea	Herb	FAC-					
4.								
5.			-	-				
6.			-	-				
7.			-	-				
8.								
Perce	Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). /= 66%							
Rema	Remarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic.							

HYDROLOGY

Records	d Data (Describe in Remarks):		Wetland Hydrology	Indicators:
	Stream, Lake or Tide Gauge		Primary Indica	tors:
	Aerial Photographs		In	nundated
	Other		√ s	aturated in Upper 12 inches
√ No Reco	orded Data Available		w	/ater Marks
			D	rift Lines
Field Observations:			s	ediment Deposits
			D	rainage Patterns in Wetlands
Depth of Surface Wate	r:	(in.)	Secondary Ind	icators (2 or more required):
			o	xidized Root Channels in Upper 12 inches
Depth to Free Water in	Pit:	(in.)	W	/ater-Stained Leaves
			L	ocal Soil Survey Data
Depth to Saturated Soi	I : 0	(in.)	F	AC-Neutral Test
			0	ther (Explain in Remarks)

Remarks: Hydrologic criterion is met. There was at least one primary indicator: saturation to the surface. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. This depressional feature is located within the same depression as groundwater well (EP5), which appeared to have wetland hydrology based on the groundwater table being within 12-18 inches of the surface for 14 to 18 days. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, irrigation flooding during the summer, and occasional Lagunitas Creek overflow during extremely large storm events.

SUILS									
Map Unit Nam	ne								
(Series and P	hase): Bluc	her-Cole complex, 2 t	to 5 percent slopes	Drainage Class:					
Taxonomy (S	ubgroup):			Field Observations Confirm Ma	apped Type? Yes √ No				
Profile Descri	ption								
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-15	A/B	10YR 3/2			Clay loam				
Hydric Soil In	dicators:								
Histosol		Concretions							
_	Histic Epipedon	<u> _</u>	High Organic Conte	ent in Surface Layer in Sandy Soils					
_	Sulfidic Odor	_	Organic Streaking in	n Sandy Soils					
	Aquic Moisture	Regime	Listed on Local Hyd	dric Soils List					
_	Reducing Cond	litions	Listed on National I	sted on National Hydric Soils List					
	Gleyed or Low-	Chroma Colors	Other (Explain in Re	Other (Explain in Remarks)					
	<u> </u>		<u> </u>						
		ppears to be met. Soil feat dwater well data) and soil c			s flood irrigated. However, based on hydrology				
WETLAND	DETERMINATIO	ON							
Hydrophytic \	Vegetation Present?	√ Yes	No						
Wetland Hydrology Present? Yes No			No						
Hydric Soils F	resent?	_√_ Yes	No Is	s this Sampling Point Within a Wetla	nd? <u>√</u> Yes No				
		pressional feature within a sion that groundwater we		the southeast portion of the East Pa	asture of the Giacomini Ranch and is				

		•	COE Wetlands						
Project/Site:			tion Project, Giaco	mini Rand	ch, Poi	int Reye	S.	Date:	3/12/04
Applicant/Owner:	Point Reyes	National Seasl	hore					County:	Marin
Investigator:	Lorraine Pa	rsons and Amel	ia Ryan					State:	CA
Site Location:	Southern po	Southern portion of East Pasture at Giacomini Ranch; Nearest well (EP5)							
Do Normal Circum	stances exist	t on the site?		Yes	/	No		Community	Adjacent Wetland
Is the site significantly disturbed (Atypical Situation)? Yes						No	1	Transect ID:	
Is the area a potential Problem Area?						No		Plot ID:	34A
(If needed, expl	ain on revers	se.)							
EGETATION									
Dominant Plant Sp	pecies	Stratum	Indicator	Domir	nant Pla	nt Specie	s	Stratum	Indicator
Agrostis stolonifera		Herb	FACW			-			
2. Trifolium repens		Herb	(FAC)1996						
3. Juncus balticus		Herb	OBL						
4. Cyperus eragrostis		Herb	FACW						
5.								_	
6.								_	_
7.									
8									
Remarks: Vegetative crit draft 1996 list, it was listed									
	Recorded Dat	a (Describe in Rem	narks):		Wetlar	nd Hydrol	ogy Indic	ators:	
	<u> </u>	Stream, Lake or T	ide Gauge		P	rimary In	dicators:		
		Aerial Photograph	ns		Inundated				
		Other			√ Saturated in Upper 12 inches				
√	No Recorded	Data Available			Water Marks				
	_						Drift L	ines	
Field Observations:							- Sedim	ent Deposits	
							 Draina	age Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	S	Secondary	/ Indicate	ors (2 or more requir	ed):
							Oxidiz	ed Root Channels i	n Upper 12 inches
Depth to Fro	ee Water in Pit:			(in.)			Water	-Stained Leaves	
							Local	Soil Survey Data	
Depth to Sa	turated Soil:	Saturated in top	2 inches of root zone	(in.)			FAC-N	leutral Test	
					Other (Explain in Remarks)				
Remarks: Hydrologic crit inches of rain). Prior to thi for this area appear to be p large storm events.	s, the month of Fe	ebruary had been pre	etty wet. This area appe	ars to be sat	urated v	vithin the t	op 2 inch	es of the root zone. F	rimary hydrologic sources

SOILS								
Map Unit Nar	ne							
(Series and F	hase): Bluc	her-Cole complex, 2	to 5 percent slopes	Drainage Class:				
Taxonomy (S	Subgroup):			Field Observations Confirm M	lapped Type? Yes √ No			
Profile Descr	iption							
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,			
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.			
0-14	A/B	10YR 3/2			Clay loam			
Hydric Soil Ir	ndicators:							
Histosol		Concretions						
	Histic Epipedor	ı	High Organic Cont	ent in Surface Layer in Sandy Soils				
_	Sulfidic Odor	_	Organic Streaking	in Sandy Soils				
	Aquic Moisture	Regime	Listed on Local Hy	ric Soils List				
	Reducing Cond	litions	Listed on National Hydric Soils List					
	Gleyed or Low-	Chroma Colors	Other (Explain in Remarks)					
_		_						
		pears to be met. Soil feat hroma of soils (2), the soils			s flood irrigated. However, based on hydrology			
WETLAND	DETERMINATIO	ON						
Hydrophytic	Vegetation Present?		No					
Wetland Hydrology Present? Yes No			No					
Hydric Soils Present? Yes No Is the			No I	ls this Sampling Point Within a Wetla	ınd? <u>√</u> Yes No			
				East Pasture of the Giacomini Ranch. haracteristic wetland plant communi				

	(198	7 COE Wetlands	s Delinea	ation Manual)			
Project/Site:	Giacomini Wetland Restor	ation Project, Giac	omini Ran	ch, Point Reyes	Date:	3/12/04	
Applicant/Owner:	Point Reyes National Seas	shore			County:	Marin	
Investigator:	Lorraine Parsons and Ame	elia Ryan			State:	CA	
Site Location:	Southern portion of East P	1					
Do Normal Circum	stances exist on the site?		Yes	√ No	Community	Upland	
Is the site significantly disturbed (Atypical Situation)?				No √	Transect ID:		
s the area a poten	tial Problem Area?		Yes	No √	Plot ID:	34C	
(If needed, explain on reverse.)							
EGETATION					•		
Dominant Plant S		Indicator	Domi	nant Plant Species	Stratum	Indicator	
1. Fesuca arundinace		FAC-					
2. Trifolium repens	Herb	(FAC)1996			_		
3. Rumex sp.	Herb	NII			_		
4. Geranium carolinar	num Herb	NL			_		
5. 6.							
7.					_		
8.		-					
ercent of Dominant Spe	ecies that are OBL, FACW or FAC (excluding FAC-).	/= 33%			-	
	terion is probably met, because Ru. CU+ in the 1988 National List, but in the s and uplands.						
	Recorded Data (Describe in Rei	marks):		Wetland Hydrology Ind	icators:		
	Stream, Lake or	<u>-</u>		Primary Indicators			
	Aerial Photograp	hs			dated	_	
,	Other			Satu	rated in Upper 12 inc	hes	
	No Recorded Data Available			Wate	er Marks		
				Drift	Lines		
Field Observations:				Sedi	Sediment Deposits		
					nage Patterns in Wet		
Depth of Su	ırface Water:		_ (in.)	1	tors (2 or more requi	-	
				<u> </u>	ized Root Channels i	n Upper 12 inches	
Depth to Fr	ee Water in Pit:		(in.)		er-Stained Leaves		
					Il Soil Survey Data		
Depth to Sa	aturated Soil:		(in.)	<u> </u>	-Neutral Test		
				Othe	r (Explain in Remark	s)	

Remarks: Hydrologic criterion is NOT met. There were no primary indicators such as inundation, saturation, or free water in the 15" hole. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. While the nearest groundwater well (EP5) did appear to have wetland hydrology based on the groundwater table being within 12-18 inches of the surface for 14 to 18 days, the well was unfortunately located in a topographic depression, and conditions did not appear to be reflective of this area. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, irrigation flooding during the summer and occasional Lagunitas Creek overflow during extremely large storm events. This area appears to be slightly higher in elevation than Sampling Point 34A, and, therefore, waters may sheetflow off into lower elevation areas.

SOILS									
Map Unit Nar	ne								
(Series and F	hase): Bluc	cher-Cole complex, 2	to 5 percent slopes	Drainage Class:					
Taxonomy (S	Subgroup):		Field Observations Confirm Mapped Type? Yes $$ No						
Profile Descr	ription				-				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-14	A/B	10YR 3/2			Clay loam				
Hydric Soil Ir	ndicators:								
Histosol			Concretions						
_	Histic Epipedor	n	High Organic Conte	ent in Surface Layer in Sandy Soils					
_	Sulfidic Odor	_	Organic Streaking i	n Sandy Soils					
_	Aquic Moisture	Regime	Listed on Local Hyd	dric Soils List					
_	Reducing Cond	ditions	Listed on National I	łydric Soils List					
-	Gleyed or Low-	-Chroma Colors	Other (Explain in Re	ether (Explain in Remarks)					
_		_	_	,					
				mottles are unreliable, because this pasite the low chroma of soils (2).	sture area is flood irrigated. However, based on				
WETLAND	DETERMINATION	ON							
Hydrophytic	Vegetation Present?	Yes <u>√</u> Yes	No						
Wetland Hyd	rology Present?	Yes	_√_ No						
Hydric Soils	Present?	Yes	s this Sampling Point Within a Wetla	ınd? Yes No					
		sture flat located in the so A, and, therefore, waters			This area appears to be slightly higher in				

		(1907					<u> </u>		
Project/Site:	Giacomini W	etland Restora	tion Project, Giad	omini Ranc	h, Po	int Reye	s	Date:	3/12/04
Applicant/Owner:	Point Reyes	National Seash	nore					County:	Marin
Investigator:	Lorraine Par	sons and Ameli	ia Ryan					State:	CA
Site Location:	Southern po	rtion of East Pa	sture at Giacomi	ni Ranch					
Do Normal Circum	stances exist	on the site?		Yes	_√	No		Community	Upland
Is the site significa	ntly disturbed	d (Atypical Situ	ıation)?	Yes		No	√	Transect ID:	
Is the area a potent	tial Problem A	Area?		Yes		No	$\overline{\ }$	Plot ID:	35
(If needed, expl	ain on revers	e.)				_			
VEGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domin	nant Pla	nt Specie	s	Stratum	Indicator
Rumex occidentalis		Herb	OBL					_	
2. Trifolium repens	_	Herb	(FAC)1996					_	
3. Poa annua	_	Herb	FACW-					_	
4. Geranium carolinar	um	Herb	NL					_	
5. Cirsium vulgare		Herb	FACU					_	
6. Brassica nigra		Herb	NL					_	
7.									_
8.				-				_	<u> </u>
Remarks: Vegetative crit 1996 list, it was listed as a disturbed from agricultural	FAC species within	n California, which a	grees better with our o	observations or	n its occ				
TIDROLOGI	Recorded Data	a (Describe in Rem	arke).		Wetla	nd Hydrol	ogy Indic	ators:	
-	_ Recorded Date	Stream, Lake or Ti	•			rimary In			
		Aerial Photograph	-			•	Inunda		
		Other			_		— Satura	ated in Upper 12 inc	hes
√	No Recorded I	Data Available			_		– Water	Marks	
	_						Drift L	ines	
Field Observations:					_		Sedim	ent Deposits	
					_		Draina	nge Patterns in Wetl	ands
Depth of Surface Water: (in.)					5	Secondary	/ Indicato	rs (2 or more requir	ed):
							Oxidiz	ed Root Channels i	n Upper 12 inches
Depth to Fro	ee Water in Pit:			(in.)	_		Water	-Stained Leaves	
						Local Soil Survey Data			
Depth to Sa	turated Soil:			(in.)	FAC-Neutral Test				
					_		Other	(Explain in Remark	s)

Remarks: Hydrologic criterion is NOT met. There were no primary indicators such as inundation, saturation, or free water in the 15" hole. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. There possibly were some very faint, few oxidized pore channels, but these were no prominent or common enough to qualify as a secondary indicator. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, irrigation flooding during the summer and occasional Lagunitas Creek overflow during extremely large storm events. This area does appear to be higher in elevation due possibly to large sedimentation events from past episodic flooding, as well as sediment dumping by the Giacominis.

SOII S

SUILS										
Map Unit Nan	ne									
(Series and P	hase): Blu	icher-Cole complex, 2	to 5 percent slopes	Drainage Class:						
Taxonomy (S	ubgroup):			Field Observations Confirm Mapped Type? Yes						
Profile Descr	iption									
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.					
0-14	A/B	10YR 3/3			Silt/Clay loam					
Hydric Soil In	dicators:									
	Histosol		Concretions							
_	Histic Epiped	on	High Organic Con	tent in Surface Layer in Sandy Soils						
	Sulfidic Odor	_	Organic Streaking	in Sandy Soils						
	Aquic Moistu	re Regime	Listed on Local H	ydric Soils List						
_	Reducing Co	nditions	Listed on Nationa	l Hydric Soils List						
_	Gleyed or Lov	w-Chroma Colors	Other (Explain in	Remarks)						
Park Service's		ants, Kamman Hydrology & E		features within the soil, and the soil was area has received large amonts of sedin						
WETLAND	DETERMINAT	ION								
	Vegetation Presen rology Present? Present?	t?	No _√ No _√ No	Is this Sampling Point Within a Wetla	nd? Yes	√_ No				
				East Pasture of the Giacomini Ranch. odic flooding or by sediment dumping		htly higher in				

Drainet/Cita	Giacomini M	Vetland Pestora	tion Project, Giaco	mini Pano	sh Doi	nt Paya	c	Date:	3/12/04
Project/Site:				TIIIII IXAIR	JII, I OI	in iteye.	3		Marin
Applicant/Owner:	-	National Seash						County:	
Investigator:	Lorraine Par	rsons and Ameli	ia Ryan					State:	CA
Site Location:	Southweste	rn portion of Eas	st Pasture at Giaco	mini Ran	ch				
Do Normal Circums	stances exist	on the site?		Yes	√	No		Community	Adjacent Wetland
Is the site significal	ntly disturbe	d (Atypical Situ	uation)?	Yes		No	$\overline{\ }$	Transect ID:	
Is the area a potent	ial Problem A	Area?		Yes		No	$\overline{}$	Plot ID:	36A
(If needed, expl	ain on revers	e.)				•			
VEGETATION									
Dominant Plant Sp	ecies	Stratum Herb	Indicator FACW	Domir	nant Pla	nt Species	s	Stratum	Indicator
Agrostis stolonifera Trifolium repens									
3. Rumex crispus		Herb	FACW-						
4									
5.								- —	
6. 7.			-						
8								_	
Percent of Dominant Spec				= 100%				<u> </u>	
Remarks: Vegetative crite draft 1996 list, it was listed a									
HYDROLOGY									
	Recorded Data	a (Describe in Rem	•			d Hydrold			
		Stream, Lake or Ti	=		Р	rimary Inc			
		Aerial Photograph	is		_	1	_ Inunda		
,		Other			_	٧	_	ated in Upper 12 incl	nes
	No Recorded	Data Available			_		-	Marks	
					_		Drift L		
Field Observations:							_	ent Deposits	
Depth of Su	rface Water			(in.)	-	econdary	_	nge Patterns in Wetle ers (2 or more requir	
Deptil of ou	nace water.			(111.)	٥	econdar y		ed Root Channels i	-
Depth to Fre	e Water in Pit:			(in.)	_		_	-Stained Leaves	Серен
-							_ Local	Soil Survey Data	
Depth to Sat	turated Soil:	Saturated in top	2 inches of root zone	(in.)	_		FAC-N	leutral Test	
-		·					Other	(Explain in Remarks	s)
Remarks: Hydrologic crite inches of rain). Prior to this at depth. This hydrology ma Primary hydrologic sources overflow during extremely la	s, the month of Fe ay result from wate for this area appe	bruary had been pre er perching in the up ear to be precipitation	etty wet. This area appe per column of the soil, p	ars to be sat erhaps beca	urated wuse of the	vithin the to ne dense r	op 2 inche oots of th	es of the root zone, but e rhizomatous grasse	ut not necessarily saturated es. In certain areas,

Map Unit Nar	ne										
Series and P	Phase): Bluc	cher-Cole complex, 2	to 5 percent slopes	Drainage Class:							
axonomy (S	Subgroup):			Field Observations Confirm Mapped Type? Yes $\sqrt{}$							
Profile Descr	ription				·						
Depth	•	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,						
inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.						
-14	A/B	10YR 3/2			Clay loam						
lydric Soil Ir	ndicators: Histosol		Concretions								
_	Histic Epipedo	n	High Organic Content	t in Surface Layer in Sandy Soils							
	Sulfidic Odor	_	Organic Streaking in	Sandy Soils							
_	Aquic Moisture	Regime	Listed on Local Hydri	ic Soils List							
		_	Listed on National Hy	rdric Soils List							
_		Reducing Conditions Listed on National Hydric Soils List Gleyed or Low-Chroma Colors Other (Explain in Remarks)									
- - -	Reducing Cond	_									
- - - Remarks: Hy	Reducing Cond Gleyed or Low	-Chroma Colors		narks)							
	Reducing Cond Gleyed or Low	-Chroma Colors met. The soil is low enoug	Other (Explain in Ren	narks)							
ETLAND	Reducing Cond Gleyed or Low- ydric soil criterion is	-Chroma Colors met. The soil is low enoug	Other (Explain in Ren	narks)							
ETLAND ydrophytic	Reducing Cond Gleyed or Low- ydric soil criterion is	-Chroma Colors met. The soil is low enoug	Other (Explain in Ren	narks)							

Applicant/Owner: Point Reyes National Seashore	Project/Site:	Giacomini Wetland Restorat	tion Project, Giaco	mini Ranch	n, Poii	nt Reye	S	Date:	3/12/04
Site Location: Southwestern portion of East Pasture at Giacomini Ranch Do Normal Circumstances exist on the site? Southwestern portion of East Pasture at Giacomini Ranch Do Normal Circumstances exist on the site? Yes No V Transect ID: Is the site significantly disturbed (Atypical Situation)? Yes No V Plot ID: 36C (If needed, explain on reverse.) Plot ID: 36C Plot ID:	Applicant/Owner:	Point Reyes National Seash	ore					County:	Marin
Dominant Plant Species Stratum Indicator Indicat	nvestigator:	Lorraine Parsons and Ameli	a Ryan					State:	CA
Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.) Plot ID: 36C	Site Location:	Southwestern portion of East	st Pasture at Giac	omini Rancl	h				
Is the area a potential Problem Area? (If needed, explain on reverse.) Plot ID: 36C	Do Normal Circum	stances exist on the site?		Yes	√	No		Community	Upland
Comparison Co	Is the site significa	Yes	•	No	$\overline{}$	•			
EGETATION Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator	ls the area a potent	Yes		No	$\overline{\lambda}$	Plot ID:	36C		
Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator Rumex crispus Herb FACW- FACY- FACY- FACY- FACY- FACY- F	(If needed, expl	ain on reverse.)		-		•			
1. Rumex crispus Herb FACW- 2. Trifolium repens Herb (FAC)1996 3. Unknown grass Herb 4.	EGETATION								
2. Trifolium repens				Domina	ant Plai	nt Specie	s	Stratum	Indicator
3. Unknown grass Herb 4. 5. 6. 7. 8. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). /= 100% Itemarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but raft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. The unknown ras newly germinated, so therefore difficult to identify, but it was possibly Lolium sp. or Phalaris sp. YDROLOGY Recorded Data (Describe in Remarks): Stream, Lake or Tide Gauge Aerial Photographs Other No Recorded Data Available Water Marks Water Marks Water Marks								_	_
4. 5. 6. 7. 8. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). /= 100% Lemarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but rate 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. The unknown as newly germinated, so therefore difficult to identify, but it was possibly Lolium sp. or Phalaris sp. YDROLOGY Recorded Data (Describe in Remarks): Stream, Lake or Tide Gauge Aerial Photographs Other No Recorded Data Available Water Marks Water Marks			(FAC)1996					_	<u> </u>
5. 6. 7. 8. ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). /= 100% emarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but aft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. The unknown as newly germinated, so therefore difficult to identify, but it was possibly Lolium sp. or Phalaris sp. **TOROLOGY** Recorded Data (Describe in Remarks): Wetland Hydrology Indicators: Primary Indicators: Primary Indicators: Inundated Inundated Saturated in Upper 12 inches Water Marks				-				_	
6. 7. 8. ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or FAC (excluding FAC-). Faccorded Dominant Species that are OBL, FACW or								_	_
7. 8. ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). /= 100% emarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but raft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. The unknown as newly germinated, so therefore difficult to identify, but it was possibly Lolium sp. or Phalaris sp. YDROLOGY Recorded Data (Describe in Remarks): Stream, Lake or Tide Gauge Aerial Photographs Other No Recorded Data Available Wetland Hydrology Indicators: Inundated Saturated in Upper 12 inches Water Marks		<u> </u>						_	
ercent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). Factor F	-			-				_	_
emarks: Vegetative criterion is met. Dominant vegetation is greater than 50% hydrophytic. Trifolium repens was listed as a FACU+ in the 1988 National List, but aft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. The unknown as newly germinated, so therefore difficult to identify, but it was possibly Lolium sp. or Phalaris sp. Primary Indicators:	8.								
raft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. The unknown as newly germinated, so therefore difficult to identify, but it was possibly Lolium sp. or Phalaris sp. YDROLOGY	ercent of Dominant Spe	cies that are OBL, FACW or FAC (ex	cluding FAC-).	= 100%					
Stream, Lake or Tide Gauge Aerial Photographs Other No Recorded Data Available Primary Indicators: Inundated Saturated in Upper 12 inches Water Marks	raft 1996 list, it was listed as newly germinated, so	as a FAC species within California, wh	ich agrees better with o	our observation					
Aerial Photographs Other Saturated in Upper 12 inches √ No Recorded Data Available Water Marks		Recorded Data (Describe in Rema	arks):	١	Wetlan	d Hydrol	ogy Indio	cators:	
Other Saturated in Upper 12 inches √ No Recorded Data Available Water Marks			=		P	rimary Ind			
No Recorded Data Available Water Marks			s		_		_		_
	,						_	• • •	hes
Drift Lines		No Recorded Data Available			_		Water	Marks	
							Drift L	ines	
Field Observations: Sediment Deposits	Field Observations:						Sedin	nent Deposits	
Drainage Patterns in Wetlands					_		_	•	
Depth of Surface Water: (in.) Secondary Indicators (2 or more required):	Depth of Su	rface Water:		(in.)	S	econdary	Indicate	ors (2 or more requir	red):

Remarks: Hydrologic criterion is NOT met. There were no primary indicators such as inundation, saturation, or free water in the 15" hole. Sampling was conducted in mid March, 11 days after the last rainfall (0.65 inches) and 14 days after the last large rainfall event (>2 inches of rain). Prior to this, the month of February had been pretty wet. There were faint and few oxidized pore channels, but they not frequent or prominent enough to qualify as a secondary indicator. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, irrigation flooding during the summer and occasional Lagunitas Creek overflow during extremely large storm events. This area appears to be slightly higher in elevation than Sampling Point 36A, and, therefore, waters may sheetflow off into lower elevation areas.

(in.)

(in.)

Water-Stained Leaves

Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

Depth to Free Water in Pit:

Depth to Saturated Soil:

SOILS					
Map Unit Na	me				
(Series and I	Phase): Blue	cher-Cole complex, 2	to 5 percent slopes	Drainage Class:	
Taxonomy (S	Subgroup):				
Profile Descr	ription				
Depth	•	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-14	A/B	10YR 3/3			Silt/Clay loam
Hydric Soil I	ndicators:				
_	Histosol	<u></u>	Concretions		
_	Histic Epipedo	n	High Organic Con	tent in Surface Layer in Sandy Soils	
_	Sulfidic Odor	<u></u>	Organic Streaking	in Sandy Soils	
	Aquic Moistur	e Regime	Listed on Local Hy	dric Soils List	
_	Reducing Con	ditions	Listed on National	Hydric Soils List	
_	Gleyed or Low	r-Chroma Colors	Other (Explain in F	Remarks)	
Remarks: H	ydric soil criterion D	OES NOT appear to be m	et. Based on the hydrolo	ogy (lack of saturation at 14-18 days) a	nd soil chroma (3), this area does not appear to be
WETLAND	DETERMINATI	ON			
• • •	Vegetation Present	? <u>√</u> Yes	No No		
Wetland Hyd	Irology Present?	Yes	_√_ No		
Hydric Soils	Present?	Yes	_√_ No	Is this Sampling Point Within a Wetla	nd? YesNo
		sture flat located in the so SA, and, therefore, waters			nch. This area appears to be slightly higher in

		(1967 COE Wellands	Delineation iv	ianuai)		
Project/Site:	Giacomini Wetland Re	estoration Project, Giaco	mini Ranch, Poi	nt Reye	es	Date:	4/6/04
Applicant/Owner:	Point Reyes National	Seashore				County:	Marin
Investigator:	Lorraine Parsons and	Chelsea Donovan				State:	CA
Site Location:	Tomasini Triangle are						
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.)							Adjacent Wetland 37A
ZEGETATION Dominant Plant Sp	pecies Stratun	n Indicator	Dominant Plar	nt Specie	es	Stratum	Indicator
Agrostis stolonifera	Herb	FACW					
2. Trifolium repens	Herb	FAC(1996)					
3. Festuca arundinace	ea Herb	FAC-					
						_	

	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1.	Agrostis stolonifera	Herb	FACW			
2.	Trifolium repens	Herb	FAC(1996)			
3.	Festuca arundinacea	Herb	FAC-			
4.	Unknown grass	Herb				
5.						
6.		_				
7.						
8.						
Perce	nt of Dominant Species that are	OBL, FACW or FAC (e	excluding FAC-).	= 50%		
						·

Remarks: Vegetative criterion is met. Dominant vegetation is equal to 50% hydrophytic. *Trifolium repens* was listed as a FACU+ in the 1988 National List, but in the draft 1996 list, it was listed as a FAC species within California, which agrees better with our observations on its occurrence within wetlands and uplands. The unknown grass was newly germinated, so therefore difficult to identify.

HYDROLOGY

Recorded Data (Descr	ibe in Remarks):		Wetland Hydrolog	gy Indicators:
Stream,	Lake or Tide Gauge		Primary Indi	cators:
Aerial P	hotographs			Inundated
Other			√	Saturated in Upper 12 inches
√ No Recorded Data Ava	nilable			Water Marks
				Drift Lines
Field Observations:				Sediment Deposits
				Drainage Patterns in Wetlands
Depth of Surface Water:		(in.)	Secondary I	ndicators (2 or more required):
			√	Oxidized Root Channels in Upper 12 inches
Depth to Free Water in Pit:		(in.)		Water-Stained Leaves
				Local Soil Survey Data
Depth to Saturated Soil:	12	(in.)		FAC-Neutral Test
	_			Other (Explain in Remarks)

Remarks: Hydrologic criterion is met. Sampling was conducted in early April, 9 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. Water depth in nearby groundwater monitoring well (EP8) was at 35 inches at the time of sampling. However, at least one secondary indicator was observed: distinct, abundant oxidized pore channels. Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that elevates the water table in this area, surface run-off from adjacent uplands, and precipitation. This pasture is either not irrigated or irrigated infrequently.

Map Unit Na	me									
(Series and F	Phase): Blue	cher-Cole complex, 2	to 5 percent slopes	Drainage Class:						
Taxonomy (\$	Subgroup):			Field Observations Confirm Mapped Type? Yes √ No						
Profile Desci	ription									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-14	A/B	10YR 3/1		Abundant oxidation features						
Hydric Soil II	ndicators:		Concretions							
-	Histic Epipedo	on		ent in Surface Layer in Sandy Soils						
_	Sulfidic Odor	_	Organic Streaking	•						
_	Aquic Moisture	e Regime	Listed on Local Hy	•						
_	Reducing Con		Listed on National							
_		-Chroma Colors	Other (Explain in F	•						
_		_								
Remarks: H	ydric soil criterion is	s met. Soil had a low chrom	a of (1), so mottles are n	ot required. Abundant oxidation features	s were observed at 12".					
VETLAND	DETERMINATION	ON								
Hydrophytic	Vegetation Present	? √ Yes	No							
Wetland Hvd	rology Present?	√ √ Yes	No No							
Hydric Soils		√ Yes		Is this Sampling Point Within a Wetla	nd? √ Yes No					
		at in the so-called Tomasir oundant seep and surface			ch. This entire portion of the pasture is often					

		(198	7 COE Wetlands	s Delinea	tion I	Manua	l)			
Project/Site:	Giacomini V	Vetland Restora	ation Project, Gree	n Bridge P	ark, P	oint Re	yes	Date:	4/6/04	
Applicant/Owner:	Point Reyes	National Seas	hore					County:	Marin	
Investigator:	Lorraine Pa	rsons and Chel	sea Donovan					State:	CA	
Site Location:	Tomasini Tr	riangle portion o	of East Pasture of 0	Giacomini I	Rnch			1		
Do Normal Circum	stances exist	t on the site?		Yes	√	No		Community	Upland	
Is the site significa	Is the site significantly disturbed (Atypical Situation)?					No	$\overline{}$	Transect ID:		
Is the area a potential Problem Area? Yes						No	$\frac{1}{\sqrt{1}}$	Plot ID:	37C	
(If needed, exp	ain on revers	se.)				_	·			
/EGETATION										
Dominant Plant S		Stratum	Indicator	Domin	nant Pla	nt Specie	es	Stratum	Indicator	
1. Festuca arundinace		Herb	FAC-					_		
2. Geranium dissectu	m	Herb	NL					_		
3. Trifolium repens		Herb	FAC(1996)							
4										
5.								_		
6.								_		
7. 8.								-		
Percent of Dominant Spe	cies that are OB	L. FACW or FAC (e	excluding FAC-).	′= 33 %				_		
Remarks: Vegetative crivulgare (FACU). Trifolium with our observations on it	repens was listed	as a FACU+ in the	1988 National List, but i							
TIDROLOGI	Recorded Dat	ta (Describe in Ren	narks):	1	Wetlar	nd Hydro	ogy Indi	cators:		
	_ 110001404 241	Stream, Lake or T	•			rimary Ir				
		Aerial Photograph	ns			-	Inunc	lated		
		Other			_		— Satur	ated in Upper 12 inc	hes	
V	<u> </u>					Water Marks				
	_				Drift Lines					
Field Observations:					_		_	nent Deposits		
i ieiu Obsei valiUlis.					_			•	lande	
					Drainage Patterns in Wetlands					
Denth of Si	ırface Water:			(in.)	Secondary Indicators (2 or more required): √ Oxidized Root Channels in Upper 12 inches				red):	

Remarks: Hydrologic criterion is NOT met. There were no primary indicators, and sampling was conducted in early April, 12 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. Water depth in nearby groundwater monitoring well (EP8) was at 35 inches at the time of sampling. However, one secondary indicator may have been present: there appeared to be distinct, common oxidized pore channels, but there were no other secondary hydrologic indicators. This Sampling Point is slightly elevated from Sampling Point 37A: the Giacominis appeared to have used dredge material from the nearby drainage at the base of the Mesa to fill in the tip of the "triangle." Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that elevates the water table in this area, surface runoff from adjacent uplands, and precipitation. This pasture is either not irrigated or irrigated infrequently.

(in.)

(in.)

Depth to Free Water in Pit:

Depth to Saturated Soil:

Water-Stained Leaves

Local Soil Survey Data FAC-Neutral Test

Other (Explain in Remarks)

SUILS							
Map Unit Nam	ne						
(Series and Pl	hase):	Blucher-Cole complex, 2	to 5 percent slopes	S Drainage Class:			
Taxonomy (Si	ubgroup):			Field Observations Confirm Ma	apped Type? Yes –	No	_ √
Profile Descri	ption						
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.		
0-14	A/B	10YR 3/2	<u>-</u>	No mottles			
Hydric Soil Inc	dicators:						
	Histosol	_	Concretions				
_	Histic Ep	oipedon	High Organic Con	ntent in Surface Layer in Sandy Soils			
_	Sulfidic	Odor	Organic Streaking	g in Sandy Soils			
	Aquic M	oisture Regime	Listed on Local H	ydric Soils List			
_	Reducin	g Conditions	Listed on Nationa	al Hydric Soils List			
_	Gleyed o	or Low-Chroma Colors	Other (Explain in	Remarks)			
_	_	_		,			
Remarks: Hy	dric soil crite	rion is NOT met. Soil had a low	chroma of (2), but there	were no mottles present.			
-			• • •	·			
WETLAND	DETERMIN	NATION					
	DE 121 (1	<u> </u>					
Hydrophytic V	/egetation Pr	esent? Yes	√ No				
Wetland Hydr	ology Presen	nt? Yes	√ √ No				
Hydric Soils P		Yes	√ √ No	Is this Sampling Point Within a Wetlar	nd? Yes	√ No	
Point 37A: the hydrologic so	e Giacominis ources for this	appeared to have used dredge	e material from the near om the adjacent Point I	Pasture in the so-called "Tomasini Tria rby drainage at the base of the Mesa to Reyes Mesa that elevates the water tab uently.	fill in the tip of the "triangle	e." Primary	

Project/Site:	Giacomini We	etland Restora	ation Project, Gree	n Bridge Park	, Point Rev	ves	Date:	4/6/04
Applicant/Owner:		National Seash	<u> </u>		,	,	County:	Marin
Investigator:		sons and Chels					State:	CA
Site Location:	Tomasini Triangle portion of East Pasture of Giacomini Rnch						Olulo.	
Do Normal Circumstances exist on the site? Yes √ No							0	I la la a d
Is the site significantly disturbed (Atypical Situation)?						Community Transect ID:	Upland	
_	Is the area a potential Problem Area?			Yes Yes	No No	<u> </u>	Plot ID:	37D
(If needed, explain on reverse.)				'		1 101 15.	070	
(ii ficeded, expi		·· <i>)</i>						
VECETATION.								
VEGETATION Dominant Plant Sp	ecies	Stratum	Indicator	Dominant	Plant Specie	es	Stratum	Indicator
Picris echioides		Herb	FAC					
2. Geranium carolinan	um	Herb	NL					
3. Trifolium repens	_	Herb	FAC(1996)				_	_
4.								_
5.							<u> </u>	
5. 6.								
5. 6. 7.	cies that are OBL,	FACW or FAC (e:	excluding FAC-).	/= 66%				
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	erion is met. Dom	ninant vegetation is	s <u>greater than</u> 50% hyd listed as a FACU+ in t	rophytic. Other sp ne 1988 National L				
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	erion is met. Dom dinacea (FAC-). Trit etter with our observa	ninant vegetation is ifolium repens was ations on its occur	s <u>greater than</u> 50% hyd listed as a FACU+ in t rrence within wetlands a	rophytic. Other sp ne 1988 National L and uplands.	ist, but in the	e draft 1996	6 list, it was listed as	
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	erion is met. Dom dinacea (FAC-). Trit etter with our observa	ninant vegetation is	s greater than 50% hyd listed as a FACU+ in trence within wetlands a	rophytic. Other sp ne 1988 National L and uplands.		e draft 1996	6 list, it was listed as ators:	
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	erion is met. Dom dinacea (FAC-). Trit etter with our observa	ninant vegetation is folium repens was ations on its occur	s greater than 50% hyd listed as a FACU+ in t rence within wetlands a marks):	rophytic. Other sp ne 1988 National L and uplands.	ist, but in the	e draft 1996	6 list, it was listed as ators:	
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (SAME SAME SAME SAME SAME SAME SAME SAME	ninant vegetation is folium repens was ations on its occur (Describe in Rem Stream, Lake or Ti	s greater than 50% hyd listed as a FACU+ in t rence within wetlands a marks):	rophytic. Other sp ne 1988 National L and uplands.	ist, but in the	logy Indicators:	6 list, it was listed as ators:	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (SAME SAME SAME SAME SAME SAME SAME SAME	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in t rence within wetlands a marks):	rophytic. Other sp ne 1988 National L and uplands.	ist, but in the	logy Indicators:	ators: ated in Upper 12 inc	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	Recorded Data	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in t rence within wetlands a marks):	rophytic. Other sp ne 1988 National L and uplands.	ist, but in the	logy Indicators: Inunda Satura	ators: ated ted in Upper 12 inc	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun. California, which agrees be	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (S A O No Recorded Data	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in t rence within wetlands a marks):	rophytic. Other sp ne 1988 National L and uplands.	ist, but in the	logy Indicators: Inunda Satura Water Drift Li Sedim	ators: ated ated in Upper 12 inc Marks ines ent Deposits	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun California, which agrees be HYDROLOGY Field Observations:	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (S A O No Recorded Da	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in trence within wetlands a marks):	rophytic. Other species 1988 National Land uplands.	tland Hydrol Primary In	logy Indicators: Inunda Satura Water Drift Li Sedim Draina	ators: ated ted in Upper 12 inc Marks ines ent Deposits tige Patterns in Wet	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun California, which agrees be HYDROLOGY Field Observations:	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (S A O No Recorded Data	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in trence within wetlands a marks):	rophytic. Other sp ne 1988 National L and uplands.	etland Hydrol Primary In Secondary	logy Indicators: Inunda Satura Water Drift Li Sedim Draina y Indicato	ators: ated ted in Upper 12 inc Marks ines ent Deposits age Patterns in Wet rs (2 or more requi	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun California, which agrees be HYDROLOGY Field Observations: Depth of Su	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (S A O No Recorded Da	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in trence within wetlands a marks):	rophytic. Other species 1988 National Land uplands.	tland Hydrol Primary In	logy Indicators: Inunda Satura Water Drift Li Sedim Draina y Indicato Oxidiz	ators: ated ted in Upper 12 inc Marks ines ent Deposits age Patterns in Wet rs (2 or more requi	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun California, which agrees be HYDROLOGY Field Observations: Depth of Su	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (S A O No Recorded Data (In the second of t	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in trence within wetlands a marks):	rophytic. Other spine 1988 National Land uplands. We	etland Hydrol Primary In Secondary	logy Indicators: Inunda Satura Water Drift Li Sedim Draina y Indicato Oxidiz Water-	ators: ated ated in Upper 12 inc Marks ines eent Deposits age Patterns in Wet rs (2 or more required Root Channels	a FAC species within
5. 6. 7. 8. Percent of Dominant Spe Remarks: Vegetative crit (FACW), and Festuca arun California, which agrees be HYDROLOGY Field Observations: Depth of Su Depth to Fre	erion is met. Dom Idinacea (FAC-). Trif Itter with our observa Recorded Data (S A O No Recorded Data (In the second of t	iniant vegetation is folium repens was ations on its occur. (Describe in Rem Stream, Lake or Tive Aerial Photograph Other	s greater than 50% hyd listed as a FACU+ in trence within wetlands a marks):	rophytic. Other spine 1988 National Land uplands. We	etland Hydrol Primary In Secondary	logy Indicators: Inunda Satura Water Drift Li Sedim Draina y Indicato Oxidiz Water- Local	ators: ated ated in Upper 12 inc Marks ines ines ent Deposits ige Patterns in Wet rs (2 or more required Root Channels estained Leaves	a FAC species within

Remarks: Hydrologic criterion is NOT met. There were no primary indicators, and sampling was conducted in early April, 12 days after the last large rainfall (1.51 inches). Prior to this rain event, the month of March had been pretty dry. Water depth in nearby groundwater monitoring well (EP8) was at 35 inches at the time of sampling. However, one secondary indicator may have been present: there appeared to be distinct, abundant oxidized pore channels, but there were no other secondary hydrologic indicators. This Sampling Point is slightly elevated from Sampling Points 37A and 37C: the Giacominis appeared to have used dredge material from the nearby drainage at the base of the Mesa to fill in the tip of the "triangle." Primary hydrologic sources for this area appear to be seep flow from the adjacent Point Reyes Mesa that elevates the water table in this area, surface run-off from adjacent uplands, and precipitation. This pasture is either not irrigated or irrigated infrequently.

Map Unit Na	me							
(Series and I	Blucher-Cole complex, 2 to 5 percent slopes		Drainage Class:					
Taxonomy (S	Subgroup):			No √				
Profile Desc	ription							
Depth (inches) 0-14	Horizon A/B	Matrix Color (Munsell Moist) 10YR 3/2	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast No mottles	Texture, Concretions, Structure, etc.			
Hydric Soil I	ndicators:							
_	Histosol	_	Concretions					
_	Histic Epipedon	_		tent in Surface Layer in Sandy Soils				
_	Sulfidic Odor	_	Organic Streaking	in Sandy Soils				
_	Aquic Moisture R	Regime	Listed on Local H	ydric Soils List				
_	Reducing Condit	ions	Listed on Nationa	l Hydric Soils List				
_	Gleyed or Low-C	hroma Colors	Other (Explain in	Remarks)				
Remarks: H	ydric soil criterion is N	OT met. Soil had a low o	chroma of (2), but there	were no mottles present.				
NETLAND	DETERMINATIO	N						
Hvdrophytic	Vegetation Present?	Yes	√ No					
	Irology Present?	Yes	√ No No					
Hydric Soils		Yes	√ No	Is this Sampling Point Within a Wetla	ınd? Yes	√ No		
Remarks: Th Points 37A a Primary hyd	nis Sampling Point is lo	is appeared to have use s area appear to be seep	ed dredge material from o flow from the adjacer	Pasture in the so-called "Tomasini Tr n the nearby drainage at the base of t nt Point Reyes Mesa that elevates the	iangle" and is slightly elev he Mesa to fill in the tip of	/ated from Sampling the "triangle."		

			7 COE Wetland						
Project/Site:	Giacomini V	Vetland Restora	ation Project, Giac	omini Ranch,	, Point Rey	es	Date:	2/11/03	
Applicant/Owner:	Point Reyes	s National Seasl	hore				County:	Marin	
Investigator:	Lorraine Pa	rsons and Leslie	e Allen				State:	CA	
Site Location:	Central port	ion of East Past	ture of Giacomini	Rnch]		
Do Normal Circum	stances exist	t on the site?		Yes	√ No Commun			Adjacent Wetland	
s the site significantly disturbed (Atypical Situation)?			Yes	No	$\overline{\ \ }$	Transect ID:			
Is the area a poten	tial Problem	Area?		Yes	No	$\overline{\ \ }$	Plot ID:	38	
(If needed, expl	ain on revers	;e.)							
/EGETATION		Stratum	Indicator	Daminar	ot Blant Speci	inc	Cároáilm	Indicator	
1. Agrostis stolonifera		Stratum Herb	Indicator FACW	Dominan	nt Plant Speci	es	Stratum	Indicator	
2. Trifolium repens		Herb	FAC(1996)					_	
3. Rumex sp.								_	
4.									
5.									
6.									
7.									
8.									
Percent of Dominant Spe	cies that are OBI	L, FACW or FAC (e	xcluding FAC-).	/= 100%					
Remarks: Vegetative crit 1996 list, it was listed as a								National List, but in the draft	
HYDROLOGY									
	Recorded Dat	ta (Describe in Rem	narks):	W	etland Hydro	logy Indi	cators:		
		Stream, Lake or T	=		Primary I	ndicators	:		
		Aerial Photograph	ıs			Inund	ated		
		Other				Satur	ated in Upper 12 inc	ches	
	No Recorded	Data Available				Wate	r Marks		
						Drift I	_ines		
Field Observations:	i				_	Sedin	nent Deposits		
						Drain	age Patterns in Wet	lands	
Depth of Su	ırface Water:		0.5-1	(in.)	Seconda	ry Indicate	ors (2 or more requi	red):	
						Oxidi —	zed Root Channels	in Upper 12 inches	
Depth to Fr	ee Water in Pit:		14.5	(in.)	-	Water	r-Stained Leaves		
						Local	Il Soil Survey Data		

Remarks: Hydrologic criterion is met. Sampling was conducted in mid February,17 days after the last significant period of rainfall (1.74 inches). Prior to this rain event, the month of January had been pretty wet. Water depth in nearby groundwater monitoring well (EP4) was at 29 inches below the ground surface at time of sampling. There were abundant oxidized pore channels, however, these pastures are irrigated during the summer, so these features are unreliable. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, and, to a lesser extent, groundwater. Despite the fact that the groundwater table exceeded 12-18 inches 17 days after the last rainfall, it appears that precipitation ponds on the soil surface, permeating at least the top 1 inch of the soil, long enough to create wetland hydrologic conditions within the root zone of these plant species. It is very possible that the dense, matted roots of some of the rhizomatous pasture grasses actually promote ponding by limiting the amount of water that leaches down into the lower soil horizons. Once the hole was dug, a substantial amount of water from the soil surface ran down into the hole, practically filling it.

(in.)

FAC-Neutral Test

Other (Explain in Remarks)

Saturated within top 1"

Depth to Saturated Soil:

SOILS							
Map Unit Nan	ne						
(Series and P	(Series and Phase): Blucher-Cole complex, 2 to 5 per		to 5 percent slopes	Drainage Class:			
Taxonomy (Subgroup):				Field Observations Confirm M	lapped Type? Yes √ No		
Profile Descri	iption						
Depth (inches)	Uarinan	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,		
0-14	Horizon A/B	(Munsell Moist) 10YR 3/2	(Munsell Moist)	Abundance/Size/Contrast Abundant oxidation features	Structure, etc.		
Hydric Soil In	ndicators:						
_	Histosol		Concretions				
_	Histic Epipedo	on	High Organic Con	tent in Surface Layer in Sandy Soils			
_	Sulfidic Odor		Organic Streaking	in Sandy Soils			
	Aquic Moistur	e Regime	Listed on Local Hy	ydric Soils List			
_	Reducing Con	ditions	Listed on National	Hydric Soils List			
_	Gleyed or Low	-Chroma Colors	Other (Explain in F	Remarks)			
		ppears to be met. Soil had e soil is flood irrigated during		a low chroma of (2) with abundant oxida	tion features, although the oxidation features must		
WETLAND	DETERMINATI	ON					
	Vegetation Present rology Present?	?	No No No	Is this Sampling Point Within a Wetla	ınd? √ Yes No		
Remarks: Sai precipitation, after the last	mpling point is a fla surface run-off fro rainfall, it appears t	t in the central portion of t m adjacent uplands, and, t	the East Pasture of the coal lesser extent, ground the soil surface, permit	Giacomini Ranch. Primary hydrolog ndwater. Despite the fact that the groeating at least the top 1 inch of the so			

Project/Site:	Giacomini We	land Restora	ation Project, Giaco	mini Ranc	h, Poi	nt Reye	es	Date:	2/11/03
Applicant/Owner:	Point Reyes N	ational Seasl	hore					County:	Marin
nvestigator:	Lorraine Parsons and Leslie Allen						State:	CA	
_	Central portion of East Pasture of Giacomini Rnch					1			
Site Location:	<u> </u>								
	Normal Circumstances exist on the site?			Yes	٧	No		Community	Adjacent Wetland
s the site significa	•		uation)?	Yes	No	<u> </u>	Transect ID:		
s the area a poten (If needed, exp				Yes		No		Plot ID:	39
EGETATION		Stratum	Indicator	Domin	ent Die	nt Smaaia		Chrotima	Indicator
Dominant Plant Spania Stellaria media	becies	Stratum Herb	Indicator FACU	Domin	ant Pia	nt Specie	:5	Stratum	indicator
2. Trifolium repens		Herb	FAC(1996)						
3. Ranunculus murica	itus	Herb	FACW+					_	
4. Trifolium fragiferum	1	Herb	NI						
5. Lolium sp.	_	Herb	FAC					_	
6.									
7.									
-									
8.									
8.	ecies that are OBL, F	ACW or FAC (e	excluding FAC-).	= 75%					
8. ercent of Dominant Speemarks: Vegetative crivery mixed community or vssopifolium (FACW). Treater with our observation	terion is met. Domin f plant species. Other ifolium repens was lis	nant vegetation is r plant species pr ted as a FACU+	s greater than 50% hydr resent include Atriplex tr in the 1988 National Lis	ophytic. This iangularis (FA	CW), F	lantago m	ajor (FA	CW-), Rorippa palustr	is (OBL), and Lythrum
8. ercent of Dominant Speemarks: Vegetative crivery mixed community or vssopifolium (FACW). Treater with our observation	terion is met. Domin if plant species. Other ifolium repens was lis s on its occurrence w	nant vegetation is r plant species pr ted as a FACU+ ithin wetlands an	s greater than 50% hydr resent include Atriplex tr in the 1988 National Lis id uplands.	ophytic. This iangularis (FA	CW), <i>F</i> raft 199	Plantago m 6 list, it wa	najor (FAC	CW-), <i>Rorippa palustr</i> is a FAC species with	is (OBL), and Lythrum
8. ercent of Dominant Speemarks: Vegetative crivery mixed community or vssopifolium (FACW). Treater with our observation	terion is met. Domin i plant species. Other ifolium repens was lis s on its occurrence w	nant vegetation is r plant species pr ted as a FACU+ ithin wetlands an	s greater than 50% hydr resent include Atriplex tr in the 1988 National Lis id uplands.	ophytic. This iangularis (FA	CW), Praft 199	lantago m	ogy Indi	CW-), Rorippa palustri is a FAC species with	is (OBL), and Lythrum
8. ercent of Dominant Speemarks: Vegetative crivery mixed community or sosopifolium (FACW). Treater with our observation	terion is met. Domin f plant species. Other ifolium repens was lis s on its occurrence w	nant vegetation is plant species pr ted as a FACU+ ithin wetlands an	s greater than 50% hydresent include Atriplex tr in the 1988 National Lis id uplands.	ophytic. This iangularis (FA	CW), Praft 199	ellantago m 6 list, it wa	ogy Indi	cators:	is (OBL), and Lythrum
8. ercent of Dominant Speemarks: Vegetative crivery mixed community or sosopifolium (FACW). Treater with our observation	terion is met. Domini f plant species. Other if olium repens was liss s on its occurrence w	nant vegetation is plant species proted as a FACU+ ithin wetlands an Describe in Remream, Lake or T	s greater than 50% hydresent include Atriplex tr in the 1988 National Lis id uplands.	ophytic. This iangularis (FA	CW), Praft 199	ellantago m 6 list, it wa	ogy Indidicators	cators:	is (OBL), and <i>Lythrum</i> in California, which agree
8. ercent of Dominant Speemarks: Vegetative crivery mixed community or sosopifolium (FACW). Treater with our observation	terion is met. Domini f plant species. Other if olium repens was liss s on its occurrence w	nant vegetation is plant species proted as a FACU+ ithin wetlands an Describe in Remream, Lake or Terial Photograph	s greater than 50% hydresent include Atriplex tr in the 1988 National Lis id uplands.	ophytic. This iangularis (FA	CW), Praft 199	ellantago m 6 list, it wa	ogy Indidicators Inunc Satur	cw-), Rorippa palustris a FAC species with cators:	is (OBL), and <i>Lythrum</i> in California, which agree
8. ercent of Dominant Speemarks: Vegetative crivery mixed community or vssopifolium (FACW). Treater with our observation	terion is met. Domini f plant species. Other if olium repens was lis s on its occurrence w	nant vegetation is plant species proted as a FACU+ ithin wetlands an Describe in Remream, Lake or Terial Photograph	s greater than 50% hydresent include Atriplex tr in the 1988 National Lis id uplands.	ophytic. This iangularis (FA	CW), Praft 199	ellantago m 6 list, it wa	ogy Indidicators Inunc Satur	cators: : lated ated in Upper 12 inc	is (OBL), and <i>Lythrum</i> in California, which agree
	Recorded Data (I St No Recorded Data No Recorded Data	nant vegetation is plant species proted as a FACU+ ithin wetlands an Describe in Remream, Lake or Terial Photograph	s greater than 50% hydresent include Atriplex tr in the 1988 National Lis id uplands.	ophytic. This iangularis (FA	CW), Praft 199	ellantago m 6 list, it wa	ogy Indidicators Inunc Satur Wate	cators: : lated ated in Upper 12 inc	is (OBL), and <i>Lythrum</i> in California, which agre

Remarks: Hydrologic criterion is met. Sampling was conducted in mid February, 17 days after the last significant period of rainfall (1.74 inches). Prior to this rain event, the month of January had been pretty wet. Water depth in nearby groundwater monitoring well (EP4) was at 29 inches below the ground surface at time of sampling. There were abundant oxidized pore channels, however, these pastures are irrigated during the summer, so these features are unreliable. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, and, to a lesser extent, groundwater. Despite the fact that the groundwater table exceeded 12-18 inches 17 days after the last rainfall, it appears that precipitation ponds on the soil surface, permeating at least the top 1 inch of the soil, long enough to create wetland hydrologic conditions within the root zone of these plant species. It is very possible that the dense, matted roots of some of the rhizomatous pasture grasses actually promote ponding by limiting the amount of water that leaches down into the lower soil horizons. Once the hole was dug, a substantial amount of water from the soil surface ran down into the hole, practically filling it.

(in.)

(in.)

16.5

Saturated within top 1"

Depth to Free Water in Pit:

Depth to Saturated Soil:

Oxidized Root Channels in Upper 12 inches

Water-Stained Leaves

Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

6011 6

Map Unit Na	ime				
(Series and	Blucher-Cole complex, 2 to 5 pe			Drainage Class:	
Taxonomy (Field Observations Confirm Mapped Type? Yes	
Profile Desc	ription				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-12	A/B	10YR 2/2			
12-	В	10YR3/2			
Hydric Soil I	Indicators:				
_	Histosol	_	Concretions		
_	Histic Epipedor	ı	High Organic Con	ent in Surface Layer in Sandy Soils	
_	Sulfidic Odor	_	Organic Streaking	in Sandy Soils	
_	Aquic Moisture	Regime	Listed on Local Hy	rdric Soils List	
<u>-</u>	Reducing Cond	litions	Listed on National	Hydric Soils List	
-	Gleyed or Low-	Chroma Colors	Other (Explain in F	Remarks)	
Remarks: H	lydric soil criterion ap	ppears to be met. Soil had	wetland hydrology and	a low chroma of (2). This area has been	n significantly disturbed by agricultural activities.
	DETERMINATION	ON			
VETLAND					
	: Vegetation Present?	√ Yes	No		
Hydrophytic	: Vegetation Present?				
Hydrophytic	drology Present?	$\frac{}{}$ Yes Yes Yes	No	ls this Sampling Point Within a Wetla	ind? 1/ Yes No

age colonizati ppnytic p

Project/Site:	Giacomini W	etland Restorat	tion Project, Giac	omini Ranc	h, Poi	nt Reye	es	Date:	2/11/03
Applicant/Owner:	Point Reyes	National Seash	nore					County:	Marin
Investigator:	Lorraine Parsons and Leslie Allen							State:	CA
Site Location:	Central portion	on of East Past	ure of Giacomini	Rnch				1	
Do Normal Circum	stances exist	on the site?		Yes	√	No		Community	Adjacent Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes		No		Transect ID:	•	
ls the area a poten	tial Problem A	Area?		Yes		No	√	Plot ID:	40
(If needed, expl	ain on reverse	e.)							
EGETATION								l	
Dominant Plant Sp		Stratum	Indicator	Domin	ant Pla	nt Specie	es	Stratum	Indicator
Agrostis stolonifera Trifolium repens		Herb Herb	FACW FAC(1996)						
3. Rumex sp.		Tielb	1 AC(1990)					_	-
4.				1				_	
5.								_	
6.								_	
7.								_	
7. 8.									
8.	ecies that are OBL	., FACW or FAC (ex	ccluding FAC-).	/= 100%					
8. ercent of Dominant Speemarks: Vegetative crit	terion is met. Dor	minant vegetation is	greater than 50% hyd	rophytic. <i>Trifoli</i>	ium rep	ens was li urrence w	isted as a	FACU+ in the 1988 Nands and uplands.	National List, but in the d
8. ercent of Dominant Spe emarks: Vegetative crit 996 list, it was listed as a	terion is met. Dor	minant vegetation is	greater than 50% hyd	rophytic. <i>Trifoli</i>	ium rep	ens was li urrence w	isted as a	FACU+ in the 1988 Nands and uplands.	
8. ercent of Dominant Spe emarks: Vegetative crit 996 list, it was listed as a	terion is met. Dor FAC species within	minant vegetation is	greater than 50% hyd grees better with our o	rophytic. <i>Trifoli</i> bservations on	its occ	ens was li urrence w	vithin wetl	ands and uplands.	Vational List, but in the d
8. ercent of Dominant Spe emarks: Vegetative crit 996 list, it was listed as a	terion is met. Dor FAC species within Recorded Data	minant vegetation is n California, which ag a (Describe in Rema Stream, Lake or Tie	greater than 50% hyd grees better with our o arks): de Gauge	rophytic. <i>Trifoli</i> bservations on	wetlar	urrence w	ogy Indi	ands and uplands. cators:	National List, but in the di
8. ercent of Dominant Spe emarks: Vegetative crit 996 list, it was listed as a	terion is met. Dor FAC species within Recorded Data	minant vegetation is n California, which a	greater than 50% hyd grees better with our o arks): de Gauge	rophytic. <i>Trifoli</i> bservations on	wetlar	urrence w	vithin wetl	ands and uplands. cators:	National List, but in the d
8. ercent of Dominant Spe emarks: Vegetative crit 996 list, it was listed as a	rerion is met. Dor FAC species within Recorded Data	minant vegetation is n California, which ag a (Describe in Rema Stream, Lake or Tie	greater than 50% hyd grees better with our o arks): de Gauge	rophytic. <i>Trifoli</i> bservations on	wetlar	urrence w	ogy Indicators	ands and uplands. cators:	
8. ercent of Dominant Spe emarks: Vegetative crit 996 list, it was listed as a	rerion is met. Dor FAC species within Recorded Data	minant vegetation is a California, which as a (Describe in Rema Stream, Lake or Ti Aerial Photograph:	greater than 50% hyd grees better with our o arks): de Gauge	rophytic. <i>Trifoli</i> bservations on	wetlar	urrence w	logy Indicators Inunc	ands and uplands. cators: :	
ercent of Dominant Specemarks: Vegetative crit 996 list, it was listed as a	Recorded Data	minant vegetation is a California, which as a (Describe in Rema Stream, Lake or Ti Aerial Photograph:	greater than 50% hyd grees better with our o arks): de Gauge	rophytic. <i>Trifoli</i> bservations on	wetlar	urrence w	logy Indicators Inunc	ands and uplands. cators: : lated ated in Upper 12 inc	
ercent of Dominant Spe emarks: Vegetative crit 996 list, it was listed as a YDROLOGY	Recorded Data No Recorded E	minant vegetation is a California, which as a (Describe in Rema Stream, Lake or Ti Aerial Photograph:	greater than 50% hyd grees better with our o arks): de Gauge	rophytic. <i>Trifoli</i> bservations on	wetlar	urrence w	logy Indidicators Inunc Satur Wate	ands and uplands. cators: : lated ated in Upper 12 inc	
8. ercent of Dominant Speemarks: Vegetative crit 396 list, it was listed as a 4/DROLOGY	Recorded Data No Recorded E	a (Describe in Rema Stream, Lake or Ti Aerial Photograph: Other	greater than 50% hyd grees better with our o arks): de Gauge s	rophytic. Trifoli	Wetlar	ad Hydrol	logy Indiadicators Inunc Satur Watee Drift I Sedir Drain	ands and uplands. cators: : lated ated in Upper 12 inc r Marks Lines nent Deposits age Patterns in Wetl	hes
8. ercent of Dominant Speemarks: Vegetative critical 296 list, it was listed as a second of the critical 296 list, it was	Recorded Data No Recorded E	a (Describe in Rema Stream, Lake or Ti Aerial Photograph: Other	greater than 50% hyd grees better with our o arks): de Gauge	rophytic. <i>Trifoli</i> bservations on	Wetlar	ad Hydrol	logy Indicators Inunc Satur Wate Drift Sedir Drain	cators: : lated ated in Upper 12 inc r Marks Lines nent Deposits age Patterns in Wetl ors (2 or more requir	hes ands red):
8. Percent of Dominant Spectemarks: Vegetative crit 996 list, it was listed as a YDROLOGY Field Observations: Depth of Su	Recorded Data No Recorded E	a (Describe in Remanda Photographa Other Data Available	greater than 50% hyd grees better with our o	rophytic. <i>Trifoli</i> bservations on	Wetlar	ad Hydrol	logy Indicators Satur Wate Drift I Sedir J Drain y Indicator	cators: : lated ated in Upper 12 inc r Marks Lines nent Deposits age Patterns in Wetl ors (2 or more requir	hes ands red):
8. Percent of Dominant Spectemarks: Vegetative crit 996 list, it was listed as a YDROLOGY Field Observations: Depth of Su	Recorded Data No Recorded E	a (Describe in Remanda Photographa Other Data Available	greater than 50% hyd grees better with our o arks): de Gauge s	rophytic. Trifoli	Wetlar	ad Hydrol	ogy Indidicators Inunc Satur Wate Drift I Sedir Drain Undicators	cators: : lated ated in Upper 12 inc r Marks Lines nent Deposits age Patterns in Wetl ors (2 or more requir	hes ands red):

Remarks: Hydrologic criterion is met. Sampling was conducted in mid February, 17 days after the last significant period of rainfall (1.74 inches). Prior to this rain event, the month of January had been pretty wet. Water depth in nearby groundwater monitoring well (EP4) was at 29 inches below the ground surface at time of sampling. There were abundant oxidized pore channels, however, these pastures are irrigated during the summer, so these features are unreliable. Primary hydrologic sources for this area appear to be precipitation, surface run-off from adjacent uplands, and, to a lesser extent, groundwater. Despite the fact that the groundwater table exceeded 12-18 inches 17 days after the last rainfall, it appears that precipitation ponds on the soil surface, permeating at least the 0 1 inch of the soil, long enough to create wetland hydrologic conditions within the root zone of these plant species. It is very possible that the dense, matted roots of some of the rhizomatous pasture grasses actually promote ponding by limiting the amount of water that leaches down into the lower soil horizons. Once the hole was dug, a substantial amount of water from the soil surface ran down into the hole, practically filling it.

Other (Explain in Remarks)

SOII S

SUILS								
Map Unit Na	ime							
(Series and	(Series and Phase): Blucher-Cole complex, 2 to 5 perce		to 5 percent slopes	Drainage Class:				
Taxonomy (Taxonomy (Subgroup):			Field Observations Confirm Mapped Type? Yes √ No				
Profile Desc	ription							
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions	,		
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.			
0-14	A/B	10YR 3/2		Abundant oxidation features	Clay loam			
Hydric Soil I	ndicators:							
_	Histosol		Concretions					
_	Histic Epipedo	on	High Organic Con	tent in Surface Layer in Sandy Soils				
_	Sulfidic Odor	_	Organic Streaking	ı in Sandy Soils				
	Aquic Moistur	e Regime	Listed on Local H	ydric Soils List				
_	Reducing Con	ditions	Listed on Nationa	l Hydric Soils List				
_	Gleyed or Low	y-Chroma Colors	Other (Explain in	marks)				
		appears to be met. Soil had be soil is flood irrigated during		a low chroma of (2) with abundant oxida	tion features, although the	oxidation features must		
WETLAND	DETERMINATI	ON						
Hydronhytic	: Vegetation Present	? √ Yes	No					
, , ,	drology Present?	√ Yes	— No					
		<u></u>		le this Comming Daint Within a Wetle		Na		
Hydric Soils		_√ Yes	No	Is this Sampling Point Within a Wetla		No		
precipitation after the last	n, surface run-off fro t rainfall, it appears t	m adjacent uplands, and, t	to a lesser extent, grount the soil surface, perm	 Giacomini Ranch. Primary hydrologi indwater. Despite the fact that the gro leating at least the top 1 inch of the so t species. 	undwater table exceede	d 12-18 inches 17 days		

		(1987	7 COE Wetland	ds Delinea	tion Manua	I)		
Project/Site:	Giacomini W	etland Restora	tion Project, Gia	comini Rand	ch, Point Reye	es	Date:	2/11/03
Applicant/Owner:	Point Reyes	National Seas	hore				County:	Marin
Investigator:	Lorraine Par	sons and Lesli	e Allen				State:	CA
Site Location: Eastern portion of East Pasture of Giacomini Rnch								
Do Normal Circum	Do Normal Circumstances exist on the site? Yes √ No						Community	Adjacent Wetland
Is the site significantly disturbed (Atypical Situation)?					No	1	Transect ID:	
Is the area a poten	Is the area a potential Problem Area?			Yes	No	1	Plot ID:	41
(If needed, expl	(If needed, explain on reverse.)							
VEGETATION								
Dominant Plant Sp		Stratum	Indicator	Domin	nant Plant Specie	es	Stratum	Indicator
Agrostis stolonifera		Herb	FACW					
2. Festuca arundinace	ea	Herb	FAC-				_	_
3. Rumex sp.				<u> </u>				
4.								
5.								
6. 7.								
8.							_	
•							_	
Percent of Dominant Spe	cies that are OBL	, FACW or FAC (e	xcluding FAC-).	/= 50%				
Remarks: Vegetative crit	terion is met. Do	minant vegetation is	s <u>equal to</u> 50% hydro	ohytic.				
HYDROLOGY								
	Recorded Data	(Describe in Ren	narks):		Wetland Hydrol	logy Indic	ators:	
		Stream, Lake or T			Primary Indicators:			
		Aerial Photograpl	ıs		Inundated			
		Other			√	Satura	nted in Upper 12 inc	hes
\checkmark	No Recorded [Data Available				Water	Marks	
						— Drift L	ines	
Field Observations:						Sedim	ent Deposits	
						Draina	ige Patterns in Wet	ands
Depth of Su	ırface Water:	-		(in.)	Secondar	y Indicato	rs (2 or more requi	red):
						Oxidiz	ed Root Channels i	n Upper 12 inches
Depth to Fr	ee Water in Pit:		9	(in.)		Water	Stained Leaves	
						Local	Soil Survey Data	
Depth to Sa	turated Soil:			(in.)		FAC-N	leutral Test	
						Other	(Explain in Remark	s)

Remarks: Hydrologic criterion is met. Sampling was conducted in mid February,17 days after the last significant period of rainfall (1.74 inches). Prior to this rain event, the month of January had been pretty wet. Water depth in nearby groundwater monitoring well (EP1) was at 9.5 inches below the ground surface at time of sampling. There were abundant oxidized pore channels, however, these pastures are irrigated during the summer, so these features are unreliable. Primary hydrologic sources for this area appear to be groundwater, which is recharged by diverted creek flow from Tomasini Creek and seep flow from the Point Reyes Mesa, as well as precipitation and surface run-off from adjacent uplands.

SOII S

SUILS									
Map Unit Na	me								
(Series and F	Phase):	Novato Clay		Drainage Class:					
Taxonomy (§	Subgroup):			Field Observations Confirm Mapped Type? Yes √ No					
Profile Desci	ription								
Depth		Matrix Color	Matrix Color Mottle Colors Mottle		Texture, Concretions,				
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.				
0-14	A/B	10YR 3/2		Abundant oxidation features	Clay loam				
Hydric Soil II	ndicators: Histosol		Concretions						
_	Histic Ep	inedon _		ntent in Surface Layer in Sandy Soils					
-	Sulfidic (· ·	Organic Streakin	•					
_		- pisture Regime	Listed on Local F	<u> </u>					
_		g Conditions		al Hydric Soils List					
_		r Low-Chroma Colors	Other (Explain in	•					
-		-							
		rion appears to be met. Soil ha hat the soil is flood irrigated durin		d a low chroma of (2) with abundant oxida	tion features, although the oxidation features must				
WETLAND	DETERMIN	NATION							
' ' '	Vegetation Pro Irology Present Present?		No No No	Is this Sampling Point Within a Wetla	ınd? <u>√</u> Yes No				
	, which is rech			ne Giacomini Ranch. Primary hydrologi nd seep flow from the Point Reyes Mes	ic sources for this area appear to be sa, as well as precipitation and surface run-off				

DATA FORM

Project/Site:	Giacomini V	Vetland Restora	ation Project, Giac	omini Ranch,	, Point Rey	es	Date:	2/11/03
Applicant/Owner:	Point Reyes	s National Seash	hore				County:	Marin
Investigator:	Lorraine Par	rsons and Leslie	e Allen				State:	CA
Site Location:	Eastern por	tion of East Pas	sture of Giacomini	Rnch				
Do Normal Circum	stances exist	t on the site?		Yes	√ No		Community	Adjacent Wetland
s the site significa	ntly disturbe	d (Atypical Site	uation)?	Yes	No	√	Transect ID:	-
s the area a potent	tial Problem /	Area?		Yes	No	√	Plot ID:	42
(If needed, expl	ain on revers	ie.)		_				
GETATION								
Dominant Plant Sp	Indicator	Dominan	nt Plant Speci	es	Stratum	Indicator		
1. Agrostis stolonifera Herb FACW			FACW					
2. Hordeum brachyani	therum	Herb	FACW				·	
3.				<u> </u>			·	
4.							·	
5.							<u> </u>	
6.								_
7.							<u> </u>	
8	<u></u> _							
rcent of Dominant Spe	cies that are OBI	L, FACW or FAC (e	xcluding FAC-).	/= 100%			<u> </u>	
emarks: Vegetative crit	erion is met. Do	minant vegetation is	s greater than 50% hyd	drophytic.				<u></u>
DROLOGY								
DROLOGI	Recorded Dat	ta (Describe in Rem		w	Vetland Hydro	loav Indica	ators:	
<u> </u>	_	=	-		=	ndicators:		
Stream, Lake or Tide Gauge Aerial Photographs						Inunda	ıted	
	Other				<u> </u>	Satura	ted in Upper 12 inc	hes
√	No Recorded					Water	Marks	
	No Recorded					_		
	_					Drift Li	ines	
√ Field Observations:	_					Drift Li	ines ent Deposits	ands
Field Observations:	_			(in.)	Secondar	Drift Li Sedime	ines	

Remarks: Hydrologic criterion is met. Sampling was conducted in mid February,17 days after the last significant period of rainfall(1.74 inches). Prior to this rain event, the month of January had been pretty wet. Water depth in nearby groundwater monitoring well (EP1) was at 9.5 inches below the ground surface at time of sampling. Algal matting, a secondary indicator, was also present. Primary hydrologic sources for this area appear to be groundwater, which is recharged by diverted creek flow from Tomasini Creek and seep flow from the Point Reyes Mesa, as well as precipitation and surface run-off from adjacent uplands.

(in.)

(in.)

Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test

Other (Explain in Remarks)

8.5 - 9

Depth to Free Water in Pit:

Depth to Saturated Soil:

SOILS										
Map Unit Name	9									
(Series and Ph	ase): Nova	ato Clay		Drainage Class:						
Taxonomy (Su	bgroup):			Field Observations Confirm Ma	apped Type? Yes √ No					
Profile Descrip	tion									
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-14	A/B	10YR 3/2		Abundant oxidation features	Clay loam					
Hydric Soil Ind	licators:									
	Histosol	_	Concretions							
	Histic Epipedor	n	High Organic Cor	ntent in Surface Layer in Sandy Soils						
	Sulfidic Odor	_	Organic Streaking in Sandy Soils							
	Aquic Moisture	Regime	Listed on Local Hydric Soils List							
	Reducing Cond	ditions	Listed on National Hydric Soils List							
_	Gleyed or Low-	-Chroma Colors	Other (Explain in Remarks)							
		opears to be met. Soil had soil is flood irrigated during		I a low chroma of (2) with abundant oxidat	tion features, although the oxidation features must					
WETLAND [DETERMINATION	ON								
Hydrophytic Ve	egetation Present?	Yes <u>√</u> Yes	No							
Wetland Hydro	logy Present?	√ Yes	No							
Hydric Soils Pr	resent?	√ Yes	No	Is this Sampling Point Within a Wetlar	nd? <u>√</u> Yes No					
	which is recharged			ne Giacomini Ranch. Primary hydrologiond seep flow from the Point Reyes Mesa	c sources for this area appear to be a, as well as precipitation and surface run-off					

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual

		(1987	COE Wetland	ls Delinea	tion N	<i>l</i> lanual)		
Project/Site:	Giacomini W	etland Restora	tion Project, Oler	ma Marsh, I	Point R	Reyes		Date:	8/10/04
Applicant/Owner:	Point Reyes	National Seash	nore					County:	Marin
Investigator:	Lorraine Par	sons and Amy	Langston					State:	CA
Site Location:	Eastern port	ion of Olema M	arsh adjacent to	Olema Cre	ek				
Do Normal Circums	stances exist	on the site?		Yes	√	No		Community	Upland
Is the site significa	ntly disturbed	d (Atypical Situ	uation)?	Yes		No	1	Transect ID:	
Is the area a potent	tial Problem <i>A</i>	Area?		Yes		No		Plot ID:	43
(If needed, expl			-						
VEGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domii	nant Pla	nt Specie	s	Stratum	Indicator
Salix lasiolepis		Tree	FACW					_	
2. Rubus ursinus		Shrub	FACW						
3.									
4.								_	
5.								_	
6.								_	
7.								_	
8									
Percent of Dominant Spe	cies that are OBL	., FACW or FAC (e	xcluding FAC-).	/= 100%					
Remarks: Vegetative crit	erion is met. Do	minant vegetation is	greater than 50% hy	drophytic.					
HYDROLOGY									
	Recorded Data	a (Describe in Rem	arks):		Wetlan	d Hydrol	ogy Indic	ators:	
		Stream, Lake or Ti	ide Gauge		Р	rimary In	dicators:		
		Aerial Photograph	IS		_		Inund	ated	
		Other					Satura	ated in Upper 12 incl	hes
\checkmark	No Recorded I	Data Available					Water	Marks	
	_						_ Drift L	ines	
Field Observations:					<u> </u>		Sedin	ent Deposits	
					_		_	age Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	s	econdary	_	rs (2 or more requir	
•				_ ` ′		•		ed Root Channels in	·
Depth to Fre	ee Water in Pit:		8.5 - 9	(in.)			_	-Stained Leaves	-
							Local	Soil Survey Data	
Depth to Sa	turated Soil:			(in.)	_		FAC-N	leutral Test	
				_			Other	(Explain in Remarks	s)

Remarks: Hydrologic criterion is NOT met. There were no primary or secondary hydrologic indicators. Sampling was conducted in August, well past the rainy season. Sampling point is located on a floodplain terrace for Bear Valley Creek, which is perennial. It is likely that this area is flooded only episodically, and it may drain quickly when flooded.

SOILS

SUILS													
Map Unit Nam													
(Series and P	hase):	Novato Clay			Drainage Class:								
Taxonomy (S	ubgroup):				Field Observations Confirm M	lapped Type? Yes	No √						
Profile Descri	iption												
Depth	•	Matrix (Color	Mottle Colors	Mottle	Texture, Concretions,							
(inches)	Horizon	(Munse	ell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.							
0-14	A/B	10YR 3	/2		No mottles	Fill mix with loam							
Hydric Soil In	dicators:	-											
_	Histosol		_	Concretions									
_	Histic Ep	ipedon	_	High Organic Co	ontent in Surface Layer in Sandy Soils								
_	Sulfidic (Jdor	_	Organic Streaki	rganic Streaking in Sandy Soils								
	Aquic Mo	oisture Regime		Listed on Local Hydric Soils List									
_	Reducing	g Conditions	_	Listed on National Hydric Soils List									
_	Gleyed o	r Low-Chroma Colo	ors _	Other (Explain in	n Remarks)								
Remarks: Hv	dric soil crite	rion is NOT met. S	oil had a low c	hroma of (2) but the	mottling required to classify it as hydric was	s not present							
WETLAND	DETERMIN	IATION											
Hydrophytic \	Vegetation Pr	esent?	Yes	No									
Wetland Hydr	rology Presen	t?	Yes	√ No									
Hydric Soils F	Present?		Yes	√ No	Is this Sampling Point Within a Wetla	and? Yes $\sqrt{}$	No No						
Remarks: Sar quickly once		s located on a floo	dplain terrace	e adjacent to Bear Va	alley Creek in Olema Marsh that is proba	ably only episodically flooded a	and drains						

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

		(1987	COE Wetland	is Delinea	tion IV	lanual)		
Project/Site:	Giacomini W	etland Restora	tion Project, Oler	ma Marsh, F	Point R	eyes		Date:	8/10/04
Applicant/Owner:	Point Reyes I	National Seasl	nore					County:	Marin
Investigator:	Lorraine Pars	sons and Amy	Langston					State:	CA
Site Location:	Southern por	tion of Olema	Marsh adjacent to	o Olema Cr	eek				
Do Normal Circums	stances exist	on the site?		Yes	√	No		Community	Non-Tidal Wetland
Is the site significa	ntly disturbed	(Atypical Situ	uation)?	Yes		No	$\overline{\ \ }$	Transect ID:	
Is the area a potent	tial Problem A	rea?		Yes		No		Plot ID:	44A
(If needed, expl									
VEGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domir	nant Plar	nt Specie	s	Stratum	Indicator
1. Salix lasiolepis		Tree	FACW					_	
2. Stachys chamisson	OBL								
3. Athyrium filix-femina	FAC					_			
4.									
5. 6.								_	
7.								_	
8.								_	
Percent of Dominant Spe	cies that are OBI	EACW or EAC (e	veluding EAC-)	/= 100%				_	
Remarks: Vegetative crit		-	-						
HYDROLOGY									
	_	(Describe in Rem	•			d Hydrol			
		Stream, Lake or T	=		Pi	rimary Ind			
		Aerial Photograph	IS		_	1	_ Inund		
J		Other				٧	_	ated in Upper 12 inc	nes
	No Recorded D	ata Available			_		_	Marks	
=							Drift L		
Field Observations:							_	nent Deposits	
Donth of Su	rface Water			(in)		noondor.	_	age Patterns in Wetl	
Depth of Su	rface Water:			_ (in.)	30	condary		ors (2 or more requir zed Root Channels i	
Denth to Er	ee Water in Pit:			(in.)	_		_	-Stained Leaves	11 Opper 12 molles
Depui to Fit	se water in Fit.			_ '''.)			_	Soil Survey Data	
Danth to So	turated Soil:		5	(in.)	_		_	Neutral Test	
рерш ю за	turateu 3011.	_	3	_ ^{(III.})			_	veutrai Test /Evolain in Remark	e)

Remarks: Hydrologic criterion is met. The soil was still saturated despite the fact that sampling was conducted in August, well past the rainy season. Sampling point is located on a very low elevation floodplain terrace within Olema Marsh for Bear Valley Creek, which is perennial.

SOIL S

SOILS					
Map Unit Nai	me				
(Series and F	Phase): Flu	vents, Channeled		Drainage Class:	
Taxonomy (§	Subgroup):			Field Observations Confirm M	apped Type? Yes √ No ——
Profile Desci	ription				
Depth	-	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-5	A	10YR 3/2		No mottles	
5-12	A/B	10YR 2/1			
Hydric Soil II	ndicators:		Concretions		
-	Histic Epipedo			ntent in Surface Layer in Sandy Soils	
-	Sulfidic Odor		Organic Streakin	•	
_			, -	-	
_	Aquic Moistur	_	√ Listed on Local I		
_	Reducing Con	ditions	Listed on Nation	al Hydric Soils List	
_	√ Gleyed or Low	v-Chroma Colors	Other (Explain in	Remarks)	
Remarks: H	ydric soil criterion i	s met. Soil had a low chrom	a of (1) within the A ho	rizon, so mottling is not required. Also, s	oil matches mapped type, which is hydric.
WETLAND	DETERMINATI	ON			
	Vegetation Present	? $\frac{}{}$ Yes	No		
Hydric Soils	Present?	√ Yes	No	Is this Sampling Point Within a Wetla	nd? <u>√</u> Yes No
Remarks: Sa	ampling point is loca	ated on a very low elevation	n floodplain terrace w	ithin Olema Marsh for Bear Valley Cree	ek, which is perennial.

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual

		(1987	COE Wetland	s Delineat	ion N	lanual)		
Project/Site:	Giacomini W	etland Restora	tion Project, Oler	na Marsh, P	oint R	eyes		Date:	8/10/04
Applicant/Owner:	Point Reyes	National Seash	nore					County:	Marin
Investigator:	Lorraine Par	sons and Amy	Langston					State:	CA
Site Location:	Southern of 0	Olema Marsh							
Do Normal Circums	stances exist	on the site?		Yes	√	No		Community	Upland
Is the site significa	ntly disturbed	d (Atypical Situ	uation)?	Yes		No	\checkmark	Transect ID:	
Is the area a potent	tial Problem A	\rea?		Yes		No	$\overline{}$	Plot ID:	44C
(If needed, expl		•							
VEGETATION									
Dominant Plant Sp	pecies	Stratum	Indicator	Domina	ant Plai	nt Specie	s	Stratum	Indicator
Salix lasiolepis		Tree	FACW						
2. Rubus ursinus	_	Shrub	FACW					_	
3. Urtica dioica		Herb	FACW						
4.								_	
5									
6.								_	
7.								_	
8									
Percent of Dominant Spe	cies that are OBL	, FACW or FAC (e	xcluding FAC-).	/= 100%					
Remarks: Vegetative crit	erion is met. Dor	minant vegetation is	greater than 50% hyd	drophytic.					
HYDROLOGY									
	Recorded Data	(Describe in Rem	arks):		Wetlan	d Hydrol	ogy Indic	ators:	
	;	Stream, Lake or Ti	ide Gauge		P	rimary In	dicators:		
		Aerial Photograph	ıs				Inund	ated	
		Other					Satura	ated in Upper 12 incl	nes
	No Recorded D	Data Available					Water	Marks	
							Drift L	ines	
Field Observations:							Sedim	ent Deposits	
					_		_	nge Patterns in Wetl	
Depth of Su	rface Water:			_ (in.)	S	econdary		rs (2 or more requir	•
Daniel C. F.	a Matania Di			(i)			_	ed Root Channels in	n Upper 12 inches
Depth to Fre	ee Water in Pit:			_ (in.)	_		_	-Stained Leaves	
							_	Soil Survey Data	
Depth to Sa	turated Soil:	-		_ (in.)	_		_	leutral Test	,
				l			Other	(Explain in Remarks	5)

Remarks: Hydrologic criterion is NOT met. There were no primary or secondary hydrologic indicators. Sampling was conducted in August, well past the rainy season. Sampling point is located on a floodplain terrace within Olema Marsh for Bear Valley Creek, which is perennial. It is likely that this area is flooded only episodically, and it may drain quickly when flooded.

SOII S

SOILS					
Map Unit Name					
(Series and Phase):	Fluvents, Channeled		Drainage Class:		
Taxonomy (Subgroup)):		Field Observations Confirm M	lapped Type? Yes	No √
Profile Description					
Depth Hori 0-14 A/B	Matrix Color (Munsell Moist) 10YR 3/2	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast No mottles	Texture, Concretions Structure, etc. Fill rock with loam	,
Hist Sulf Aqu Red Gley Remarks: Hydric soil	osol ic Epipedon idic Odor ic Moisture Regime ucing Conditions yed or Low-Chroma Colors criterion is NOT met. Soil had a lov	Organic Streakin Value Listed on Local F Listed on Nationa Other (Explain in	lydric Soils List al Hydric Soils List		obably been filled
WETLAND DETER	RMINATION				
Hydrophytic Vegetatio	on Present? Yes	No			
Wetland Hydrology Pr	esent? Yes	√ No			
Hydric Soils Present?	Yes	√ No	Is this Sampling Point Within a Wetla	ind? Yes	_√_ No
Remarks: Sampling po quickly once flooded.	oint is located on a floodplain terr	ace adjacent to Bear Va	lley Creek in Olema Marsh that is prob	ably only episodically flo	oded and drains

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

		(1967	COE Wetlan	us Delinea	ation	Mariua	')			
Project/Site:	Giacomini W	Giacomini Wetland Restoration Project, Olema Mar						Date:	8/12/04	
Applicant/Owner:	Point Reyes	National Seash	ore					County:	Marin	
Investigator:	Lorraine Pars	sons and Amy L	angston					State:	CA	
Site Location:	Western port	ion of Olema M	arsh					1		
Do Normal Circum	stances exist	on the site?		Yes	√	No		Community	Non-Tidal Wetland	
Is the site significa	ntly disturbed	(Atypical Situ	ation)?	Yes		No	1	Transect ID:		
Is the area a poten	tial Problem A	rea?		Yes		No	_√	Plot ID:	45A	
(If needed, expl	ain on reverse	e.)								
VEGETATION								•		
Dominant Plant Sp	pecies	Stratum	Indicator	Domi	inant P	ant Speci	es	Stratum	Indicator	
1. Alnus rubra		Tree	FACW	┥ —						
2. Stachys chamisson	llS	Herb	OBL	┥ —						
3. 4.								_		
5.				┪ —				_		
6.				 				_		
7.	-									
8.										
Percent of Dominant Spe	cies that are OBL	FACW or FAC (ex	cluding FAC-).	/= 100%						
Remarks: Vegetative crit ursinus (FACW).	terion is met. Dor	ninant vegetation is	greater than 50% h	ydrophytic. Oth	her spec	ies preser	nt include i	Ribes sp., Urtica dioid	a (FACW), and <i>Rubus</i>	
HYDROLOGY										
	_	(Describe in Rema	=			ınd Hydro Primary Ir				
		Stream, Lake or Tid Aerial Photographs	_			riillary II	Inund			
		Other			-		_	ated in Upper 12 inc	hes	
V	No Recorded D				-			Marks		
		ata / tranasio			-		— Drift L			
Field Observations:					-		— Sedin	nent Deposits		
					-		— Drain	age Patterns in Wetl	ands	
Depth of Su	ırface Water:			(in.)		Secondar		ors (2 or more requir		
						√	Oxidi	zed Root Channels i	n Upper 12 inches	
Depth to Fre	ee Water in Pit:	2	0-22	(in.)			Water	-Stained Leaves		
							Local	Soil Survey Data		
Depth to Sa	turated Soil:	1	5-20	(in.)			FAC-I	Neutral Test		
					_		Other	er (Explain in Remarks)		

Remarks: Hydrologic criterion would appear to be met. The soil was still saturated at 15-20" despite the fact that sampling was conducted in August, well past the rainy season. It is likely that saturation would be within the top 12" 14 to 18 days after the last rainfall. Also, there were distinct and common oxidized pore channels. Sampling point is located on a very low elevation floodplain terrace within Olema Marsh for Bear Valley Creek, which is perennial.

SOILS

Map Unit Nar	me				
Series and P	Phase): Fluv	vents, Channeled		Drainage Class:	
Гахопоту (S	Subgroup):			Field Observations Confirm M	apped Type? Yes √ No
Profile Descr	ription				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.
0-22	A/B	10YR 2/1		No mottles	Clay loam with pockets of sand
Hydric Soil Ir	ndicators:		Concretions		
	111310301	_		ent in Surface Layer in Sandy Soils	
_	Histic Eninedo	n			
_	Histic Epipedo Sulfidic Odor	<u> </u>	_		
- - -	Sulfidic Odor	_	Organic Streaking	in Sandy Soils	
- - -	Sulfidic Odor Aquic Moisture	e Regime	Organic Streaking √ Listed on Local Hy	in Sandy Soils dric Soils List	
- - - -	Sulfidic Odor Aquic Moisture Reducing Con	Regime ditions	Organic Streaking Listed on Local Hy Listed on National	in Sandy Soils dric Soils List Hydric Soils List	
- - - -	Sulfidic Odor Aquic Moisture Reducing Con	e Regime	Organic Streaking √ Listed on Local Hy	in Sandy Soils dric Soils List Hydric Soils List	
	Sulfidic Odor Aquic Moisture Reducing Cone Gleyed or Low	e Regime ditions -Chroma Colors	Organic Streaking Listed on Local Hy Listed on National Other (Explain in R	in Sandy Soils dric Soils List Hydric Soils List	tches mapped type, which is hydric.
	Sulfidic Odor Aquic Moisture Reducing Cone Gleyed or Low ydric soil criterion is	e Regime ditions -Chroma Colors met. Soil had a low chrom	Organic Streaking Listed on Local Hy Listed on National Other (Explain in R	in Sandy Soils dric Soils List Hydric Soils List emarks)	tches mapped type, which is hydric.
	Sulfidic Odor Aquic Moisture Reducing Cone Gleyed or Low	e Regime ditions -Chroma Colors met. Soil had a low chrom	Organic Streaking Listed on Local Hy Listed on National Other (Explain in R	in Sandy Soils dric Soils List Hydric Soils List emarks)	tches mapped type, which is hydric.
/ETLAND	Sulfidic Odor Aquic Moisture Reducing Cone Gleyed or Low ydric soil criterion is	e Regime ditions -Chroma Colors s met. Soil had a low chrom	Organic Streaking Listed on Local Hy Listed on National Other (Explain in R	in Sandy Soils dric Soils List Hydric Soils List emarks)	tches mapped type, which is hydric.
VETLAND	Sulfidic Odor Aquic Moisture Reducing Cone Gleyed or Low ydric soil criterion is	e Regime ditions -Chroma Colors s met. Soil had a low chrom	Organic Streaking Listed on Local Hy Listed on National Other (Explain in R a of (1) within the A horiz	in Sandy Soils dric Soils List Hydric Soils List emarks)	tches mapped type, which is hydric.

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

		(1987	COE Wetland	is Delinea	ation M	anuai)		
Project/Site:	Giacomini W	Vetland Restora	tion Project, Ole	ma Marsh,	Point Re	eyes		Date:	8/12/04
Applicant/Owner:	Point Reyes	National Seash	ore					County:	Marin
Investigator:	Lorraine Par	rsons and Amy I	_angston					State:	CA
Site Location:	Westen port	ion of Olema M	arsh						
Do Normal Circums	stances exist	on the site?		Yes		No		Community	Upland
Is the site significa	ntly disturbed	d (Atypical Situ	ation)?	Yes		No		Transect ID:	
Is the area a potent				Yes		No		Plot ID:	45C
(If needed, expl	ain on revers	e.)							
VEGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domi	nant Plan	t Specie	:S	Stratum	Indicator
Salix lasiolepis		Tree	FACW						
2. Umbellularia califori	5.4							_	
3. Rubus ursinus Shrub FACW							_		
4. Rubus parviflorus Shrub FAC+								_	
5.			-						
6. 7.			-					_	
8.	_							_	
Percent of Dominant Spe	cies that are ORI	EACW or EAC (ex	reluding EAC-)	/= 100%					
Remarks: Vegetative crit (FACW), and Alnus rubra (minant vegetation is	greater than 50% hy	drophytic. Oth	her specie	s presen	t include	Stachys chamissonis	(OBL), Urtica dioica
	Recorded Data	a (Describe in Rem	arks):		Wetland	d Hydrol	ogy Indic	cators:	
		Stream, Lake or Ti	de Gauge		Pri	imary In	dicators	:	
		Aerial Photograph	s		_		Inund	ated	
		Other					Satur	ated in Upper 12 inc	hes
	No Recorded	Data Available					Water	Marks	
					<u> </u>		Drift L	ines	
Field Observations:						√	Sedin	nent Deposits	
							Drain	age Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	Se	condary		ors (2 or more requir	-
Bootle -				<i>(</i> *	_		_	zed Root Channels i	n Upper 12 inches
Depth to Fre	ee Water in Pit:			^(in.)	-		_	-Stained Leaves Soil Survey Data	
Denth to Sa	turated Soil:			(in.)	_		_	Neutral Test	
Deptii to Sa				_ ',	_		_	(Explain in Remark	s)
Remarks: Hydrologic crit	erion appears to	be met. Sediment	deposits, a primary	indicator, we	re presen	t, but the	ere were	no other primary or	secondary indicators,

Remarks: Hydrologic criterion appears to be met. Sediment deposits, a primary indicator, were present, but there were no other primary or secondary indicators, suggesting that these may result from episodic flooding events on this higher elevation floodplain terrace that have recurrence intervals greater than 2 years. Sampling was conducted in August, well past the rainy season. Sampling point is located on a floodplain terrace within Olema Marsh for Bear Valley Creek, which is perennial.

SOILS										
Map Unit Nan	ne									
(Series and P	hase): Flu	vents, Channeled		Drainage Class:						
Taxonomy (S	ubgroup):			Field Observations Confirm Ma	lapped Type? Yes No √	!				
Profile Descri	iption					_				
Depth		Matrix Color	Mottle Colors	Mottle	Texture, Concretions,					
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Size/Contrast	Structure, etc.					
0-14	A/B	10YR 2/2		No mottles	Loam					
						4				
Hydric Soil In	dicators:									
_	Histosol	_	Concretions							
_	Histic Epipedo	n	` `	ntent in Surface Layer in Sandy Soils						
_	Sulfidic Odor	_	Organic Streaking	g in Sandy Soils						
	Aquic Moisture	e Regime	Listed on Local Hydric Soils List							
_	Reducing Con-	ditions	Listed on National Hydric Soils List							
	Gleyed or Low	-Chroma Colors	Other (Explain in	Remarks)						
		s NOT met. Soil had a low eent road construction (Bea		e mottling required to classify it as hyd	dric was not present. Area has probably been					
WETLAND	DETERMINATION	ON								
Hydrophytic \	Vegetation Present	? _√_ Yes	No							
Wetland Hydr	rology Present?	Yes	√ No							
Hydric Soils I	Present?	Yes	√ No	Is this Sampling Point Within a Wetla	nd? Yes√_ No					
	mpling point is loca uickly once flooded.		floodplain terrace adj	iacent to Bear Valley Creek in Olema M	larsh that is probably only episodically flooded	k				

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

		(1907	COL Welland	3 Delilica	LIOI1	viai idai j			
Project/Site:	Giacomini V	Vetland Restora	tion Project, Oler	na Marsh, I	Point F	Reyes		Date:	8/17/04
Applicant/Owner:	Point Reyes	National Seash	nore					County:	Marin
Investigator:	Lorraine Pa	rsons and Amy	Langston					State:	CA
Site Location:	Northwester	rn portion of Ole	ma Marsh						
Do Normal Circums	stances exist	on the site?		Yes	_√	No		Community	Non-Tidal Wetland
Is the site significa	ntly disturbe	d (Atypical Situ	uation)?	Yes		No		Transect ID:	
Is the area a potent	ial Problem	Area?		Yes		No	_√	Plot ID:	46
(If needed, expl	ain on revers	se.)							
VEGETATION									
Dominant Plant Sp	ecies	Stratum	Indicator	Domir	nant Pla	nt Species	3	Stratum	Indicator
1. Alnus rubra	 	Tree	FACW						
2. Scrophularia califori	nica	Herb	FAC					_	
3. Carex sp.								-	
5.			-					<u> </u>	<u> </u>
6.			-					_	
7.			-					<u> </u>	<u> </u>
8.									
Percent of Dominant Spe	cies that are OBI	L, FACW or FAC (ex	xcluding FAC-).	/= 100%					
Remarks: Vegetative crit (OBL), and <i>Digitalis purpur</i>		ominant vegetation is	g <u>reater than</u> 50% hyd	drophytic. Oth	er speci	es present i	include F	Ribes sp., Juncus pate	ens (FAC), Juncus balticus
HYDROLOGY	Pocordod Dat	a (Describe in Rem	arke).		Wotlar	ad Hydrolo	av India	atore	
	_ Recorded Dat	Stream, Lake or Ti	•			nd Hydrolo Primary Ind			
		Aerial Photograph	=			-	Inunda		
		Other					Satura	nted in Upper 12 incl	nes
\checkmark	No Recorded	Data Available					Water	Marks	
						√	Drift L	ines	
Field Observations:					_	√	- Sedim	ent Deposits	
					_	•	- Draina	ge Patterns in Wetl	ands
Depth of Su	rface Water:			(in.)	S	Secondary	Indicato	rs (2 or more requir	ed):
							Oxidiz	ed Root Channels in	n Upper 12 inches
Depth to Fre	ee Water in Pit:			(in.)	_		Water	Stained Leaves	
					_		_	Soil Survey Data	
Depth to Sa	turated Soil:	-		_ (in.)	_		_	leutral Test	
					_		Other	(Explain in Remarks	5)
Remarks: Hydrologic crit secondary indicators. We suggests that it is flooded	hile it is possible	that these sedime	nt deposits and wrac						

SOII S

Map Unit Nan	ne			
(Series and P	hase): Nova	ato Clay		Drainage Class:
Taxonomy (S	ubgroup):			Field Observations Confirm Mapped Type? Yes No $\sqrt{}$
Profile Descri	iption			
Depth		Matrix Color	Mottle Colors	Mottle Texture, Concretions,
inches)	Horizon	(Munsell Moist)	(Munsell Moist	
0-15	A/B	10YR 3/1		No mottles Very sandy soil – flood deposit material
Hydric Soil In	dicators:		Concretions	
_	Histic Epipedor	ı _	_	Content in Surface Layer in Sandy Soils
_	Sulfidic Odor	_	_ -	ing in Sandy Soils
_	Aquic Moisture	Regime	√ Listed on Loca	I Hydric Soils List
_	Reducing Cond	litions	Listed on Natio	nal Hydric Soils List
_	√ Gleyed or Low-	Chroma Colors	Other (Explain	in Remarks)
Remarks: Hy	dric soil criterion is	met. Soil had a low chro	ma of (1) within the	A horizon, so mottling is not required. Soil matches mapped type, which is hydric.
VETLAND	DETERMINATIO	ON		
Hydrophytic \	Vegetation Present?	√ Yes	No	
	rology Present?	√ √ Yes	No	
Hydric Soils I		√ Yes	No	Is this Sampling Point Within a Wetland? \(\sqrt{Yes} \) No
•		_ 		e within Olema Marsh for Bear Valley Creek, which is perennial.

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

		(198	7 COE Wetland	s Delinea	tion I	/lanual)		
Project/Site:	Giacomini W	etland Restor	ation Project, Olen	na Marsh, F	Point F	Reyes		Date:	8/17/04
Applicant/Owner:	Point Reyes	National Seas	shore					County:	Marin
Investigator:	Lorraine Par	rsons and Amy	Langston					State:	CA
Site Location:	Depressiona	al feature in gra	asslands east of O	ema Marsl	h				
Do Normal Circum	stances exist	on the site?		Yes	√	No		Community	Isolated Wetland
Is the site significa	ntly disturbed	d (Atypical Sit	tuation)?	Yes		No		Transect ID:	-
Is the area a poten			•	Yes	$\overline{}$	No		Plot ID:	47
(If needed, expl	ain on revers	e.)				-		1	
EGETATION									
Dominant Plant Sp	pecies	Stratum	Indicator	Domir	nant Pla	nt Specie	s	Stratum	Indicator
Holcus lanatus	_	Herb	FAC					_	
2. Mentha pulegium		Herb	OBL						
3. Lotus corniculatus		Herb	FAC						
4. Agrostis stolonifera	?	Herb	FACW						
5. Lolium perenne		Herb	FAC						
6. Cyperus eragrostis		Herb	FACW	-					
7.									
8.								_	
Percent of Dominant Spe Remarks: Vegetative crit		•		/= 100% rophytic.					
	Recorded Data	a (Describe in Rei	marks):		Wetlar	nd Hydrol	ogy Indic	cators:	
		Stream, Lake or	Tide Gauge		F	rimary In	dicators	:	
		Aerial Photograp	hs				Inund	ated	
		Other					Satur	ated in Upper 12 inc	hes
√	No Recorded	Data Available				_	Water	Marks	
							Drift L	ines	
Field Observations:					_		Sedin	nent Deposits	
					_	√	— Drain	age Patterns in Wetl	ands
Depth of Su	ırface Water:			(in.)	-	econdary		ors (2 or more requir	
200 31 00				_		√		zed Root Channels i	•

Remarks: Hydrologic criterion would appear to be met. Drainage patterns, a primary indicator, and oxidized pore channels, a secondary indicator, were present. There were no other primary or secondary indicators, but sampling was conducted in August. Compaction of the soil, however, probably promotes prolonged ponding within this depressional feature, which appears to have been created. There is no outlet for the depression, so precipitation and surface run-off that enter the depressional feature appear to have no connection hydrologically with Olema Marsh.

(in.)

(in.)

Water-Stained Leaves

Local Soil Survey Data

Other (Explain in Remarks)

FAC-Neutral Test

Depth to Free Water in Pit:

Depth to Saturated Soil:

SOILS

Map Unit Nar	me						
(Series and F	Phase): Barr	nabe very gravelly loa	m, 30 to 50 perce	nt Drainage Class:			
Taxonomy (S	Subgroup):			Field Observations Confirm M	apped Type? Yes	No .	√
Profile Descr	ription						
Depth (inches) 0-6	Horizon A	Matrix Color (Munsell Moist) 10YR 3/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast Common/Distinct	Texture, Concretions, Structure, etc. Soil very compacted		
Hydric Soil Ir	ndicators:						
_	Histosol	_	Concretions				
_	Histic Epipedo Sulfidic Odor	n	High Organic Col Organic Streakin	ntent in Surface Layer in Sandy Soils			
_				•			
_	Aquic Moisture	_	Listed on Local F				
_	Reducing Cond	_		al Hydric Soils List			
_	√ Gleyed or Low	-Chroma Colors	Other (Explain in	Remarks)			
Remarks: Hy	ydric soil criterion is	met. Soil had a low chron	ma of (1) within the A	horizon, so mottling is not required.			
VETLAND	DETERMINATION	ON					
Hydrophytic	Vegetation Present?	? √ Yes	No				
	rology Present?	√ √ Yes	— No				
Hydric Soils		√ √ Yes	No No	Is this Sampling Point Within a Wetla	ınd? √ Yes	No	
Soil compact				area on the east side of Olema Marsh. ydrophytic vegetation. The lack of an			i.

Appendix B. List of Plant Species Observed in the Delineation Study Area

Appendix Table B-1. List of Plant Species Observed Within the Giacomini Wetland Restoration Study Area. Initials in table columns refer to areas observed within Study Area: key is provided at back of table.

Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Aceraceae	T	1				I	I						1	I		
Acer negundo var.	box elder			X						\mathbf{X}						
californicum																
Alismataceae		ı				ı	ı							ı		
Alisma	water plantain		X	X							X					
lanceolatum																
Alisma plantago- aquatica	water plantain					X					X					
Anacardiaceae																
Toxicodendron diversilobum	poison oak		X	X		X				X						
Apiaceae		•														
Conium maculatum	poison hemlock		X	X			X					X				
Eryngium armatum						X										X
Foeniculum	fennel		X	X			X					X				
vulgare																
Heracleum	cow parsnip			X												
lanatum																
Hydrocotyle			X	X		X					X			X		
ranunculoides																
Lomatium				X												
dasycarpum																
Oenanthe			X	\mathbf{X}			X				X					
sarmentosa																
Scandix pecten-	Venus' needle					X										X
veneris																
Torilis arvensis				X								X				
Apocynaceae	•	•											•			
Vinca major	greater periwinkle			X						X						
Aquifoliaceae		1				1	ı						1			
Ilex aquifolium	English holly			X						X						X
Araliaceae																
Aralia californica	elk clover			X						X						X
Hedera helix	English ivy			X						X						X

Appendix Table B-1. List of Plant Species Observed Within the Giacomini Wetland Restoration Study Area. Initials in table columns refer to areas observed within Study Area: key is provided at back of table.

Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											<u> </u>
Asteraceae		,	1		,				, , , , , , , , , , , , , , , , , , ,				T		1	
Achillea	yarrow					X										X
millefolium																<u> </u>
Anthemis cotula	mayweed		X	X												
Artemisia	California					X										
californica	sagebrush															<u> </u>
Artemisia	mugwort		X	X		X	X	X		X		X				
douglasiana	1.									X 7						
Baccharis	marsh baccharis									X						
douglasii Baccharis pilularis			v	▼ Z		▼ Z	v	₩.				v				
Baccnaris pilularis	coyote brush		X	X		X	X	X				X				
Carduus	Italian thistle		X	X		X							X			
pycnocephalus																
Carthamus	smooth distaff			X												
baeticus	thistle															<u> </u>
Centaurea	yellow star		X				X									
solstitialis	thistle															
Chamomilla	pineapple		X	X			X					X				
suaveolens	weed bull thistle		v	▼ Z			v					v				
Cirsium vulgare	buil thistie		X	X			X					X				-
Conyza bonariensis				X												X
Conyza canadensis	horseweed		X													<u> </u>
Cotula coronopifolia	brass-buttons		X	X		X		X	X		X				X	
Delaria odorata	Cape ivy									X						
Erechtites sp.	fireweed		X	X			X					X				
Filago gallica	herba impia			X												X
Gnaphalium luteo- album	cudweed		X	X										X		
Gnaphalium californicum	cudweed				X											
Gnaphalium palustre	cudweed			X		X					X					
Grindelia hirsutula	gumplant					X										
Grindelia stricta	gumplant		X	X	X	X		X								

Appendix Table B-1. List of Plant Species Observed Within the Giacomini Wetland Restoration Study Area. Initials in table columns refer to areas observed within Study Area: key is provided at back of table.

Scientific Name	Common	Status	Giac	omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											1
Asteraceae																
Hemizonia	hayfield					X										X
congesta ssp.	tarweed															l
congesta																<u> </u>
Hypochaeris	smooth cat's		X	X												l
glabra	ear															
Hypochaeris	rough cat's		X	X		X	X					X				X
radicata	ear															
Jaumea carnosa	jaumea		X	X	X	X		X	X							
Lactuca serriola	prickly lettuce		X	X								X				<u> </u>
Lessingia	California-					X										X
filaginifolia var.	aster															1
californica																
Madia sativa	coast tarweed		X	X			X					X				
Picris echioides	bristly ox-		X	X		X	X					X				
	tongue															l
Senecio vulgaris	ragwort		X	X												<u> </u>
Silybum marianum	milk thistle		X	X		X						X				
Sonchus asper sp.	prickly sow		X	X			X					X				
asper	thistle															
Sonchus oleraceus	common sow thistle			X			X			X						
Taraxacum officinale	dandelion		X	X		X						X	X			
Xanthium spinosum	spiny cocklebur			X		X					X					
Xanthium strumarium	cocklebur		X									X				
Azollaceae		<u> </u>	<u> </u>	1	1	1						<u> </u>	1	<u> </u>		
Azolla filiculoides			X	X							X					
Betulaceae			41			<u> </u>										
Alnus rubra	alder			X						X			I			
TIMO I WOIW	uidei			Λ						A						<u></u>
Corylus cornuta	California			X												
var. californica	hazelnut															<u></u>

Common	Status			SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
Name		East	West	Land											<u> </u>
deer fern			X								X				
			X						X						
popcorn					X										X
flower															İ
common			X												
winter cress															<u> </u>
common		X													
															<u> </u>
		X	X		X	X					X				
field mustard															
shepherd's			X												
purse															
bitter-cress		X								X					
peppergrass		X	X												İ
															<u> </u>
		X	X			X					X				
wild radish			X			X					X				
water cress		X	X							X				X	
															<u> </u>
water cress		X	X			X				X			X		
															<u> </u>
water cress										X					
		X			X										İ
inustard					1										
water starwort					X				·	X					
					1										İ
					1										İ
	deer fern popcorn flower common winter cress common wintercress black mustard field mustard shepherd's purse bitter-cress peppergrass jointed charlock wild radish water cress water cress hedge mustard	deer fern popcorn flower common winter cress common wintercress black mustard field mustard shepherd's purse bitter-cress peppergrass jointed charlock wild radish water cress water cress hedge mustard	deer fern Description	Common winter cress Dlack mustard Shepherd's purse bitter-cress X yopergrass X X x x x x x x x x	Common winter cress Dlack mustard shepherd's purse bitter-cress X X yopergrass X X X x x x x x x x	Common winter cress Dlack mustard Shepherd's purse bitter-cress X X X X X X X X X	Name	Name East West Land	Common winter cress X X X X X X X X X	Name	Name	Name	Name	Name	Name

Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Caprifoliaceae																
Lonicera hispidula var. vacillans	honeysuckle					X				X						İ
Lonicera involucrata var. ledebourii	twinberry			X		X				X						
Sambucus mexicana	blue elderberry			X								X				İ
Sambucus racemosa var. racemosa	red elderberry			X						X						
Symphoricarpos albus var. laevigatus	snowberry			X						X						
Symphoricarpos mollis	creeping snowberry			X						X						
Caryophyllaceae																
Cerastium arvense	field chickweed			X												
Cerastium fontanum ssp. vulgare	mouse-ear chickweed															
Cerastium glomeratum	mouse-ear chickweed		X	X		X										X
Silene gallica	campion		X	X								X				
Spergula arvensis ssp. arvensis	starwort			X								X				
Spergularia bocconii	sand-spurrey		X													
Spergularia macrotheca var. macrotheca	sand-spurrey		X	X				X								
Spergularia rubra	sand-spurrey		X	X			X	X			X	X				
Stellaria media	common chickweed		X													

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Scientific Name	Common	Status	Giac	omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Chenopodiaceae																
Atriplex	spearscale		X	X				X	X		X				X	
triangularis																
Chenopodium	lamb's			X						X	X					
album	quarters															
Chenopodium	Mexican tea		X									X				
ambrosioides																
Salicornia	pickleweed		X	X	X	X		X	X						X	
virginica																
Convolvulaceae			1	T	1		T		1		T		1			
Calystegia	morning glory		X	X		X	X					X				
purpurata ssp.																
purpurata																
Cucurbitaceae	I a 1:2		T	ı	1				T		T	I	1	I .	1	
Marah fabaceus	California man-root		X				X			X						
Cupressaceae																
Cupressus sp.	cypress					\mathbf{X}										
Juniperus sp.	juniper						X					X				
Cuscutaceae																
Cuscuta salina var.	dodder			X					X							
major																
Cyperaceae																
Carex barbarae	sedge		X	X						\mathbf{X}		X				
Carex densa	sedge			X		X										
Carex dudleyi	sedge					X										
Carex obnupta	sedge			X						X						
Carex praegracilis	sedge			X												
Carex subbracteata	sedge			X							X			X		
Carex tumulicola	sedge		†		 	X							†			
Cyperus eragrostis	nutsedge		X	X		X	X				X			X		
Eleocharis	spikerush		X	X		X	41				X			X	X	
macrostachya	Spikerusii		A	4		4X					A			A	A	
Scirpus acutus var.	tule		X	X							X		1			
occidentalis			1	41							4					
Scirpus americanus				X							X					

Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Cyperaceae																
Scirpus			X	X		\mathbf{X}					X					
californicus																
Scirpus maritimus			X	X		X		X	X							
Scirpus			X	X				X			X					
microcarpus																
Scirpus pungens	common threesquare			X		X		X			X			X		
Dipsacaeae																
Dipsacus fullonum	wild teasel		X								X					
Dryopteridaceae		•														
Athyrium filix-	lady fern			X						X						
femina var.																
cyclosporum																
Polystichum	western		X							\mathbf{X}						
munitum	sword fern															
Pteridium	bracken fern					X	X			X						
aquilinum var.																
pubescens																
Equisetaceae	<u> </u>		T	1	1	T			T 1		T	I	T	I		
Equisetum hyemale	common		X								X					
ssp. affine	scouring rush			T 7			T 7				***	T 7		T 7		
Equisetum	giant horsetail		X	X			X				X	X		X		
telmateia ssp. braunii																
Ericaceae																
Arbutus menziesii	madrone	I				X							I			
Euphorbiaceae	madrone					Λ										
Euphorbia lathyris	copor epurgo		X	1	1				T 1			X				
Fabaceae	caper spurge		Λ	<u> </u>	<u> </u>							Λ				
Genista	French broom	1	X	X								X				
monspessulana	1 Telicii bi bolii		Λ	A								Λ				
Lathyrus latifolius	perennial		X									X				
·	sweet pea		Λ									Λ				
Lathyrus vestitus var. vestitus	wild pea					X										

Appendix Table B-1. List of Plant Species Observed Within the Giacomini Wetland Restoration Study Area. Initials in table columns refer to areas observed within Study Area: key is provided at back of table.

Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Fabaceae																
Lotus corniculatus	birdfoot trefoil		X	X		X	X		X		X	X			X	X
Lotus formosissimus						X										X
Lupinus arboreus	yellow bush lupine		X	X								X				
Lupinus bicolor	miniature lupine		X			X						X				X
Lupinus nanus	lupine		X	X								X				
Lupinus variicolor	lupine					X										
Medicago polymorpha	California burclover		X	X		X	X					X				X
Trifolium depauperatum var. depauperatum	clover					X										X
Trifolium dubium	little hop clover		X	X		X	X					X			X	X
Trifolium fragiferum	strawberry clover		X	X		X	X				X	X	X	X		
Trifolium fucatum Trifolium oliganthum	clover		X													
Trifolium repens	white clover		X	X		X	X					X	X	X		X
Trifolium subterraneum	subterranean clover		X	X		X						X	X			X
Trifolium variegatum	clover			X							X			X		
Vicia hirsuta	vetch			X												
Vicia sativa ssp. nigra	narrow- leaved vetch		X	X		X						X				X
Vicia sativa ssp. sativa	spring vetch		X	X								X				
Vicia tetrasperma	vetch									X		X				

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Scientific Name	Common	Status	Giac	omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											l
Fagaceae																
Quercus agrifolia	coast live oak		X			X						X				
var. <i>agrifolia</i>																<u> </u>
Frankeniaceae																
Frankenia salina	alkali heath		X	X				X	X						X	
Gentianaceae																
Centaurium	centaury					X										X
muehlenbergii																<u></u>
Geraniaceae		_													,	
Erodium botrys	storksbill			X		X										<u> </u>
Erodium	storksbill		X	X								X				l
cicutarium																<u> </u>
Erodium	storksbill		X	X								X				l
moschatum																ļ
Geranium	geranium		X	X		X						X		X		I
carolinianum																<u> </u>
Geranium	geranium		X	X		X	X					X		X		X
dissectum																
Geranium molle	geranium		X			X						X				X
Grossulariaceae		_													,	
Ribes sanguineum	red flowering			X						\mathbf{X}						l
	currant															ļ
Ribes menziesii	canyon			X								X				l
	gooseberry															L
Hippocastanaceae		1		ı	ı		,		•		1		ı		, ,	
Aesculus	California		X	X						X						l
californica	buckeye															
Iridaceae		T		ı	ı	ı	•		ı			ı	1	ı	1	
Sisyrinchium	blue-eyed-		X			X						X				X
bellum	grass			_									<u> </u>			
Sisyrinchium	golden-eyed-			X									X			1
californicum	grass		<u> </u>				<u> </u>		<u> </u>		<u> </u>		<u> </u>			
Juncaceae		1		l - -	I	l - -	T		1		1	l	1	l	1 1	
Juncus balticus	rush		X	X		X	X					X		X		-
Juncus bolanderi	rush			X			X			X	X					
Juncus bufonius	toad rush			X										X		1
var. <i>bufonius</i>																L

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Scientific Name	Common	Status	Giac	omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Juncaceae																
Juncus bufonius	toad rush			X		X										
var. occidentalis																
Juncus capitatus	annual rush			X		X		\mathbf{X}								
Juncus effusus var.	rush		X	X		X					X					
brunneus																
Juncus effusus var. pacificus	rush		X	X			X									
Juncus lesueurii	rush		X	X		X		X								
Juncus occidentalis	rush					X										
Juncus patens	rush		X	X		X								X	X	X
Juncus	rush			X		X					X			X		
phaeocephalus																
Juncaginaceae																
Triglochin	arrow-grass					X			X							
concinna var.																
concinna																
Triglochin	seaside		X	X	X	X		X			X					
maritima	arrowgrass															
Lamiaceae			1	1		1	ı		T .							
Lamium purpureum	dead nettle		X	X						X		X				
Marrubium vulgare	horehound		X									X				
Mentha x piperita	peppermint		71	X							X	21				
Mentha pulegium	pennyroyal		X	X		X	X				X			X		
Mentha spicata	spearmint		Λ	X		Λ	Λ			X	X			X		
var. longifolia	spearmint			Λ						Λ	Λ			Λ		
Monardella sp.						X										
Prunella vulgaris	self-heal					X										
var. lanceolata	Self fiedi					A										
Satureja douglasii	yerba buena				1	X						1		1		
Stachys ajugoides	hedge nettle			X		X										X
var. ajugoides				1		1										
Lamiaceae				•		•	•				•		•	•		
Stachys ajugoides	hedge nettle			X									X			
var. <i>rigida</i>																
Stachys bullata	hedge nettle						X									

Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Lamiaceae	_															
Stachys	hedge nettle			X						\mathbf{X}	X					
chamissonis																
Lauraceae																
Umbellularia	California bay		X	X		X				\mathbf{X}						
californica																
Lemnaceae																
Lemna sp.	duckweed		X	X		X	X				X					
Liliaceae																
Allium unifolium	onion					X										X
Amaryllis	naked pink															
belladona	lady															
Chlorogalum	soap plant		X			X										X
pomeridianum																
Smilacina sp.	false			X						X						X
_	solomon's															
	seal															
Linaceae																
Linum	common flax					X										\mathbf{X}
usitatissimum																
Lythraceae																
Lythrum	loosestrife		X			X	X				X					
hyssopifolium																
Malvaceae	_															
Malva neglecta	common			X												
	mallow															
Malva nicaeensis	bull mallow		X													
Malva sylvestris	high mallow		X													
Modiola			X	X								X				
caroliniana																
Myricaceae																
Eucalyptus			X													
globulus																
Myricaceae																
Myrica californica	wax myrtle					X										
Onagraceae			•	•	•				· · · · · · · · ·					•		
Camissonia ovata	sun cup		X			X						X				X

Appendix Table B-1. List of Plant Species Observed Within the Giacomini Wetland Restoration Study Area. Initials in table columns refer to areas observed within Study Area: key is provided at back of table.

Scientific Name	Common	Status	Giac	omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Onagraceae																
Epilobium	fireweed		X	X								X				
angustifolium																
Epilobium ciliatum	willow herb			X							X					
ssp. ciliatum																
Epilobium ciliatum	willow herb			X		X	X				X					
ssp. watsonii																
Ludwigia peploides	water		X								X					
	primrose															
Oxalidaceae																
Oxalis rubra				X									X			X
Papaveraceae																
Eschscholzia	California		X	X		X	X					X		1		X
californica	poppy															
Pinaceae																
Pinus muricata						X										
Pseudotsuga	Douglas fir					X										
menziesii var.																
menziesii																
Plantaginaceae																
Plantago	English		X	X		X	X					X				X
lanceolata	plantain															
Plantago major	common		X	X							X		X			
	plantain															
Plantago maritima	plantain			\mathbf{X}		X		X								
var. juncoides																
Plumbaginaceae	_	1	1		ı	,	,	T	,		,		T	,	1	
Limonium	western		X	X		X		X	X							
californicum	marsh															
	rosemary															
Poaceae	1 -											1				
Agrostis capillaris	bent grass															
$A grost is\ stolon if era$	creeping bent		X	X			X			X		X				
	grass															
Agrostis viridis	bent grass			X												
Aira caryophyllea	European		X	X		X						X				X
	hairgrass															

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Scientific Name	Common	Status	Giac	omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Poaceae																
Alopecurus	water foxtail			X							X				X	
geniculatus																
Alopecurus	meadow		X	X									X		X	
pratensis	foxtail															
Avena barbata	slender wild		X	X		X	X					X				X
Avena fatua	oat wild oat		X								1					
Briza maxima	quaking grass		X	X		X	X				1	X				X
			X	Λ			Λ									
Briza minor	quaking grass		A			X						X				X
Bromus carinatus	California		X	X		X						X				X
var. carinatus	brome															
Bromus catharticus	rescue grass		X				X					X				
Bromus diandrus	ripgut brome		X	X		X	X					X				
Bromus	brome		X	X		X	X					X				X
hordeaceus																
Bromus tectorum	cheat grass			X									X			
Cynodon dactylon	Bermuda			X										X		
	grass															
Cynosurus	hedgehog		X			X						X				X
echinatus	dogtail															
Dactylis glomerata	orchard grass		X	X								X	X			
Danthonia						X										X
californica																
Distichlis spicata			X	X	X	X		X	X						X	
Echinochloa crus- galli			X								X					
Festuca	tall fescue		X	X	1	1	X				†	X	X	X	X	
arundinacea	tuii ioscuo		41	41			41					11	41	1	41	
Festuca rubra	red fescue		X	X	X			X								
Glyceria	manna grass			X							X					
leptostachya											<u> </u>					
Glyceria occidentalis	manna grass		X	X		X					X			X		

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Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Poaceae																
Holcus lanatus	common velvet grass			X		X	X									X
Hordeum brachyantherum ssp. brachyantherum	barley		X	X		X	X							X		X
Hordeum jubatum	barley			X								X				
Hordeum marinum ssp. gussoneanum	Mediterran- ean barley		X	X			X	X				12			X	
Hordeum murinum ssp. leporinum	Mediterran- ean barley		X	X		X	X					X				X
Leymus triticoides			X	X			X	X				X			X	
Lolium multiflorum	Italian ryegrass		X	X		X	X					X		X		X
Nassella pulchra	purple needlegrass					X										X
Paspalum dilatatum	Dallis grass						X									
Phalaris aquatica	Harding grass		X	X		X	X				X	X				
Phalaris arundinacea	canary reed grass						X									
Poa annua	annual blue grass		X	X		X					X	X	X	X		X
Poa trivialis	rough bluegrass		X	X							X					
Polypogon australis	Chilean beard grass			X							X					
Polypogon interruptus	ditch beard grass		X	X		X					X			X		
Polypogon monspeliensis	annual beard grass		X	X		X			X							
Spartina foliosa	cordgrass		X		X							X				
Torreyochloa pallida var. pauciflora	weak mannagrass					X					X					
Vulpia bromoides			X	X		X				X		X				X

Appendix Table B-1. List of Plant Species Observed Within the Giacomini Wetland Restoration Study Area. Initials in table columns refer to areas observed within Study Area: key is provided at back of table.

ınkweed		X	West	Land						I					
		X						1		I				1	
		X													
															l
															<u> </u>
			w		T			, ,		ı				,	
nmon			X		X										X
nmon															<u>i </u>
nmon			Π		T			ı		ı				1	
		X			X	X					X				l
															<u> </u>
rshpepper		X	X		X	X									
4			X 7							37					
terpepper			A							X					
w's thumb		v	v		v	v				v					
y s tilulilo		Λ	Λ		Λ	Λ				Λ					l
			Y						Y						
			21						21						
ep sorrel		X	X		X	X					X	X			
ck															
		12	1-												l
ly dock		X	X		X	X		X		X	X	X	X		
ter dock			X							X					
stern dock		X					X								
dle dock						X					X	X			
low dock										X					
			1-							11					l
low dock			X							X					
															l
low dock		X	X								X				
										<u> </u>				<u> </u>	
g-leaved					X					X					
ndweed					1.					1.					ĺ
ch grass		X								X					
med-					X										
ndweed															İ
ot reserve to the second of th	eweed shpepper erpepper erpepper ers sthumb erp sorrel er dock	eweed shpepper erpepper ery sorrel control of the c	eweed shpepper X shpepper X shpepper X sthumb X spep sorrel X X x y dock X ser dock stern dock X ser dock tern dock X sow dock sow dock So	shpepper X X X erpepper X 's thumb X X Exp sorrel X Exp sorrel	shpepper X X X erpepper X X ship sorrel X X X erp sorrel X X X erp dock X X X er dock X X ere	shpepper X X X X X erpepper X X X X X X erpepper X X X X X X X X erpepper X X X X X X X X erpepper X X X X X X X X erpepper X X X X X X X X X erpepper X X X X X X X X X erpepper X X X X X X X X X X erpepper X X X X X X X X X X erpepper X X X X X X X X X X X erpepper X X X X X X X X X X X X X erpepper X X X X X X X X X X X X X X X X X X X	shpepper X X X X X X X X X X X X X X X X X X X	sheed shpepper	Shpepper	Shpepper	Shpepper	Sepender	Sheepen	Sheeper	September

Appendix Table B-1. List of Plant Species Observed Within the Giacomini Wetland Restoration Study Area. Initials in table columns refer to areas observed within Study Area: key is provided at back of table.

Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Primulaceae																
Anagallis arvensis	scarlet pimpernel		X	X		X						X				
Ranunculaceae																
Ranunculus aquatilus	buttercup					X					X					
Ranunculus californicus	buttercup					X										X
Ranunculus muricatus	buttercup		X	X		X								X	X	
Ranunculus occidentalis	buttercup		X	X												
Rhamnaceae																
Rhamnus californica ssp. californica	California coffeeberry			X		X				X						
Rosaceae																
Cotoneaster franchetti						X										
Heteromeles arbutifolia	toyon					X										
Holodiscus discolor	oceanspray			X						X						
Oemleria cerasiformis	oso berry					X				X						
Potentilla anserina ssp. pacifica	cinquefoil		X	X		X		X	X		X		X		X	
Potentilla glandulosa ssp. glandulosa	cinquefoil					X										
Prunus sp.	plum		X	X						X		X				
Rosaceae																
Rosa californica	California rose					X	X									X
Rosa eglanteria										X						
Rubus discolor	Himalayan blackberry		X	X		X	X			X		X				

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Scientific Name	Common	Status		omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Rosaceae																
Rubus parviflorus	thimbleberry			X						\mathbf{X}						i
Rubus spectabilis	salmonberry			X						X						1
Rubus ursinus	California blackberry			X		X	X			X						
Rubiaceae	, , , , , , , , , , , , , , , , , , ,	I	L	L					<u>'</u>							
Galium aparine	bedstraw		X	X						X		X				
Galium trifidum var. pacificum	bedstraw			X							X					
Sherardia arvensis	field madder		X									X				
Salicaceae		I	L	L					<u>'</u>							
Populus alba	poplar															
Salix laevigata	red willow		X	X			X				X					
Salix lasiolepis	arroyo willow		X	X		X	X			X	X					
Salix lucida ssp.	shining		X				X			X						
lasiandra	willow		12				11			11						i
Scrophulariaceae						•	•					•	•	•		
Castilleja ambigua ssp. ambigua	salt marsh owl's clover					X		X								
Castilleja ambigua ssp. humboldtiensis	Humboldt Bay owl's clover	FSC; 1B	X	X	X	X		X								
Cordylanthus maritimus ssp. palustris	Point Reyes bird's-beak	FSC; 1B				X		X	X							
Digitalis purpurea	foxglove			X						X						·
Mimulus aurantiacus	monkey flower					X										
Mimulus guttatus	monkey flower			X							X			X		
Mimulus moschatus	musk monkey flower			X							X					
Scrophularia californica ssp. californica	California figwort		X	X			X			X		X				
Verbascum blattaria	moth mullein			X								X				

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Scientific Name	Common	Status	Giac	omini	SLC	TBT	Mesa	SM	DSM	R	FW	В	DP	WP	SMP	NG
	Name		East	West	Land											
Scrophulariaceae																
Veronica	American		X	X			X				X			X		
americana	brooklime															
Veronica	water			X			X				X			X		
anagallis-aquatica	speedwell															
Solanaceae																
Datura sp.	jimson weed		X								X					
Solanum	nightshade			X						X						
americanum																
Taxodiaceae																
Sequoia	redwood –						X					X				
sempervirens -	possible															
cultivar	cultivar															
Typhaceae																
Sparganium	bur-reed		X	X							X					
erectum ssp.																
stoloniferum																
Typha angustifolia	narrow- leaved cattail		X	X			X				X					
Typha latifolia	broad-leaved cattail			X		X	X									
Urticaceae	Cattaii															
Urtica dioica	stinging nettle		X	v						V						
				X						X						
Urtica urens	dwarf nettle		X													
Verbenaceae	1		1				1					1				1
Phyla nodiflora			X									X				
var. nodiflora																

Key:

Giacomini East – East Pasture Giacomini West – West Pasture SLC Land – SLC Lands TBT – Tomales Bay Trail Mesa – Mesa Road SM – Undiked Salt Marsh

DSM – Diked Salt Marsh

R – Riparian

FW – Freshwater Marsh

B – Berm/Levee

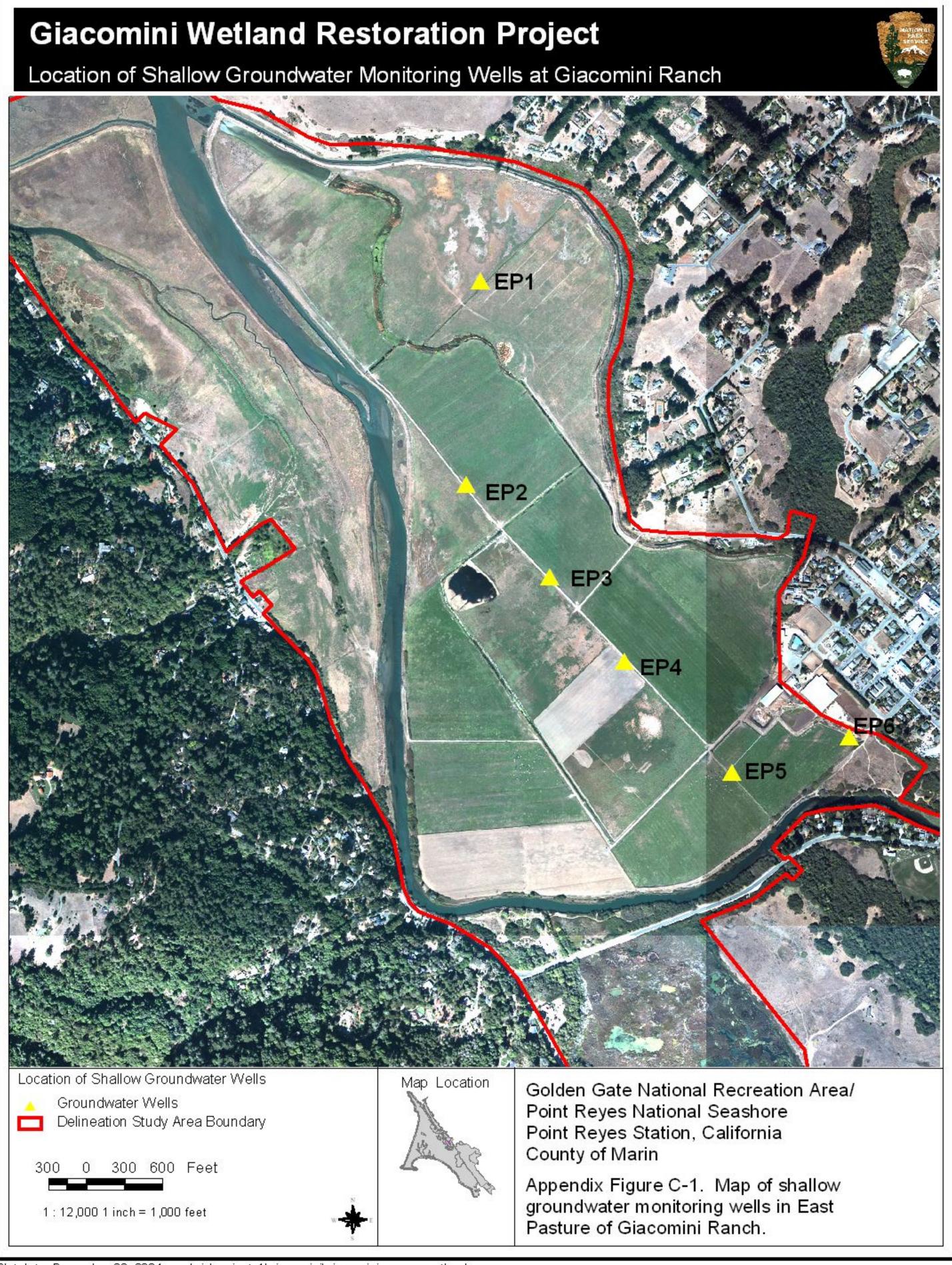
DP – Dry Pasture

WP – Wet Pasture

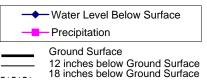
SMP – Salt Marsh Pasture

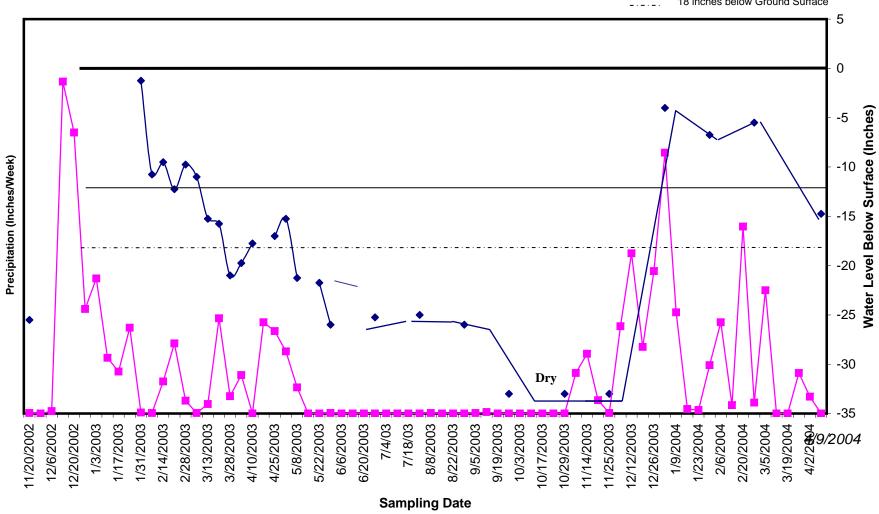
NG – Non-native Grassland

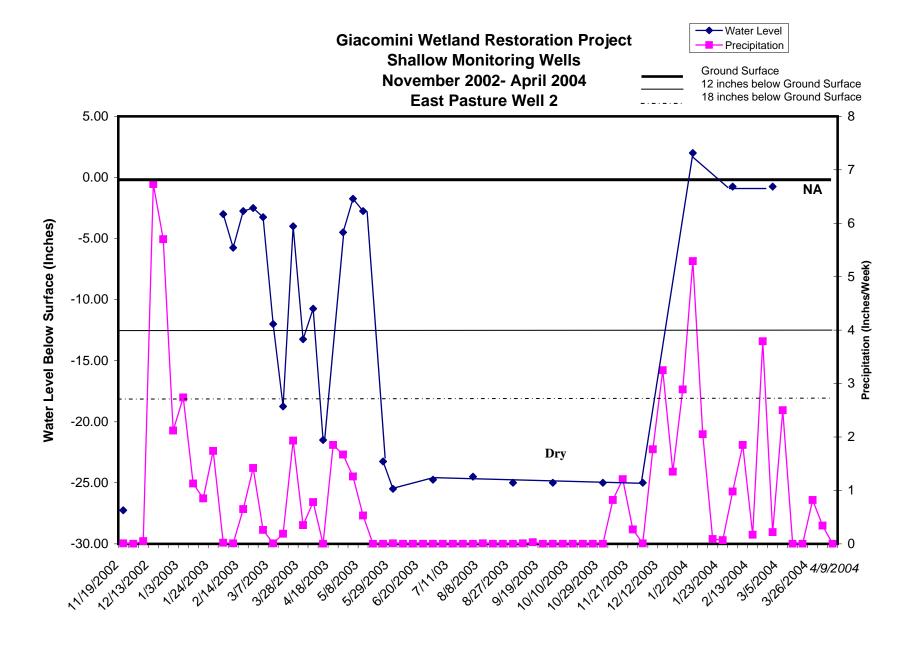
Appendix C. Shallow Monitoring Well Data from Six Wells in the East Pasture of the Giacomini Ranch (2002-2004)



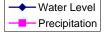
Giacomini Wetland Restoration Project Shallow Monitoring Wells November 2002 - April 2004 East Pasture Well 1



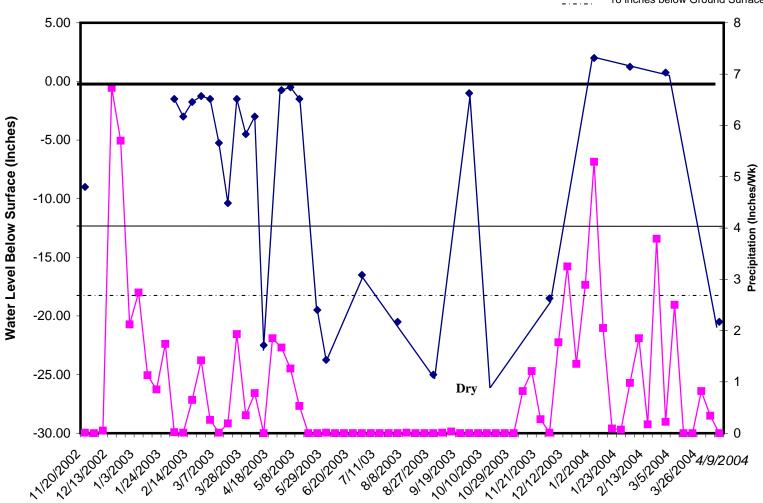








Ground Surface 12 inches below Ground Surface 18 inches below Ground Surface

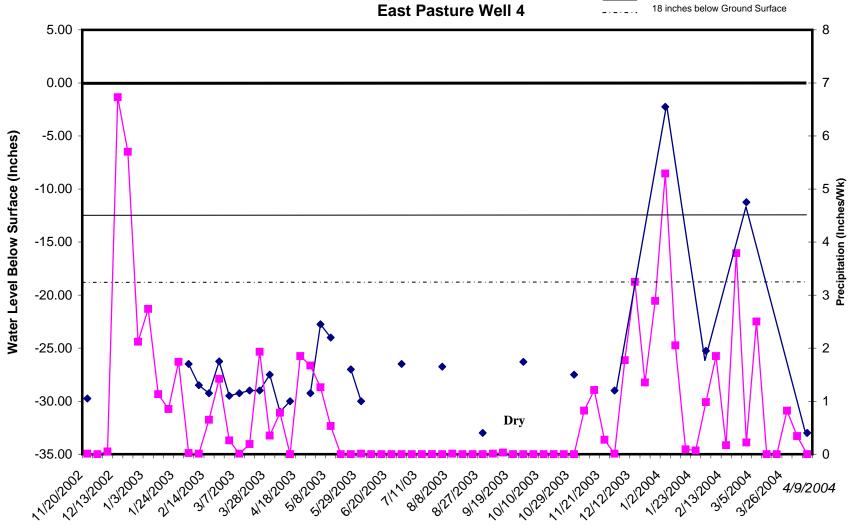




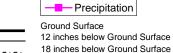


◆ Water Level

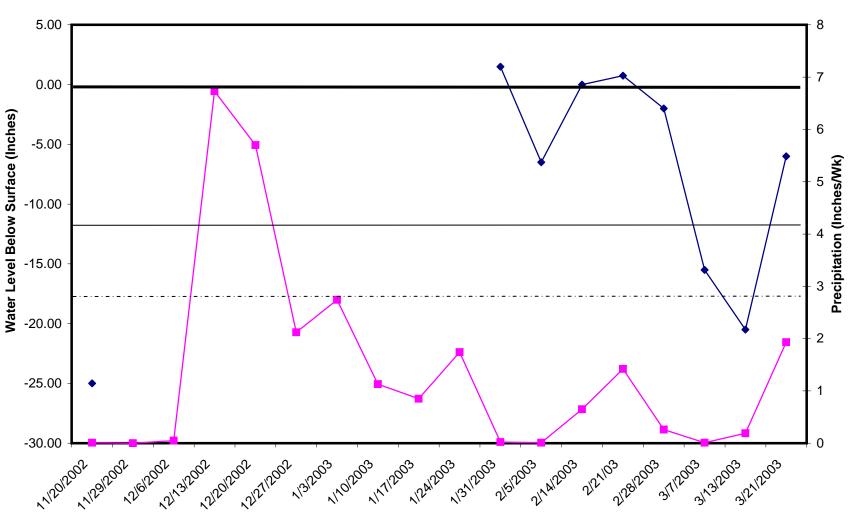
Precipitation







→ Water Level



Giacomini Wetland Restoration Project Shallow Monitoring Wells November 2002 - April 2004 East Pasture Well 6

