Attachment 5

Orcutt Community Plan FEIR (95-EIR-01) Amendments

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Exhibit A:

Amended Map of Orcutt Significant Vegetation Map
Amends OCP FEIR Figure 5.2-1, page 5.2-3

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Exhibit A

MAP OF ORCUTT SIGNIFICANT VEGETATION

VERNAL WETLAND/
SAND DUNE COMPLEX
(SEE OLSON, 1992)

SANTA MARIA AIRPORT

Map amended dd/mm/yyyy by Resolution # _____
of the Board of Supervisors in compliance with
court ruling in Adam Brothers Farming v. County of
Santa Barbara 2008 Cal. App. Unpub. LEXIS 1831.

GRASSLAND/
SAND DUNES
(needs to be
surveyed)

GOLF COURSE

ORCUTT

ORCUTT COMMUNITY PLAN AREA

COMMUNITY PLAN BOUNDARY

Figure 24
Page 188

- Riparian/ Freshwater Marsh
- Vernal Pool (See Olson, 1992)
- Oak Woodland
- Coastal Scrub/ Sandhill Chaparral
- Eucalyptus Woodland
- Bishop Pine Forest
- Mixed Woodland/ Park
- g Grassland

NOTE: A Biological Resources Map at a larger scale showing greater detail exists and is available for reference from Planning & Development.

Revised June 12, 2012
October 10, 1997

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Exhibit B:

Amended Key Site 22 Map
Amends OCP FEIR Figure KS22-3, page 22-6

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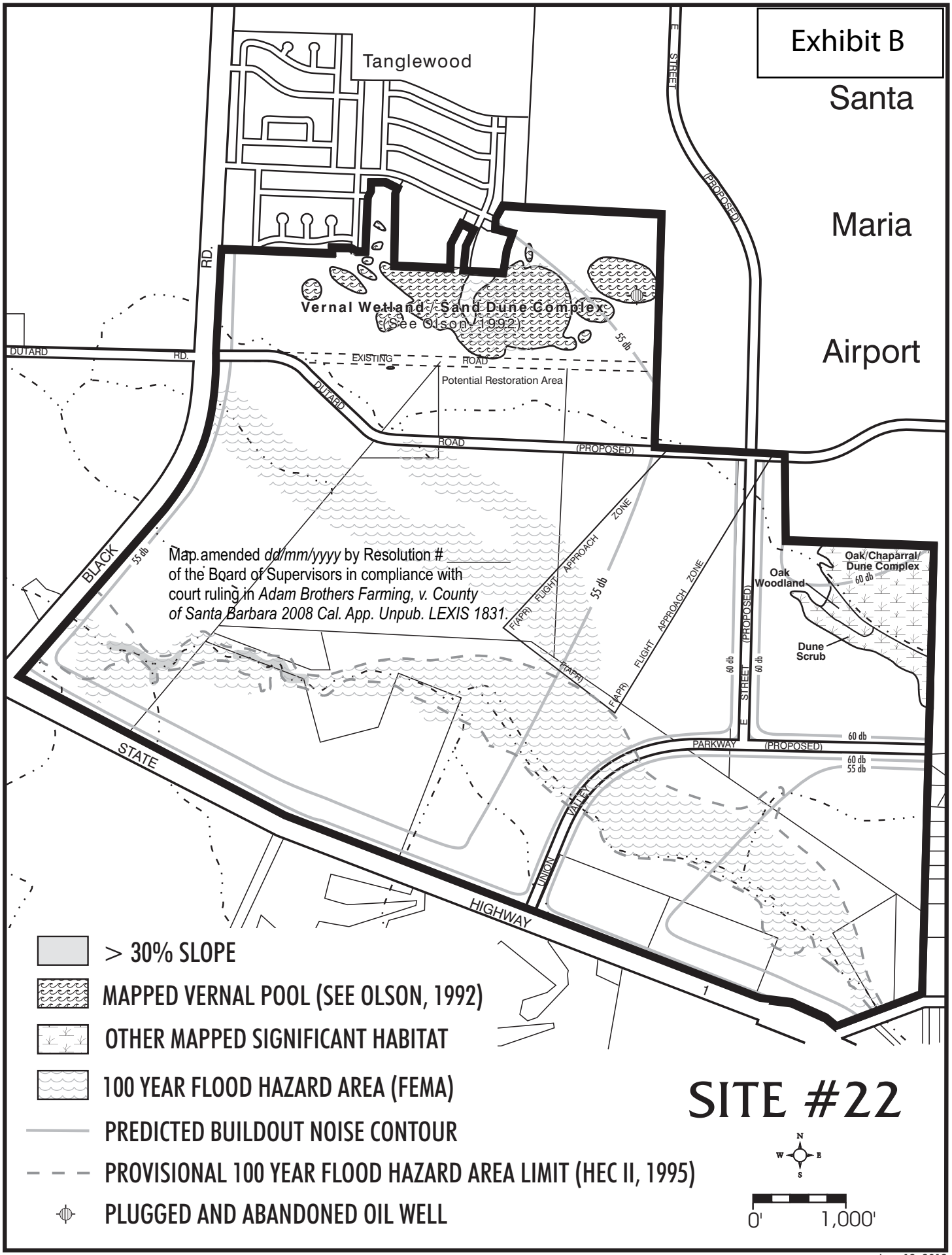

June 12, 2012

Figure KS22-2
Page KS22.12

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Exhibit C:

OCP FEIR (95-EIR) Key Site #22 Text Amendments

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Exhibit C
OCP FEIR (95-EIR-1) Key Site #22 Text Amendments

Removal of Wetlands Delineation References[1]

EIR Section	Page Numbers	Actions
Chapter 5.2 Biology	Pgs: 5.2-1; 5.2-5; 5.2-19; and 5.2-24.	Text revisions & deletions
Chapter 6 Alternatives	Pgs:6-11 and 6-27	Text deletions
Key Site #22	Pgs: 22-5; 22-9; 22-13, 22-14; 22-19 and 22-24	Text revisions & deletions
Appendix D	All	Text deletion

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5.2BIOLOGICAL RESOURCES

METHODOLOGY

The information contained in this section has been collected primarily from field surveys conducted for this Community Plan EIR (Katherine Rindlaub Biological Consulting 1995a, Rindlaub 1994), field surveys by County staff in 1994 and 1995~~, and a preliminary wetland delineation on Key Site 22 (K. Rindlaub 1995b).~~ . Other sources include Smith 1976, Sweet 1992, Holland 1991, Olson 1991 and 1992, Collins 1991, Enviroplan 1990 and 1991 and ERC 1991. Information on the unique geological features found within and around the project area came from Hunt 1994. Information has also been gained from 1938 (Weislander) and 1980 (Santa Barbara County Conservation Element) vegetation maps, and aerial photographs taken in Fall 1989.

~~Field surveys were performed in 1995 by Katherine Rindlaub Biological Consulting in Spring 1995 on ten "Key Sites" within the Orcutt planning area.~~ Surveys were conducted by the consultant team during April, May, and June of 1995. These were supplemented by County staff surveys in: May and December 1994 and April 1995. Surveys consisted of walking through each site. Features of particular biological importance, such as wetlands, potential breeding sites for sensitive vertebrates, and plant communities of special interest, were surveyed most intensively.

5.2.1EXISTING CONDITIONS

A.Physical Setting

The community of Orcutt is located in the southern portion of the Santa Maria Valley. It is bounded to the south by the Solomon Hills and to the west by the Casmalia Hills. The valley stretches northward, beyond Orcutt to the City of Santa Maria and the Santa Maria River. The valley also stretches east past US Highway 101, beyond the Planning Area boundary to the Santa Maria River at the base of the Sierra Madre Mountains. The Orcutt area is unusual biologically because of the broad valley floor covered by wind blown sand, deposited in dunes 6,000 to 80,000 years ago (Hunt 1994), surrounded by hills to the south and west, and exposure to hot, dry summers combined with prevailing winds from the northwest.

The aforementioned sand dunes are representative of one of the oldest, and last remaining wind blown dune systems in California, known as the Orcutt Terrace dune sheet. This massive sand dune sheet developed about the same time as Nipomo Mesa and Burton Mesa, and shares several of their unique plants and animals. Urban and agricultural development have eliminated many of the dunes and native habitat on the Nipomo and Burton Mesas. Similarly, much of the Orcutt Terrace dune sheet has experienced extensive urban and agricultural development, and none of the remaining dunes in Orcutt are protected.

Nevertheless, biological communities of regional significance remain in several undeveloped areas of the valley, along creek corridors, and in the Solomon and Casmalia Hills. The locations of plant communities within the Orcutt Planning Area are generally associated with differences in elevation, southern versus northern exposure to the sun, and proximity to water (both horizontal distance to stream courses, depth to groundwater, and the extent and duration of flooding. In general, wildlife occurs within specific plant communities. However, large and/or mobile wildlife will typically use several plant communities as their

Wetlands: The extent and quality of wetlands in California and the rest of the country have been dramatically reduced over the past century (National Audubon Society, 1992). Swamps and marshes have been drained, streams and rivers have been diverted and channelized, or used as convenient dumping grounds. Consequently, numerous plant and animal species that are dependent upon this habitat are threatened with extinction (See Table 5.2-1). Similarly, benefits derived from wetlands by humans such as water quality, aesthetics and duck hunting opportunities are also substantially reduced. Wetlands in the Santa Maria Valley probably once covered more than five thousand acres, supporting an exceptional diversity of water fowl and other wildlife. Total wetland acreage has likely been reduced to something less than a thousand acres (including the Santa Maria River mouth). ~~Remnants of this system include the wetland/sand dune complex on Key Site 22,~~ W~~w~~hat remains of Betteravia Lakes and several isolated vernal ponds and pools in the City of Santa Maria, Sisquoc/Garey area, and north of Betteravia. *The Santa Barbara County Conservation Element describes vernal pools and freshwater marshes as being rare and/or endangered and recommends preservation of these habitats.*

***Vernal Pools*:** Vernal pools are shallow depressions in the soil that are temporarily filled with water from winter rains and subsequently dry up during the spring and early summer. These pools are underlain by an impervious layer that slows or prevents water drainage. Vernal pools are perhaps the most unique, rare, and endangered type of wetland in California (California Department of Fish and Game 1995). They are unique because they are vegetated by herbaceous plants that are adapted to survive the beginning of their lives completely covered by water and later to survive and flower in a completely dry environment. The Orcutt pools are particularly uncommon and have unique characteristics because they occur on sand with a very shallow hardpan.

Many of the Orcutt pools are deeply flooded and persist into early summer particularly in wet years. Species composition may vary from year to year depending on the depth and duration of flooding, and some of the pools may join in wet years and remain separate in drier years. The vernal pools in the Orcutt area range from deep basins with many species of hydrophytic (water loving) plants to long shallow grooves dominated by just one or two species of wetland plants (Olson 1991). While some vernal pools remain isolated, other pools may form complexes, joining across low-lying grassland areas (vernal flats) in wet years but remain isolated in drier years. "Vernal flats" (Ferren, 1988) is used to describe wetlands that occur in shallow basins that are not deep enough to be discernable pools. In wetter years, vernal pool and other wetland species dominate these low areas. During dry years, upland grasses and other herbs may dominate the flats (Olson, 1992). In wet years in particular, they are an important component of the wetland/grassland complex as they often provide the transition or migration zone between flooded and upland areas. The only place that vernal wetlands occur in the Orcutt Planning Area is on the northern portion of Key Site 22. This complex continues offsite to the east and northeast on the airport property (Figure 3 in EIR Volume II, Key Site 22).

Dominants in the Orcutt area include numerous native species such as water starwort and wooly heads. Several amphibians in the Orcutt area are completely dependent upon these vernal pools for their survival. The California tiger salamander and western spadefoot toad (both candidates for the Federal Endangered Species List and listed as California Species of Special Concern) depend soley on these pools to breed in and develop in their larval stage. Other more widespread amphibian species (e.g. western toad, Pacific chorus frog) also use vernal pools for breeding, and garter snakes, in turn, feed on tadpoles and larval salamanders and are consequently attracted to vernal pools. A remarkable diversity of shorebirds and

Impact BIO-32: Removal of eucalyptus woodlands. Removal of eucalyptus woodlands that are used as a roosting and/or nesting site for raptors could have a *potentially significant* impact on raptor populations, many of whom are California Species of Special Concern.

Impact BIO-33: Weed invasion. Landscaping with weedy species in the proposed newly urbanized areas could have a *potentially significant* impact on the remaining acreages of native plant communities by displacing native species and thus significantly altering habitat characteristics and ecological functions. These weedy species include iceplant, pampas grass, veldt grass, eucalyptus, spiny clotbur and Australian fireweed.

Policy Impacts

Adoption of the Orcutt Community Plan may include adoption of numerous policies affecting future development. Those policies that have the potential of significantly impacting biological resources are discussed below. The following analysis is based upon the draft policies contained within the November 15, 1994 Initiation Draft Orcutt Community Plan.

Impact BIO-34: Parks, Recreation and Schools policies. Draft policies 1, 3, 5 and 8 encourage or direct the County to increase recreational opportunities on open land, including encouraging private development to incorporate facilities such as golf courses. In particular, Draft PRT policy 8, and Schools policies 1 and 5 could result in elimination of a substantial portion of the vernal wetland/sand dune complex (next to Arrellanes School). ~~and other wetlands on Key Site 22.~~ This could result in the elimination of critical habitat areas and is *potentially significant*.

Impact BIO-35: Trails policies. Draft policies 22, 23 and 24 encourage the County to develop a comprehensive trail system on open lands. This could result in elimination of sensitive plants, as discussed in Impact BIO-8 which is *potentially significant*.

Impact BIO-36: Sewer system policies. Draft policies 1 and 2 could result in *potentially significant* impacts to creeks and wetlands as described in Impacts BIO-10, 11, and 12.

Impact BIO-37: Transportation policies. Draft policy 1 requires completion of needed roadways which would have *potentially significant* impacts as described in Impacts BIO-1 - 7.

Impact BIO-38: Flood Control policies. Draft Policies 6 and 12 requiring retention basins would have *potentially significant* impacts to riparian and other systems (Impact BIO-15).

C.Cumulative Impacts

Cumulative impacts from development of the Orcutt Community Plan in addition to development in the City of Santa Maria, Vandenberg Air Force Base and southwestern San Luis Obispo County would be most severely **cumulatively significant** to wetlands, riparian, central dune scrub, oak woodlands, central coast scrub and sandhill chaparral communities. In particular, development of portions of the proposed golf course and Union Valley Parkway extension on the southern portions of the airport property would

Mitigation BIO-22: The ancient sand dunes of Orcutt shall be protected and preserved to the maximum extent feasible. All feasible measures shall be taken to avoid impacts to these dunes, including but not limited to: realignment of roads and construction of bridges over rather than through dunes.
(*Addresses Impact BIO-24*).

Mitigation BIO-23: Sandhill chaparral, central dune scrub, oak woodlands and central coastal sage scrub shall be protected to the maximum extent feasible. Developments adjacent to these areas shall employ setbacks, clustering, native landscape buffers and restoration of degraded areas including any impacted rare species. The goal of the plans shall be to have no net loss of habitat.
(*Addresses Impacts BIO-25, -26, -27, and -29*)

Mitigation BIO-24: Riparian vegetation shall be preserved to the maximum extent feasible. A minimum buffer of 50 feet from the dripline of riparian vegetation shall be maintained. All new development adjacent to creeks and streams shall be required to implement a riparian habitat restoration plan. The project shall minimize the effects of adjacent urbanization by: 1) locating the restoration onsite to the maximum extent feasible, 2) hooding and directing all lights away from the creek, 3) providing a long-term drainage plan that directs any potentially polluted drainage away from the creek, and 4) implementing an erosion and sedimentation control plan during construction.
(*Addresses Impact BIO-28*)

Mitigation BIO-25: No recreational or other development shall be permitted that would adversely impact the Bishop Pine Forest. In order to preserve the potential for wildfire and regeneration to occur, any new structures shall be located a minimum of 300 feet from the forest boundary.
(*Addresses Impact BIO-30*)

Mitigation BIO-26: Oak trees shall be protected to the maximum extent feasible. Measures taken to preserve oak trees should include modification of project design (eg: clustering, narrower road width, taller building heights, etc). The area protected from grading, paving and other disturbances should include the area 6 feet outside of the dripline. Where oak trees are killed, they shall be replaced in a manner consistent with County standards. (*Addresses Impact BIO-31*)

Mitigation BIO-27: Eucalyptus woodlands that are used as roosting and/or nesting site for raptors shall be protected to the maximum extent feasible. Where eucalyptus trees are removed, they should be replaced by native trees. (*Addresses Impact BIO-32*)

Mitigation BIO-28: Landscape plans for developments on the edge of open space areas shall include trees and shrubs native to the Santa Maria Valley. ~~(The Orcutt Biological Resources Technical Report [Rindlaub 1995a] contains a list of species.)~~ Planting of invasive weedy plants such as iceplant, pampas grass, veldt grass, monterey pine, eucalyptus, spiny clotbur and Australian fireweed shall be strongly discouraged and removed where feasible in these areas. (*Addresses Impact BIO-33*)

Vastewater Treatment: Adequate sewer capacity is a significant issue for the community both under the existing and proposed plans. The current RWQCB moratorium for Laguna County Sanitation District would remain in effect. Even if the existing wastewater treatment plant were allowed to operate at full capacity, the plant would not have sufficient remaining capacity to accommodate the wastewater demands of buildout of the existing plan. A supplemental wastewater treatment plant will likely have to be constructed or the existing plant torn down and replaced.

Retention Basin System: Buildout under the existing plan would contribute additional run-off from future development within the Orcutt Creek watershed. The current system of conditioning individual subdivisions to construct smaller on-site retention basins to gather and control run-off would continue under the existing plan.

Schools: Due to the significant increase in student enrollment since 1980, Orcutt area school districts have identified a need for three additional elementary schools, one junior high and one high school to serve buildout of the existing plan. However, no new potential school sites are identified in the 1980 plan.

6.2 IMPACT ANALYSIS

ALTERNATIVE 1: "NO PROJECT"

A. ***Land Use:*** Impacts associated with land use patterns of development would be less under the No Project alternative since future development would primarily be associated with urban in-fill and limited evelopment in the Solomon foothills and west Orcutt. Density reductions on Key Sites 22 and 33 would minimize infrastructure, air quality, and traffic impacts associated with "leap frog" development. In addition, growth inducing impacts associated with the precedent setting action of extending the Urban/Rural Boundary line and urban services west to Black Road and east of Hwy 101 would be avoided under the existing plan. Nevertheless, some urban development could occur on rural land. Thus, the impacts would be significant and unavoidable (Class I)/

However, since many parcels would retain their antiquated County Ordinance 661 zoning designations, minimum parcel sizes would remain unresolved for portions of the Orcutt planning area under the "no project" alternative.

In addition, the proposed Oil Activity Overlay, Open Space Overlay, and Transfer of Development Credits program "planning tools" would not be available to address specific land use concerns associated with buildout of the existing plan.

B. ***Biological Resources:*** Overall impacts to biological resources would be substantially less severe than the proposed project primarily due to density reductions on Key Sites 3, 7, 12, 13, 14, 15, 22, 23, 30, 33, and 35, but also due to existing development restrictions on Site 12. Potential impacts would also be significantly reduced to rare and unique habitats such as ancient sand dunes on Key Sites 22 and 30~~, and extensive vernal pools and associated wetlands on Key Site 22~~. Reduced development would have fewer impacts to oak woodlands, grasslands, sand hill chaparral, central coast sage scrub, and riparian forest and woodland communities. However habitat elimination and fragmentation would still result in *significant* *navoidable* impacts (Class I).

B. ***Biological Resources:*** Impacts to biological resources would be substantially less than the proposed project primarily due to density reductions on Key Sites 7, 8, 12, 14, 15, 22, 33, and 35. Potential impacts would also be significantly reduced to rare and unique habitats such as ancient sand dunes on Key Site 22, ~~and extensive vernal pools and associated wetlands on Key Site 22~~. Reduced development would have fewer impacts to oak woodlands, grasslands, sand hill chaparral, central coast sage scrub, and riparian forest and woodland communities, however habitat elimination and fragmentation would still result in *significant unavoidable impacts* (Class I).

Impacts associated with public infrastructure improvements would be reduced by the absence of the extension of Stubblefield Road/Stillwell Road and "E" Street extensions of the proposed plan. Remaining public infrastructure improvements have the potential to result in impacts to biological resources. Significant impacts to resources would remain in the Orcutt Creek and southern foothill areas. Overall, impacts would remain significant and unavoidable.

C. ***Agricultural Resources:*** Agricultural impacts would be substantially reduced by reduction in buildout on Keysites 12, 22, and 33 from the 1,992 units of the project to 25 dwellings on forty acre parcels. Current agricultural production acreages for these sites include: approximately 60 acres of cultivated agriculture on Key Site 12, approximately 480 acres of cultivated and 300+ acres of grazing land on Key Site 22, and approximately 260 acres of grazing land on Key Site 33. Keys Sites 22 and 33 would retain their rural agricultural designations, while potential development on Key Site 12 would occur on grasslands which have not been grazed in recent history. Impacts to agriculture from the low-growth alternative would be *less than significant* (Class II).

D. ***Geology:*** Geologic impacts would be similar to those of the proposed project, with the exception that reduced buildout in the foothills and along Orcutt Creek, would have corresponding reductions in erosion hazards (i.e., blowing sand, erosion, collapsible soils, etc.) related to buildout on steep slopes in the foothills and along Orcutt and Pine Canyon Creeks. Under the low-growth scenario, few Key Sites have standard single family lot zone designations (e.g. 1-E-1, 20-R-1, etc.) requiring minimum lot sizes and setbacks. However, since extensive development would still occur within the foothill and Orcutt Creek canyon areas, overall impacts from exposure of new development to geologic hazards would remain *less than significant* (Class II) with development created increased in erosion remaining *unavoidable and significant* (Class I).

E. ***Flooding\Drainage:*** Flooding and drainage impacts would be slightly less than those identified for the proposed project primarily due to reduced development potential, and consequently reduced storm water run-off, for Key Sites located along Orcutt Creek (Key Site 7, 8, 22) and Pine Canyon Creek (Key Sites 12, 15). Run off from development of these sites could result in increased erosion and sedimentation of local creeks. The low-growth alternative could be served by a regional retention basin system (See discussion above). Under the low-growth scenario, few Key Sites would have standard single family lot zone designations (e.g. 1-E-1, 20-R-1, etc.) requiring minimum lot sizes and setbacks. Overall, impacts would remain *less than significant* (Class II).

F. ***Water Resources:*** Impacts on groundwater resources would be reduced corresponding to the decrease in residential development from the project (Table 6-7). Nonetheless, residential, commercial-industrial, municipal and agricultural growth within the OPA permitted under the low-growth alternative would create potentially significant impacts to groundwater resources due to the contribution to ongoing and increased overdraft of the Santa Maria Groundwater Basin by generating an increase in net water demand of 1,890 AFY

Approximately 481 acres are under cultivation or developed with agricultural industry support facilities. A large portion of the remaining 700 acres are used as grazing land, and several areas support significant ecological communities. In the southern portion of the site, the Orcutt Creek stream channel and corresponding flood plain, ranging from 500 to 1,000 feet in width, traverses the site from east to west, generally parallel to Highway 1. Scattered riparian and/or wetland vegetation is located along this flood plain. A ~~vernal~~ wetland/grassland complex occupies approximately 120 acres north of Dutard Road, and ~~contains~~ is the largest known ~~vernal pool complex~~ in the County. These areas support a wide variety of wildlife including tiger salamanders, Pacific chorus frogs, and larvae of the western spadefoot toad. The ~~vernal~~ wetland/grassland/dune areas also serve as prime foraging habitat for many bird species, including several shorebirds and ducks.

Sandhill chapparal, dominated by multi-trunked coast live oak, mock heather, and coyote brush, with scattered Purisima manzanita, occupies a 33 acre stabilized dune area along the central eastern boundary, adjacent to the Santa Maria Public Airport. Ponded water accumulates in depressions between the dunes during wet years, and support species such as the western pond turtle (a candidate for the endangered species list). A thin strip of central dune scrub separates these areas from cultivated fields to the south. The Orcutt Creek channel becomes wide and flat throughout the central portion of the site, and supports rush, bulrush and several ~~freshwater marsh~~Orcutt Creek areas. ~~Freshwater marsh~~Orcutt Creek is also present at three locations along the western site boundary. The remainder of the areas not in active cultivation are covered by large tracts of annual grassland, which constitute prime foraging habitat for a number of bird species including the golden eagle. ~~Figure KS22-3 shows the locations of the site's biological resources.~~

Two roads provide access to the site. The old road bed of Dutard Road enters the northern portion of the site from Black Road, approximately 1,100 ft from the northern site boundary. This unimproved asphalt and dirt road provides access to a residence and agricultural fields, and extends to the eastern site boundary. Another dirt road enters the southeast corner of the site from Solomon Road, and extends along the eastern site boundary.

A.4Project Description

The existing Urban/Rural Boundary Line would be extended to incorporate approximately an additional 800 acres of the site which currently lie outside of it (Figure KS22-2). The proposed designations for the site would be **Planned Development (Max. 2,000 units)/PRD**. This designation would allow for the construction of up to 2,000 residential units of various densities, and a community center. Development could also include a supporting commercial facilities. It is also likely that two 10 acre elementary school sites and a 17 acre junior high school site would be located on Key Site 22, to serve residents of west Orcutt at this level of development. As referenced in the main project description, the Planned Residential Development zoning district identifies a 40% minimum open space requirement, which would total a minimum of 471.8 acres for this site (40% of 1179.45 acres). This zoning allows for clustering of units so that hazardous and sensitive areas may be avoided, adequate public services are provided, and open space is preserved. The floodplain of Orcutt creek, Canyons of the drainages near Black Road, and the sensitive biological resources on the northern portions of the property and the northeastern corner generally meet the criteria for open space as outlined in the PRD zoning district. Therefore, in order to be consistent with the purpose and intent of this zone district, it is likely that development on the site would be clustered within 743 acres of the site, located mainly within areas currently used for grazing or agricultural production. Figure KS22-4 shows the likely developable areas on the site.

Resources: The potential Open Space Overlay would protect the Site's most sensitive biological resources including ~~to wetland~~ floodplain areas of Orcutt Creek, a 30+ acre ancient sand dune area with specimen oaks and about 120 acres of ~~Vernal Pool~~ grassland complex. This area would also accommodate a trail and provide a buffer between the City and the unincorporated areas. several historic and/ or archaeological sites would also be covered by the overlay.

Figure KS22-4 shows the areas to which the Open Space Overlay would be applied. This configuration would approximate the open space areas shown in a previous conceptual site plan endorsed by the Planning Commission and Board of Supervisors.

Potential Buildout Characteristics: The proposed designations would allow for a diversity of housing types to be constructed on the site. Proposed densities range from 1 unit/acre to 6 units/acre, and a preliminary plan identifies areas for each unit density (Figure KS22-4). In general, the lowest densities would be located along the Highway 1 corridor, the highest would be located near the intersection of Union Valley Parkway and "E" Street, and moderate density development would be located throughout the remainder of the proposed developable area.

Under this development scenario, the existing alignment of Dutard Road would be abandoned, and the roadway would be realigned to the south. The new alignment would provide through access between Black Road and "E" Street. Under the City of Santa Maria's Circulation Element, "E" Street would be a north-south arterial roadway along the site's western-most north/south boundary with the Santa Maria Airport, and would terminate at the proposed extension of Union Valley Parkway (Figure KS22-5). However, this proposed alignment has significant biological impacts which are discussed in further detail in Section 5.2 (Volume I) and Section B.1 in the Key Site 22 analysis (Volume II). Union Valley Parkway is proposed to extend from the center of the site's eastern-most boundary to Highway 1. The eventual alignment of the "E" Street and Dutard Road corridors may be affected by open space planning and the protection of biological resources. Figure KS22-5.1 shows Planning and Development's recommended alignment of Dutard Road and "E" Street through Key Site #22. Figure KS22-5.2 depicts feasible access points from Highway 1, Black Road and UVP.

Potential Commercial Center: A 15 acre neighborhood commercial center could be constructed at the northeast corner of the "E" Street/UVP to serve development on the site. The PRD zoning district allows for 2 acres of supporting commercial facilities on a PRD "site". However, Key Site 22 is comprised of 15 parcels ranging from 4.6 acres to 234.39 acres in size. Seven of the parcels exceed 100 acres in size and could each have at least 2 acres of supporting commercial facilities if they were developed individually. This center has not been assessed in standard impact analysis for this site; however, the center's impacts have been assessed in Alternative 2 (High Buildout).

B.ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The sections which follow do not include discussions of impacts to the following areas: Police Protection, Natural Gas, Electricity, and Library Services. Either no significant impacts to these resources(eg electricity, natural gas) were identified during initial evaluation of the proposed project, or these issues are adequately addressed in the regional impact analysis in Volume 1 (eg library/ police service). Significant impacts are anticipated for several other issue areas and are described in detail below.

B.1Biological Resources

Setting

Of the 1179.45 acres on this site, approximately 481 acres are either under cultivation or are developed with agricultural industry support facilities. A large portion of the remaining 700 acres are used as grazing land, and several areas support significant ecological communities. The following biological information was obtained from a botanical survey by Holland between April 25 and June 26 1991, a botanical survey of the ~~vernal pool complex~~area by Olson on May 21 and May 26 1991, a brief cursory survey by Rindlaub on May 13 and 15 1994, and an intensive survey in April and May 1995 by Rindlaub, Storrer and Hunt~~, and wetland delineations by Rindlaub and Storrer, 1995.~~ .

Key Site 22 contains a wide variety of biological resources. The Site's location in a rural area surrounded on three sides by extensive tracts of lightly developed or undeveloped land provides relatively accessible linkages from the site to larger habitat areas. In the southern portion of the site, the Orcutt Creek stream channel and corresponding flood plain, ranging from 500 to 1,000 feet in width, traverses the site from east to west, generally parallel to Highway 1. Scattered riparian ~~and/or wetland~~ vegetation is located along this 126 acre flood plain. ~~A wetland delineation performed in Spring 1995 identified 110.34 acres of wetlands in the floodplain (Rindlaub, 1995).~~ The creek corridor provides both important habitat itself and linkages both upstream and downstream to relatively undisturbed areas for wildlife movement and the dispersal of plants.

A ~~vernal wetland/~~grassland complex occupies approximately 120 acres north of Dutard Road. This habitat extends eastward onto the Santa Maria Public Airport. ~~This area contains the largest known vernal pool complex in the County and consist of a complex of sandy uplands with annual grasslands, with 41 acres of vernal ponds, vernal pools, vernal flats, and freshwater marsh swales (Rindlaub, 1995).~~. The 80 acres of upland habitat~~ that surround the vernal pools and other wetlands~~ are critical habitat for the spadefoot toad and tiger salamander that live in burrows within the grasslands during the dry months of the year. Towards the northeast corner of the site, this complex becomes interlaced with a ~~wetland/~~dune complex, which continues to the east onto airport property. A portion of the complex also extends south of Dutard Road, but portions of this area have been degraded by grading and agricultural activity. Pools and marshes form in low lying areas and depressions due to the hardpan variant of Narlon Soils which is prevalent throughout these areas. The mashes and pools in the low lying areas and the grasslands and scrub habitats in the uplands exhibit significant ecological interaction. For example, some of the species which depend upon the pools for breeding during the winter and spring migrate or "retreat" into the adjacent upland grassland and dune areas during the summer, fall and early winter. This is particularly true of several amphibian species, such as the spadefoot toad and tiger salamander. These species were formerly wide spread within the Santa Maria Valley, but now are both candidates for listing for protection under the federal Endangered Species Act.

In addition to these federal candidate species, this complex supports a wide variety of other types of wildlife. Pacific chorus frogs were observed ~~in the vernal pools~~ during a site visit. These areas also serve as prime foraging habitat for many bird species, including a wide variety of shorebirds and ducks. Shorebird species observed in these areas include the western grebe, long billed dowitcher, great egret, green heron, black-necked stilt, etc. Ducks observed include the northern pintail, cinnamon teal and American widgeon. Small mammals inhabit the upland areas and increase their value as foraging grounds for raptors. A golden eagle was observed diving on prey during a site visit by County staff in April 1995.

Sandhill chaparral, dominated by multi-trunked coast live oak, mock heather, and coyote brush, with scattered individuals of the rare Purisima manzanita, occupies a 33 acre stabilized dune area along the central eastern boundary, adjacent to the Santa Maria Public Airport. Ponded water accumulates in depressions between the dunes during wet years, and support species such as the western pond turtle (a candidate for the endangered species list). A thin strip of central dune scrub separates these areas from cultivated fields to the south.

Eucalyptus windrows occur on the eastern site boundary, and on portions of the western parcel boundary of 111-240-30. The eastern windrow also contains several Monterrey cypress trees. These windrows serve as roosting areas for raptors which forage in the site's grasslands.

The Orcutt creek channel becomes wide and flat throughout the center of the segment which crosses this site. This has resulted in significant sedimentation, and the formation of a unique inland delta area, with the main channel diverging into several small stream channels. ~~A freshwater marsh~~E~~-~~mergent vegetation such as rush and bulrush has developed along these segments of the creek, and supports ~~emergent vegetation such as rush and bulrush, which provide~~ excellent nesting habitat for red-winged and Brewer's blackbirds. ~~Freshwater marsh is also present at 3 locations along the western site boundary, where d~~Drainages are impounded at 3 locations along the western site boundary by the berm which supports Black Road.

The remainder of the areas not in active cultivation are covered by large tracts of annual grassland, which constitute prime foraging habitat for a number of bird species including: white tailed kite, red-tailed hawk, golden eagle and loggerhead shrike. The terrain and its associated vegetation comprise prime habitat for the burrowing owl, a species which has declined dramatically in Santa Barbara County. Black-tailed jackrabbit and ground squirrels are also common in these areas. Overall, the 1179 acre Site's variety of habitats, undeveloped character and location in a rural area provide varied habitats for a wide variety of wildlife. Larger mammals using the site are expected to include grey fox, coyote, deer and possibly bobcat and badger.

Impacts

Development of this site with 2,000 or more units would substantially alter existing habitat values not only by direct removal of substantial amounts of habitat, but by fragmentation of remaining habitats and the introduction of substantial disturbances from new human populations including noise, light, polluted run-off and domestic animals. In addition to the County's proposed realignment of Dutard Road and "E" Street, as depicted in Figure KS22-5.1, Figure KS22-6 depicts the potential realignment of "E" Street via Dutard Road and Black Road. This alternative would completely avoid the sensitive vernal pool/wetland sand dune complex, however it may not satisfy north/south circulation needs.

Impact BIO-32: Removal of eucalyptus woodlands. Removal of eucalyptus woodlands that are used as a roosting and/or nesting site for raptors could have a *potentially significant* impact on raptor populations, many of whom are California Species of Special Concern.

Impact BIO-33: Weed invasion. Landscaping with weedy species in the proposed newly urbanized areas could have a *potentially significant* impact on the remaining acreages of native plant communities by displacing native species and thus significantly altering habitat characteristics and ecological functions. These weedy species include iceplant, pampas grass, veldt grass, eucalyptus, spiny clotbur and Australian fireweed.

Policy Impacts

Adoption of the Orcutt Community Plan may include adoption of numerous policies affecting future development. Those policies that have the potential of significantly impacting biological resources are discussed below. The following analysis is based upon the draft policies contained within the November 15, 1994 Initiation Draft Orcutt Community Plan.

Impact BIO-34: Parks, Recreation and Schools policies. Draft policies 1, 3, 5 and 8 encourage or direct the County to increase recreational opportunities on open land, including encouraging private development to incorporate facilities such as golf courses. In particular, Draft PRT policy 8, and Schools policies 1 and 5 could result in elimination of a substantial portion of the vernal wetland/sand dune complex (next to Arrellanes School). ~~and other wetlands on Key Site 22.~~ This could result in the elimination of critical habitat areas and is *potentially significant*.

Impact BIO-35: Trails policies. Draft policies 22, 23 and 24 encourage the County to develop a comprehensive trail system on open lands. This could result in elimination of sensitive plants, as discussed in Impact BIO-8 which is *potentially significant*.

Impact BIO-36: Sewer system policies. Draft policies 1 and 2 could result in *potentially significant* impacts to creeks and wetlands as described in Impacts BIO-10, 11, and 12.

Impact BIO-37: Transportation policies. Draft policy 1 requires completion of needed roadways which would have *potentially significant* impacts as described in Impacts BIO-1 - 7.

Impact BIO-38: Flood Control policies. Draft Policies 6 and 12 requiring retention basins would have *potentially significant* impacts to riparian and other systems (Impact BIO-15).

C.Cumulative Impacts

Cumulative impacts from development of the Orcutt Community Plan in addition to development in the City of Santa Maria, Vandenberg Air Force Base and southwestern San Luis Obispo County would be most severely **cumulatively significant** to wetlands, riparian, central dune scrub, oak woodlands, central coast scrub and sandhill chaparral communities. In particular, development of portions of the proposed golf course and Union Valley Parkway extension on the southern portions of the airport property would

Mitigation BIO-22: The ancient sand dunes of Orcutt shall be protected and preserved to the maximum extent feasible. All feasible measures shall be taken to avoid impacts to these dunes, including but not limited to: realignment of roads and construction of bridges over rather than through dunes.
(*Addresses Impact BIO-24*).

Mitigation BIO-23: Sandhill chaparral, central dune scrub, oak woodlands and central coastal sage scrub shall be protected to the maximum extent feasible. Developments adjacent to these areas shall employ setbacks, clustering, native landscape buffers and restoration of degraded areas including any impacted rare species. The goal of the plans shall be to have no net loss of habitat.
(*Addresses Impacts BIO-25, -26, -27, and -29*)

Mitigation BIO-24: Riparian vegetation shall be preserved to the maximum extent feasible. A minimum buffer of 50 feet from the dripline of riparian vegetation shall be maintained. All new development adjacent to creeks and streams shall be required to implement a riparian habitat restoration plan. The project shall minimize the effects of adjacent urbanization by: 1) locating the restoration onsite to the maximum extent feasible, 2) hooding and directing all lights away from the creek, 3) providing a long-term drainage plan that directs any potentially polluted drainage away from the creek, and 4) implementing an erosion and sedimentation control plan during construction.
(*Addresses Impact BIO-28*)

Mitigation BIO-25: No recreational or other development shall be permitted that would adversely impact the Bishop Pine Forest. In order to preserve the potential for wildfire and regeneration to occur, any new structures shall be located a minimum of 300 feet from the forest boundary.
(*Addresses Impact BIO-30*)

Mitigation BIO-26: Oak trees shall be protected to the maximum extent feasible. Measures taken to preserve oak trees should include modification of project design (eg: clustering, narrower road width, taller building heights, etc). The area protected from grading, paving and other disturbances should include the area 6 feet outside of the dripline. Where oak trees are killed, they shall be replaced in a manner consistent with County standards. (*Addresses Impact BIO-31*)

Mitigation BIO-27: Eucalyptus woodlands that are used as roosting and/or nesting site for raptors shall be protected to the maximum extent feasible. Where eucalyptus trees are removed, they should be replaced by native trees. (*Addresses Impact BIO-32*)

Mitigation BIO-28: Landscape plans for developments on the edge of open space areas shall include trees and shrubs native to the Santa Maria Valley. ~~(The Orcutt Biological Resources Technical Report [Rindlaub 1995a] contains a list of species.)~~ Planting of invasive weedy plants such as iceplant, pampas grass, veldt grass, monterey pine, eucalyptus, spiny clotbur and Australian fireweed shall be strongly discouraged and removed where feasible in these areas. (*Addresses Impact BIO-33*)

Exhibit C.1

To be removed from OCP FEIR Appendix D:
Vernal Wetlands and Orcutt Creek Wetlands Delineation, K. Rindlaub Biological Consulting, September 1, 1995.

Document available in *Attachment 6: Planning Commission Action Letter*
and for viewing and download at:
http://longrange.sbcountyplanning.org/planareas/orcutt/orcutt.php)

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APPENDIX D

Vernal Wetlands and Orcutt Creek Wetlands Delineation, K. Rindlaub Biological Consulting, September 1, 1995 removed by Resolution # _____ of the Board of Supervisors in compliance with court ruling in Adam Bros. Farming Inc. v. County of Santa Barbara (Super Ct. Santa Barbara County, 2004, No. 1007452)

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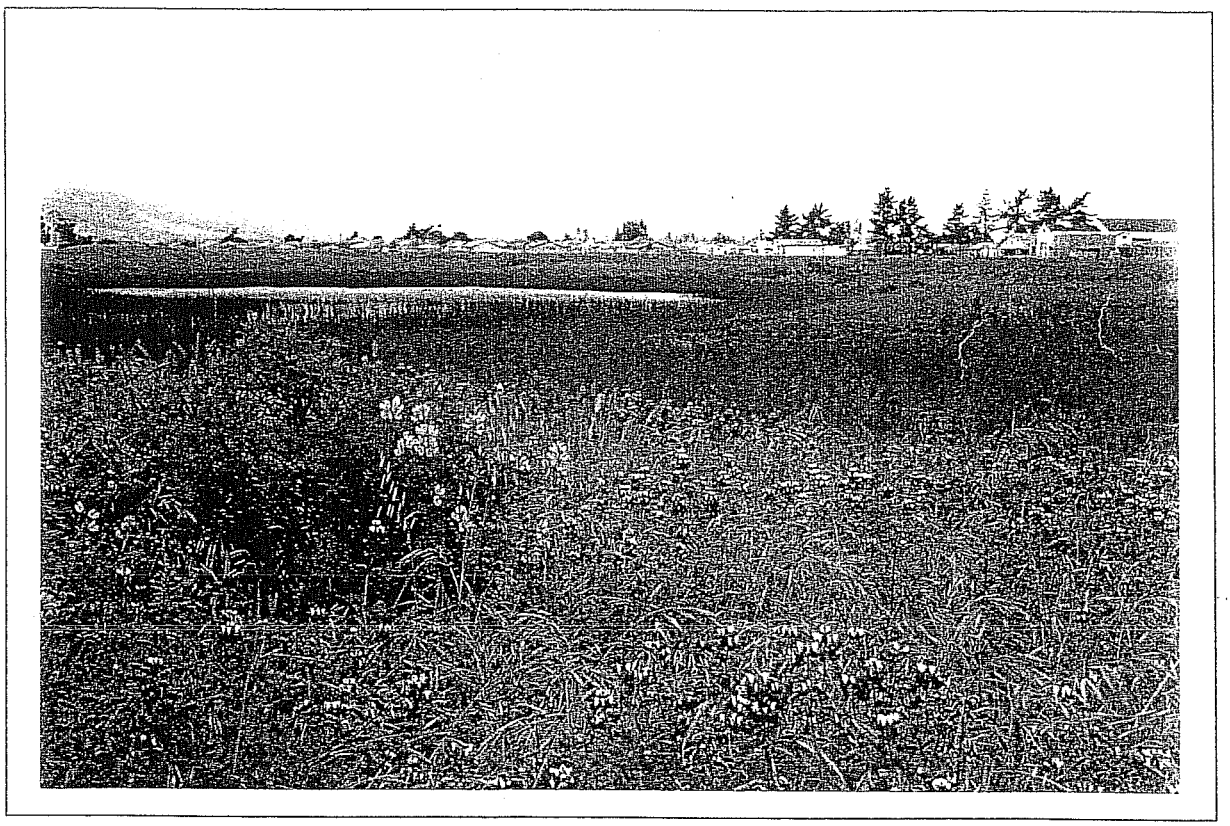
WEST ORCUTT PLANNING AREA 8

VERNAL WETLANDS AND ORCUTT CREEK

WETLAND DELINEATION



Prepared for:

Planning and Development Department
County of Santa Barbara
123 East Anapamu Street
Santa Barbara, California 93101

Prepared by:

Katherine Rindlaub Biological Consulting
P.O. Box 31111
Santa Barbara, California 93130

September 1, 1995

WEST ORCUTT PLANNING AREA 8

VERNAL WETLANDS AND ORCUTT CREEK

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WEST ORCUTT PLANNING AREA 8

VERNAL WETLANDS AND ORCUTT CREEK

WETLAND DELINEATION

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Introduction

The area in and around the City of Orcutt, in northern Santa Barbara County, is experiencing rapid growth. Consequently, the Santa Barbara County Planning and Development Department identified a number of parcels likely to be proposed for development in the near future. Among these parcels, or clusters of parcels, are several that are known to have significant biological resources. Area 8 (Key Site 22) is a 693 acre group of parcels located in the sparsely developed West Orcutt Planning Area. A number of wetlands are included within Area 8. Among these wetlands are two large areas of particular concern: Orcutt Creek, its tributaries and floodplain, and a complex of vernal wetlands and sand dunes. The purpose of this report is to delineate the extent of wetlands on these two sections of Area 8.

Area 8 is located northeast of the intersection of State Highway 1 and Black Road, west of the City of Orcutt, and southwest of the Santa Maria Airport. The southern end is traversed by Orcutt Creek. A series of deep swales with freshwater marsh wetlands extends to the northwest along the western boundary. The northern section, north of an unpaved agricultural access road, supports a complex of vernal pools, vernal ponds, vernal flats and vernal marsh, which continues off the site onto the Santa Maria Airport property. A minor drainage crosses the site from east to west about one-third of the distance south of the northern boundary. The central section of the site is under cultivation.

Two different procedures were used to delineate wetlands on two areas of this site. The U.S. Army Corps of Engineers method was used for Orcutt Creek and its tributaries, and the U.S. Fish and Wildlife method was used for the vernal wetlands area. Because of these differences in methodology, and the different character of the wetlands classified, the two areas are presented separately.

Environmental Setting

Regional Setting

The Orcutt Planning Area, including the City of Orcutt, lies along the southern side of the Santa Maria Valley in northwestern Santa Barbara County, California (Figure 1). The valley is bordered on the south by the Solomon and Casmalia Hills. Regional climate is Mediterranean, with warm, dry summers and cool, wet winters. Average annual rainfall is 12 to 18 inches, with precipitation

generally restricted to winter and early spring. Summer temperatures are ameliorated by a marine layer of fog and low clouds that frequently penetrates into the project area from the Pacific Ocean to the west. The average annual air temperature is 57°F. Prevailing winds are from the northwest.

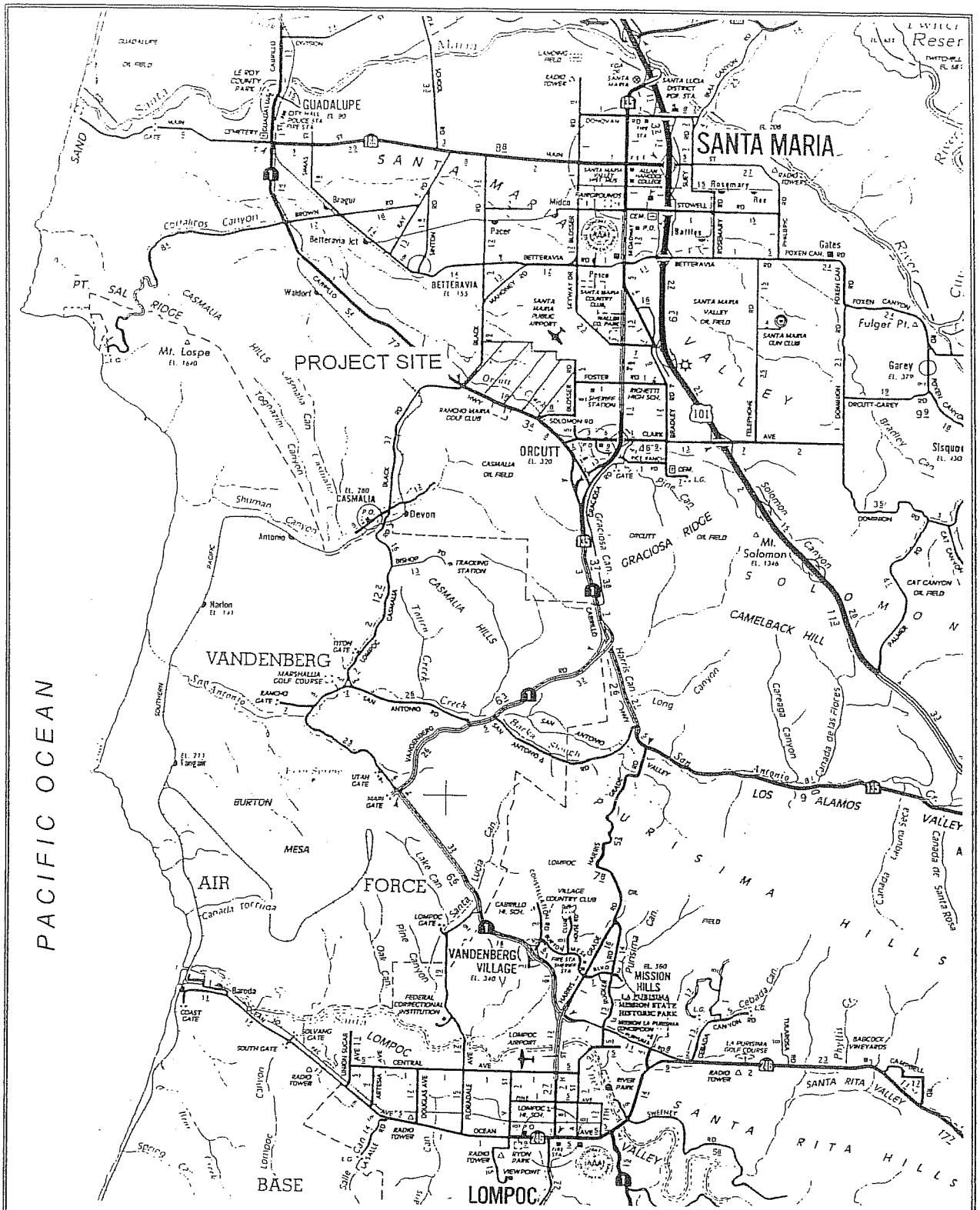
Geology

The soils and topography of the Santa Maria Valley are unusual in California. This is one of six localized and disjunct regions where a subsiding basin permitted successive events of aeolian sand deposition. Following periods of marine deposition (middle Miocene to late Pliocene), tectonic rotation and uplift, the basin was formed. This basin was bordered by southwest/northeast trending hills. Non-marine, fluvial materials were deposited in the basin from the early to late Pleistocene. From the Pleistocene onward, periods of uplift and subsidence, with changes in eustatic sea level, created conditions for deposition of wind-blown sands, resulting in development of aeolian dunes. The Orcutt Terrace dune sheet, which underlies the project area, is a combination of ancient aeolian sands deposited at least 60,000 to 80,000 years ago, and sands and gravels deposited by a fluvial system between 25,000 and 32,000 years ago. This was followed by another phase of aeolian dune building between 6,000 and 25,000 years ago. (Rindlaub, Hunt and Storrer, 1995).

Soils

The soils that developed on the ancient dunes of the Orcutt Terrace dune sheet consist of a group collectively referred to as the Orcutt Sands. These sandy soils typically are fast-draining, and may include perched aquifers. There are, however, a few soil types with very slow permeability, or that are underlain by relatively impervious substrates, which are conducive to the development of wetlands on level terrain.

Several different soil types occur within the project area (Table 1). Three different soil series (Figure 2) were mapped by the Soil Conservation Service in the vernal wetlands area on the northern section of the site (Shipman, 1972). Soils of the Betteravia Series are derived from wind-modified marine sands. Although sandy, the permeability of these soils is very slow, and when on level terrain "tends to become boggy after rains" (Shipman, 1972). The hardpan variant of the Narlon Series also occurs in the vernal wetlands area, and consists of loamy sands underlain by cemented sand or clay. Of the soils mapped in the vernal wetlands area, only this Narlon variant is included on the Hydric Soils List (Czarnecki, 1995) as a potentially hydric soil. The third type, the



PROJECT VICINITY

FIGURE 1

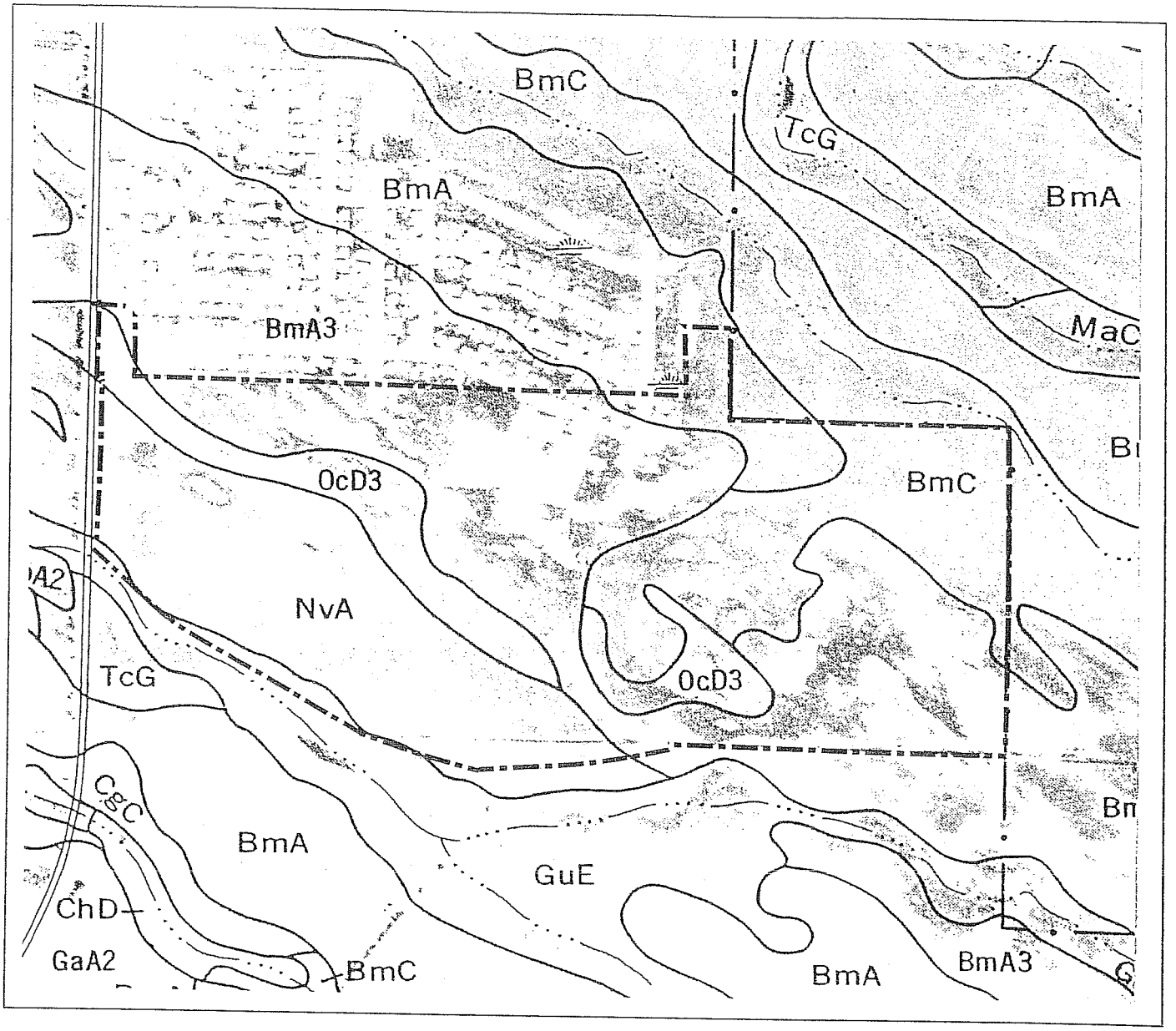


FIGURE 2

VERNAL WETLAND SOIL TYPES: WEST ORCUTT PLANNING AREA 8

BmC: Betteravia Loamy Sand **OcD3: Oceano Sand** **NvA: Narlon, Hardpan variant**
(From Shipman, 1972)

Study Area

TABLE 1

SOIL UNITS MAPPED BY THE USDA SOIL CONSERVATION SERVICE IN THE STUDY AREA[1]

Symbol	Series and Phase	Description / Comments	Available Water Capacity (inches)	Permeability	Salinity (Mmhos./cm. at 25° C.
Bm—	Betteravia Series	Moderately well-drained loamy sands.			0-1
BmA	Betteravia loamy sand, 0 to 2 percent slopes.	"Tends to become boggy after rains."	3.0-4.0	Very slow.	
BmA3	Betteravia loamy sand, 0 to 2 percent slopes, severely eroded.	Loamy sand over a weakly cemented subsoil that may be exposed.	0.5-2.0	Very slow.	
BmC	Betteravia loamy sand, 2 to 9 percent slopes.		2.0-3.5	Very slow.	
Ct— Cu—	Corralitos Series	Loamy sands or sands that are somewhat excessively drained.			0-1
CtA	Corralitos sand, 0 to 2 percent slopes.		2.0-4.0	Rapid.	
CtD	Corralitos sand, 2 to 15 percent slopes.		2.0-4.0	Rapid.	
CuA	Corralitos loamy sand, 0 to 2 percent slopes.	Typically found on alluvial fans and floodplains.	4.0-5.0	Rapid.	

Symbol	Series and Phase	Description / Comments	Available Water Capacity (inches)	Permeability	Salinity (Mmhos./cm. at 25° C
CuC	Corralitos loamy sand, 2 to 9 percent slopes.	Found on alluvial fans and in small valleys interdigitated with hills.	4.0-5.0	Rapid.	
Ed—	Elder Series	Well-drained sandy loams usually found on floodplains and alluvial fans.			0-1
EdA2	Elder sandy loam, 0 to 2 percent slopes, eroded.	Flood plains subject to deposition, erosion, overflow, and runoff from surrounding areas.	6.0-7.5	Moderately rapid.	
EdC2	Elder sandy loam, 2 to 9 percent slopes, eroded.	Occurs in narrow valleys and on sloping alluvial fans. Subject to runoff. Long, deep gullies are common.	6.0-7.5	Moderately rapid.	
Nv—	Narlon Series, Hardpan variant.	Potentially hydric. Moderately well-drained soils that formed on old marine terrace deposits. Sand over partially cemented marine sediments.			0-1
NvA	Narlon Sand, Hardpan Variant	Potentially hydric. Depth to the sandy clay layer that impedes drainage ranged from 24 to 30 inches. A perched water table often forms after rains or irrigation.	2.0-3.0	Very slow.	
Oc—	Oceano Series	Excessively drained, sandy soils.			0-1
OcD	Oceano sand, 2 to 15 percent slopes.		2.0-4.0	Rapid.	
OcD3	Oceano sand, 2 to 15 percent slopes, severely eroded.	With shallow gullies. Loose sand and blowouts are common in this soil.	2.0-4.0	Rapid.	

Symbol	Series and Phase	Description / Comments	Available Water Capacity (inches)	Permeability	Salinity (Mmhos./cm. at 25° C
Rs	Riverwash	Water-deposited sand, gravel, cobble-stones, and stones in active stream cannels. Deposition and erosion of materials result from streambank erosion. Inundated during high water flows. Development of vegetation is severely limited.	No data.	No data.	No data.

[1] From Shipman (1972)

Oceano Series, is characterized by sandy soils with rapid permeability (Shipman, 1972), represented by relictual dunes.

Soils from the Betteravia and Oceano Series are also mapped in the Orcutt Creek drainage (Figure 3). Additional soils series in this area include sandy, rapidly draining soils in the Corralitos Series, sandy loams typical of alluvial and flood plains in the Elder Series, and Riverwash (Shipman, 1972). Of these, only the Riverwash is included on the National List of Hydric Soils (Czarnecki, 1995).

Orcutt Creek Wetland Delineation

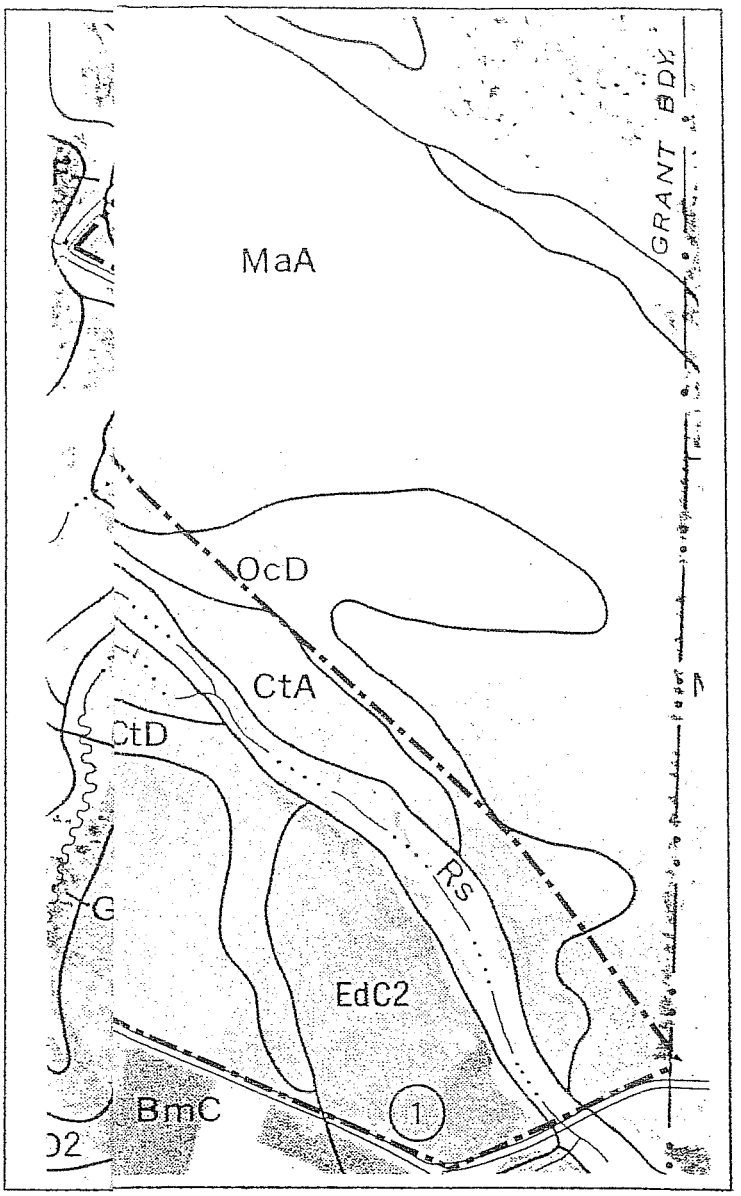
Site Description

As Orcutt Creek flows roughly from east to west through the Orcutt Planning Area, it has a well-defined channel with steep banks along most of its course. However, as it enters Area 8 from the Solomon Road bridge, the creek spreads out over a broad floodplain, although a shallow channel runs along the southern side. This floodplain extends approximately half-way across the site. (Figure 3) from east to west. Floodplain limits to the north and south are well defined by rising sandy hills along most of its length. The northern sand hills are in agricultural use (strawberries). A tributary flows into the creek from the north that is now artificially contoured through a strawberry field. It carries runoff during the rainy season that enters the floodplain at a patch of boggy freshwater marsh. On the southern side a few developments and agricultural fields are located along California State Highway 1. The rest of the land, including most of the creek and the entire floodplain, is used as rangeland for cattle.

Approximately half-way across the site, the stream waters again collect into two deep, well-defined channels. At this location, a small, shallow tributary and an excavated tributary enter the creek from the south. The two main creek channels merge before the creek leaves the site, passing beneath Black Road on the western boundary. An additional major tributary, with nearly vertical banks, enters the creek from the south near the western boundary of the site.

Methods

Wetland delineation along Orcutt Creek and its tributaries on Area 8 (Key Site 22) follows the U.S. Army Corps of Engineers routine onsite delineation methodology (Wetland Training Institute, 1991). Wetland classification follows the Cowardin et al. (1979) system adapted for



sand;

coastal Southern California wetlands by Ferren (1988). These wetlands were also classified according to the Holland system (1986) used by the California Department of Fish and Game. Wetland types and their approximate boundaries were mapped during a pedestrian survey of the entire site on May 13 and 15, 1994 by Katherine Rindlaub, botanist. A natural color aerial photograph (Pacific Western, 1991) was also used to determine which areas might include wetlands. On June 10, 1995 wetlands specialist Wayne Ferren joined K. Rindlaub for a field consultation on the eastern half of the Orcutt Creek floodplain. K. Rindlaub and botanist Beth Hendrickson visited the site again on June 11, 1995 to delineate and map the wetland/upland boundaries in questionable areas, sampling the soil where necessary. Data sheets that document wetland sampling stations are included in the Appendix.

The limits of Orcutt Creek and its associated wetlands were mapped in the field on a 1 inch : 200 foot topographic base map with a two foot contour interval. Areas where the wetland/upland boundary was doubtful were determined during the 1994 field reconnaissance. Sampling stations were concentrated in these areas during the 1995 survey. At each sampling station, up to three characteristics were evaluated: vegetation, hydrology, and (if necessary) soils. Each dominant plant species was identified and, where relevant, the relative percent cover was recorded. Taxonomy follows Hickman (1993). Dominant species were classified according to the National List of Plant Species That Occur in Wetlands, Region O (Reed, 1988). If all dominants were classified as obligate (OBL) or facultative wet (FACW) species and the hydrology was suitable, the area was mapped as wetland. The soil was examined in cases where facultative (FAC) species dominated the vegetation, and any FACW species were balanced by facultative upland (FACU) species. In that case, the area was mapped as wetland only when all three criteria were positive (Reed, 1988; Wetland Training Institute, 1991). Water chemistry was deduced from the known characteristics of the dominant species in the vegetation.

The hydrology was determined by the presence or absence of wet soil at the sampling location, by examining the contours of the surrounding area, and considering adjacent land use (e.g., irrigated agriculture). Soil testing consisted of digging a soil pit until wet soil was intercepted within 18 inches depth. A sample of wet soil was examined for evidence gleying, mottling, or oxidized rhizospheres: indicators of a reducing environment. Colors of the soil matrix, gleyed streaks and oxidized rhizospheres were determined using the Munsell Soil Color Charts (Munsell, 1992) and recorded on the data sheet. When all three categories (vegetation, hydrology and soils) met the criteria specified in the manual (Wetland Training Institute, 1991), the area was classified and mapped as wetland.

A herd of cattle occupied the creek floodplain at the time of the surveys. Access was limited in the immediate area where the southern tributary and excavated channel enter the main creek channels due to aggressive behavior displayed by two bulls. Consequently, the wetland/upland boundary is least accurately mapped in this area. Access was similarly constrained along the central section of the northern floodplain.

Areas mapped as wetlands were initially measured using a La Sico Auto Scaler II planimeter. Follow-up measurements were made in some cases to measure different types of wetlands within the larger wetland mapping units using a Tamaya Sokkia Planix 7 planimeter. Each mapping unit was measured three times, and the average value was used to calculate acreage. Initially, the entire floodplain was mapped and measured as one unit. Follow-up measurements estimated areas for riverine channels, freshwater seeps, and freshwater marsh within the floodplain. These wetland area estimates were subtracted from the total floodplain area.

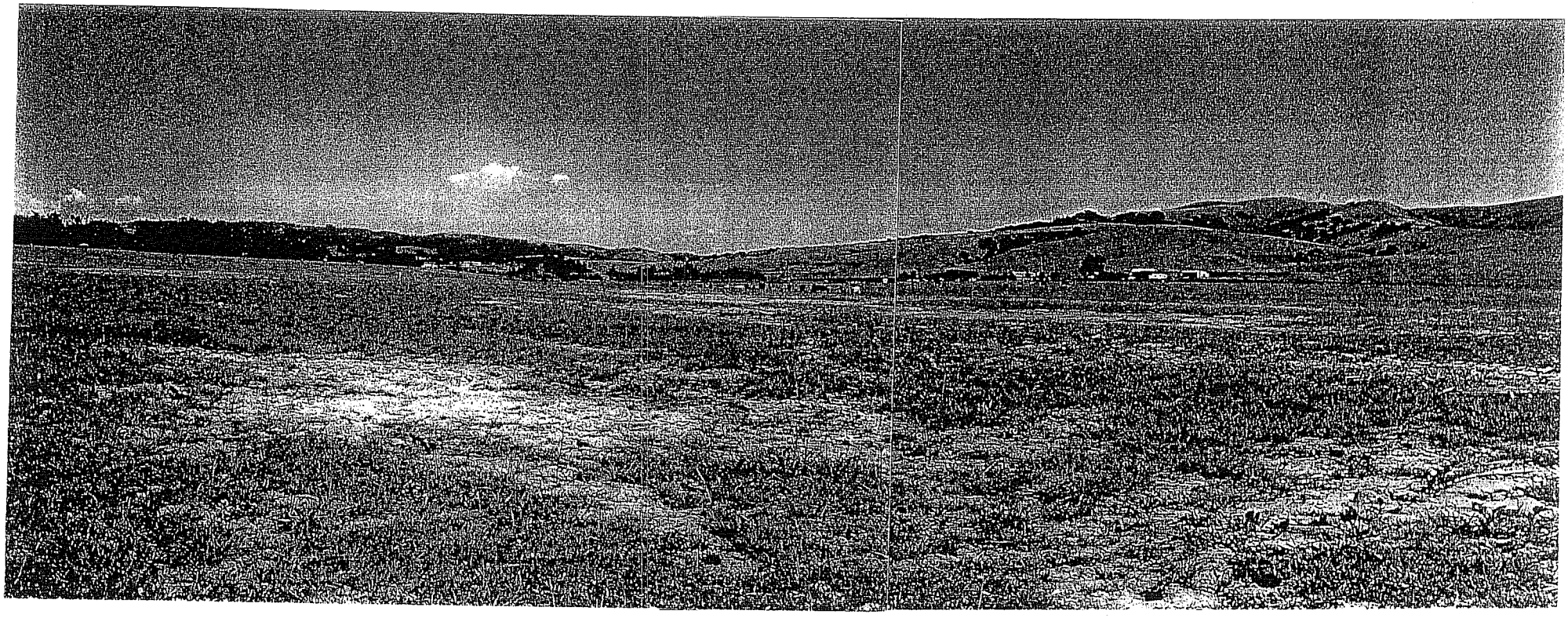
Results

Wetland Area: A total of 110.35 acres of wetlands was identified and mapped along Orcutt Creek on Planning Area 8. Another 10.4 acres of grasslands that could be wet meadows were also identified, but excluded from the wetland total because the hydrology appeared artificial (sustained by crop irrigation), and/or hydric soil indicators were questionable. The acreages for the different types of wetlands mapped along Orcutt Creek on Area 8 are presented in Table 2. A reduced copy of the 1 inch : 200 foot map showing the jurisdictional wetland limits, transect, and sampling locations is shown in Figure 5.

Wetland Types:

According to the classification system established by Cowardin et al, (1986), wetlands on the subject property fall into the Riverine and Palustrine Systems. The boundary between these systems is not always clear, and may change from year to year, depending on the amount and pattern of significant storm events. This variability is characteristic of creeks with seasonal or intermittent water regimes in Mediterranean climates (Ferren, 1995). For example, a series of relatively dry years may permit establishment of perennial emergent wetland vegetation characteristic of the Palustrine System within the creek bed. This vegetation may be removed during a year with high velocity flows, and its re-establishment may be prevented during a series of such years. Similarly, an area some distance from the creek channel, normally part of the Palustrine System, may be flooded, and the vegetation buried by silt or sand in high flow years. In

FIGURE 4



John Storrer

Orcutt Creek Floodplain

From eastern floodplain, looking southeast toward Highway 1. May 16, 1995.

TABLE 2

ORCUTT CREEK JURISDICTIONAL WETLANDS

Wetland Type	Acres	Total Acres
Riverine System		19.65
Orcutt Creek Channels[1]	12.51	
Excavated Tributary	0.09	
Floodplain: Depositional[1]	7.05	
Palustrine System		90.70
Forested Wetland: Central Coast Riparian Scrub	1.31	
Persistent Emergent Wetland: Wet Meadow[1]	76.78	
West End (8.91 ac)		
Floodplain (67.87 ac[1])		
Persistent Emergent Wetland: Freshwater Marsh[1]	11.25	
Northern tributary (0.93 ac)		
Floodplain (7.61 ac[1])		
Southern tributary [golf course] (0.45 ac)		
Impounded pool (0.53 ac)		
Southern stockponds/marsh (1.73 ac)		
Persistent Emergent Wetland: Seeps[1]	0.59	
Non-persistent Emergent Wetland: Vernal Pools and Marsh	0.77	
Total Wetland Acres	**110.35**	**110.35**

[1] Acreage is approximate. The extent of the depositional environment, creek channels, seeps, and freshwater marsh within the floodplain was not completely mapped during the field survey. However, the total acreage of the floodplain (wet meadow, depositional environment, freshwater marsh and seeps) was mapped and measured.

that case, it would be regarded as part of the Riverine System that year. Both types of variable, or transitional wetlands were found within the Orcutt Creek drainage system.

Riverine Wetlands

System: Riverine; Subsystem: Intermittent; Class: Unconsolidated Bottom; Subclass: Vegetated (Non-persistent; Transitional to Palustrine Wetland); Water Regime: Seasonally Flooded; Salinity Regime: Fresh.
Holland Community: Central Coast Riparian Scrub? (Degraded)

The major channels of Orcutt Creek include 12.5 acres that are part of the Riverine System. Vegetation may become established within the banks of this sand bottom streambed during periods of low flow, but it generally is scoured out each year during periods of high flow following storms. Typical dominants are brass buttons (*Cotula coronopifolia*), watercress (*Rorippa nasturtium-aquaticum*), heliotrope (*Heliotropium curassavicum*), halberd-leaf saltbush (*Atriplex patula*), and rabbitsfoot grass (*Polypogon monspeliensis*). Duckweed (*Lemna* sp.) and algal mats appear on and beneath the surface of the water as the level drops, leaving small pools.

The wetland area was mapped using contours on the topographic map that defined the creek channel. On the western half of the site, the nearly vertical banks of the creek channels are clearly delineated on the map. On the eastern half of the site, the creek channel shown on the map is shallow and not well defined. The acreage for this portion of the Riverine System was based on an average channel width of 20 feet. It was included within the initial floodplain measurements. Riverwash soils are hydric (Czarnecki, 1995) and are saturated most, if not all, year.

System: Riverine; Subsystem: Intermittent; Class: Unconsolidated Shore; Subclass: Vegetated? (Transitional to Palustrine Wetland); Water Regime: Seasonally Flooded, Saturated; Salinity Regime: Fresh.
Holland Community: Wet Meadow.

Toward the eastern end of the property, a broad floodplain extends northward from the main creek channel. During periods of high water flow, the creek rises above the relatively shallow banks in this area and flows in temporary braided channels over the wet meadows. In 1995, the unusually high volume and velocity of the water entering this floodplain carried a load of sand that was deposited in a layer several inches thick, burying the wet meadow vegetation. Therefore, in 1995 at least, approximately 7.1 acres of this depositional area is a part of the Riverine, rather

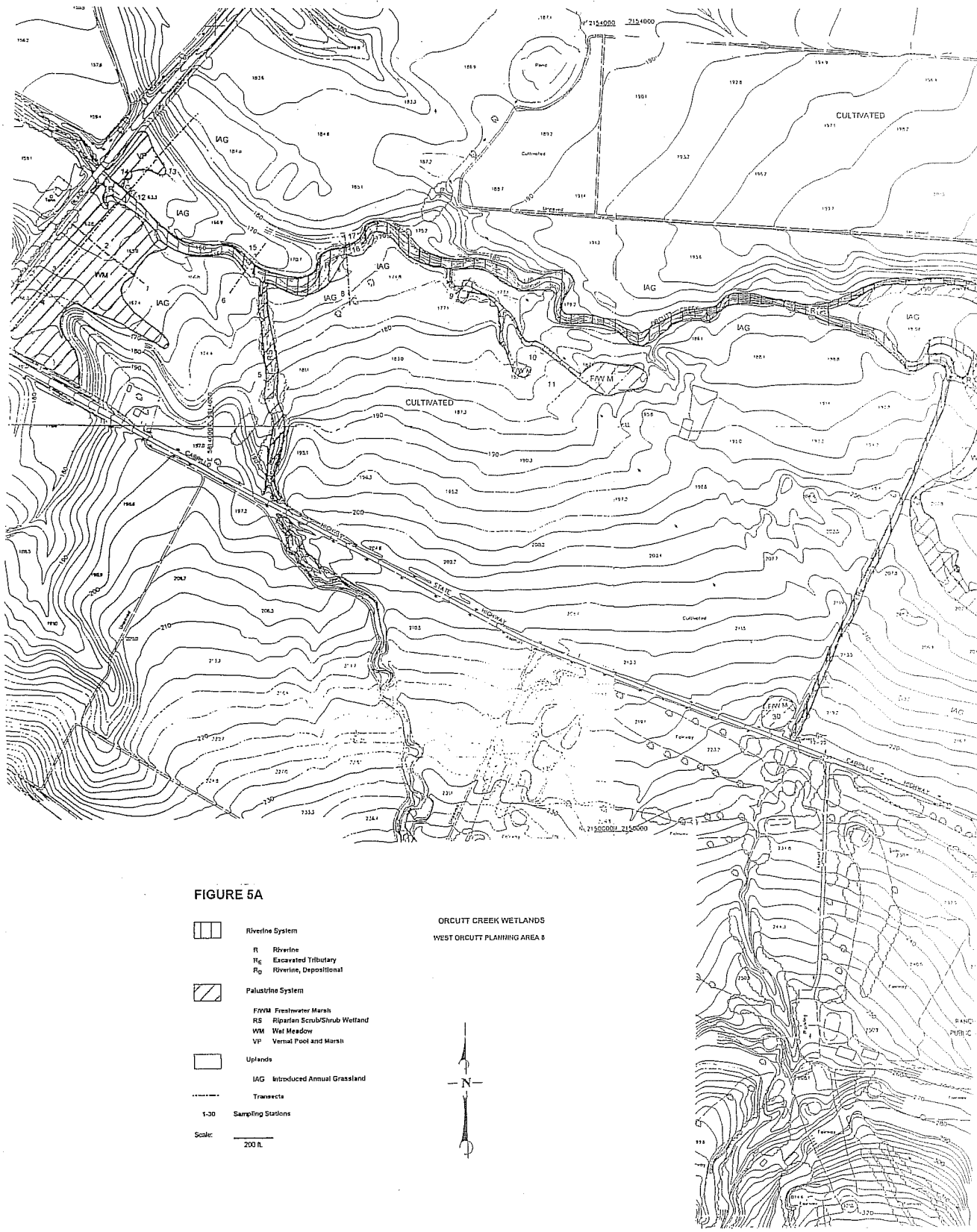


FIGURE 5A

ORCUTT CREEK WETLANDS

WEST ORCUTT PLANNING AREA 8

Riverine System

- R Riverine
- R_E Excavated Tributary
- R_D Riverine, Depositional

Palustrine System

- FWM Freshwater Marsh
- RS Riparian Scrub/Shrub Wetland
- WM Wet Meadow
- VP Vernal Pool and Marsh

Uplands

- IAG Introduced Annual Grassland

Transects

1-30 Sampling Stations

Scale: 200 ft.

N

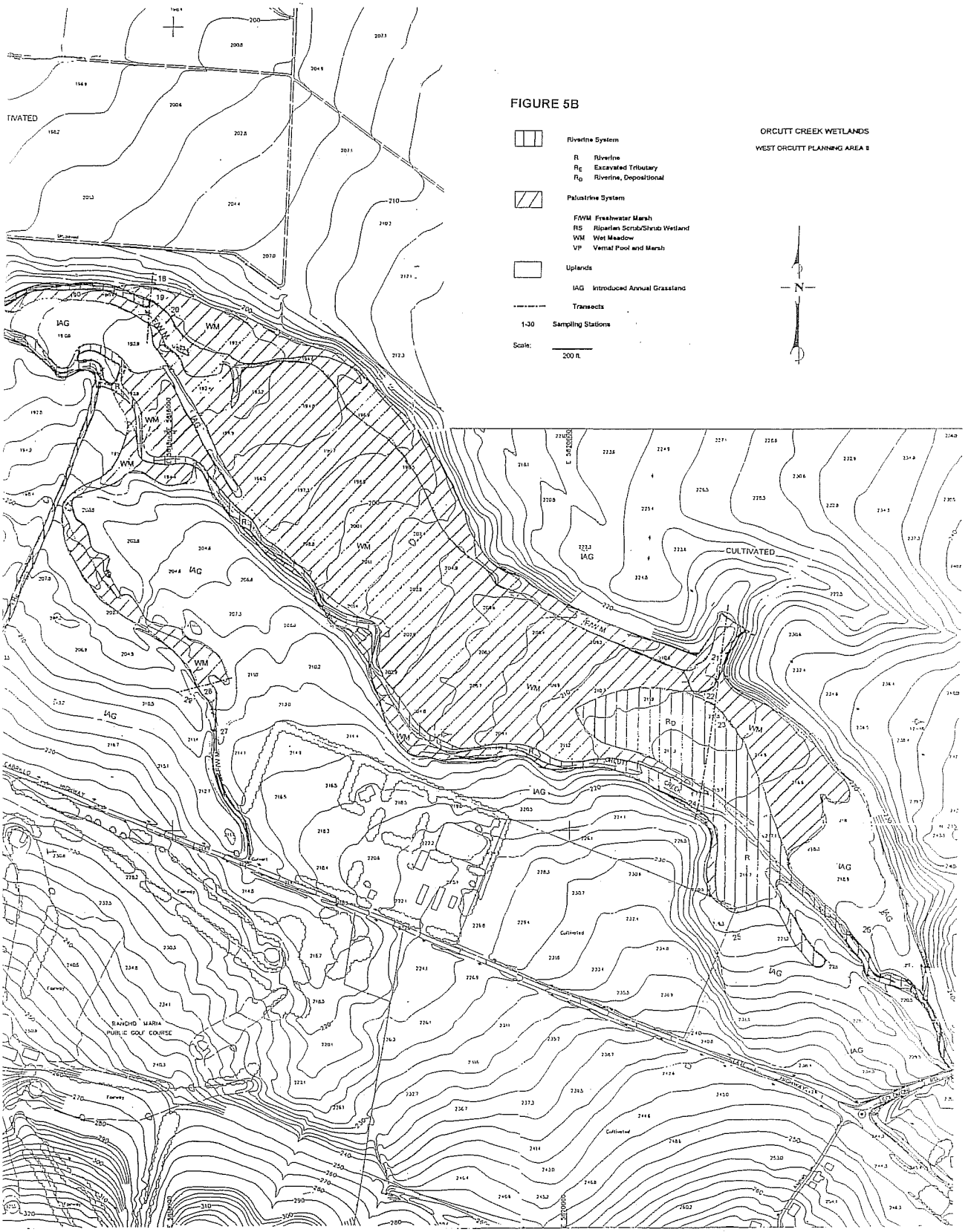


FIGURE 5B
ORCUTT CREEK WETLANDS
WEST ORCUTT PLANNING AREA II
Riverine System
R Riverine
RE Excavated Tributary
RD Riverine, Depositional
Palustrine System
FWM Freshwater Marsh
RS Riparian Scrub/Shrub Wetland
WM Wet Meadow
VP Vernal Pool and Marsh
Uplands
IAG Introduced Annual Grassland
Transects
1-30 Sampling Stations
Scale: 200 ft
N
CULTIVATED
RANCHO MARIA PUBLIC GOLF COURSE
CALIFORNIA 1 HIGHWAY

than the Palustrine System. Judging from a 1991 aerial photograph, the heavy rains of that year produced a similar effect.

The gleyed, sandy Riverwash soil with mottles and oxidized rhizospheres found in this depositional environment suggests that this soil is saturated all, or most of the year, if only seasonally flooded. In years of normal rainfall, perennial grasses, such as saltgrass (*Distichlis spicata*) may regularly colonize the fresh deposits.

System: Riverine; Subsystem: Intermittent; Class: Excavated Streambed; Subclass: Vegetated (Non-persistent); Water Regime: Intermittent; Salinity Regime: Fresh.
Holland Community: Degraded Central Coast Riparian Scrub.

A straight channel running parallel to an access road onto the property from Highway 1 appeared recently cleared in 1994. Mapped as a tributary to the creek by Shipman (1972), it may have been deepened to protect the road and a residence under construction in 1994. This channel is part of a tributary flowing from the golf course through a culvert beneath State Highway 1. The amount or duration of flow it captures is unknown. The sparse vegetative cover observed in 1995 suggests that the flow is sufficient to remove most vegetation that does establish during the growing season. It includes about 0.09 acres, and has a sandy bed.

Palustrine System

System: Palustrine; Class: Scrub/Shrub Wetland; Subclass: Broad-leaved Deciduous and Evergreen; Water Regime: Phreatophytic and generally not flooded; Salinity Regime: Fresh.
Holland Community: Central Coast Riparian Scrub.

A dense growth of large arroyo willows (*Salix lasiolepis*) on the upper banks of the southern tributary near the western end of the property provides nearly complete cover over the creek channel. At the time of the 1995 survey, high velocity water flows had scoured the sandy creekbed, and it appeared that portions of the nearly vertical banks had recently collapsed. Consequently, there was little understory vegetation. In a series of years with average rainfall, these banks would probably support some shade-tolerant riparian understory species, such as mugwort (*Artemisia douglasiana*) and blackberry vines (*Rubus ursinus*). Patches of hemlock (*Conium maculatum*) occurred around the perimeter of the trees where the tributary enters the main creek channel. This tree-lined tributary includes about 1.31 acres.

System: Palustrine; Class: Emergent Wetland; Subclass: Persistent; Water Regime: Seasonally Flooded; Saturated; Salinity Regime: Fresh.
Holland Community: Wet Meadow.

On the eastern half of the site, primarily north of the main creek channel, a floodplain lies between sand hills that rise to the north and south. These wet meadows (67.87 acres) are dominated by Mediterranean barley (*Hordeum marinum*). Common associates include bird's-foot trefoil (*Lotus corniculatus*), ryegrass (*Lolium multiflorum*), curly dock (*Rumex crispus*) and saltgrass (*Distichlis spicata*). The main creek channel flows through the meadow along the base of the sandy hills bordering the southern floodplain margin. In most places, the wet meadow extends slightly southward, between the creek and the sand hills. It is more extensive south of the main creek channel where it merges with the mouths of tributaries from the golf course south of State Highway 1. The northern limit of wet meadow similarly extends slightly beyond a poorly defined marshy, secondary channel that runs along the base of the sand hills to the north.

Soil tests were necessary to determine the extent of these meadows. The Corralitos soil mapped by Shipman (1972) is not on the National List of Hydric Soils, but may be associated with alluvial deposits. The wet matrix soil had a low chroma (2), with oxidized rhizospheres, indicating a reducing environment was present in these soils. Although not saturated at the time of the survey, they were still wet several weeks following the last light rains, indicating a wetland hydrologic regime, particularly considering the sandy soil texture.

System: Palustrine; Class: Emergent Wetland, (transitional to Scrub/Shrub Wetland); Subclass: Persistent; Water Regime: Seasonally Flooded; Saturated; Salinity Regime: Fresh.
Holland Community: Wet Meadow, transitional to Central Coast Riparian Scrub.

An additional 8.9 acre area of wet meadow was identified at the southwestern corner of the property with an herbaceous layer similar to that observed on the creek floodplain. The limit of this wetland was determined by examining the soil. Although a different type (Elder Series, [Shipman, 1972]), the soil in this area was wet, but not saturated, and included oxidized rhizospheres. A clay layer was encountered three inches beneath the upper sandy loam layer. Sandy loam soil also underlies the clay.

This wetland occupies a swale partly created by impoundment due to the Black Road berm. However, it is part of a much larger swale extending southward of, and bisected by, Highway 1. The bisected swale is the lower end of an additional tributary to Orcutt Creek from the Solomon

Hills. (It was mapped by Shipman (1972) as a drainage or tributary.) Although not culverted beneath Highway 1, subsurface water flow originating south of the Highway probably contributes to the maintenance of wetland vegetation and hydric soil. A line of arroyo willows grows along the fence line just outside the property at the base of the Black Road berm.

This meadow apparently is not grazed, and a number of small arroyo willow and mule fat (*Baccharis salicifolius*) shrubs have established there. A small shallow pool, that appeared to be artificial, was found at one of the low spots. The pool did not include any vernal pool indicator species.

System: Palustrine; Class: Emergent Wetland; Subclass: Persistent; Water Regime: Seasonally Flooded; Saturated; Salinity Regime: Fresh.
Holland Community: Freshwater Marsh.

Several areas of freshwater marsh were identified along Orcutt Creek. A 0.93 acre patch of freshwater marsh is well developed where a small, degraded tributary enters the creek floodplain from the strawberry fields to the north (northern tributary). Soils in this area were saturated, boggy, and smelled of hydrogen sulfide. A patch of California bulrush (*Scirpus californicus*) was surrounded by brass buttons, watercress, and water bentgrass (*Agrostis semiverticellata*).

Downstream of the bulrush patch, a secondary, intermittent, and poorly defined marshy channel runs along the base of sand hills on the north side of the floodplain. It appears to be fed partly by the strawberry field tributary, partly by seeps, and partly by subsurface flow from the main creek. Towards its western end, before the waters drop into a deeply eroded channel, large shallow pools were observed in the meadow in both 1994 and 1995, located in a low spot near old dunes.

The marshy northern channel is vegetated by a combination of grasses (Mediterranean barley, ryegrass, alkali rye [*Leymus triticoides*] and saltgrass) and forbs (bird's-foot trefoil, brass buttons). Occasional areas supported spikerush (*Eleocharis macrostachya*). The southern boundary between this vegetation type and the adjacent wet meadow is approximately mapped. Soils in the approximately 7.61 acre marshy area differed from the wet meadow. They were saturated and boggy, or even flooded. A soil sample was gleyed and mottled, and contained oxidized rhizospheres.

Freshwater marsh vegetation also occurs in the upper, narrow segment of the small tributary draining into Orcutt Creek from the golf course south of Highway 1. Although Mediterranean

barley was dominant, associates included common spikerush. The sandy soil was wet, gleyed, and contained oxidized rhizospheres. This 0.45 acre section of the southern tributary merges into the wet meadow south of the main creek channel.

A large field bordered by the southern property boundary, and located west of the dirt access road, is farmed. Red fescue (*Festuca rubra*) is grown in this irrigated field, apparently for supplemental feed, since the cattle access the area. Irrigation runoff collects in a small tributary that has been widened and dammed for use as a stockpond. The vegetation along this channel and around the pond is dominated by watercress, water bentgrass, rabbitsfoot grass, and brass buttons. A few arroyo willows grow near the mouth of this tributary. The soil was saturated at the surface, and soil samples included oxidized rhizospheres. However, a soil pit near the upper end of the mapped area showed that the hydrology there is the result of surface runoff rather than groundwater. Together, the ponds and the marshy channels that were identified totaled 1.73 acres. The extent of the freshwater marsh vegetation was not mapped within the irrigated area for two reasons. First, it became increasingly difficult to find, as it branched and merged into the grass crop. Second, it appeared that the tiny, shallow channels of marsh vegetation, if they did continue, were increasingly dependent on irrigation.

System: Palustrine; Class: Emergent Wetland; Subclass: Persistent; Water Regime: Seasonally Flooded/Permanently Saturated, Impounded?; Salinity Regime: Fresh.
Holland Community: Coastal Freshwater Marsh.

A small shallow pond is located along State Highway 1 (southern property line) at about the middle of the site next to an access road. This approximately 0.6 acre pond is densely vegetated by California bulrush. Soils were saturated. The source of the water that supports this apparently impounded area is unclear, since it did not appear to be fed directly through the nearby culvert. A sign warning of unsafe water suggested the water may be collected from the golf course south of Highway 1.

System: Palustrine; Class: Emergent Wetland; Subclass: Non-persistent; Water Regime: Seasonally Flooded; Salinity Regime: Fresh.
Holland System: Vernal Pools and Vernal Marsh?

The Black Road berm impounds runoff on the creek floodplain north of the Orcutt Creek channel, resulting in a seasonally flooded water regime. Vegetation in the lower center of this impounded area was strongly dominated by vernal pool plants, particularly white everlasting (*Gnaphalium*

palustre). Other species included prostrate vervrain (*Verbena bracteata*), common spikerush (*Eleocharis macrostachya*), willow dock (*Rumex salicifolius*), curve-pod yellow-cress (*Rorippa curvisiliqua*), and least spikerush (*Eleocharis acicularis*).

The extent of two merged vernal pools was mapped using white everlasting as the indicator species (0.33 acre). The pools are surrounded by vernal marsh (0.44 acre). Although runoff impounded by the road berm has undoubtedly enhanced the wetland character of this area, its location at the base of a sandy hill suggests it supported some wetland before the road was built. Most of the sandy hills in the Orcutt area surveyed in 1995 had freshwater seeps along the slope toes where the hills terminated along alluvial soils (Rindlaub, Hunt, and Storrer, 1995).

System: Palustrine; Class: Emergent Wetland; Subclass: Persistent; Water Regime: Seasonally Saturated; Salinity Regime: Fresh.
Holland Community: Freshwater Seep.

The sandy hills that delineate the northern and southern limit of the Orcutt Creek floodplain seep groundwater at their bases. The vegetation is dominated by Mediterranean barley, and is continuous with the floodplain wet meadow, except for a few areas along the southern hills where the seep joins the riverine wetland. These seeps extend two to three feet above the break in grade at the base of the hill. They were not mapped separately, so the 0.6 acre extent was estimated and subtracted from the wet meadow acreage. These seeps were found primarily along the floodplain margin on the eastern section of the site.

Classification of these seeps as jurisdictional wetland is marginal, because the soil criterion was not clear. However, these seeps are probably strongly seasonal, with variable duration of water flow from year to year, depending on rainfall. Consequently, hydric soil characteristics could be minimally developed.

System: Palustrine, Transitional to Riverine; Class: Emergent Wetland; Subclass: Persistent; Water Regime: Seasonally Flooded, Saturated; Salinity Regime: Fresh.
Holland Community: Freshwater Marsh?

Where silt and sand build up into small bars at curves in the creek channel, small patches of more persistent emergent vegetation develop. These were dominated by three-square bulrush (*Scirpus pungens*), young cattails (*Typha* sp.), spikerushes (*Eleocharis* sp.), brown-headed rush (*Juncus phaeocephalus*), and arroyo willow seedlings. These patches of vegetation may persist for many

years along the margin of the creek bed, or may be removed in years of high velocity flows. Because these patches were small (cumulatively less than 1 acre), and included within the creek channel, their acreage was not calculated separately from the Riverine system.

Discussion

Delineation of Palustrine Wetlands largely dominated by facultative species often required soil testing to determine whether characteristics of a reducing environment were present. Most of the soils in this area are sandy; sandy soils usually are well drained. Precipitation, and consequent runoff on and below the soil surface is normally confined to a few months of the year. Given these factors, hydric soil characteristics are likely to be poorly developed. It is also likely some of these sandy soils dry out for part of the year. Consequently, low matrix chroma, mottles and oxidized rhizospheres were the characteristics usually used to determine that wet or saturated soils were indeed hydric, despite the fact that these sandy soil types are not included in the National List of Hydric Soils.

The boundary of these wetlands, once it had been determined that an area did qualify as a jurisdictional wetland, usually was more straight-forward due to abrupt changes in topography that would directly affect the hydrological regime. These changes in grade usually were associated with shifts in dominant species in the vegetation, or from wet to dry soil.

Where Orcutt Creek flows in deep, well-defined channels the map clearly showed the limits of the riverine wetland system. A portion of the creek floodplain (depositional environment) is included in the riverine system because it apparently is inundated in most years.

The mapped boundary between freshwater marsh and wet meadow along the northern floodplain margin is approximate. Access was restricted in the central section due to breeding cattle. The width of the marshy secondary channel is probably more variable than the mapped area indicates. Therefore, the acreage of marsh vs. wet meadow is also an approximation. However, the total area including both these wetland types was mapped and measured.

Two areas of possible wetlands were identified on the southern section of Site 22. One is a small fenced area of possible wet meadow located between the creek and the irrigated field. This 3.03 acre area was not included among the Palustrine Wetlands because the hydrology appeared to be artificial, resulting from irrigation. The soil sample did, however, contain oxidized rhizospheres. Facultative species, ryegrass and bird's-foot trefoil, dominate the vegetation.

The second problematic area is located south of the creek at the southeastern corner. The flats in this 7.4 acre section appeared to support wet meadow vegetation, fed by seepage from the surrounding hills. However, the soils test was inconclusive, since the presence of oxidized rhizospheres was difficult to determine, and groundwater was not intercepted by a soil pit dug to 18 inches depth.

The linear, excavated channel from Highway 1 onto the property is classified here as a part of the Riverine System. However, it has little vegetation, and the soils were not tested. It has been in place for at least 23 years (as shown in Shipman, 1972), and is a continuation of a southern tributary to Orcutt Creek. However, due to minimal vegetative cover, it could be argued that it is not part of a vegetated wetland system, but should be classified as Other Waters of the United States. In either case, it would come under U.S. Army Corps of Engineers jurisdiction.

Orcutt Creek on Area 8 offers excellent opportunities for wetland restoration. A general lack of trees is one of the unusual aspects of the creek on the site. Without constant disturbance, it would probably support willows, but willow shrubs and trees are uncommon on this site. Consequently, it could be classified as a degraded example of Holland's (1986) Central Coast Riparian Scrub. Farther upstream, willows are common along the creek banks, and would be expected to grow here. Near the western end of the site, where a fence excludes most cattle from the creek channel, occasional large arroyo willows (*Salix lasiolepis*) occur on the creek banks. Seedling willows also were observed on sand bars in the creek.

Along the northern margin of the floodplain, a few large, scattered arroyo willows occupy the transition between the wet meadow and the northern marshy creek channel. Several standing dead trees are among them. The cattle use this area for shade, as a bedding area, and rub against the trees. Without constant grazing, this area (at least) would probably develop into a forested or shrub-dominated wetland. The main creek channel on the south side of the meadow, with its sand bars, shallow banks and possibly annual flooding, would possibly support thickets of narrow-leaved willow (*Salix exigua*).

The wet meadow on the floodplain has also been influenced by past land use. The dominant grass, Mediterranean barley (*Hordeum marinum*), is introduced, but patches of native perennial grasses, particularly saltgrass (*Distichlis spicata*), and creeping wild-rye (*Leymus triticoides*) are scattered among the predominantly introduced plants. Unless it is too wet, the meadow may historically

have supported patches of scrub, such as coyote brush (*Baccharis pilularis*) and goldenbush (*Isocoma menziesii*), both facultative wetland species.

Delineation of Vernal Wetlands North of or Bisected by an Unpaved Agricultural Access Road

Site Description

Located south and east of the Tanglewood housing development, the vernal wetlands area of Area 8 is composed of small northwest/southeast trending dunes surrounded by flats and swales (Figure 2). Soils underlain by impervious clays or cemented sands slow water percolation and permit water to collect in low areas in the topography (Shipman, 1972). Vernal wetland development is fostered by this variation in topographic relief, which ranges from a few inches to well-defined bowls that dip several feet below the surrounding area. Vernal ponds, pools and flats are scattered across this part of Site 22, often in amorphous complexes following minor changes in elevation. Although locations of larger pools and ponds were mapped, the level of detail needed to capture the intricate variation among vernal wetland types was beyond the scope of this survey.

In 1995, the potential wetland extent on this uneven topography was clarified by the unusually heavy rains of January and March. The deeper bowls filled with water, persisting as ponds well beyond the end of May, and providing habitat for amphibians and waterfowl (Rindlaub, Hunt, and Storrer, 1995). Shallower depressions dried earlier, with vernal pool species emerging and flowering in sequence as soil moisture decreased from the edge to the center of the pools. Many of these pools and ponds were interconnected by vernal flats, shallow swales and vernal marsh.

Methods

Many of the vernal wetlands in this section of Area 8 were surveyed and mapped earlier by Olson (1991). Olson's report included a map and discussion of the soils identified on the site by the USDA Soils Conservation Service (Shipman, 1972). A natural color aerial photograph of the site (Pacific Western, 1991) suggested additional wetlands could be found outside the area mapped by Olson (1991). The focus of this survey is to confirm and augment Olson's work. The entire site was covered by a pedestrian survey, and wetlands were mapped by Katherine Rindlaub, botanist, and Kathy Frye, field assistant, on May 6, May 12 and June 14, 1995. Wetland boundaries were drawn in the field on a 1 inch : 200 foot topographic base map with a contour interval of two feet. Wetland classification is based on that adapted from Cowardin et al, (1986) as modified for coastal southern California wetlands by Ferren (1988) and on Olson (1991).

Several additional pools were identified and mapped on the eastern portion of the site. Voucher specimens were collected for these new wetlands, and will be deposited at the Santa Barbara Botanic Garden Herbarium. Wetlands specialist Wayne Ferren accompanied K. Rindlaub for a field consultation on June 10, 1995, to advise on classification and species identification.

The Cowardin (1979) system was used to delineate wetlands on this part of Site 22. Unlike the U.S. Army Corps of Engineers methodology, the Cowardin methodology requires that only one of three criteria must be satisfied to determine an area is a wetland: vegetation, hydrology, or soils. Vegetation was the primary criterion used to determine the wetland/upland boundary. The most useful species, because it was nearly omnipresent in the wetlands, was brown-headed rush (*Juncus phaeocephalus*). This species was selected because it appeared to best represent the margins of isolated pools and ponds. It is a perennial facultative wetland (FACW) species (Reed, 1988). Where it comprised at least 50% cover, the area was mapped as wetland. Use of the 50% cover criterion for this species brings the wetland delineation criterion in line with that used for vegetation by the U.S. Army Corps of Engineers. Occasionally water pygmy weed (*Crassula aquatica*) was used as an indicator when topography and hydrology indicated the area was a wetland, but brown-headed rush was absent or uncommon. Other facultative species, such as the annual toad rush (*Juncus bufonius*) were so wide-spread in 1995 that they were not useful, appearing frequently in areas that did not appear to be true wetlands.

In some areas, hydrology was used to delineate wetland; although the brown-headed rush was usually present as well. Areas where the soil was wet during the surveys (which occurred several weeks after the last major storm of the season) were mapped as wetland based on hydrology.

Soils were not tested for hydric indicators on this part of Site 22. The Hardpan Variant of Narlon soils on the western portion of the site is underlain by a clay layer, which inhibits drainage and may be hydric (Czarnecki, 1995). Vernal wetlands were also found on sandy Betteravia soils. Exposure of the cemented sand that forms the B horizon of Betteravia soils (Shipman, 1972) on the site suggested that the A horizon is very shallow across much of the site, allowing the B horizon to function like a hardpan in restricting drainage. The restricted drainage of both these soil types has fostered vernal wetland development.

Olson's work (1991, 1992) indicated that most, if not all, the central area was wetland, therefore, mapping was generally restricted to measuring in from the perimeter fence until a wetland area was encountered, using a 150 foot tape. On the eastern quarter of the site, wetlands were often

Lawrence Hunt

FIGURE 6

VERNAL POND

North end of Area 8 (Site 22), about 500 feet north of agricultural access road.

Western Spadefoot Toad and California Tiger Salamander larvae were found in this pond in 1995 (Rindlaub, Hunt, and Storrer, 1995).

Tanglewood housing development is in the background.

widely separated, so transects were measured both from north to south and west to east to determine the relative location of the wetlands with reference to the fence.

Areas mapped as wetlands were initially measured using a La Sico Auto Scaler II planimeter. Follow-up measurements were made in some cases to measure different types of wetlands within the larger wetland mapping units using a Tamaya Sokkia Planix 7 planimeter. Each mapped unit was measured three times, and the average value was used to calculate acreage. A few samples of very small mapping units were checked for approximate acreage using graph paper with 100 squares per inch.

Results

A total of 40.91 acres of wetlands was identified in the vernal wetlands area north of or bisected by the unpaved agricultural access road on Site 22 (Table 3). Separate acreages were calculated for wetland types with discrete boundaries within limitations of time and equipment. These include 9.087 acres of vernal ponds, 6.497 acres of vernal pools, 1.461 acres of vernal swales, 0.063 acre of vernal depressions, and 0.213 acres of freshwater marsh. The remaining 23.590 acres were classified as vernal flats. Mapping the intricacies of variation within these flats was beyond the scope of this survey. A reduced copy of the 1 inch : 200 foot map is shown in Figure 7.

Discussion

Vernal pools are widely recognized as possibly the most rare and endangered wetland type in California (Ferren and Pritchett, 1988). These unusual wetlands form in depressions underlain by an impermeable layer, often clay or a hardpan. The depressions are inundated during winter rains, and slowly evaporate following the rainy season, usually drying out by late spring or summer. A number of plants are specifically associated with vernal pools; plants that have evolved to tolerate the unusual growth conditions (unfavorable for most species) of the vernal pool water regime. Some of these species occur only in vernal pools (Ferren and Pritchett, 1988).

Because they are often located on relatively flat terrain, development potentially threatens most of southern California's remaining vernal pools. Many of Santa Barbara County's vernal pools are located on coastal terraces with potentially high real estate value. Most of these coastal pools are located on heavy clay soils, typical of many vernal pool sites. Within Santa Barbara County, only a subset of the north County vernal pools are located on sandy soils (Ferren and Pritchett, 1988;

TABLE 3

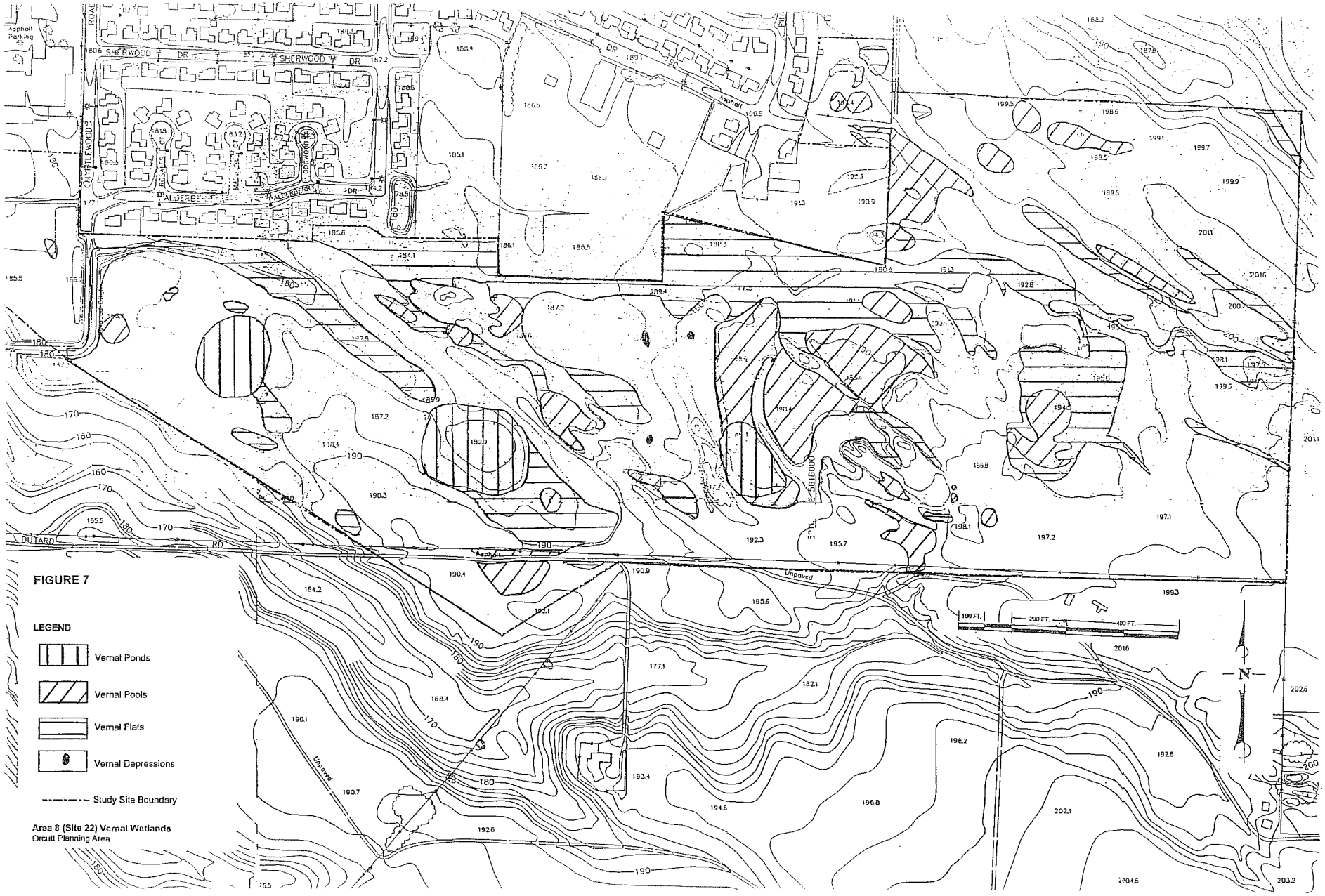
AREA 8 (SITE 22)

VERNAL POOLS AND VERNAL WETLANDS COMPLEXES

NORTH OF AND BISECTED BY

AN UNPAVED AGRICULTURAL ACCESS ROAD

Wetland Type	Acres
Freshwater Marsh	0.213
Vernal Pond	9.087
Vernal Pool	6.497
Vernal Flat	23.590
Vernal Swale	1.461
Vernal Depression	0.063
Total Acres	**40.911**


SHERWOOD DR
SHERWOOD DR
ALDERBERRY DR
ALDERBERRY DR
CATTAILWOOD
DOGWOOD
DUTARD
Asphalt
Unpaved
Unpaved
561800
100 FT.
200 FT.
400 FT.
N
FIGURE 7
LEGEND
Vernal Ponds
Vernal Pools
Vernal Flats
Vernal Depressions
Study Site Boundary
Area 8 (Site 22) Vernal Wetlands
Orcutt Planning Area

Olson. 1992) such as those on the subject site. The effect of these sandy substrates on the floristic composition of north County pools, if any, is unstudied (Olson, 1992).

According to Olson (1991), the vernal pool and wetland complex on Site 22 is the "finest vernal pool site in Santa Barbara County." No Federally or State listed plant species were found on or reported from this site. However, the only recent Santa Barbara County record for a CNPS List 4 species (Skinner and Pavlik, 1994), large-flowered linanthus (*Linanthus grandiflora*) was rediscovered during field surveys. This site is the southern distributional limit for this species (Wilken, 1995), believed extirpated in the County (Skinner and Pavlik, 1994). A number of locally sensitive wetland species also were documented on this site (Olson, 1991).

California tiger salamander (*Ambystoma californiense*), a Category 1 candidate for Federal listing, and Western spadefoot toad (*Spea hammondii*), a Category 2 candidate for Federal listing, were found in some of the pools on the site in spring of 1995. Both these species utilize vernal pools for a portion of their life cycle. Both species also use rodent burrows in the surrounding upland habitats as retreat sites. The grassland habitats over most of this site constitute excellent foraging habitat for raptors, including the golden eagle, observed feeding on the site in spring of 1995. (Rindlaub, Hunt, and Storrer, 1995).

It is strongly recommended that this vernal wetland complex be preserved, protected, and actively managed. Due to the seasonal nature of this type of wetland, it is most vulnerable to disturbances, such as those that cause soil compaction, when the soils are wet. Cattle were pastured on the vernal wetland area in spring of both 1994 and 1995. Not only do cattle compact the soil, trample and graze on the plants, but they frequently were observed bedding down in drying vernal pools and swales. Trampling in the uplands also potentially impacts the sensitive amphibian species that use rodent burrows as retreats. According to Olson (1991), human disturbance has included people walking dogs or using the site as a short-cut, and riding dirt bikes through pool areas before they dry out. An agricultural access road was constructed through one of the larger pools. The proximity to a housing development renders the site, and its sensitive species, vulnerable to continued negative impacts. Current fire protection for the development appears to include disking a broad swath along the fenceline. Better fencing, a community education program, and active management will be needed to protect and preserve these wetlands.

Despite the negative aspect of the site's location adjacent to a housing project, the location otherwise is ideal for a preserve. Vernal wetlands continue off the site to the north and east, which is Santa Maria Airport property. Due to restrictions on development imposed around airport

runways and below flight paths, the opportunity exists to extend a protected wetland area beyond the boundary of the subject site.

Protection and management of this site would require development of a management plan, and funding. A management plan could include light use of the site as an educational resource for schools and for the community as a whole. A trail that included boardwalks over sensitive wetland areas could accommodate those who wish to observe the pools closely, and well as offering opportunities for bird-watchers. Outreach education to the surrounding community should be an important facet of a management plan. Pets should not be permitted to roam on the site, and off-road vehicles (including dirt bikes) should be prohibited. Fire protection should be accomplished through mowing, rather than disking, and should be delayed until the soil has dried out. The possible expansion of aggressive weedy species following removal of cattle would require monitoring and appropriate controls.

Preservation and protection, to be effective, must include the entire site. Fragmentation of these habitats could destroy the wetland hydrology, which differs fundamentally from wetlands in general. Wetlands associated with a waterway, for example, receive runoff from a watershed, which may be located miles away. In contrast, the relatively flat topography which includes the vernal wetlands on Area 8 appears to be an isolated, self-contained system. The water that permits development and persistence of these vernal wetlands apparently is derived from percolation and runoff from the uplands in the immediate area, as well as on intercepted precipitation. The sensitive wildlife species found on this site also rely on the surrounding uplands in addition to the vernal pools and ponds. Therefore, the surrounding uplands must be considered as an integral component of this wetland system.

Summary

Two areas of wetlands were delineated on a West Orcutt Planning Area site. Area 8, or Site 22, includes a number of different types of wetlands. The areas surveyed for this report are those associated with Orcutt Creek, on the southern end of the site, and a complex of vernal wetlands at the northern end.

The Orcutt Creek wetlands were delineated and mapped using the methodology for a U.S. Army Corps of Engineers routine on-site delineation. A total of 110.35 acres of wetlands was mapped, including 19.65 acres in the Riverine System, and 90.70 acres in the Palustrine System. Wetlands were classified according to the Cowardin and Holland systems. A large expanse of wet meadow

and freshwater marsh occupies the broad floodplain on the eastern half of the site along the creek. Other wetlands are associated with natural and modified tributaries that flow into the Orcutt Creek channels on the remainder of the site. One small area of vernal wetland has been created or enhanced by construction of Black Road.

Most of the Orcutt Creek wetlands are degraded, probably due to years of grazing. Few woody plants were encountered along the creek or on the floodplain, except in small areas where cattle are excluded. Removal of the cattle would provide excellent opportunities for wetland enhancement through restoration of woody riparian vegetation, and expansion of herbaceous perennial emergent wetland species.

The system of vernal wetlands on the northern section of Area 8 includes approximately 15.58 acres of vernal ponds and pools, and 25.33 acres of vernal flats, swales, depressions, and marsh. Vegetation and hydrology were used to define the limits of these wetlands, building on the work completed earlier by Olson (1991). It appeared that the wetland complexes in the central area of the site were interconnected in 1995, due to the exceptionally high rainfall in the winter and spring. Vernal ponds remained inundated well into the month of May. These pools were used by waterfowl and by amphibian species that are candidates for Federal listing. Although uplands are interspersed among the vernal wetlands, water percolation from the dunes contributes to the maintenance of vernal wetland hydrology. Surrounding uplands also provide retreat sites for sensitive amphibian species following metamorphosis from the larval forms that develop in the vernal ponds.

Current land use practices on this rare and valuable wetland site are not geared to wetland protection or preservation. Cattle are pastured on these vernal wetlands in the spring, while standing water is available. But vernal wetlands are most vulnerable to negative impacts during this same period, while the soils are wet and plants are actively growing.

This vernal wetland complex is one of the finest examples of its kind in Santa Barbara County. It deserves protection and active management for preservation and enhancement. Establishment of a preserve on this site is also recommended because these vernal wetlands are contiguous with similar vernal pools, swales and marshes to the northeast on Santa Maria Airport property. Development constraints associated with airports could be incorporated into a preserve design, extending the protected wetland area, increasing its value as a refuge for sensitive wildlife species.

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APPENDIX

DATA SHEETS

1-2

Station #1

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Cundiff, Beth Henderson Date: 1/11/95
Project/Site: Orcutt Planning Area Cat 321 Orcutt Creek State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Introduced Grassland
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No X? (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
SOIL 1. Lolium multiflorum	FAC	Herb	11.		
2. Bromus mollis	FACU-		12.		
3. Hemizonia fasciculata	-		13.		
4. Polypogon monspeliensis	FACW+		14.		
5. Lotus corniculatus	FAC		15.		
6. Lupinus nanus	[illegible]		16.		
7. Lactuca serriola	FAC		17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 50%
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: Lolium may be an indicator for wetlands in the project area

SOILS

Series/phase: _____ Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No X Histic epipedon present? Yes _____ No X
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: 10YR 5/3 Mottle Colors: _____
Other hydric soil indicators: None.
Is the hydric soil criterion met? Yes _____ No X
Rationale: No hydric soil indicators found. Loamy sand.

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: None to 16"
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No X
Rationale: Soil is damp/wet, but ~~very~~ species included in cover include Bromus mollis and Lupinus nanus, both upland taxa.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: Soils + hydrology are upland, although vegetation could be wetland.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub Date: 6/10/95
Project/Site: Orcutt Planning Area Site 32 (Orcutt Ct.) State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Wet Meadow
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ____ (If yes, explain on back)

VEGETATION

Cover	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
80%	1. Lilium multiflorum	FAC	Herbs	11.		
<1%	2. Polypogon imenspetiensis	FACW+		12.		
10%	3. Trifolium repens	FAC,UT		13.		
<1%	4. Rumex crispus	FACW-		14.		
<1%	5. Lotus corniculatus	FAC		15.		
<1%	6. Picris echioides	FAC*		16.		
5%	7. Hordeum hystrix	FAC	↓	17.		
	8.			18.		
	9.			19.		
	10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: The shift from surrounding area with mostly FAC species, to this ~~wet~~ area mapped as wet. Only one FACW sp. vs. 2 FACW sp.

SOILS

Series/phase: Loamy sand over clay at ≈3" Subgroup:[2] ____
Is the soil on the hydric soils list? Yes ____ No X Undetermined ____
Is the soil a Histosol? Yes ____ No X Histic epipedon present? Yes ____ No X
Is the soil: Mottled? Yes ____ No X Gleyed? Yes ____ No X
Matrix Color: 10YR 3/1 Loamy sand Mottle Colors: Clay 10YR 3/2
Other hydric soil indicators: ____
Is the hydric soil criterion met? Yes X No ____
Rationale: Chroma of matrix is 1, rather than 3 as in surrounding upland. Clay chroma is also lower than 3

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: ____
Is the soil saturated? Yes ____ No X
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.
Soil is not saturated, but wet at surface. Clay layer is very wet
Is the wetland hydrology criterion met? Yes X No ____
Rationale: Clay layer likely retards drainage. ~~Matrix chroma of 1 compared with 3 in surrounding uplands, where clay layer not present.~~ Surrounding topography is partly road berms; partly naturally rising ground to east

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision: Although the hydrology is partly artificial, this ~~area~~ low area near the creek may always have received more ground water supply, held near the surface by the clay layer. Plants are FAC or FACW, low chroma, wet soil.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

1-3 B

Station #3

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22: Orcutt Ck. State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Wet meadow transitional to scrub/shrub riparian
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ~~X~~ (If yes, explain on back)

VEGETATION

Cover	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
80%	1. Lolium multiflorum	FAC	Herb	11.		
<1%	2. Polypogon monspeliensis	FACW+	"	12.		
<1%	3. Rumex crispus	FACW+	"	13.		
<1%	4. Salix ~~x~~ salicifolius OBL	~~FACW~~	"	14.		
100%	5. Salix lasiolepis	FACW	Shrub	15.		
5%	6. Trifolium vipeme	FACW	Herb	16.		
<1%	7. Cyperus eragrostis	FACW	"	17.		
<1%	8. Pteris cornicides	FAC+	"	18.		
5%	9. Elymus triticoides (Leymus)	FAC+	"	19.		
<1%	10. Cardenia draba	—	"	20.		

Percent of dominant species that are OBL, FACW, and/or FAC ~ 100%
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: The presence of Salix lasiolepis with Rumex & other spps. (Cyperus) indicate this is wetland. Salix salicifolius is an OBL species.

SOILS

Series/phase: Loamy sand over a clay horizon at ~3" Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No X Histic epipedon present? Yes _____ No X
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: 10YR 3/1 (Loamy sand) Mottle Colors: _____
Other hydric soil indicators: Clay 10YR 3/2 oxidized rhizospheres.
Is the hydric soil criterion met? Yes X No _____
Rationale: The clay layer beneath the loamy sand may retard drainage in this area. Matrix chroma is 1 compared with 3 in surrounding upland where clay layer is lacking.

HYDROLOGY

Is the ground surface inundated? Yes _____ No _____ Surface water depth: _____
Is the soil saturated? Yes ~~X~~ No X
Depth to free-standing water in pit/soil probe hole: ~~X~~
List other field evidence of surface inundation or soil saturation.
Soil is not saturated, but wet. Clay layer at 3" is very wet.
Is the wetland hydrology criterion met? Yes X No _____
Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____
Rationale for jurisdictional decision: Some vegetation is OBL, oxidized rhizospheres were found in soils. Clay layer probably holds water near surface. Chroma is low. Although impounded by a road berm, the surrounding topography suggests this may be a seasonal wetland area (before road construction).

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Most plants are FACW and FAC vs FACU. ~~One~~ One OBL species

BR-1 Created pool/marsh, west end

Station #4

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Cuellar, Beth Henderson Date: 6/11/95
Project/Site: Orcutt Planning Area, Orcutt Site 22 State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Marsh, created pool
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes _____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No _____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Cotula coronopifolia	FACW+	Herb	11.		
2. Polygonum senghalense	FACW+		12.		
3. Atriplex patula	FACW		13.		
4. Picris echioides	FAC*		14.		
5. Anagallis arvensis	FAC		15.		
6. Rumex crispus	FACW-		16.		
7. Juncus longistylis	FACW+		17.		
8. Lythrum hyssopifolium	FACW		18.		
9. Distichlis spicata	FACW		19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: All species FAC + FACW

SOILS NOT SAMPLED

Series/phase: Loamy Sand Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes _____ No _____
Rationale: All species FAC & FACW. Appears this is a relatively recent pool, judging by condition of barbed wire (no rust). Perhaps no OBL species have been able to "find" it?

HYDROLOGY

Is the ground surface inundated? Yes X No _____ Surface water depth: _____
Is the soil saturated? Yes X No _____
Depth to free-standing water in pit/soil probe hole: surface
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No _____
Rationale: Surface water + saturated soil.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____
Rationale for jurisdictional decision: Vegetation + hydrology criteria are met. Probably has the same soil as surrounding meadow, which does meet hydric criteria.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 4/11/95
Project/Site: Orcutt Planning Area 22 : Orcutt Ck State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara Co. Plant Community #/Name: Willow Riparian Series
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No X (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Salix lasiolepis	FACW	Tree	11.		
2.			12.		
3.			13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: ____

SOILS

Series/phase: ____ Subgroup:[2] ____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No ____
Matrix Color: ____ Mottle Colors: ____
Other hydric soil indicators: ____
Is the hydric soil criterion met? Yes ____ No ____
Rationale: Not tested because vegetation + hydrology indicate this is wetland.

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: ____
Is the soil saturated? Yes ____ No X
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.
Deep creek channel very scoured, with steep vertical banks
Is the wetland hydrology criterion met? Yes X No ____
Rationale: ____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision: Willow forest lining creek channel banks. Creek had significant flow because no vegetation was present in the channel.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

3-1 Upland Sample

Station #C

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Cridland, Beth Henderson Date: 6/11/95
Project/Site: Draft Planning Area Sta 22: Circuit Cir State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Upland (Grassland)
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No _____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Isocoma menziesii	FACW*	Shrub	11.		
2. Bromus diandrus	none	Herb	12.		
3. Bromus mollis	FACU		13.		
4. Erodium botrys	none		14.		
5. Hordeum murinum	NI		15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 37%
Is the hydrophytic vegetation criterion met? Yes _____ No X
Rationale: _____

SOILS

Series/phase: Sandy, loose Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: none
Is the hydric soil criterion met? Yes _____ No X
Rationale: _____

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.
none
Is the wetland hydrology criterion met? Yes _____ No X
Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: One FACW, one FACU and 3 non-wetland indicators so. Soil is dry with no sign of inundation.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Station #7

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Henderickson Date: 6/14/95
Project/Site: Orcutt Planning Area Site 22: Orcutt Ck State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Riverine
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No X (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Salix lasiolepis	FACW	Tree	11.		
2.			12.		
3.			13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: ____

SOILS

Series/phase: Riverwash Subgroup:[2] ____
Is the soil on the hydric soils list? Yes X No ____ Undetermined ____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No ____
Matrix Color: ____ Mottle Colors: ____
Other hydric soil indicators: ____
Is the hydric soil criterion met? Yes ____ No ____
Rationale: Not sampled. River/creek channel, Riverwash soils on National List of Hydric Soils

HYDROLOGY

Is the ground surface inundated? Yes X No ____ Surface water depth: ____
Is the soil saturated? Yes X No ____
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No ____
Rationale: Flowing water in creek channel

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision: Creek channel with flowing water & a few individuals of a FACW species on banks.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

4-1 Dubious Wet Meadow

Station #8

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22 - Orcutt Creek State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Wet Meadow ?
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes _____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ? No _____ (If yes, explain on back)

VEGETATION

Cover

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
80%	1. Holcus multiflorum	~~FAC~~	Herb	11.			
19%	2. Lotus corniculatus	FAC	"	12.			
<1%	3. Phalaris aquatica	FAC+	"	13.			
	4. Elymus triticoides	FACt	"	14.			
	5. Rumex crispus	FACW-	"	15.			
	6. Rumex salicifolius	OBL	"	16.			
	7. Rumex acetosella	FAC-	"	17.			
	8. Bromus catharticus	NI	"	18.			
	9. Polypogon monspeliensis	FACW+	"	19.			
	10.			20.			

Percent of dominant species that are OBL, FACW, and/or FAC ~ 100 %
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: Includes one OBL species

SOILS

Series/phase: _____ Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No X Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No _____
Matrix Color: 2.5Y 2.5/1 Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes _____ No X
Rationale: Low chroma is present, but no mottles or oxidized rhizospheres were observed in this area.

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.
While not saturated, soils are wet weeks following significant precipitation
Is the wetland hydrology criterion met? Yes X No _____
Rationale: Soil is wet, although not saturated.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: Although vegetation and hydrology could support designation as wetland, the hydrology is a result of irrigation. Soil test did not demonstrate reducing conditions

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Mesa Lagoon, Arcade

Station #9

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Lindlaub, Beth Hawkinson Date: 6/11/95
Project/Site: Circuit Planning Area Site 22 Circuit 1 State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Freshwater Marsh / Riparian
Note: If a more detailed site description is necessary, use the back of data form or a field notebook. Impounded

Do normal environmental conditions exist at the plant community?
Yes ____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
96% 1. Eleocharis macrostachya	OBL	Herb	11.		
2% 2. Rorippa nasturtium aquaticum	OBL	Herb	12.		
2% 3. Salix lasiolepis	FACW	Tree	13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: All spp FACW or OBL

SOILS

Series/phase: ____ Subgroup:[2] ____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No ____
Matrix Color: ____ Mottle Colors: ____
Other hydric soil indicators: ____
Is the hydric soil criterion met? Yes ____ No ____ NOT TESTED
Rationale: All plants OBL or FACW

HYDROLOGY

Is the ground surface inundated? Yes X No ____ Surface water depth: ____
Is the soil saturated? Yes ____ No ____
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No ____
Rationale: Inundated, All plants FACW or OBL

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision:
100% FACW and OBL species, Soil saturated.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Furnace X near stockponds

Station #10

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Lindquist, Beth Henderson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22: Orcutt Ck State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Freshwater Marsh
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes _____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No _____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Rorippa nasturtium-aquaticum	OBL	Herb	11.		
2. Polypogon monspeliensis	FACW+	"	12.		
3. Cotula coronopifolia	FACW+	"	13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: All species encountered in these channels are OBL or FACW+,

SOILS

Series/phase: _____ Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: Saturated, with hydrogen sulfide smell
Is the hydric soil criterion met? Yes X No _____
Rationale: Reducing environment is present

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes X No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.
Standing water in deeper hoofprints.
Is the wetland hydrology criterion met? Yes X No _____
Rationale: Soil is saturated, with standing water close to the surface.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____
Rationale for jurisdictional decision: Saturated soils, all OBL or FACW+ species

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Irrigated Cropland adj. to Freshwater Marsh x

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendricks.com Date: 6/11/93
Project/Site: Orcutt Planning Area Site 92, Orcutt Ck. State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Irrigated cropland (Festuca rubra)
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No X (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
50%	1. Festuca rubra	FAC	Herb	11.		
40%	2. Lolium	FAC	"	12.		
~10%	3. Cynadon dactylon	FAC	"	13.		
<1	4. Trifolium repens	FACW	"	14.		
<1	5. Lotus corniculatus	FAC	"	15.		
	6.			16.		
	7.			17.		
	8.			18.		
	9.			19.		
	10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 99%
Is the hydrophytic vegetation criterion met? Yes X No X
Rationale: No FACW or OBL spp

SOILS

Series/phase: _____ Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: 10 YR 2/2 Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes _____ No X
Rationale: Area is irrigated but hydric soil indicators found in similar sandy soils the support wetland vegetation are not present.

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No X
Rationale: Hydrology is artificial — surface, not groundwater

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: Most species are FAC - No OBL species
Soil is not a hydric soil & lacks indicators of reducing envir. Hydrology is artificial

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

1-2 Upland

Station #12

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area 5&6 22:Orcutt Ck State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Introduced Grassland
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No _____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Isocoma menziesii	FACW*	Shrub	11.		
2. Bromus diandrus	—	Herb	12.		
3. Bromus mollis	FACU-	Herb	13.		
4. Vulpia myuros	FACU*	Herb	14.		
5. Hypochoeris radicata	—	Herb	15.		
6. Lupinus nanus	—	Herb	16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 16% (Shrubs only) or 100% Shrubs stratum
Is the hydrophytic vegetation criterion met? Yes _____ No X
Rationale: _____

SOILS

Series/phase: Sandy, loose, dry Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No X Histic epipedon present? Yes _____ No X
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: none
Is the hydric soil criterion met? Yes _____ No X
Rationale: _____

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No X
Rationale: No signs standing water.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: _____
Does not support wetland vegetation. Soils are loose, sandy, dry

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

1-5 seep

Station #13

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22 Orcutt Ck State: CA County: Santa Barbara County
Applicant/Owner: Santa Barbara County Plant Community #/Name: Dune margin Seep
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No X (If yes, explain on back)

VEGETATION

Cover	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
95%	1. Lolium multiflorum	FAC	Herb	11.		
4%	2. Juncus phaeocephalus	FACW		12.		
<1%	3. Juncus bufonius	FACW+		13.		
<1%	4. Polypogon monspeliensis	FACW+		14.		
1%	5. Rumex crispus	FACW-		15.		
<1%	6. Hemizonia increscens	-		16.		
	7.			17.		
	8.			18.		
	9.			19.		
	10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 83%, 99% cover
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: Most species and nearly all cover is FACW

SOILS

Series/phase: Sandy Loam Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: 2.5Y 3/3 Mottle Colors: none
Other hydric soil indicators: no oxidized rhizospheres
Is the hydric soil criterion met? Yes _____ No X
Rationale: no indications of a reducing environment

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes X No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.
Lower margins of dunes (sandhills) where they contact heavier soils of the floodplain
Is the wetland hydrology criterion met? Yes _____ No X
Rationale: Soil criteria are not met. However this is a problem with a seasonal seep in sandy soil. It just may never be wet long enough, or saturated long enough, to show hydric soil characteristics.

Deep the water draining through the hills may not be permanent, but seasonal, and may contribute for much of the year (obviously varying seasonally)

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____
Rationale for jurisdictional decision: Soils criteria not met. But Juncus phaeocephalus is a species
This is arguable because of the seasonal nature of the hydrology, and

All plants are FAC or FACW but one.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/4/95
Project/Site: Orcutt Planning Area, Site 22 Orcutt State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Vernal wetland
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ____ (If yes, explain on back)

VEGETATION

Cover	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
70%	1. Gnaphalium palustre	FACW	Herb	11.		
5%	2. Eleocharis macrostachya	OBL		12.		
5%	3. Rumex salicifolius	OBL		13.		
1%	4. Polygonum ?	OBL?		14.		
1%	5. Verbena bracteata	FACW		15.		
<1	6. Eleocharis acicularis	OBL	↓	16.		
	7.			17.		
	8.			18.		
	9.			19.		
	10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 83 - 100%, 80% + cover
Is the hydrophytic vegetation criterion met? Yes X No ____ (Polygonum sp.)
Rationale: All dominants FACW or OBL. Gnaphalium is a vernal pool indicator.

SOILS

Series/phase: ____ Subgroup:[2] ____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No ____
Matrix Color: ____ Mottle Colors: ____
Other hydric soil indicators: ____
Is the hydric soil criterion met? Yes X No ____
Rationale: All plant spp are either OBL or FACW

HYDROLOGY

Is the ground surface inundated? Yes ____ No ____ Surface water depth: ____
Is the soil saturated? Yes ____ No ____
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No ____
Rationale: All plants are either OBL or FACW. Visual inspection showed extent of ponding as mud flats around vernal pool (impounded)

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision: This area is a vernal wetland, with vernal wetland species indicators & obligate wetland species & obvious signs of ponded water.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

2 = upland

Station # 15

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 23, Orcutt CK State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Introduced Grassland / Coastal Sage Scrub
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No X (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
Cover							
98%	1. Lolium multiflorum	FAC*	Herb	11.			
<1%	2. Isocoma menziesii	FACW*	Shrub	12.			
<1%	3. Ambrosia psilostachya	FAC	Herb	13.			
<1%	4. Lupinus nanus	—	Herb	14.			
<1%	5. Baccharis pilularis	—	Shrub	15.			
<1%	6. Hemizonia increscens	—	Herb	16.			
	7.			17.			
	8.			18.			
	9.			19.			
	10.			20.			

Percent of dominant species that are OBL, FACW, and/or FAC Shrubs 50%, Herbs 98%, All 98%
Is the hydrophytic vegetation criterion met? Yes ~~X~~ No X
Rationale: Although cover of FAC species is high, other associated species are upland. In addition, Lolium characteristically moves into areas normally dominated by upland grasses in wet years such as this one.

SOILS

Series/phase: loose, sandy, dry Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No X Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No ~~X~~ Gleyed? Yes _____ No _____
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes _____ No _____
Rationale: Soil was not tested at this location. Non wetland indicator species and no OBL species.

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No X
Rationale: No indication that this area was inundated or flooded.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: Hydrology and upland plants among the Lolium.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

4 - creek

Station 6

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area, Site 22: Orcutt Ck. State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No X (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Lotus corniculatus	FAC	Herbs	11.		
2. Salix lasiolepis	FACW	Shrubs/Trees	12.		
3. Scirpus purgens	OBL	Herbs	13.		
4. Polygonum monspeliensis	FACW	"	14.		
5. Rumex crispus	FACW	"	15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: All species are OBL or FACW

SOILS

Series/phase: Riverwash Subgroup:[2] _____
Is the soil on the hydric soils list? Yes X No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes X No _____
Rationale: This is the main creek channel. Although much of the channel is annually scoured of vegetation FACW+OBL species occur on bars and the toe of the bank

HYDROLOGY

Is the ground surface inundated? Yes X No _____ Surface water depth: _____
Is the soil saturated? Yes _____ No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No _____
Rationale: Creek flow continues either on the surface or sufficiently close to the surface to support OBL and FACW perennials

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____
Rationale for jurisdictional decision: Creek flow for most of the year. Persistent vegetation is FACW and OBL. Soil is an hydric soils list.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Station 17

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area, Sec 22, Orcutt State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Introduced Annual Grassland
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No X (If yes, explain on back)

VEGETATION

Cover	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
90%	1. Erodium botrys	—	Herb	11.		
90%	2. Bromus diandrus	—		12.		
<1	3. Hypochoeris glabra	—		13.		
<1	4. Vulpia myuros	FACU*		14.		
<1	5. Lupinus nanus	—		15.		
<1	6. Silene gallica	—		16.		
<1	7. Heterotheca grandiflora	—	↓	17.		
	8.			18.		
	9.			19.		
	10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 0%
Is the hydrophytic vegetation criterion met? Yes _____ No X
Rationale: No wetland plants

SOILS

Series/phase: Sandy, loose Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No X Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes _____ No X
Rationale: Not tested, but vegetation is upland

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No X
Rationale: Soil is loose, sandy. No signs of standing water. Soil is dry

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: No wetland plant species. Soil is loose, sandy, dry.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

5-1 : Upland

Station 18

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Pindiarski, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22 Orcutt Ck State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Grassland
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ~~X~~ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ____ (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
30%	1. Lolium multiflorum	FAC?	Herb	11.			
30?	2. Distichlis spicata	FACW	"	12.			
30%	3. Hordeum marinum	FAC	"	13.			
5%	4. Lotus corniculatus	FAC	"	14.			
5%	5. Chamaelum fuscatum	?	"	15.			
	6.			16.			
	7.			17.			
	8.			18.			
	9.			19.			
	10.			20.			

Percent of dominant species that are OBL, FACW, and/or FAC 30% cover by 1 sp.
Is the hydrophytic vegetation criterion met? Yes ____ No X
Rationale: ____

SOILS

Series/phase: ____ Subgroup:[2] ____
Is the soil on the hydric soils list? Yes ____ No X Undetermined ____
Is the soil a Histosol? Yes ____ No X Histic epipedon present? Yes ____ No X
Is the soil: Mottled? Yes ____ No X Gleyed? Yes ____ No X
Matrix Color: 10YR 4/3 Mottle Colors: ____
Other hydric soil indicators: none
Is the hydric soil criterion met? Yes ____ No X
Rationale: No gley or oxidized rhizospheres. Soil is sandy, loose.

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: ____
Is the soil saturated? Yes ____ No X
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes ____ No X
Rationale: Soil is damp at 1 foot.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No X
Rationale for jurisdictional decision: Soils do not meet criteria, hydrology is doubtful Vegetation is doubtful.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

5-2 Hole Swale contrast.

Station 19

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Creek Planning Area, Site 22 - Creek. State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Freshwater Marsh
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No _____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Rorippa nasturtium-aquaticum	OBL	Herb	11.		
2. Polypogon monspeliensis	FACW+	"	12.		
3. Cotula coronopifolia	FACW+	"	13.		
4. Rumex crispus	FACW-	"	14.		
5. Hordeum marinum	FAC	"	15.		
6. Leymus triticoides	FAC+	"	16.		
7. Lolium perenne	FAC	"	17.		
8. Festuca rubra	FAC	"	18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: All species are FAC, FACW or OBL.

SOILS

Series/phase: either Riverwash or ? Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X ? Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: 5Y 5/1 Mottle Colors: _____
Other hydric soil indicators: oxidized rhizospheres - anaerobic smell
Is the hydric soil criterion met? Yes X No _____ → 10YR 6/8
Rationale: low chroma in matrix, presence of oxidized rhizospheres

HYDROLOGY

Is the ground surface inundated? Yes X No _____ Surface water depth: at surface (boggy)
Is the soil saturated? Yes X No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No _____
Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____
Rationale for jurisdictional decision: All plants are either FACW or OBL. Soil surface inundated, low chroma & oxidized rhizospheres.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

S-3 Marshy creek channel / Wet Meadow

Station 2c

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Lindauer, Beth Henderickson Date: 6/11/95
Project/Site: Circuit Planning Area Site 32: Orcutt Cl State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: ~~Palustrine~~ Wet Meadow
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ~~X~~ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ~~X~~ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Hordeum marinum	FAC	Herb	11.		
2. Lolium	FAC	"	12.		
3. Distichlis spicata	FACW	"	13.		
4. Lotus corniculatus	FAC	"	14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No
Rationale:

SOILS

Series/phase: Subgroup:[2]
Is the soil on the hydric soils list? Yes No X Undetermined
Is the soil a Histosol? Yes No Histic epipedon present? Yes No
Is the soil: Mottled? Yes X No Gleyed? Yes X No
Matrix Color: 2.5Y 3/1 Mottle Colors: 2.5Y 6/4
Other hydric soil indicators: oxidized rhizospheres present, Gley 4/3
Is the hydric soil criterion met? Yes X No
Rationale: gley, mottles & oxidized rhizospheres present

HYDROLOGY

Is the ground surface inundated? Yes X No Surface water depth: at surface ~~in Son~~
Is the soil saturated? Yes X No
Depth to free-standing water in pit/soil probe hole:
List other field evidence of surface inundation or soil saturation.
Deep hoofprints with standing water.
Is the wetland hydrology criterion met? Yes X No
Rationale: soils are saturated

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No
Rationale for jurisdictional decision: All criteria are met, particularly hydrology and soil characteristics although obligate wetland species are absent.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Orcutt Creek : N. Tributary

Station 21

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Kathy Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt West Planning Area, #22 State: CALIF County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Freshwater Marsh
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No X (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
80%	1. Cotula coronopifolia	FACW+	Herb	11.			
10%	2. Rorippa nasturtium-aquaticum	OBL	Herb	12.			
	3.			13.			
5%	4. Agrostis semiverticillata	OBL	Herb	14.			
5%	5. Polypogon monspeliensis	FACW+	Herb	15.			
<1%	6. Rumex acetosella	FAC-	Herb	16.			
<1%	7. Juncus bufonius	FACW+	Herb	17.			
	8.			18.			
	9. Scirpus californica	OBL	Herb	19.			
	10.			20.			

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No ____ assumes?
Rationale: 100% FACW+ or OBL species. Also, ~~scattered~~ stands of Scirpus californica along bottom of old tributary channel.

SOILS

Series/phase: Stupomen (1972) indicates Corralitos Subgroup:[2] A
Is the soil on the hydric soils list? Yes ____ No X Undetermined ____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes X No ____
Matrix Color: ____ Mottle Colors: ____
Other hydric soil indicators: hydrogen sulfide - anaerobic
Is the hydric soil criterion met? Yes X No ____
Rationale: Soil is saturated, and ~~anaerobic~~ black.
All plant species are FAC, FACW or OBL.

HYDROLOGY

Is the ground surface inundated? Yes X No ____ Surface water depth: ____
Is the soil saturated? Yes X No ____
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No ____
Rationale: saturated

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision: This wetland meets vegetation, hydrology and soils criteria for wetlands. All spp FAC, FACW or OBL.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Orcutt Creek - Freshwater Marsh to wet meadow

Station 3-2

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Kathy Lindberg, Beth Henderson Date: 6/11/95
Project/Site: Orcutt Creek / Planning Area 22 State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Transition, Freshwater to Wet Meadow/Riverine
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ____ (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
30%	1. Distichlis spicata	FACW	Herb	11.		
10%	2. Hordeum marinum	FAC	"	12.		
5%	3. Polypogon monspeliensis	FACW+	"	13.		
5%	4. Lolium multiflorum	FAC?	"	14.		
<1%	5. Lotus corniculatus	FAC	"	15.		
<1%	6. Cotula coronopifolia	FACW+	"	16.		
	7.			17.		
	8.			18.		
	9.			19.		
	10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: All species are at least FAC.

SOILS

Series/phase: Riverwash Subgroup:[2]
Is the soil on the hydric soils list? Yes X No ____ Undetermined ____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes X No ____
Matrix Color: 10YR 3/1 Mottle Colors: 10YR 4/6
Other hydric soil indicators: Oxidized rhizospheres 10YR 4/6
Is the hydric soil criterion met? Yes X No ____
Rationale: Soil is gleyed, 2.5, black. ~~Oxidiz~~ with oxidized rhizospheres and mottles

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: ____
Is the soil saturated? Yes X No ____
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No ____
Rationale: Soil is saturated

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision: Hydric Soils List
All three criteria are met, particularly hydrology.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Draft Cycle - Depositional Environment

Station 223

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): K. Rindlaub, B. Henderson Date: 4/11/95
Project/Site: Draft Planning Area Site 22 State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: 10 Disturbed Depositional Environment
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ____ No ? (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. None			11.		
2. Twine			12.		
3.			13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC ____
Is the hydrophytic vegetation criterion met? Yes ____ No X
Rationale: ____

SOILS

Series/phase: Riverwash Subgroup:[2] ____
Is the soil on the hydric soils list? Yes X No ____ Undetermined ____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes X No ____ Gleyed? Yes X No ____
Matrix Color: 10 YR 3/1 Mottle Colors: 7.5 YR 4/6 & 5/1 Gley 2.5 Black
Other hydric soil indicators: mixture of gleyed matrix & oxidized rhizospheres
Is the hydric soil criterion met? Yes X No ____
Rationale: Hydric Soils List
gley, mottles & oxidized rhizospheres

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: ____
Is the soil saturated? Yes X No ____
Depth to free-standing water in pit/soil probe hole: ____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No ____
Rationale: ____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No ____
Rationale for jurisdictional decision: Hydric Soils List
Although vegetation is currently in this disturbed environment, this is due to abnormal conditions of 1995 rains. Buried Historic was found 4" down.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Orcutt Creek 6-5

Station 24

DATA FORM

ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): K. Randall, B. Henderson Date: 6/11/95

Project/Site: Orcutt Planning Area Site 22 State: CA County: Santa Barbara

Applicant/Owner: Santa Barbara County Plant Community #/Name: Palustrine, seep

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?

Yes Y No _____ (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes X No _____ (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
30%	1. Lotus corniculatus	FAC	Herb	11.			
30%	2. Cynodon dactylon	FAC		12.			
30%	3. Rumex crispus	FACW		13.			
10%	4. Juncus balticus	FACW+		14.			
<1	5. Lolium	FAC		15.			
<1	6. Hordeum marinum	FAC		16.			
<1	7. Carduus	?		17.			
	8.			18.			
	9.			19.			
	10.			20.			

Percent of dominant species that are OBL, FACW, and/or FAC 100%

Is the hydrophytic vegetation criterion met? Yes X No _____

Rationale: _____

SOILS

Series/phase: _____ Subgroup:[2] _____

Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____

Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____

Is the soil: Mottled? Yes ~~X~~ No X Gleyed? Yes _____ No X

Matrix Color: 10YR 3/2 Mottle Colors: 7.5YR 4/6 - oxidized rhizospheres

Other hydric soil indicators: _____

Is the hydric soil criterion met? Yes Y No _____

Rationale: Sandy soil is saturated at 8 inches depth, Anaerobic conditions exist

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____

Is the soil saturated? Yes X No _____

Depth to free-standing water in pit/soil probe hole: _____

List other field evidence of surface inundation or soil saturation.

Saturated at 8 inches depth in sandy soil.

Is the wetland hydrology criterion met? Yes X No _____

Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes Y No _____

Rationale for jurisdictional decision: All criteria are met: All spp FAC or FACW and oxidized rhizospheres found in saturated soil.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

[2] Classification according to "Soil Taxonomy."

Orcutt Creek 6 Y

Station 25

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): K. Lindbloom, B. Henderson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22 State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara, Co. Plant Community #/Name: Wet Meadow (Dubious)
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No _____ (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
70%	1. Hordeum leporinum (Marmum)	FAC	Herb	11.			
10%	2. bolium	FAC		12.			
10%	3. Lotus corniculatus	FAC		13.			
10%	4. Trifolium hepens	FACW		14.			
1	5. Polypogon monspeliensis	FACW		15.			
	6.			16.			
	7.			17.			
	8.			18.			
	9.			19.			
	10.			20.			

Percent of dominant species that are OBL, FACW, and/or FAC 90%
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: Vegetation is equally balanced FAC(3), FACW(1), FACW(1)

SOILS

Series/phase: _____ Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined X
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: 10 YR 3/2 Mottle Colors: _____
Other hydric soil indicators: oxidized rhizospheres 7.5 YR 4/6 (quesionable)
Is the hydric soil criterion met? Yes X No _____
Rationale: anaerobic environment - oxidized rhizospheres in sandy soil

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes X No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation. Soil is wet at surface
Is the wetland hydrology criterion met? Yes X No _____
Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____ oxidized rhizospheres are marginal.
Rationale for jurisdictional decision: Based primarily on plant (at least most are facultative) plus oxidized rhizospheres and wet soil indicating seasonal duration

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

f-1 Upland [illegible]

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area, Site 22: Orcutt Ck State: ______ County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Introduced Grassland
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ______ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ✓ No ______ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1.			11.		
2.			12.		
3.			13.		
4.			14.		
5. not done			15.		
6. (grasses)			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC ______
Is the hydrophytic vegetation criterion met? Yes ______ No ______
Rationale: ______

SOILS

Series/phase: loose + sandy Subgroup:[2] ______
Is the soil on the hydric soils list? Yes ______ No ______ Undetermined ______
Is the soil a Histosol? Yes ______ No ______ Histic epipedon present? Yes ______ No ______
Is the soil: Mottled? Yes ______ No X Gleyed? Yes ______ No X
Matrix Color: ______ Mottle Colors: ______
Other hydric soil indicators: none
Is the hydric soil criterion met? Yes ______ No X
Rationale: Soil is dry, loose + sandy to 16"

HYDROLOGY

Is the ground surface inundated? Yes ______ No X Surface water depth: ______
Is the soil saturated? Yes ______ No X
Depth to free-standing water in pit/soil probe hole: none at 16"
List other field evidence of surface inundation or soil saturation.
______
Is the wetland hydrology criterion met? Yes ______ No X
Rationale: ______

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ______ No X
Rationale for jurisdictional decision: Soil is too loose + sandy + dry. Vegetation although not recorded, was dominated by Hordeum marinum, a FAC species

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 32: Orcutt State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Freshwater marsh tributary
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No _____ (If yes, explain on back)

VEGETATION

% Cover	Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
70%	1. Hordeum marinum	FAC	Herb	11.		
10%	2. Lolium	FAC		12.		
5%	3. Eleocharis macrostachya	OBL		13.		
5%	4. Cotula coronopifolia	FACW+		14.		
5%	5. Lotus corniculatus	FAC		15.		
5%	6. Trifolium repens	FACW	↓	16.		
	7.			17.		
	8.			18.		
	9.			19.		
	10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 83% spp, 95% cover
Is the hydrophytic vegetation criterion met? Yes X No _____
Rationale: Most species are FAC, however an obligate wetland species is included among them.

SOILS

Series/phase: Sandy soil Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes X No _____
Matrix Color: 2.5 Y 3/1 Mottle Colors: _____
Other hydric soil indicators: oxidized rhizospheres 7.5 YR 4/6
Is the hydric soil criterion met? Yes X No _____
Rationale: gleying, low chroma in matrix, presence of oxidized rhizospheres.

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes X No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No _____
Rationale: Small drainage runs at an angle across property to emerge into wet meadow on creek flood plain. Topography appears natural, although this drainage may receive runoff from a golf course to the south.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes X No _____
Rationale for jurisdictional decision: Good hydric soil indicators, well-defined channel, with one obligate species scattered along it

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

9.7

Station #28

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22: Orcutt Ck State: County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Wet Meadow
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No X (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Hordeum marinum	FAC	Herb	11.		
2. Lolium spp	FAC		12.		
3. Trifolium spp	FACW		13.		
4. Lotus corniculatus	FAC		14.		
5. Cotula coronopifolia	FACW		15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 80%
Is the hydrophytic vegetation criterion met? Yes Y No _____
Rationale: Most spp are FAC. FACW is balanced by FACW

SOILS

Series/phase: Sandy loam Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No X Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes Y No _____
Matrix Color: 2.5 Y 3/1 Mottle Colors: _____
Other hydric soil indicators: oxidized rhizospheres
Is the hydric soil criterion met? Yes X No _____
Rationale: gleying, low chroma, oxidized rhizospheres

HYDROLOGY

Is the ground surface inundated? Yes _____ No X Surface water depth: _____
Is the soil saturated? Yes X No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes X No _____
Rationale: Soil is wet, downstream of freshwater marsh tributary with surface water. Marshy (Eleocharis) veg. has dropped out, but subsurface water flow continues, just more spread out.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes Y No _____
Rationale for jurisdictional decision: Vegetation is inconclusive, but soils + hydrology are positive.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

8.3

Station 29

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Beth Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area, Site 22: Orcutt Ck State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Annual Grassland
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes Y No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No Y (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Hordeum marinum	FAC	Herb	11.		
2. Lolium sp	FAC	↓	12.		
3. Trifolium repens	FACU	↓	13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 60%
Is the hydrophytic vegetation criterion met? Yes Y No _____
Rationale: _____

SOILS

Series/phase: _____ Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No X Gleyed? Yes _____ No X
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: no oxidized rhizospheres
Is the hydric soil criterion met? Yes _____ No X
Rationale: _____

HYDROLOGY

Is the ground surface inundated? Yes _____ No Y Surface water depth: _____
Is the soil saturated? Yes _____ No X
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.
none. soil is dry at surface
Is the wetland hydrology criterion met? Yes _____ No X
Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No X
Rationale for jurisdictional decision: Vegetation is mostly facultative, but the hydrology and soils do not indicate this is wetland

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

Scirpus pond

Station #30

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Katherine Rindlaub, Bill Hendrickson Date: 6/11/95
Project/Site: Orcutt Planning Area Site 22 - Creek State: CA County: Santa Barbara
Applicant/Owner: Santa Barbara County Plant Community #/Name: Freshwater Marsh
Note: If a more detailed site description is necessary, use the back of data form or a field notebook. (Impounded)

Do normal environmental conditions exist at the plant community?
Yes _____ No X (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes Y No _____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Scirpus californicus	OBL	Herb	11.		
2.			12.		
3.			13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes Y No _____
Rationale: 100% OBL species

SOILS

Series/phase: _____ Subgroup:[2] _____
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: _____ Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes _____ No _____
Rationale: Not tested, but 100% OBL vegetation and saturated/flooded soil.

HYDROLOGY

Is the ground surface inundated? Yes Y No _____ Surface water depth: _____
Is the soil saturated? Yes Y No _____
Depth to free-standing water in pit/soil probe hole: _____
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes Y No _____
Rationale: The impounded area was inundated

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes Y No _____
Rationale for jurisdictional decision: 100% OBL species, in a pond with standing water.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."