APPENDIX 2.0

Proposed Action and Alternatives Documentation

U.S. Army Corps of Engineers—Placer Vineyards Specific Plan EIS

TECHNICAL MEMORANDUM: ALTERNATIVES DEVELOPMENT AND SCREENING

OCTOBER 14, 2011

This memorandum summarizes the development and screening of alternatives for the Placer Vineyards Specific Plan EIS prepared by the U.S. Army Corps of Engineers (USACE). The Placer Vineyards Specific Plan (PVSP) is a proposal to develop a large-scale, regional mixed-use residential project on a site in southwestern Placer County.

The federal action currently under analysis is the review and approval of the Department of Army (DA) permits under Section 404 of the Clean Water Act, which if approved would allow the Applicants to fill approximately 119 acres[1] of jurisdictional waters of the United States in conjunction with the development of a large-scale, regional mixed-use residential project. The PVSP includes development of a 5,230-acre (2,116-hectare) site with a mix of land uses, predominantly residential use with some commercial and office uses, public and quasi-public uses, parks, and open space, and the infrastructure improvements to support these uses. The USACE has 22 active permit applications to develop up to 3,746 acres (1,516 hectares) of land within the PVSP area and an application for the development of backbone infrastructure. The owners of the remaining properties (comprising 505 acres [204 hectares] within the PVSP area outside of the Special Planning Area (SPA) and 979 acres [396 hectares] within the SPA) are not applying for DA permits at this time. However, for purposes of the EIS, the Proposed Action encompasses the development of the entire PVSP site consistent with the footprint of the County-approved PVSP.

Under the Council on Environmental Quality's (CEQ's) National Environmental Protection Act (NEPA) Implementing Regulations, comparative analysis of the environmental impacts associated with a proposed project and the identified alternatives serves to define the issues and provide decision makers with a clear basis for a "choice among options" (40 CFR 1502.14). An EIS is therefore required to consider alternatives. Consideration is limited to alternatives that are feasible, which is defined for NEPA purposes as meaning those that would meet the project's purpose and need and are capable of being carried out in the context of technical, economic, environmental, and other factors. The range (the number and nature) of alternatives to be considered is governed by the rule of reason—that is, an EIS is not required to consider all possible alternatives, only those

1 This includes about 115 acres of jurisdictional waters on the PVSP site and about 4.2 acres off-site in conjunction with the construction of off-site infrastructure improvements.

that are necessary to permit a reasoned choice. Once a range of possible alternatives has been identified, a set of screening criteria may be used to "screen" the alternatives and narrow down the range of alternatives to those that will be carried forward for EIS analysis. If alternatives have been identified but eliminated from detailed consideration, the EIS must briefly discuss the reasons why they were not carried forward (40 CFR 1502.14[a]).

To establish the range of alternatives for this project, the USACE first developed the project's purpose and need statement. Next, the USACE identified a broad range of potential alternatives. Finally, the USACE evaluated the potential alternatives against screening criteria based on the aspects of feasibility identified under NEPA—technical, economic, and environmental—to focus consideration on alternatives that meet NEPA stipulations for feasibility. In order to integrate this analysis with the Section 404(b)(1) alternatives analysis, screening criteria that were used in the analysis were also based on the practicability criteria under 404(b)(1) – technology, logistics, and cost. This approach ensures that a site is screened out only if it is both infeasible under NEPA and impracticable under Section 404(b)(1) and a potential least environmentally damaging practicable alternative (LEDPA) is not eliminated from further analysis for reasons exclusive to NEPA.

1.0 PURPOSE AND NEED AND DESCRIPTION OF THE PROPOSED ACTION

1.1 Background

Following the adoption of the West Placer Community Plan (WPCP) in 1990, Placer County identified the remaining area to the west of the WPCP as appropriate for urban development. In its 1994 General Plan, the County noted that this area could develop following adoption and implementation of a comprehensive Specific Plan, and the County amended the boundaries of the Dry Creek/West Placer Community Plan to include this land.

Consistent with the direction provided by the Placer County 1994 General Plan, the Applicants sponsored the preparation of a specific plan for this area. In July 2007, the County Board of Supervisors approved the Placer Vineyards Specific Plan (PVSP) and certified the PVSP Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act. The purpose of the PVSP was to comprehensively plan the development of the remaining unplanned area in southwestern Placer County for the establishment of a new residential community that not only included residential and commercial uses but also other public uses, including a mixed-use Town Center that provided for civic and community activities, uses that are necessary for a fully integrated and viable community. The PVSP covers an area of 5,230 acres in the southwestern portion of the County.

In May 2006, the Placer Vineyards Owners' Group (Applicants) submitted 24 applications to the USACE under Section 404 of the Clean Water Act for the development of backbone infrastructure and the development of several properties within the PVSP (participating properties). Since then, one application has been withdrawn and there are now a total of 22 applications for the development of 22 properties with the Plan area and a permit application for the development of backbone infrastructure. While the overall PVSP area is 5,230 acres, the acreage proposed for development at this time and for which permit applications have been filed is 3,744 acres; of the remaining 1,486 acres, about 970 acres are designated as a Special Planning Area and about 516 acres are non-participating properties (i.e., properties for which land use planning has been completed by Placer County but no Section 404 permit applications has been filed with the USACE).

1.2 Project Purpose

According to the USACE and the Applicants, the project purpose is:

> *to construct a large-scale regional mixed-use residential project in western Placer County*

1.3 Project Need

The Applicants' stated need for the Proposed Action is described as follows.

> *The project is proposed as a large scale residential community because the primary purpose of the Project is to accommodate projected population growth in Placer County and provide a coordinated development envelope consisting of residential, commercial, recreational, public/quasi-public land uses, required infrastructure and open space to accommodate a population range of approximately 30,000 to 50,000 persons. The project is intended to assist in meeting the region's future needs for residential opportunities through comprehensive planning.*

The primary purpose of the project is to accommodate projected population growth in Placer County and provide a coordinated development envelope consisting of residential, commercial, recreational, public/quasi-public land uses, required infrastructure, and open space to accommodate a population of approximately 30,000 persons. The project is intended to assist in meeting the region's future needs for residential opportunities through comprehensive planning.

The project is proposed as a mixed-use community with adequate employment-generating non-residential uses in order to provide a balance of jobs, housing, and other amenities. The commercial component of this community is important and necessary so that the County has sufficient tax revenues to provide services to the project. A large-scale residential-only development would not be fiscally sustainable because the tax revenue from property taxes alone would be insufficient to provide the needed County services (Hausrath 2006). This is especially the case for the project site and its vicinity in western Placer County where a high proportion of the property tax revenues go to the local school district and the County share is relatively small. In addition, there are no nearby existing retail centers to serve the Placer Vineyards area, so early development of a commercial center is important from a service standpoint as well as for fiscal reasons.

Given the proposed size of the regional residential community, the project is proposed with a mixed use Town Center and other public/quasi-public uses such as a government center, fire station, library, police station, and a cemetery, uses that would be proposed only in the context of a new community or new town. The Town Center component of the project would consist of a mixture of specialty retail tenants focusing on a pedestrian environment with smaller specialty retail stores, restaurants, and service providers that would generally serve only the Placer Vineyards community market area with unique shopping opportunities. The Town Center would not have large format retailers that require significant parking and demand locations adjacent to major arterials in order to serve the greater market area beyond the PVSP area.

Placer County identified this area for urban development (PVSP EIR 2007). This was based on a number of important planning factors, including that (1) the cities and areas surrounding the Plan area are experiencing rapid growth in jobs, creating the need for additional housing in southwestern Placer County; (2) the area is contiguous to existing urban development to the south (Sacramento County) and new development to the north (Roseville); and (3) the region is planning improvements to the transportation network that could accommodate the level of growth associated with the Specific Plan; and (4) the Plan area is better suited to concentrated new growth than other locations, as it would create less sprawl. For purposes of this EIS, western Placer County is defined as the portion of Placer County west of Interstate 80 (I-80) and State Route 65.

1.4 Proposed Action (Applicants' Proposed Project)

The Placer Vineyards Development Project is a proposal to develop a large-scale, regional, mixed-use residential project in southwestern Placer County.

The project site is flanked to the east by existing development within the Dry Creek Community Plan area, to the north by Baseline Road and undeveloped land further north of the roadway, and to the south by existing rural residential development in Sacramento County, and to the west by undeveloped agricultural lands in Sutter County. Baseline Road, Sutter County line, and Sacramento County line makes the site's northern, western and southern boundaries respectively.

The approximately 5,230-acre PVSP area includes some parcels that are either already developed and therefore not part of the project or are not included in the proposed development project for other reasons. The Proposed Action would entail development of about 3,744 acres with a mix of land uses, including 2,005 acres of residential uses, for a total of 11,010 residential units at buildout; approximately 278 acres of commercial and mixed uses including 579 residential units; 291 acres of quasi-public (public facilities/services, religious facilities, schools) land uses; and 1,169 acres of parks, open space, arterials and collectors. If the area under open space (675 acres) is excluded, the project's development footprint would be 3,069 acres. Development of the master-planned community envisioned under the Placer Vineyards Development Project would be a long-term undertaking; construction is expected to begin in 2013 and, depending on market conditions, would be completed in 20 or 30 years.

There are approximately 176.7 acres of waters of the U.S. within the project site. Of this acreage, the Proposed Action will result in on-site impacts to approximately 115 acres. The Proposed Action would affect another 4.2 acres of wetlands off-site. The remaining 61.7 acres of wetlands will be preserved.

2.0 DEVELOPMENT OF OFF-SITE ALTERNATIVES

The USACE has determined that the project purpose and need could be satisfied by a similar project elsewhere in western Placer County. Therefore, alternatives development identified other sites in western Placer County where such a project could reasonably be developed.

2.1 Potential Alternate Sites

2.1.1 Definition of Study Area

As a first step the study area for off-site alternatives was defined. Based on the project purpose as identified by the USACE, the geographic area examined for alternate sites was limited to western Placer County, which is defined as the area bound by Interstate 80 (I-80) and State Route 65 (SR 65) to the east, Sacramento County line to the south, and Sutter County line to the west and the north.

2.1.2 Size of the Alternate Site

Within the defined study area, the next task was to identify areas offering relatively large tracts of contiguous undeveloped or sparsely developed land, appropriate to support development of a large-scale, mixed-use regional residential community. To assist with the identification of the sites, a minimum site size was established by the USACE.

In order to meet the project purpose to create a "regional" residential community, the proposed project would develop a new town with a town center and public/quasi-public uses such as a government center, fire station, library, police station, and a cemetery. Based on data regarding large-scale master-planned communities that were approved in Placer County (jurisdictions of Roseville, Lincoln, Rocklin and unincorporated Placer County), the proposed project is the largest locally approved development, while the smallest approved large-scale development was 909 acres. However, the proposed project is the only example of a large-scale *regional* mixed-use residential project in western Placer County and is the only example of a project in the County that would establish a self-sufficient new town that includes not only residential and commercial land uses but also public and quasi-public land uses necessary to serve the town's population.

The USACE examined other projects proposed in the Central Valley with town centers (see **Table 1, Central Valley New Town Projects,** below). Of the three such projects that were identified, the smallest of the new town proposals with town centers and urban amenities was a community of 2,766 acres (1,119 hectares).

Table 1
Central Valley New Town Projects

Name	Acreage	Residential Population	Land Uses
Sutter Pointe	7,528	43,000	A new town with a mix of land uses, including employment centers, many different housing types, retail shopping villages, recreation amenities, schools, community services, supporting on-and off site infrastructure, roadway improvements, open space, and various public uses including a town center
Mountain House	4,784	46,818	A self-sufficient community with a mixed-use Town Center that provides for civic and community activities, in addition to residential and commercial uses.
University Community	2,766	31,000	A residential community (including a town center, schools, and other amenities) to support UC Merced.

Based on these examples, the smallest size for a mixed-use regional community/new town is approximately 2,766 acres, which is smaller than the size of the PVSP.

In view of the above, the minimum size of the alternate site would need to be about 2,700 acres. In addition, as noted earlier, although the PVSP encompasses 5,230 acres, approximately 970 acres are within the SPA, an area that is expected to remaining substantially in its current condition. Of the remaining 4,260 acres, approximately 698 acres would be placed in open space and about 3,562 acres will be developed. Based on this number, the USACE determined that the minimum size of the alternative site to develop the Proposed Action is approximately 2,400 acres which is about two-thirds the size of the area proposed for development under the PVSP. This land area would need to be generally contiguous land that is undeveloped or sparsely developed.

2.1.3 Identification of Potential Alternative Sites

Next, the study area was examined to identify all lands that are known not to be available for development. These include the following types of lands:

1. Parcels that are either existing or proposed mitigation sites, mitigation banks, preserves, or otherwise protected from development.
2. Parcels that are proposed for development by other developers/entities for which there are active proposals either with the USACE or with the cities of Roseville or Lincoln, or with Placer County. These include the Sierra Vista SP site (including the Westbrook project site), the Creekview SP site, and the Fiddyment Ranch site.
3. Parcels for which information was available to the USACE that those parcels are not available for purchase.

Figure 1 shows all of the land areas that are known to not be available for purchase by the Applicants. The figure also shows areas that are available and are considered candidate areas for the development of the Proposed Action. These candidate areas are outlined in **Figure 2** and labeled as Site 1- Lincoln Village 4, Site 2- Lincoln Villages 5-6, Site 3- Placer Ranch-Northeast site, Site 4 - Northwest, and Site 5 - Southwest.

Figure 2 also shows another large area in the northwestern portion of the study area (west of Sites 1 and 2, and north of Site 4 in unincorporated Placer County) that is potentially available for development. This area was not considered a candidate area as it is distant from existing development in Placer County, and is not identified for development in any of the regional plans. Furthermore, this area is sparsely populated and is not served by existing or planned roadways. As a result, this area is unlikely to be able to support the commercial component of the Proposed Action, and would therefore not meet the project purpose and need. There are other small pockets of land shown on **Figure 2** that are potentially available for development. However, as the graphic shows, each of these areas is substantially less than the minimum acreage that is needed in order to develop a large-scale mixed-use regional residential community that meets the project's purpose and need.

Each of the five candidate areas/sites is described below.

Site 1: Lincoln Village 4

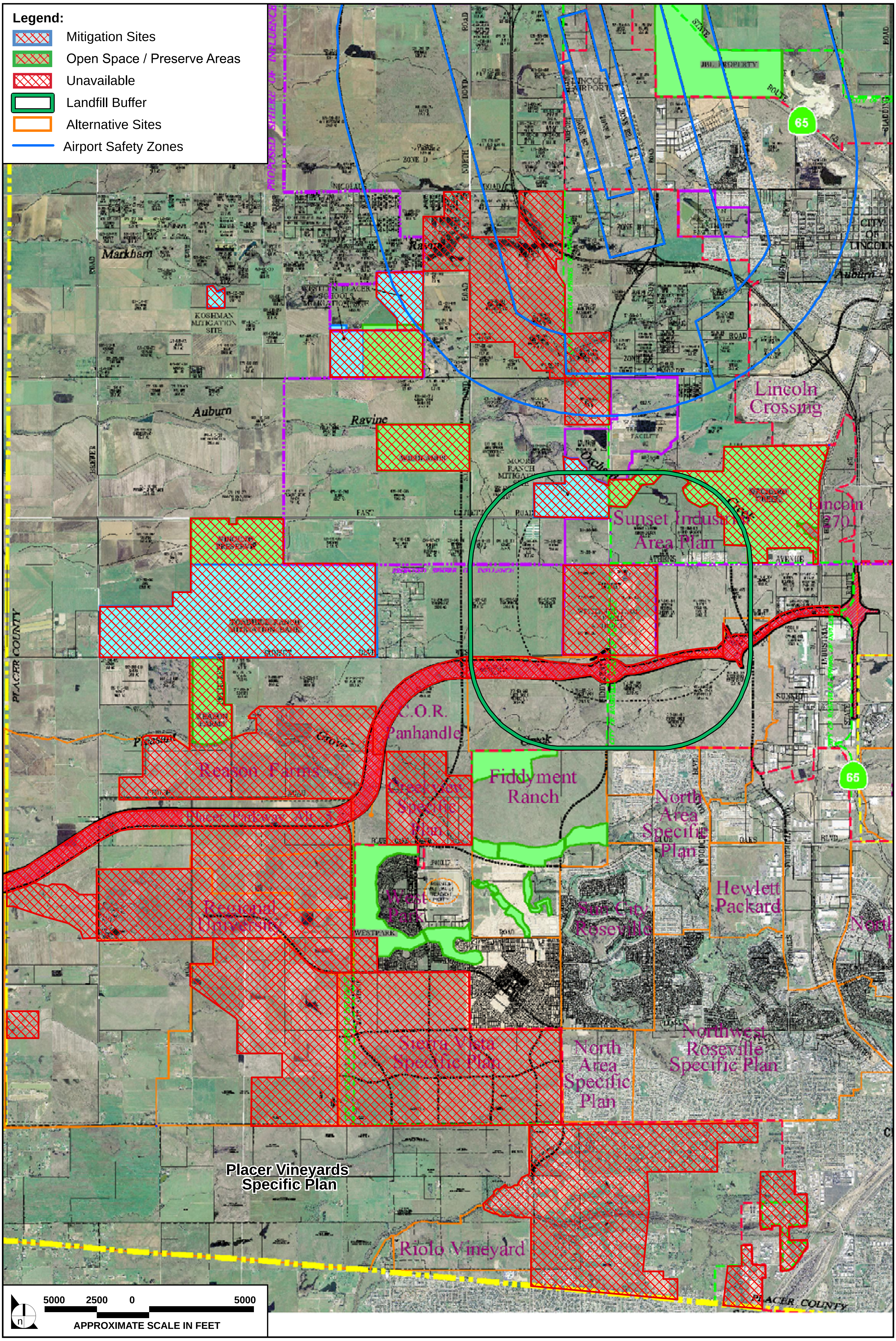
The Lincoln Village 4 site is one of several "village" areas designated in the City of Lincoln General Plan. It is located within the City of Lincoln's sphere of influence, immediately south of the Placer County–Sutter County boundary. The Lincoln General Plan calls for the area to be primarily residential. The Village 4 site comprises approximately 2,598 acres, including over 800 acres dedicated to wetland mitigation for impacts of the SR 65 Bypass Project. There are no active or dormant proposals at this time for the development of any portion of this site.

Site 2: Lincoln Villages 5-6

Site 2 is made up of a portion of Lincoln Village 5 and all of Lincoln Village 6. The total area of the site is approximately 3,025 acres. Both villages are designated in the Lincoln General Plan for development as a "suburban village." The site includes Auburn Ravine, Orchard Creek, and a buffer surrounding the City of Lincoln's Wastewater Treatment Plant and the Western Regional Sanitary Landfill. There are no active or dormant proposals at this time to develop any portion of this site.

Site 3: Placer Ranch SP-Northeast

This candidate site combines Placer Ranch SP site (2,250 acres) with lands to the west, including the Brookfield site (1,350 acres) and an approximately 584-acre area north of Reason Farms, for a total area of about 4,184 acres. The central portion of the site is within the County-defined Western Regional Landfill buffer area, within which development is restricted to non-residential uses. The site has previously been proposed for development of 6,793 residential dwelling units, 527 acres of business park and light industrial uses, 150 acres of office, 99 acres of commercial uses and a 300-acre branch campus for the California State University, Sacramento. A development application was submitted to the City of Roseville in 2007, but the project has been on hold since early 2008. The project is not approved at this time.

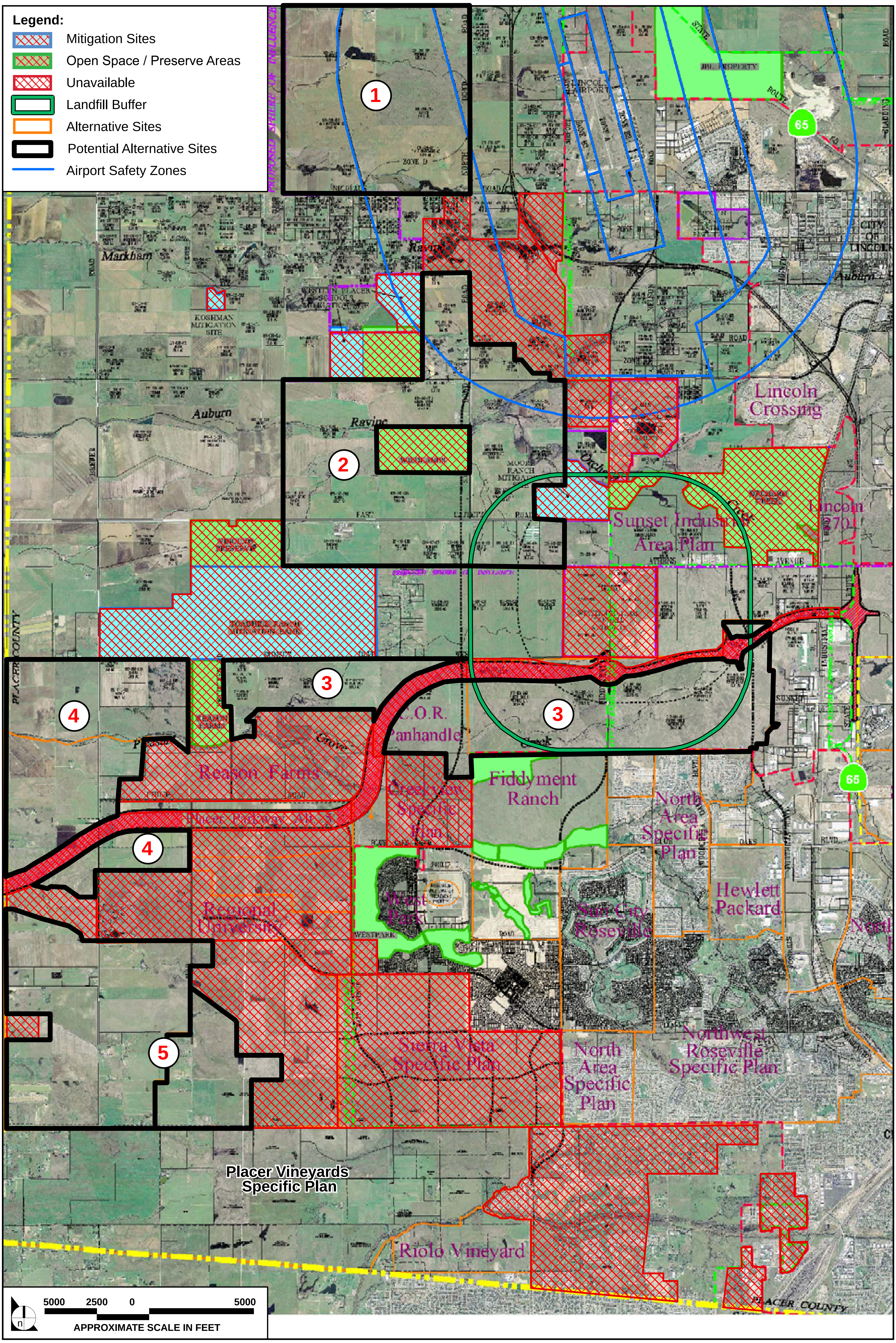


SOURCE: MacKay & Somps – August 2010, Impact Sciences, Inc. – December 2010

FIGURE 1

Land Available for Off-Site Alternatives

1090-002•04/13



SOURCE: MacKay & Somps – August 2010, Impact Sciences, Inc. – December 2010

FIGURE 2

Potential Alternative Sites

1090-002•04/13

The Brookfield portion of the site is located between the Placer Ranch SP area to the east and Reason Farms to the west. The future alignment of Placer Parkway cuts across the northwest portion of the Brookfield site, reducing the area available for development to about 1,300 acres. Previously there was a proposal to develop about 2,700 homes on this site, but that project is currently on hold.[2]

The western portion of Site 3 comprises approximately 584 acres bounded by Reason Farms to the west and south, by Sunset Boulevard to the north, and by the proposed Brookfield project site to the east. This site has not previously been proposed for development and there are no proposals at this time to develop it.

Site 4: Northwest Site

This is an approximately 2,416-acre site in unincorporated Placer County, bounded by Sunset Boulevard to the north, the Sutter County line to the west, the City of Roseville stormwater retention basin, and Reason Farms to the east, and Placer Parkway alignment to the south. This site has not previously been proposed for development and there are no proposals at this time to develop any portion of this site.

Site 5: Southwest Site

This is an approximately 2,400-acre site bounded by the extension of Sankey Road and the County-approved Regional University and Community SP Area to the north, the Sutter County line to the west, Baseline Road to the south, and the easterly portion of Curry Creek Community Plan area to the east. This site has not previously been proposed for development and there are no proposals at this time to develop any portion of this site.

2.2 Off-site Alternatives Screening

Screening of these five alternative sites was completed in two phases. In the first phase, the five potential sites identified above were evaluated under two criteria: (1) Biological Resource Sensitivity; and (2) Viability of Commercial Uses at Alternate Site. For each criterion, sites were evaluated as **Feasible**, **Conditionally Feasible**, or **Not Feasible**. Sites that received a Not Feasible rating for either criterion were eliminated from further consideration. Sites that remained in consideration following the first screening phase were then evaluated in a second screening phase under a third criterion, Feasibility of Acquiring Sufficient Acreage, which was rated on a binary basis (**Feasible** or **Not Feasible**). The following sections describe the two screening phases and the criteria in detail, and the results of the analysis.

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2 Pease, personal communication, May 27, 2010.

2.2.1 Phase 1 Screening Criteria and Results

The Phase 1 screening criteria for off-site alternatives were defined as follows.

- **Off-Site Alternative Criterion 1 – Biological Resources Sensitivity** evaluated the nature, extent, and quality of biological resources on the sites, with a particular focus on aquatic resources and special-status species. Sites with extensive, high-quality aquatic resources were rated as Not Feasible for this criterion unless those resources are already protected by conservation easements or other land use management mechanisms. Sites with substantial resources were rated as Conditionally Feasible. Sites with less extensive or more highly fragmented resources, and/or resources of lower quality, were rated as Feasible. Because detailed information (e.g., specific acreage of various sensitive habitat types) was not equally available for all of the potential alternate sites, evaluation under Criterion 1 was conducted in a generalized, non-quantitative manner, based on a reconnaissance-level evaluation of relative sensitivity.

- **Off-Site Alternative Criterion 2 – Viability of Commercial Uses at Alternative Site** evaluated the feasibility of developing the regional commercial component of the Proposed Action at the alternative site. An alternate site that includes a commercial center location with a population of at least 100,000 persons within 5 miles by 2040 would be considered Feasible under this criterion and a site with less than 100,000 persons within the 5-mile radius of the commercial center location by 2040 would be considered Infeasible. More information on how this criterion was developed and used is presented in **Appendix A**.

Table 1 shows the evaluation of the five potential sites under Criteria 1 and 2.

Table 1
Screening-Level Comparison of Potential Alternate Sites

Site	Criterion 1 Biological Resources Sensitivity	Criterion 2 Viability of Commercial Uses at Alternate Site
Lincoln Village 4 2,598 acres	This site is mostly open pasture with a large number of vernal pools/seasonal wetlands scattered over most of the property. Much of this area is in an existing vernal pool preserve and encumbered by a conservation easement. The wetlands are of high quality and are known to support listed vernal pool crustaceans. Trees are very sparse. The southern portion of the site contains a drainage that supports open water, marsh, and limited riparian habitat. Given the extensiveness and high quality of aquatic resources, as compared to the Proposed Action, the site is not feasible for further consideration. **Conclusion: Not Feasible**	The population data for the area surrounding this site has not been calculated as of June 13, 2011. Conservatively, the site is considered feasible with respect to this criterion. **Conclusion: Feasible**

Site	Criterion 1 Biological Resources Sensitivity	Criterion 2 Viability of Commercial Uses at Alternate Site
Lincoln Villages 5-6 3,025 acres	The majority of this site is rice lands but there are substantial areas of vernal pool grasslands. Vernal pool/seasonal wetlands are of moderate quality and listed crustaceans are likely. The wetlands are of moderate quality. Trees are abundant along Auburn Ravine, which flows through the northern portion. The most biologically valuable habitat is already protected within a conservation easement (Wildlands). The site would be feasible because the highest quality aquatic resources are already preserved and much of the remainder is in rice. **Conclusion: Feasible**	The population data for the area surrounding this site has not been calculated as of June 13, 2011. Conservatively, the site is considered feasible with respect to this criterion. **Conclusion: Feasible**
Placer Ranch - Northeast 3,056 acres	The Placer Ranch portion of the site is entirely annual grassland. It is mostly in a fallow state and there are very few structures or current uses. Vernal pools/seasonal wetlands are scattered throughout the site, more commonly associated with drainage ways. These are of moderate quality. Listed crustaceans are likely. There is almost no woody vegetation. A tributary (lacking riparian vegetation) to Pleasant Grove Creek flows through the site. The resources on this portion of the site are generally similar to the Proposed Action. The Brookfield portion of the site is entirely annual grassland. A wetland swale system arcs through the site from east to west, flowing out of an irrigated pasture. It is impounded, forming a narrow stock pond. The swale conveys irrigation runoff during the summer months. The property contains a considerable amount of vernal pools and seasonal wetlands, primarily associated with the drainage in the northern half and the clayey soils near the southern portion. These wetland habitats may support listed crustaceans. The western portion of the site is also primarily annual grassland with some areas of irrigated pasture. Vernal pools/seasonal wetlands are prevalent and scattered throughout most of the property. Most of the wetlands are of high quality and are relatively undisturbed. Listed crustaceans are known to occur in some areas of this site. Native trees occur along the drainages but are very sparse in the open areas. Pleasant Grove Creek flows through the southern portion of the site and supports an oak riparian woodland. This large grassland unit is less disturbed and the landform and its aquatic resources are of higher quality as compared to the Proposed Action. The site is therefore considered not feasible. **Conclusion: Not Feasible**	The population of the area within 5 mile radius of Placer Ranch (113,546 persons) is currently adequate to support one power center and two centers by 2040. However, a power center at this site is not considered feasible for a number of reasons. First, the Placer Ranch site is located within 5 miles of two highly developed established commercial areas in the Cities of Lincoln and Roseville where numerous power centers are already developed that would cut into the trade area of the Placer Ranch power center. Second, the Placer Parkway has yet to be developed. In the absence of a major thoroughfare, businesses within the power center(s) at the Placer Ranch -Northeast site would not receive any drive-by trips. Lastly, should a portion of the Placer Parkway be developed as part of the Placer Ranch alternative, power center businesses will choose to locate at its intersection/interchange with Route 65 than on the Placer Ranch-Northeast site because there will be more drive-by traffic and population to serve at that location. For all of these reasons, a power center would not be viable at this site until such time that additional residential uses establish to the west of the site. **Conclusion: Not Feasible**

Site	Criterion 1 Biological Resources Sensitivity	Criterion 2 Viability of Commercial Uses at Alternate Site
Northwest 2,416 acres	This site is approximately half rice lands. The remaining area is mostly dry pasture, including some that has been historically leveled but is currently fallow. The northeast portion of this site was in contour rice farmed but is currently fallow. Wetlands are forming behind the checks. The non-rice areas of this site (about half of the site) contain a high percentage of vernal pools/seasonal wetlands and wetland swales. Listed crustaceans are likely. Trees are confined to a few residences and the Pleasant Grove riparian corridor. The site would be feasible because aquatic resources are limited due to extensive agricultural land conversion and lack of a large natural resource component as compared to the Proposed Action site. **Conclusion: Conditionally Feasible**	The population within a 5-mile radius of the Northwest site was approximately 4,576 in 2009. This population is expected to increase to approximately 39,776 persons by 2025 and 41,327 persons by 2040, including the population associated with the Proposed Action. This population would at best support two grocery stores. It would not be large enough to support a power center within the Proposed Action's timeframe. **Conclusion: Not Feasible**
Southwest 2,400 acres	This site contains a high diversity of habitats and land uses. Rice lands, row crops, and various disking practices account for a variable landscape. There are numerous residences, including one with two water-ski lakes, which fragment the landscape. Fallow areas support a substantial amount of moderate quality vernal pool/seasonal wetlands. Listed crustaceans are likely. Trees are confined to residential areas and drainage ways. Curry Creek flows through the fallow and active contour rice in the northern area. The site would be feasible because the property is quite fragmented with variable land uses. The aquatic resources and watersheds are compromised compared to the Proposed Action site. **Conclusion: Conditionally Feasible**	The population within a 5-mile radius of the Southwest site was approximately 39,409 in 2009. This population is expected to increase to approximately 92,881 persons by 2025 and 106,236 persons by 2040, including the population associated with the Proposed Action. This population would be adequate to support a power center. **Conclusion: Feasible**

Table 2 below summarizes the results of the evaluation. "**F**" represents a rating of Feasible, "**C**" represents a rating of Conditionally Feasible, and "**N**" represents a rating of Not Feasible.

Table 2
Summary of Phase 1 Screening Evaluation of Alternate Sites

Site	Screening Criteria		Outcome
	1	2	
Site 1 - Lincoln Village 4	**N**	F	*Eliminated*
Site 2 - Lincoln Villages 5-6	F	F	Retained
Site 3 - Placer Ranch -Northeast	**N**	**N**	*Eliminated*
Site 4 - Northwest	C	**N**	*Eliminated*
Site 5 - Southwest	C	F	Retained

2.2.2 Phase 2 Screening Criteria and Results

The two sites that were not eliminated in Phase 1 screening were screened further using Criterion 3 which was defined as follows.

- **Off-site Alternative Criterion 3 – Feasibility of Acquiring Sufficient Acreage** evaluated the feasibility of acquiring title to the property through purchase, land exchange, or another mechanism. This was explored by the Applicants through direct landowner inquiries and independently verified by the USACE. Sites where sufficient contiguous acreage (approximately 2,400 acres, the minimum size to support a project like the PVSP) could not be acquired by the Applicants were eliminated from further consideration.

Site 2 - Lincoln Villages 5-6

Based on inquires made by the Applicants, there are approximately 1,676 acres of land available for purchase on the Lincoln Villages 5-6 site. This acreage is less than 2,400 acres which is the minimum acreage needed to develop a regional residential community similar to PVSP. Furthermore, as shown on **Figure 3**, the land available on the site is fragmented such that the development of a large-scale regional residential community would not be feasible**.** The parcels that make up the central portion of the site are unavailable for purchase by the Applicants, which leaves approximately 862 acres of available land in the northern portion of the site and approximately 813 acres of land in the southern portion of the site for development. Either area alone would not be of a sufficient size to accommodate a regional residential community.

Furthermore, the northern development area is fragmented by parcels of land not available for purchase and the Auburn Ravine floodplain, which further precludes development of a community in this area because the land would not be contiguous.

In addition, a substantial portion (300 acres) of the southern development area is within the 1-mile landfill buffer area of the Placer County landfill. Placer County General Plan policy prohibits the establishment of residential uses within this 1-mile buffer of the existing landfill and its approved expansion area; the policy allows the development of non-residential uses in this buffer zone. Considering the landfill buffer, only about 550 acres in the southern development area would be available for residential development. This would be substantially smaller than the approximately 1,200 – acre residential component proposed under the PVSP.

The commercial component of the proposed project comprises approximately 309 acres of land throughout the PVSP site. The commercial component of the PVSP could be developed within the 300-acre landfill buffer area on Site 2. However, the commercial component at this location would not be viable because regional access to this commercial area would be compromised by existence of the landfill directly east of this area. Furthermore, the commercial area would not be located along a major regional roadway and therefore would not be able to draw customers from the broader region. In essence, a power center will likely not be viable at this location.

If conservatively, a land use plan were to be developed for all of the available land at this site, the various land uses could be distributed as shown in **Table 3,** below. Assuming no open space, the land use plan for this site would include approximately 1,100 acres of residential uses. Based on the average density from the PVSP, the alternative could accommodate about 15,477 residents. This population would not be large enough to constitute a self-sufficient town that would be provided a complete suite of community services.

Table 3
Summary of Land Uses on Alternative Sites

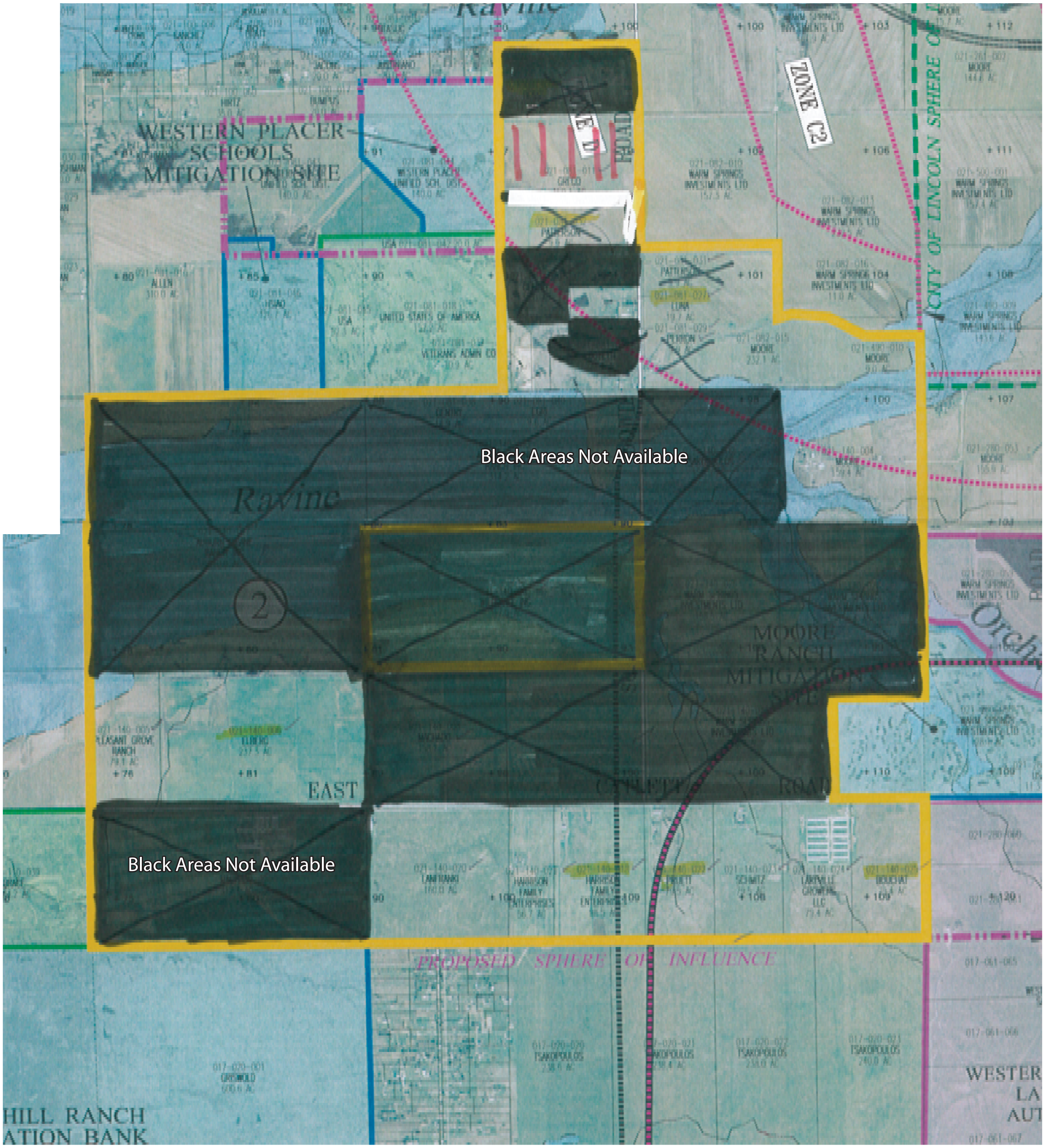
Land Uses	PVSP Area*	PVSP Percent of Total	Lincoln Villages 5-6	Southwest Site
Residential	2,383 acres	66%	1,100 acres	727 acres
Commercial Mixed Use	51 acres	1%	24 acres	16 acres
Commercial	258 acres	7%	119 acres	79 acres
Public Uses	397 acres	11%	183 acres	121 acres
Parks and Roads	542 acres	15%	250 acres	165 acres
Total**	3,631 acres	100%	1,676 acres	1,108 acres
Total Population at Buildout* **	**33,531 residents**		**15,477 residents**	**10,232 residents**

* *This acreage excludes the Special Planning Area but includes all of the NAPOTS. The totals are based on the PVSP numbers and are slightly different from the numbers reported elsewhere in this memorandum.*

** *Total excludes open space*

*** *Based on a density of 5.6 dwelling units per acre, and assumes 2.46 persons per household, based on the PVSP.*

For these reasons, the **Lincoln Villages 5-6** Alternative is not feasible under Criterion 3.



NOT TO SCALE

SOURCE: Impact Sciences, Inc., April 2013

FIGURE 3

Land Potentially Available for Purchase on Lincoln Villages 5-6 Site

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Site 5 - Southwest

Based on enquires made by the Applicants, there are about 1,470 acres of land available for purchase on the Southwest site. This acreage is substantially less than the minimum acreage (2,400 acres) necessary to develop a regional residential community. Furthermore, a large-scale mixed-use residential development would not be feasible at this site for a number of reasons.

As shown on **Figure 4**, the land available on the site is fragmented such that the development on the available parcels would not be contiguous with other development. These isolated "islands" include the 80-acre parcel in the eastern portion of the site, several parcels on the northwest comprising 202 acres, and several parcels in the northeastern portion that comprise 80 acres. The total area of the noncontiguous parcels would be about 362 acres, which leaves approximately 1,108 acres[3] for development. This remaining area would be too small to accommodate a large-scale regional residential community.

The commercial land uses of the PVSP comprise approximately 309 acres and include Town Center Retail, Power Center Retail, and Neighborhood Center retail. These areas are designated at different locations along Baseline Road and the locations of the major commercial areas are spaced out to minimize competition among the on-site commercial uses. For this reason, the proposed locations for the Power Center and Neighborhood Commercial land uses are approximately 1 mile east of the proposed Town Center uses along Baseline Road. Under the Southwest Alternative, the commercial area would be approximately 94 acres, which would not be large enough to accommodate the range and scale of commercial uses proposed under the project. Even if a similar range of commercial uses were developed on the Southwest site, the commercial areas would need to be located on Baseline Road in order to provide the best access. Given the location of the available parcels on the Southwest site, the various commercial uses would be located almost adjacent to one another, as shown in **Figure 4**. The specialty retail stores in the Town Center would not be economically viable if they were to compete against big box stores located in the power center less than 0.5 mile away.

If conservatively a land use plan were to be developed for this site, assuming no open space, the various land uses would be distributed according to **Table 3** above. As shown, using the PVSP as a guide, approximately 727 acres of the site would be designated for residential uses. Based on the average density of the PVSP, the alternative could accommodate about 10,232 people. This

3 This total includes a non-contiguous area in the western portion of the site. The island was included because it is located on Baseline Road so it would be accessible from other locations on the site.

population is not large enough to constitute a self-sufficient town that would be provided with a complete suite of community services.

Table 4 below summarizes the results of screening using Criterion 3.

Table 4
Summary of Phase 2 Screening Evaluation of Alternate Sites

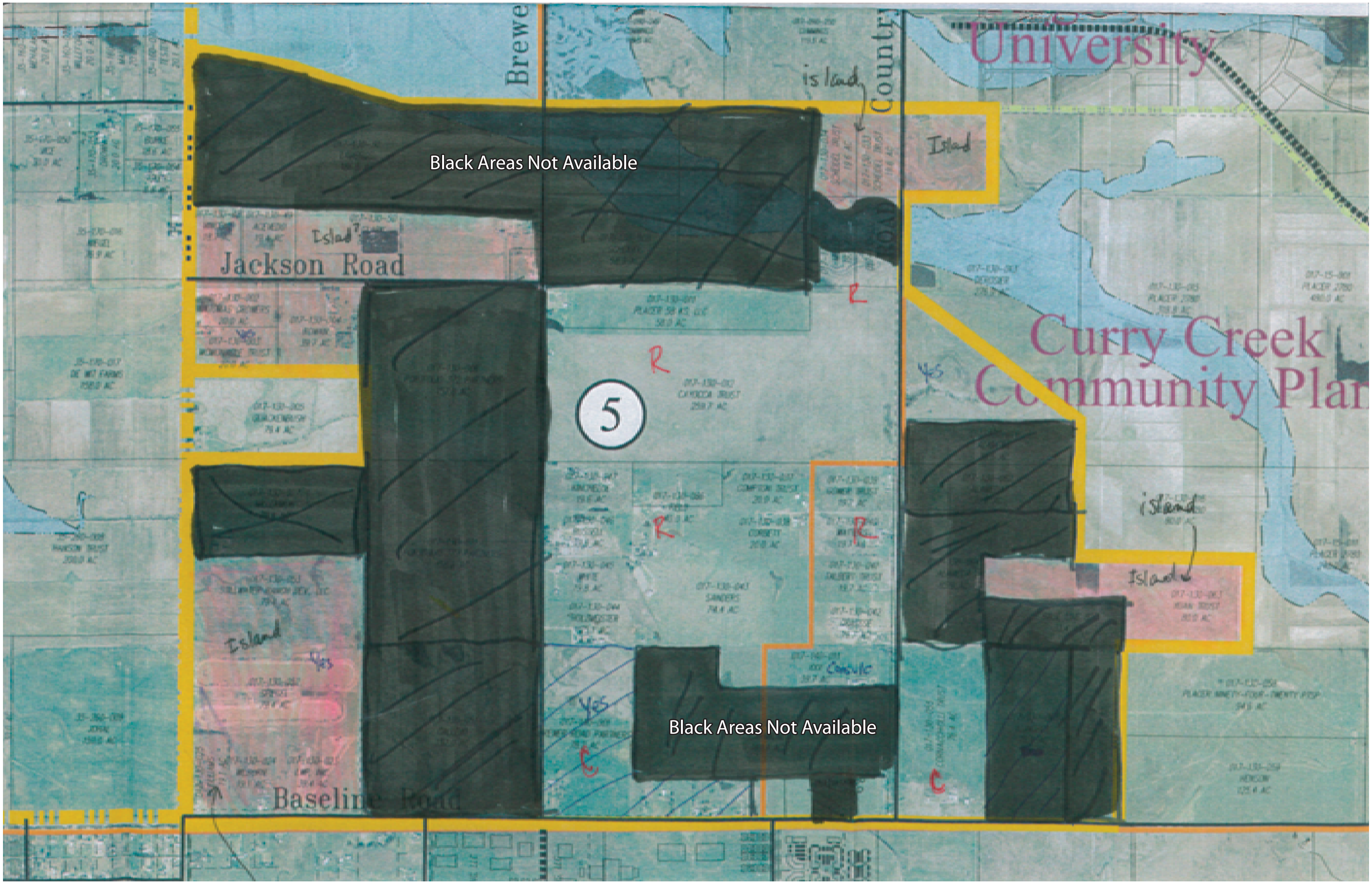
Site	Criterion 3 Feasibility of Acquiring Sufficient Acreage	Outcome
Site 2 - Lincoln Villages 5-6	N	*Eliminated*
Site 5 - Southwest Site	N	*Eliminated*

2.3 Conclusion with Respect to Off-site Alternatives

Based on the screening process presented in this memorandum, the USACE has determined that none of the off-site alternatives is feasible and no off-site alternatives will be carried forward for the EIS analysis.

3.0 DEVELOPMENT OF ON-SITE ALTERNATIVES

This section presents the USACE process for selecting a reasonable range of on-site alternatives for further evaluation in the EIS. As a first step, the USACE considered alternatives that were developed by Placer County for the PVSP EIR and the alternatives included in the Section 404(b)(1) Alternatives Analysis prepared by the Applicants and evaluated whether they would meet the purpose and need for the Proposed Action. Having determined that none of those alternatives were feasible, the USACE conducted an analysis to identify areas on the project site where avoidance of wetlands would be most beneficial. Based on this analysis, the USACE developed additional on-site alternatives that would focus avoidance of wetlands in several locations on the project site.



NOT TO SCALE

C = Commercial R = Residential

SOURCE: Impact Sciences, Inc., April 2013

FIGURE 4

Land Potentially Available for Purchase on Southwest Site

3.1 Consideration and Evaluation of EIR and Section 404(b)(1) Alternatives

3.1.1 PVSP EIR Alternatives

- A total of six on-site alternatives, including five alternate development plans and a No Project (no development) alternative, were analyzed in the PVSP EIR (County of Placer 2007). The USACE determined that with the exception of the Blueprint alternative, none of the EIR alternatives are feasible alternatives for inclusion in the EIS for the following reasons. The EIR evaluated a No Project alternative, which involves no development of the PVSP area. The USACE found that this alternative would not meet the project's purpose and need because it would not provide for development of a large-scale residential mixed-use residential community. Therefore, the USACE concluded the No Project alternative is not feasible and will not be carried forward for evaluation in the EIS. (Note that the No Project alternative means that no development would occur on the project site whereas a No Action alternative considers a project constructed without triggering a Department of the Army permit (e.g., without the discharge of dredged or fill material into a water of the U.S.). The No Action alternative will be evaluated in the EIS, as required by NEPA.)

- The EIR evaluated a Rural Density alternative that would develop the PVSP area with about 500 single-family homes. The alternative would not meet the project's purpose and need as a development with about 500 single-family homes would not be considered a large-scale, regional, mixed-use residential community. Therefore, the USACE concluded this alternative is not feasible and will not be carried forward for evaluation in the EIS.

- The EIR evaluated a Redesigned Project alternative, which would place the Town Center towards center of the Specific Plan area, provide for rural buffers, and alter the roadway design. That alternative is no longer relevant because the Proposed Action now includes these features.

- The EIR evaluated a Reduced Density alternative which identified additional areas for avoidance and preservation in the Specific Plan area. Subsequent evaluation of the project site wetland resources (see more information on the California Rapid Assessment Method (CRAM) analysis below) revealed that some of the areas that were identified for avoidance under the Reduced Density alternative in fact do not contain higher-value wetland resources. With respect to other areas identified for avoidance under the Reduced Density alternative, the alternative has been superseded by alternatives proposed by the USACE that avoid or preserve these higher-value wetland resources. Therefore, the USACE concluded this alternative will not be carried forward for evaluation in the EIS.

- The Expanded Phase I alternative is no longer relevant because Placer County eliminated Phase I from the PVSP.

At the request of the Applicants, the USACE has agreed to include the Blueprint alternative as an additional scenario/variation of the Proposed Action in the EIS. As that alternative is already included in the EIS, this alternative was not carried forward for screening.

3.1.2 Applicants' 404(b)(1) Alternatives

The USACE also reviewed the on-site alternatives put forth by the Applicants in their Section 404(b)(1) alternatives analysis for the proposed project dated August 2008. The Applicants' 404(b)(1) alternatives analysis is on file with the USACE.

Seven alternatives (Alternatives A through G) were identified by the Applicants, including two alternatives that were identified based on consultation with the United States Environmental Protection Agency (USEPA). The seven alternatives include:

- **Alternative A**, which would develop the PVSP site in a manner that would preserve listed aquatic invertebrate habitat with a 250-foot buffer;
- **Alternative B,** which would develop the PVSP site while preserving aquatic invertebrate habitat predominantly in western and northeastern portions of project site;
- **Alternative C,** which would develop the PVSP site in a manner that avoids 85 percent of vernal pool resources;
- **Alternative D**, which would develop the PVSP site in a manner that avoids all development activities in jurisdictional waters of the U.S.;
- **Alternative E,** which would involve no development of the project site;
- **Alternative F,** which would develop the PVSP site in a manner that focuses avoidance of impacts to aquatic resources located predominantly in the western and northeastern portions of the site; and
- **Alternative G,** which consists of the development of the PVSP site in a manner that avoids impacts to aquatic resources located predominantly in the southern and northeastern portions of the project site.

Based on a preliminary review of these alternatives, the USACE eliminated **Alternative E,** No Development, because a "no-development" alternative would not meet the Proposed Action's basic purpose and need. In addition, because NEPA mandates the evaluation of a No Action alternative, **Alternative D** (which is the No Action alternative) will be carried forward into the EIS and therefore was not put through the screening process.

Alternatives **F** and **G** were included in the Applicants' 404(b)(1) alternatives analysis by the Applicants in response to USEPA comments on the NOI. However, these alternatives substantially reduce the acreage available for development on the site and do not consider the variable condition of aquatic resources on the site. The USACE, in consultation with USEPA, replaced Alternatives F and G with the focused avoidance alternatives (See Alternatives 1 through 5 in **Subsection 3.3** below). These alternatives, like Alternatives F and G, reduce the project footprint, and increase the preserve area, but unlike Alternatives F and G, these alternatives focus preservation on locations with higher densities of aquatic resources, and on aquatic resources of greater quality relative to the aquatic resources on the site as whole, as measured by the CRAM analysis (see PVSP Draft EIS Appendix 2.0). These alternatives are an improvement over Alternatives F and G because they were developed based on consideration of the value of specific wetland complexes. This information was not available when Alternatives F and G were first proposed by the Applicants.

Therefore, three of the seven alternatives put forth in Applicants' 404(b)(1) alternatives submittal were carried forward for screening. The three alternatives included: Alternative A, which would preserve listed aquatic invertebrate habitat with a 250-foot (76-meter) buffer; Alternative B, which would preserve aquatic invertebrate habitat predominantly in western and northeastern portions of the project site; and Alternative C, which would avoid 85 percent of vernal pool resources on the PVSP site.

3.2 On-Site Alternatives Screening and Results

Screening of the three potential on-site alternatives was completed based on criteria derived from the project purpose and need and the ability of an alternative to avoid or reduce the impacts of the proposed project on wetland resources. For each criterion used in screening, alternatives were evaluated as **Feasible, Conditionally Feasible,** or **Not Feasible**. Alternatives that received a Not Feasible rating for any criterion were eliminated from further consideration.

In order to meet the project purpose to create a "regional" residential community, the proposed project would develop a new town with a town center and public/quasi-public uses such as a government center, fire station, library, police station, and a cemetery. Following basic planning principles, a residential community should also have access to neighborhood retail and commercial uses, and schools should be located in reasonable proximity to homes. The phrase, "functionally integrated manner master planned community" is used to describe the manner in which the residential community would function.

In order to meet the basic principle for a "regional" residential community, the proposed project provide sites for developing both a viable town center with specialty retailers and power centers for large-box retailers. As explained in **Appendix A,** the economic viability of the community depends on feasible commercial uses. Therefore, the USACE determined that to prevent competition between retailers, the project should provide for a minimum of 1 mile between feasible commercial sites.

In addition, based on data regarding large-scale master-planned communities, the USACE determined that the minimum size of the alternative site to develop a large scale, regional, mixed-use community is approximately 2,400 acres (**Subsection 2.1.2)**.

Based on the above, the following criterion was developed:

- **On-site Alternatives Criterion 1 – Functionally Integrated Mixed-Use Residential Project** - the ability for an alternative to develop a functionally integrated, large-scale, regional mixed-use residential community. This means that the alternative would need to meet basic planning principles for developing residential uses that are supported by and accessible to neighborhood retail, commercial, and public/quasi-public land uses, and that these uses would need to be reasonably contiguous to provide a sense of community. In order to meet the basic project purpose which is to develop a "regional" residential community, the alternative would need to provide sites for developing viable commercial uses, including a power center and a town center for specialty retailers. In addition, the residential community should be of a sufficient size to support a town center and other public/quasi-public uses. The size of the developed area would need to be approximately 2,400 acres at a minimum.

Each alternative was also examined as to whether its impacts on on-site wetlands would be greater or less than the wetland impacts of the Proposed Action. In addition, based on general conservation principles that preservation should occur in a contiguous manner to avoid fragmenting habitat and avoid secondary (indirect) impacts associated with fragmented habitat, each alternative was evaluated for the manner in which it would preserve on-site resources. Based on these concepts, Criterion 2 was developed as follows:

- **On-site Alternatives Criterion 2 – Aquatic Resources.** Alternatives that would result in fewer direct and indirect impacts on aquatic resources when compared to the Proposed Action and would preserve contiguous areas of habitat were considered Feasible. Alternatives that would have greater direct and indirect effects on aquatic resources than the Proposed Action or would result in a fragmented pattern of preservation were rated as Not Feasible.

The results of the evaluation relative to these two criteria are summarized below by alternative.

3.2.1 Alternative A – Vernal Pool Habitat and Preservation Alternative

Alternative A is designed so that listed aquatic invertebrate (fairy and/or tadpole shrimp) habitat is preserved with a 250-foot buffer. Due to the reduced area available for development (1,740 acres) as compared to the Proposed Action, this alternative would develop 6,431 units (compared to 13,731 units under the Proposed Action). Development on the PVSP site under this alternative would occur in a highly fragmented pattern as shown in **Figure 5**.

Alternative A would provide for only about half of the residential units included in the Proposed Action and would eliminate development of about half of the overall project developable acreage. As a result of the reduced number of residential units and the reduced acreage, public/quasi-public facilities would not be part of this alternative. The configuration of Alternative A would preclude development on many of the parcels because the developable areas on each of the parcels would be substantially reduced and fragmented. Consequently, the residential community would consist of disconnected and fragmented pockets of development. Because of the disconnected nature of the development, developable acreage well below 2,400 acres, and the loss of public/quasi-public facilities, Alternative A would not result in a large scale, mixed-use functionally integrated community. For these reasons, Alternative A is rated **Not Feasible** under Criterion 1.

Alternative A would result in the filling of 43.35 acres of wetlands, which is less than the approximately 115 acres that would be filled on site under the Proposed Action. The alternative would preserve 116.32 acres of wetlands (although it would indirectly impact 15.04 acres of 116.32 acres of avoided wetlands). However, as shown in **Figure 5**, the alternative would preserve the resources in fragmented, non-contiguous patches throughout the site. Alternative A would therefore be considered **Not Feasible** with respect to Criterion 2.

3.2.2 Alternative B – Minimization Alternative

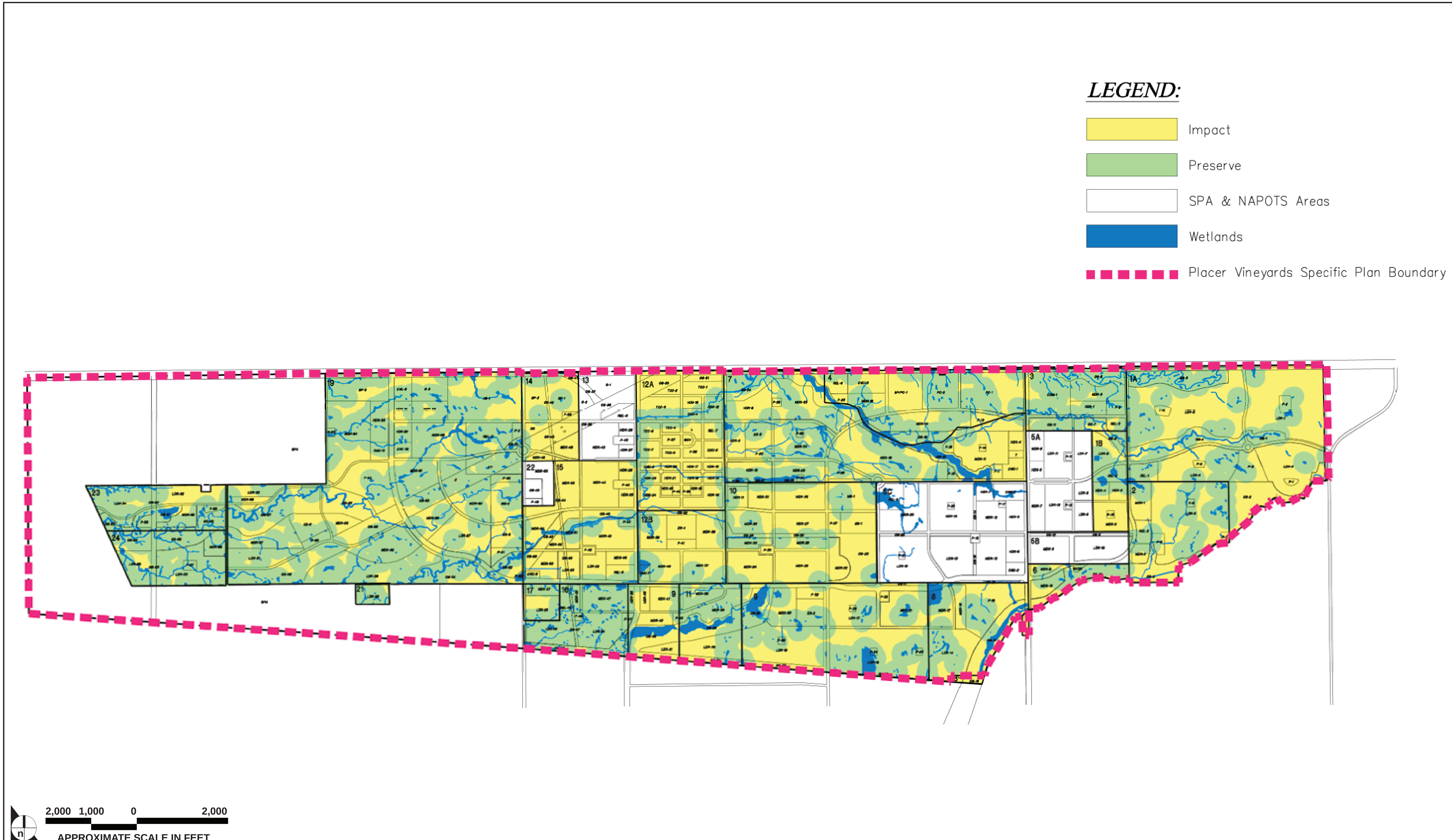
Alternative B would further avoid and minimize of impacts to aquatic resources, in comparison to the Proposed Action by preserving large areas in the northeastern, western, and southwestern portion of the site as open space. As shown in **Figure 6,** Alternative B would concentrate development in the central, southern, and eastern portions of the PVSP site and substantially reduce the developable area fronting on Baseline Road. As a result, about 1,736 acres of the PVSP site would be developed under this alternative. Based on the 1,736-acre estimate, Alternative B would develop 6,416 residential units (compared to 13,721 units under the Proposed Action).

While there would be large contiguous developable areas under this alternative, and these areas could be developed with the land uses required for a functionally integrated community, however, under this alternative, the total development area would be substantially less than 2,400 acres and there would be only a limited amount of developable land available along Baseline Road that could be developed with commercial uses (one or more power centers). As a result the Town Center would need to be located at a site that is further in the interior of the project site, distant from major arterials, and at an adequate distance from the power center. This would reduce the economic viability of the Town Center. Therefore, Alternative B is **Not Feasible** with respect to Criterion 1.

Alternative B would result in the filling of about 67.50 acres of wetlands and would avoid or preserve about 92.17 acres of wetlands (there would be indirect impacts to 20.62 acres of avoided wetlands). Since the avoided area is concentrated in the northwestern and western portion of the project site, the alternative would have contiguous preserved areas of drainages and wetlands. Therefore, Alternative B is **Feasible** with respect to Criterion 2.

3.2.3 Alternative C – 85 Percent Avoidance Alternative

Alternative C consists of 85 percent avoidance of "vernal pool" resources within the project site which are defined to include vernal pools, seasonal wetlands, drainage swales, and seasonal wetland swales. As shown in **Figure 7**, development under this alternative would be limited to one consolidated and contiguous area of about 1,173 acres in the center of the PVSP site. Based on the 1,173-acre estimate, Alternative C would develop approximately 4,335 residential units (compared to 13,721 units under the Proposed Action). There would be insufficient developable acreage for the development of employment generating uses and the developable area fronting on Baseline Road would be substantially reduced.



SOURCE: MacKay & Somps, 2008

FIGURE 5

Alternative A – Vernal Pool Habitat and Preservation Alternative

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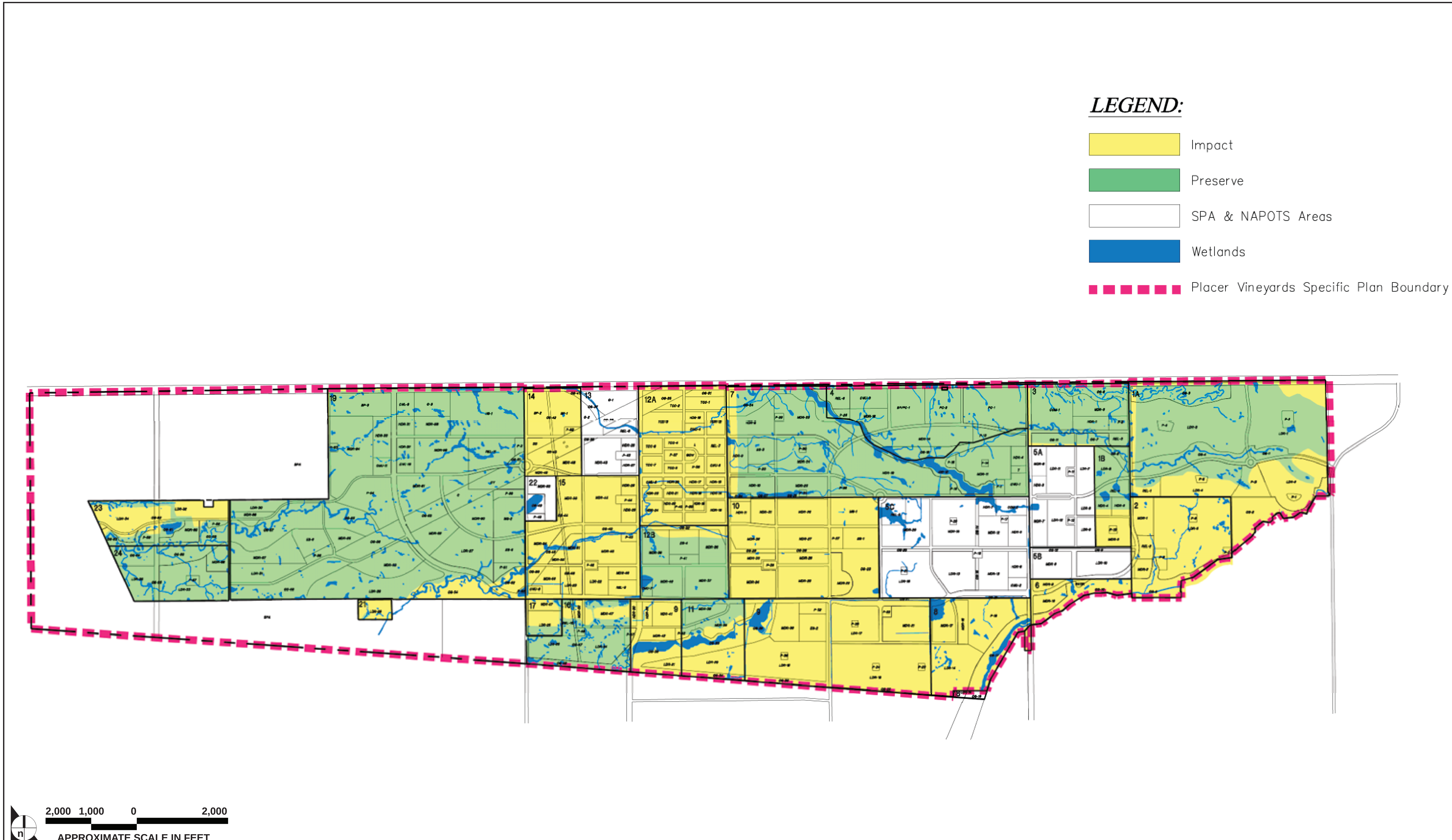

SOURCE: MacKay & Somps, 2008

FIGURE **6**

Alternative B – Minimization Alternative

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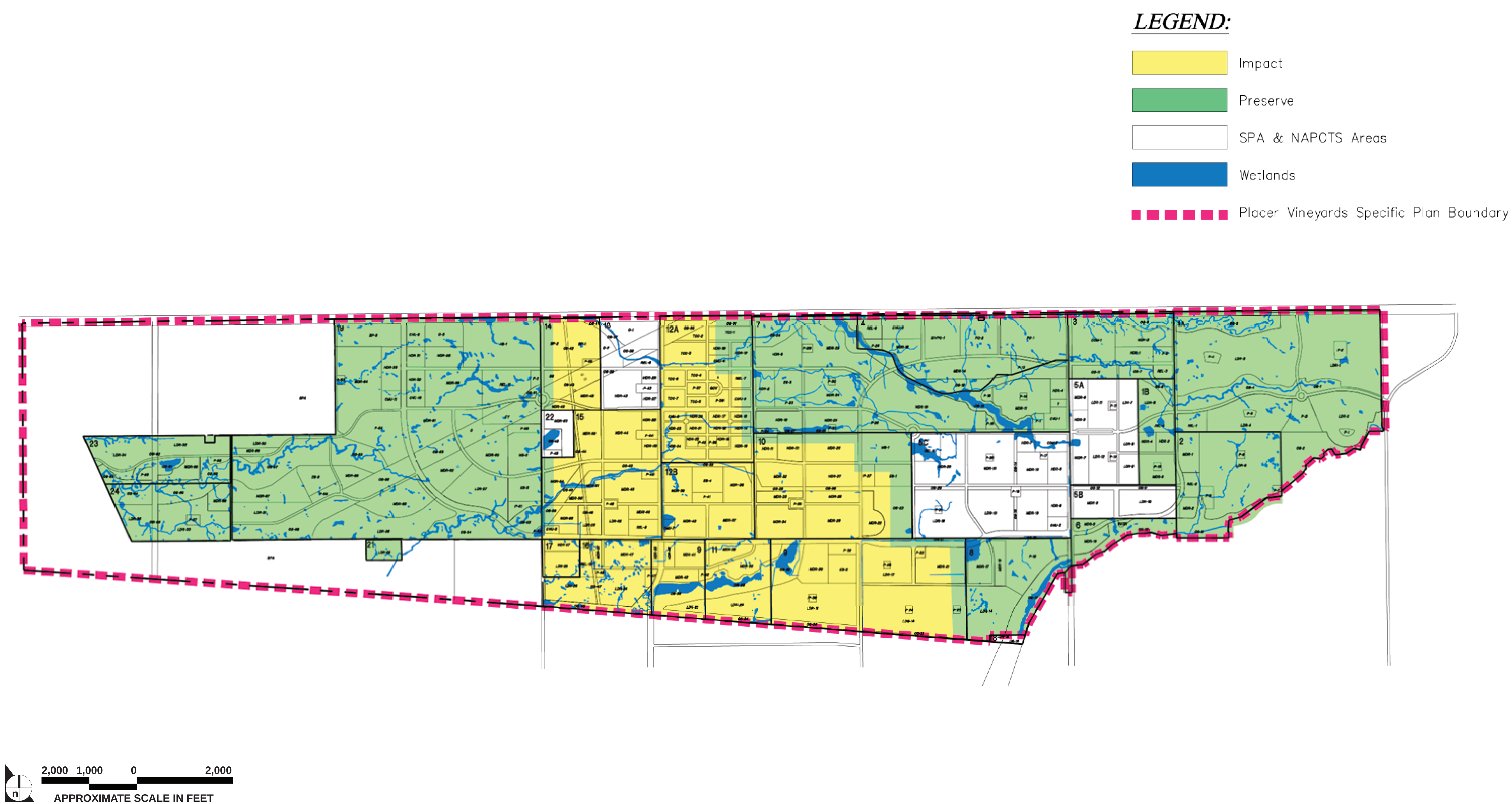

SOURCE: MacKay & Somps, 2008

FIGURE 7

Alternative C – 85 Percent Avoidance Alternative

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The developable area under Alternative C would be contiguous and would provide for a functionally integrated but substantially reduced project (1,173 acres which is substantially less than 2,400 acres). In addition, as with Alternative B above, under this alternative, only a limited amount of developable land is available along Baseline Road which would be occupied by the commercial uses, forcing the Town Center to be located at a site that is further in the interior of the project site and distant from major arterials. This would reduce the economic viability of the Town Center. Therefore, Alternative B is **Not Feasible** with respect to Criterion 1.

Alternative C would result in the filling of approximately 44.22 acres of wetlands and the avoidance or preservation of about 96 acres of wetlands (there would be indirect impacts to 19.03 acres of the avoided wetlands). Since the preserved areas would be contiguous to one another, and the total acreage preserved is greater than the Proposed Action, Alternative C would be **Feasible** with respect to Criterion 2.

Table 5
Summary of 404(b)(1) On-site Alternatives

Alternative	Developable Area (Acres)	Units	Population*** (residents)	Aquatic Impacts (Acres of Fill)
Proposed Action*	3,631**	13,721	33,531	115
Alternative A - Vernal Pool Habitat and Preservation Alternative	1,740	6,431	15,820	43.35
Alternative B - Minimization Alternative	1,736	6,416	15,784	67.5
Alternative C – 85 Percent Avoidance Alternative	1,173	4,335	10,665	44.22

* *Proposed Action in this table refers to the PVSP site excluding the Special Planning Area.*
** *Number excludes open space*
*** *Assumes 66% residential acres, 5.6 dwelling units per acre, and assumes 2.46 persons per household.*

Table 6 summarizes the results of this analysis. All three alternatives that were eliminated based on the screening.

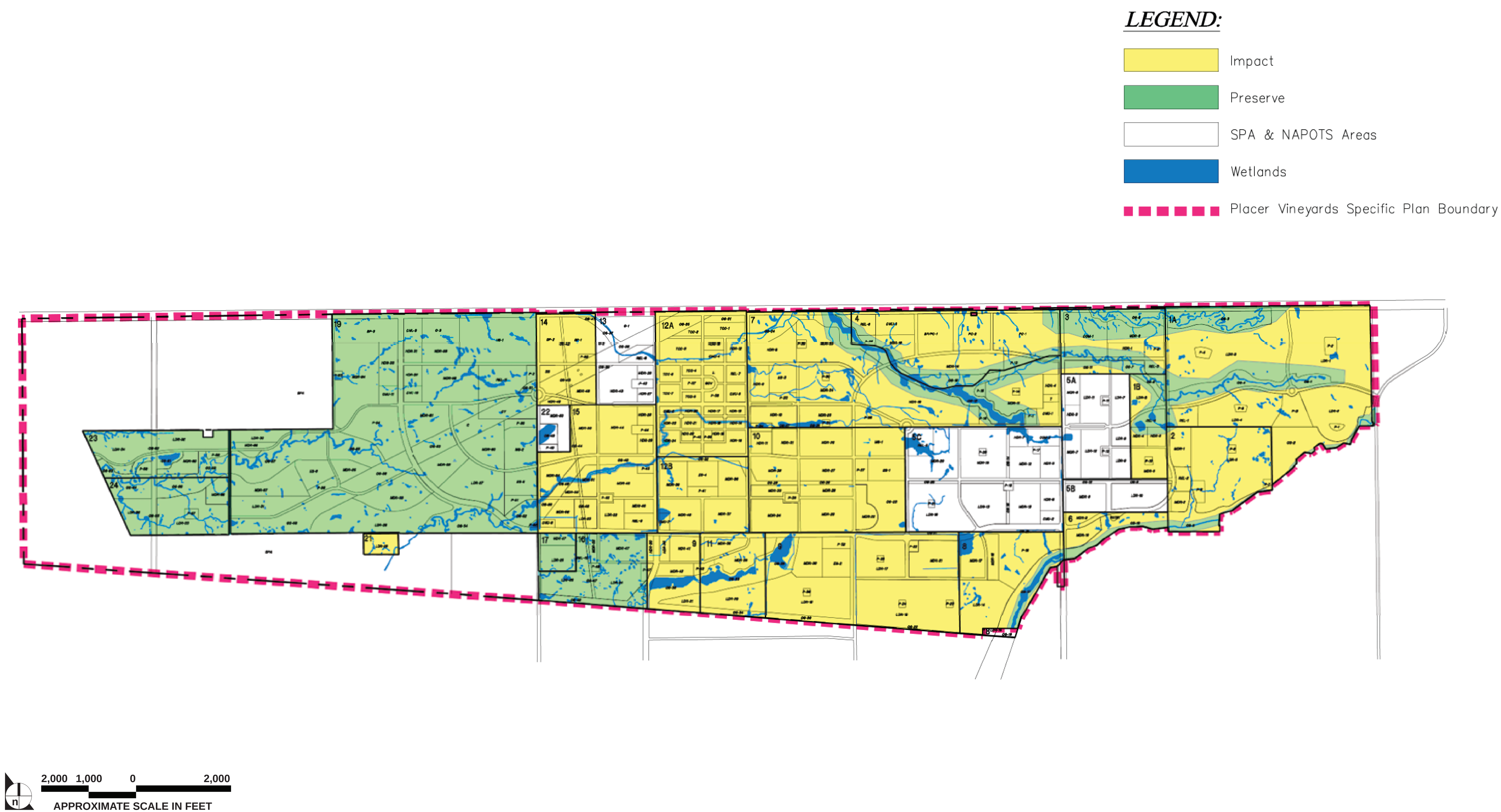
Table 6
Summary of Screening Evaluation of On-Site Alternatives

Site	Criterion 1 Functionally – Integrated Community	Criterion 2 Aquatic Resources	Outcome
Alternative A - Vernal Pool Habitat and Preservation Alternative	Not Feasible	Not Feasible	*Eliminated*
Alternative B - Minimization Alternative	Not Feasible	Feasible	*Eliminated*
Alternative C - 85% Avoidance Alternative	Not Feasible	Feasible	*Eliminated*

3.3 Development of New On-site Alternatives

Although some of the alternatives identified above would avoid more aquatic impacts as compared to the Proposed Action, the USACE determined that none of them were feasible based on the screening criteria discussed above and that additional on-site alternatives should be developed that would avoid or minimize impacts to aquatic resources in those portions of the project site where the resource is most valuable. In addition, the USACE determined that additional alternatives should be identified that may be considered practicable in accordance with Section 404(b)(1).

As a first step, the USACE examined Alternative F and Alternative G developed by the Applicants in response to comments from the USEPA. These alternatives would focus avoidance of impacts to aquatic resources in large areas of the project site while leaving the rest of the site available for contiguous development (see **Figures 8** and **9**). However, both alternatives substantially reduce the acreage available for development on the site and do not consider the variable condition of the aquatic resources on the PVSP site. Therefore, rather than carrying these alternatives forth, the USACE conducted a California Rapid Assessment Method (CRAM) analysis of the wetland resources on the PVSP site to identify areas where avoidance of wetlands would be most beneficial. Based on the results of the CRAM analysis, the USACE determined that most of the areas on the project site where higher quality wetlands are present would be protected from development under the Proposed Action because those wetlands are located within the areas identified as open space in the PVSP and therefore will not be filled. The USACE however identified four areas on the project site where the potential for further avoidance of wetlands should be evaluated. The potential avoidance sites are termed "study areas" in this memorandum and are shown as SA-1 through SA-4 on **Figure 10**. A series of focused avoidance alternatives was defined which included the development of the rest of the project site per the PVSP and additional avoidance of aquatic resources on five properties that make up the four study areas.



SOURCE: MacKay & Somps, 2008

FIGURE 8

Alternative F – Focused Avoidance Alternative

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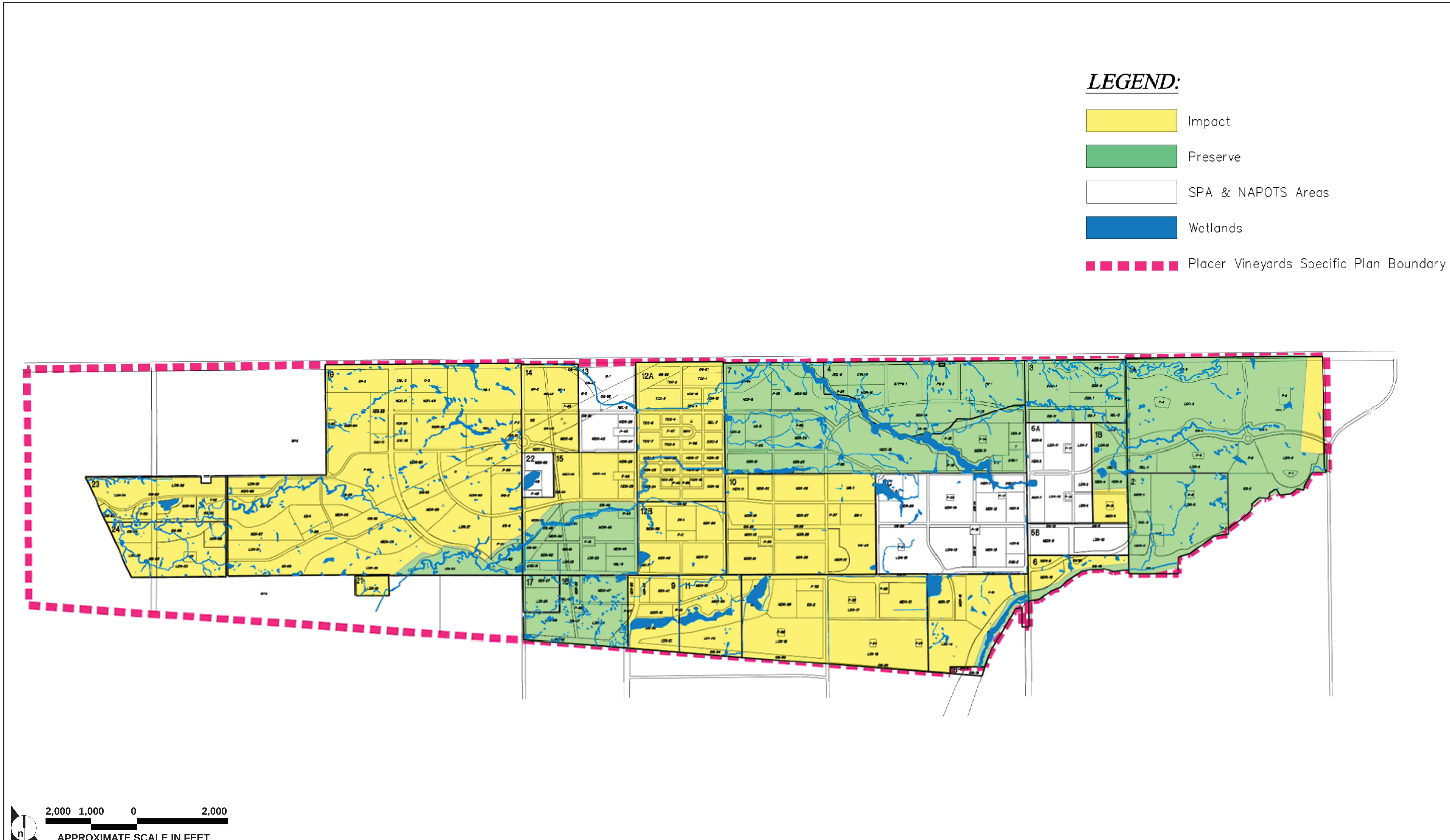

SOURCE: MacKay & Somps, 2008

FIGURE 9

Alternative G – Focused Avoidance Alternative

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SOURCE: Impact Sciences, Inc., April 2013

FIGURE **10**

Avoidance Study Areas

1090.002•04/13

Applying the criteria from the screening process described above, the Focused Avoidance Alternatives would preserve only a limited additional area on the project site in open space when compared to the Proposed Action leaving more than 2,400 acres for development, and would allow for contiguous development of a mixed-use regional residential community. In addition, the Focused Avoidance Alternatives would avoid areas on the project site that contain high-functioning aquatic resources, based on the results of the CRAM analysis. The alternatives would avoid more impacts to aquatic resources when compared with the Proposed Action and the additional preserved areas would be contiguous with other preserved areas. For these reasons, the USACE determined that the Focused Avoidance Alternatives would be feasible with respect to the On-site Alternatives screening criteria 1 and 2.

3.4 Conclusion with respect to On-Site Alternatives

The Focused Avoidance Alternatives represent additional opportunities for further avoidance compared to the Proposed Action and they would avoid impacts to aquatic resources where the avoidance would be most beneficial. These alternatives reflect the latest iteration of on-site alternatives developed by the USACE and supersede previously considered alternatives. Based on the above, in addition to the Proposed Action, the following alternatives will be carried forth in the EIS for further evaluation:

- Focused Avoidance Alternatives 1 through 5
- No Action Alternative

APPENDIX A - COMMERCIAL COMPONENT/POWER CENTER ANALYSIS

The project purpose is to implement a large-scale mixed use, regional residential community. The types of commercial uses included in the Proposed Action range from neighborhood commercial uses such as grocery stores, to community commercial uses, including "power centers." The commercial component of the large-scale, mixed-use regional residential community is important and necessary so that the County has sufficient tax revenues to provide services to the project. A large-scale residential-only development would not be fiscally sustainable because the tax revenue from property taxes alone would be insufficient to provide the needed County services (Hausrath 2006). This is especially the case for the project site and its vicinity in western Placer County where a high proportion of the property tax revenues go to the local school district and the County share is small. In addition, there are no nearby existing retail centers to serve the Placer Vineyards area, so early development of a commercial center is important from a service standpoint as well as for fiscal reasons. In view of the importance of the regional commercial component to the fiscal viability of a mixed use, large-scale development, the USACE determined that viability of the regional commercial uses at the five alternate sites should be evaluated. To do this, the regional commercial component of the Proposed Action was examined to identify its minimum locational requirements for success.

The Proposed Action includes acreage along Baseline Road that is designated for regional commercial/community commercial uses, including power centers. It is anticipated that at least one and up to two power centers could be developed along Baseline Road under the Proposed Action. For purposes of screening alternative sites, it was determined by the USACE that the alternative sites should be evaluated for their feasibility to support at least one power center.

A typical power center is defined as a center dominated by several large anchors, including discount department stores, off-price stores, warehouse clubs, or "category killers," i.e., stores that offer tremendous selection in a particular merchandise category at low prices (ICSC 1999). A power center occupies at least 50 acres although some centers can be larger. The success of businesses in a power center depends on several factors but the minimum requirements are the availability of a minimum number of dwelling units or a minimum population within a reasonable distance of the power center, availability of good access, and the absence of other competing power centers. Trade area data for big box retail stores that anchor power centers indicates that for a discount department store with 100,000 to 120,000 square feet of space to be successful, there should be a population of at least 100,000 persons within a 5-mile radius or less of the location of the store and that there should be no existing competitors currently serving the vast majority of this population. For big box retail stores involving specialty goods such as electronics (i.e., a category killer), the trade area for a 36,000-square-foot store must contain a population of at least 200,000 persons. A big box home improvement store must have a population of 75,000 to 100,000 residents within a 5-mile radius to be viable. Based on these data and considering the fact that the buildout of the Proposed Action is projected by 2030 under an aggressive growth scenario or by 2040 under a slower growth scenario, the following criterion was used to evaluate the alternate sites.

- **Criterion 2 – Viability of Commercial Uses at Alternative Site** which is the feasibility of developing the regional commercial component of the Proposed Action at the alternative site. An alternate site that includes a commercial center (power center) location with at least 100,000 persons within 5 miles by 2040 would be considered Feasible under this criterion and a site with less than 100,000 persons within the 5-mile radius of the commercial center (power center) location by 2040 would be considered Infeasible.

To evaluate the alternative sites relative to this criterion, as a first step, potential power center locations within each alternative site were identified. The identified locations were typically at a major intersection or along a major existing or future roadway. Where no roadways currently exist or are planned, the power center site was selected in that portion of the alternative site that was closest to the existing regional population.

Next using these power center sites as the center, an area within a 5-mile radius was defined and the existing and projected population within this area was estimated. The projected population was estimated using the average annual Placer County growth rate of 3.28 percent per year derived from SACOG projections.[4] **Table A, Population within 5-Mile Radius of Alternative Site Power Centers,** presents the existing and projected populations within 5 miles of the potential power center sites.

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4 All of the off-site alternatives are in unincorporated Placer County and therefore the average population growth rate for the county was used to develop projections.

Table A
Population within 5-Mile Radius of Alternative Site Power Centers

Alternative Site	2009 Population	2040 Population	2040 Population plus Project
Lincoln Village 4	Not calculated	Not calculated	Not calculated
Lincoln Villages 5- 6	17,471	35,227	68,027
Placer Ranch-Northeast	113,546	211,585	244,385
Northwest	4,576	8,527	41,327
Southwest	39,409	73,436	106,236
Proposed Action*	89,636	180,735	210,735

* *Based on population for the Curry Creek Specific Plan site, which is located west of the best location for retail on the project site. These estimates are expected to underestimate the population surrounding the Proposed Action, and are therefore conservative for this analysis.*

Sites that would have a population of 100,000 persons or more within a 5-mile radius within the timeframe of the Proposed Action would be capable of supporting a power center, provided other competing power centers do not cut into the trade areas of these sites. As the table shows, two of the five sites would have adequate population in the surrounding area to support a power center.

DRAFT

California Rapid Assessment Method Assessment

For

Placer Vineyards

Placer County, California

15 March 2010

Prepared For:
Placer Vineyards Property Owners Group

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ATTACHMENTS

1.0 INTRODUCTION

At the request of the Placer Vineyards Property Owners Group, ECORP Consulting, Inc. (ECORP) conducted a California Rapid Assessment Method (CRAM) assessment of the wetlands within the 5,230±-acre Placer Vineyards Specific Plan site in Placer County, California. The Placer Vineyards site is located in unincorporated southwestern Placer County, approximately 15 miles north of Sacramento. The Project area is bounded on the north by Baseline Road, on the south by the Sacramento/Placer County line, on the west by the Sutter/Placer County line, and Pleasant Grove Road, and on the east by Dry Creek and Walerga Road (Figure 1. *Placer Vineyards - Project Site and Vicinity*). East to west, the Project area spans approximately six miles. North to south, at its widest point, it spans approximately two miles. The Project site coincides with portions of Township 10 North, Range 4 East, Section 1, Township 10 North, Range 5 East, Sections 1-12, and Township 10 North, Range 6 East, Sections 6-10 of the "Citrus Heights, CA," "Rio Linda, CA," "Pleasant Grove, CA," and "Roseville, CA" 7.5-minute quadrangles (U.S. Department of the Interior, Geological Survey, photo revised 1992, 1981, 1992, and 1992, respectively). Coordinates for the approximate center of the Project site are 38° 45' 00" N and 121° 24' 30" W, and it is within the Lower American River Watershed (#18020111, U.S. Department of Interior, Geological Survey 1978). There are 23 separate parcels under different ownership that are part of the larger Placer Vineyards project (see Figure 1).

The purpose of the assessment is to document current wetland conditions prior to project implementation and to compare relative values of wetlands across the property. Wetlands were assessed using the latest versions of the CRAM User's Manual, Version 5.0.2 (Collins *et al.* 2008a) (User's Manual), CRAM for Wetlands, Vernal Pool Systems Field Book, Version 5.0.2 (Collins *et al.* 2008b) (CRAM VP Systems Field Book), and CRAM for Wetlands, Perennial Depressional Wetlands Field Book, Version 5.0.2 (Collins *et al.* 2008c) (CRAM Depressional Field Book).

2.0 METHODS

2.1 CRAM Methodology

The CRAM methodology assesses four attributes (i.e., buffer and landscape context, hydrology, physical structure, and biotic structure). These four attributes have been determined to be important for wetland function (e.g., water storage, groundwater discharge and flow, dissipation of energy, nutrient cycling, etc.), and all wetlands share these four attributes (Collins *et al.* 2008a). Each of the four attributes is further subdivided into distinct metrics, which are the measureable components of an attribute. The metrics are defined by narrative descriptive conditions that are assessed in the field and each narrative condition correlates to a numeric value. In general, the numeric values are lower for wetlands that have "less desirable" attributes; conversely, wetlands with "desirable" attributes are scored higher in a given metric. The numeric values contribute to an overall CRAM score, which indicates the overall condition of the wetlands (from 25 to 100). Table 1 outlines the metrics that are associated with each attribute.

Table 1 – CRAM Attributes and Metrics[1]

Attributes	Metrics
Buffer and Landscape Context	Landscape Connectivity
	Buffer
	Percentage of AA with Buffer
	Average Buffer Width
	Buffer Condition
Hydrology	Water Source
	Hydroperiod or Channel Stability
	Hydrological Connectivity
Physical Structure	Structural Patch Richness
	Topographic Complexity
Biotic Structure	Plant Community
	Number of Plant Layers Present or Native Species Richness (vernal pool systems only)
	Number of Co-dominant species
	Percent Invasion
	Horizontal Interspersion and Zonation
	Vertical Biotic Structure (individual depressional wetlands only)

[1] Table modified from Collins *et al.* 2008b and 2008c.

CRAM was developed as a methodology to conduct repeatable measurements of the same wetland or wetland system over time. These data can be used to monitor the progress of a restoration or mitigation site, to track changes in wetland function, or to detect "negative" influences to the wetland due to development or other stressors. As such, the data can also be used to compare wetlands to one another, based on their relative functions and values.

2.2 Assessment Areas

CRAM assessment areas (AA) on the property were identified based on local watershed characterisitics, topography, wetlands distribution, wetland size, proximity to other wetland systems, among other criteria. The AA is a wetland system, or portion of a wetland system to be assessed by CRAM. In order to be effective for future comparisons, the AA must remain constant over time.

A total of 54 AAs were analyzed (Figure 2. *CRAM Assessment Areas*). Fourteen AAs were comprised of vernal pool (VP) systems, 14 AAs were comprised of individual vernal pools, and 26 AAs were comprised of individual depressional wetland features. The 14 vernal pool systems AAs were assessed using the CRAM VP Systems Field Book. Individual depressional wetlands, which consisted of seasonal wetlands, ponds, freshwater marshes, and a seasonal marsh, were assessed using the CRAM Perennial Depressional Wetands Field Book. The Perennial Depressional Wetlands Field Book was not designed for assessing seasonal depressional wetlands. However, it is the only field book currently available for assessing individual depressional features. Individual vernal pools were assessed with the User's manual and with guidance and consultation from Mr. Paul Jones [U.S. Environmental Protection Agency (EPA)].

The Placer Vineyards CRAM Assessment Areas were developed as a result of detailed discussions and field meetings with Mr. Jones, U.S. Army Corps of Engineers (Corps) staff including Nancy Haley, Jinnah Benn, Kathy Norton, and Mike Finan, and U.S. Fish and Wildlife Service staff, including Terry Adelsbach and Michelle Tovare. Final approval of the Assessment Area map was received from Mr. Jones on 13 August 2009.

Due to budget and time constraints, not every wetland or wetland system on the property was assessed. Wetlands and wetland systems that were not assessed were those that were considered to be similar to other nearby wetlands (via aerial photograph interpretation), and therefore not provide any unique information. However, in instances during field surveys when these wetland systems were found to be different, additional AAs were established to incorporate these additional wetlands.

2.3 Field Data Collection

Following the methodology of the CRAM Field Books, each AA was assessed for buffer and landscape context, hydrology, physical structure, and biotic structure. The overall AA score was calculated following the field book guidelines, and copies of the CRAM scoring sheets and maps for each AA have been included in Attachment A.

Field surveys were conducted on 17, 18, 25, 26, 27 August and 8, 9 September 2009 by ECORP biologists Debra Sykes, Daria Snider, Eric Stitt, and Peter Balfour, and by Corps biologist Jinnah Benn. After approximately half of the AAs were analyzed, a review and field verification of the results to date and data collection methodology was conducted on 1 and 2 September 2009. Representatives from the EPA (Paul Jones), the Corps (Mike Finan, Jinnah Benn and Kathy Norton) and the U.S. Fish and Wildlife Service (Terry Adelsbach and Michelle Tovare) met with ECORP staff (Hal Freeman, Peter Balfour, Debra Sykes and Daria Snider) to discuss, analyze and ground truth the data. A site visit was conducted to familiarize all parties with the wetlands on-site and with the data collection methodology and results.

3.0 RESULTS

3.1 General Results

The scores for each of the attributes and the overall score for each AA are summarized in Table 2. The average AA score was 69.1, and total AA scores ranged from 50.80 (AA-38) to 80.7 (AA-49) (Figure 3. *Cram Assessment Areas and Overall Scores* and Attachment B. *CRAM Assessment Area Scores*).

Table 2 – Final Attribute Scores and Overall AA Scores

Assessment Area	Final Attribute Score: Buffer and Landscape	Hydrology	Physical Structure	Biotic Structure	Overall AA Score
1	84.0	100.0	50.0	80.6	78.6
2	80.8	83.3	72.9	77.1	78.5
3	71.5	91.7	62.5	91.7	79.3
4	84.0	100.0	25.0	29.2	59.6
5	68.3	83.3	60.4	68.8	70.2
6	55.6	91.7	37.5	52.1	59.2
7	55.8	100.0	50.0	64.6	67.6
8	47.9	91.7	45.8	72.9	64.6
9	64.1	100.0	25.0	75.0	66.0
10	55.8	100.0	66.7	66.7	72.3
11	59.0	100.0	37.5	44.4	60.2
12	55.8	100.0	58.3	70.8	71.2
13	64.1	100.0	37.5	54.2	63.9
14	55.8	100.0	62.5	66.7	71.2
15	71.5	91.7	62.5	72.2	74.5
16	55.8	91.7	56.3	45.8	62.4
17	68.3	100.0	50.0	79.2	74.4
18	84.0	91.7	25.0	66.7	66.8
19	80.8	100.0	66.7	75.0	80.6
20	93.3	83.3	60.4	64.6	75.4
21	71.5	100.0	25.0	36.1	58.2
22	59.0	91.7	75.0	87.5	78.3
23	71.5	100.0	50.0	79.2	75.2
24	84.0	91.7	50.0	87.5	78.3
25	59.0	100.0	37.5	61.1	64.4
26	68.3	100.0	25.0	77.8	67.8
27	84.0	100.0	50.0	87.5	80.4
28	84.0	100.0	25.0	72.2	70.3
29	59.0	83.3	37.5	69.4	62.3
30	71.5	100.0	37.5	44.4	63.4
31	59.0	100.0	25.0	61.1	61.3
32	59.0	91.7	25.0	52.8	57.1
33	59.0	100.0	37.5	80.6	69.3
34	59.0	83.3	50.0	66.7	64.8
35	71.5	100.0	25.0	52.8	62.3
36	84.0	100.0	25.0	61.1	67.5
37	59.0	100.0	25.0	69.4	63.4
38	55.8	50.0	25.0	72.2	50.8
39	68.3	100.0	25.0	61.1	63.6
40	68.3	58.3	50.0	80.6	64.3
41	71.5	100.0	50.0	75.0	74.1
42	71.5	100.0	62.5	69.4	75.9
43	68.3	100.0	25.0	72.2	66.4
44	71.5	100.0	62.5	75.0	77.3
45	59.0	100.0	62.5	77.8	74.8
46	68.3	100.0	62.5	83.3	78.5

Table 2 – Final Attribute Scores and Overall AA Scores (Continued)					
	Final Attribute Score				
Assessment Area	Buffer and Landscape	Hydrology	Physical Structure	Biotic Structure	Overall AA Score
47	68.3	91.7	33.3	79.2	68.1
48	68.3	100.0	45.8	81.3	73.8
49	62.5	83.3	87.5	89.6	80.7
50	71.5	41.7	37.5	94.4	61.3
51	76.6	100.0	50.0	87.5	78.5
52	64.1	100.0	25.0	75.0	66.0
53	84.0	91.7	50.0	88.9	78.6
54	59.0	100.0	37.5	37.5	58.5

3.1.1 Overall CRAM Scores

The mean CRAM score for all AAs was 69.1 (*Figure 4. Overall CRAM Scores for All AAs*). In general, individual pool AAs and vernal pool system AAs scored higher than depressional wetland AAs. Of the depressional wetland AAs, the overall score for 8 AAs was at or above the mean and 18 AAs were below the mean (*Figure 5. Overall CRAM Scores for Depressional Wetland AAs*). Of the individual vernal pool AAs, 9 AAs were at or above the mean, and 5 AAs were below the mean (Figure 6. *Overall CRAM Scores for Individual Vernal Pool AAs*). Of the vernal pool system AAs, 9 had mean scores at or above the overall mean, and 5 AAs were below (Figure 7. *Overall CRAM Scores for Vernal Pool System AAs*).

3.1.1.1 Buffer and Landscape Context Attribute

The analysis of the buffer and landscape attribute involves the assessment of the quality and condition of the areas adjacent to the AA (Collins *et al.* 2008a). If the buffer is in relatively "good" condition, it may provide some protection to the AA from outside disturbances. On the other hand, if the buffer is in "bad" condition (e.g. developed or highly disturbed), the buffer may negatively influence the wetlands within the AA.

The average score for the buffer and landscape attribute of all AAs was 68.1, and the range for this attribute was 47.9 (AA-8) to 93.30 (AA-20) (Figures 8. *Buffer and Landscape Context Scores for All AAs*). Of the depressional wetland AAs, 15 had scores at or above the 68.1

average and 11 were below (Figure 9. *Buffer and Landscape Context Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, 10 were at or above the average and four were below (Figure 10. *Buffer and Landscape Context Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, six were at or above the average of all AAs and eight were below (Figure 11. *Buffer and Landscape Context Scores for Vernal Pool System AAs*). The generally low buffer and landscape scores are attributed to several on-site factors that include historical or current agricultural land use throughout the site, the relatively low frequency and scattered distribution of wetlands, the absence of wetlands altogether over large portions of the site, the presence of rural residences throughout the project area, and the presence of paved and unpaved roadways.

3.1.1.2 Hydrology Attribute

The analysis of the hydrology attribute involves the assessment of the sources, quantities, and movements of water within the AA (Collins *et al.* 2008a). In particular, the hydrology attribute addresses how water enters and leaves the wetland (i.e. through natural means such as rainfall or through artificial means such as culverts and pumps). This attribute also takes into account the quantity and duration of water within the AA (Collins *et al.* 2008a).

The average score for the hydrology attribute of all AAs was 93.7, and the range for this attribute was 41.7 (AA-50) to 100 (multiple AAs) (Figures 12. *Hydrology Scores for All AAs*). Of the depressional wetland AAs, 17 had scores at or above the 93.7 average and nine were below (Figure 13. *Hydrology Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, 11 were at or above the average and three were below (Figure 14. *Hydrology Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, six were at or above the average of all AAs and eight were below (Figure 15. *Hydrology Scores for Vernal Pool System AAs*).

Most of the AAs had similar scores for hydrology, ranging from 83.3 to 100 (see Figure 12). The similarity of the CRAM scores may be due to the relatively natural hydrologic patterns of inundation and dry-down throughout the site. The CRAM scores of three AAs, AA-38, AA-40, and AA-50, were the exception. These three AAs scored considerable lower for the hydrology attribute (50.0, 58.3, and 41.7, respectively). All three of these features are marshes, and appear to be influenced by artificial water sources that include runoff from irrigated agricultural lands adjacent to the AA. The periodic influx of irrigation runoff, particularly during the dry season, has resulted in perennial emergent, and sometimes woody, wetland vegetation. It is likely that these wetland features (or portions of them) were historically seasonal in nature, given the topography of the area and surrounding vegetation communities.

3.1.1.3 Physical Structure Attribute

The analysis of the physical structure attribute involves the assessment of the spatial organization of living and non-living surfaces that provide habitat for flora and fauna (Collins *et al.* 2008a). In particular, this attribute looks at the complexity of the AA in terms of macro and micro topography and richness of physical surfaces such as soil cracks, animal burrows, or cobble within the AA (Collins *et al.* 2008a).

The average score for the physical structure attribute of all AAs was 45.0, and the range for this attribute was 25.0 (multiple AAs) to 87.5 (AA-49) (Figures 16. *Physical Structure Scores for All AAs*). Of the depressional wetland AAs, eight had scores at or above the 45.0 average and 18 were below (Figure 17. *Physical Structure Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, nine were at or above the average and five were below (Figure 18. *Physical Structure Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, 12 were at or above the average of all AAs and two were below (Figure 19. *Physical Structure Scores for Vernal Pool System AAs*).

Scores for physical structure were generally low for the Placer Vineyards site as compared to the other attribute scores across the site. The low scores are probably the result of the limitations of the current CRAM methodology in that there is currently no CRAM module for seasonal depressional features. At this point, only the perennial depressional module exists, and the patch types used to assess the structural patch richness metric are not appropriate for seasonal features, especially seasonal wetlands such as those found within Placer Vineyards. As a result, only 31% the depressional wetland AAs scored above average for this attribute.

Another possible reason for low physical structure scores may be that the seasonal wetlands on-site are naturally very shallow. Seasonal wetlands are typically shallower than vernal pools. The physical complexity of a well-developed vernal pool does not typically exist for a seasonal wetland. Furthermore, agricultural practices such as discing or grazing may have a greater affect on shallower features than to deeper well-defined pools. For comparison, 86% of the vernal pool system AAs and 64% of the individual vernal pool AAs scored above average for this attribute.

3.1.1.4 Biotic Structure Attribute

The analysis of the biotic structure attribute involves the assessment of the role of plants within the AA. According to Collins *et al.* (2008a), plants influence the quantity, quality, and spatial distribution of water and sediment within wetlands. This attribute looks at the number of species, the percentage of invasion by non-native species, and the spatial distribution of plant layers within the AA.

The average score for the biotic structure attribute of all AAs was 69.7, and the range for this attribute was 29.2 (AA-4) to 94.4 (AA-50) (Figures 20. *Biotic Structure Scores for All AAs*). Of the depressional wetland AAs, 13 had scores above the 69.7 average and 13 were below (Figure 21. *Biotic Structure Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, 10 were at or above the average and four were below (Figure 22. *Biotic Structure Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, seven were at or above the average of all AAs and seven were below (Figure 23. *Biotic Structure Scores for Vernal Pool System AAs*). Given the fact that field surveys were conducted in August and September (due to project timing constraints) values/scores for biotic structure are likely under represented. However, these scores still allow for relative comparisons.

The same methodology problem that exists for seasonal wetlands and the physical structure attribute is present within this attribute as well. The current Perennial Depressional module assesses the number of plant layers within the wetland. Seasonal wetlands will artificially score low for this attribute since they more closely resemble vernal pools than perennial seasonal wetlands. However, they also cannot be assessed with the Individual Vernal Pool module because they would artificially score low due to a lack of plants species that represent vernal pools.

Land-use practices appear to have a greater influence on the biotic structure attribute scores (Figure 24. *Scores for Biotic Structure by Land Use Types*). It appears that AAs located on dry farmed land tend to have lower biotic structure scores For example, 66% of the dry farmed AAs scored below average. AAs located on grazed lands tend to have higher biotic structure scores; 71% of the grazed AAs scored above average. Two AAs (AA-2 and AA-5) occur on two separate properties and therefore have two different land use types within the boundaries of the AA. The land use type for these AAs was classified by which type contributed to 50% or more of the AA area. No apparent trend exists for AAs that occur within fallow grasslands.

3.2 Individual Assessment Area Results

The following is a discussion of each AA and their CRAM scores for each of the properties within the Placer Vineyards site (see Figure 3). Several properties did not have any designated AAs because they did not currently support wetlands that were assessable (i.e. recent discing) or because the types of wetlands within that property were represented elsewhere within the Placer Vineyards site.

3.2.1 Fong

The Fong property is composed of heavily grazed grassland. Two depressional wetland AAs (AA-1 and AA-3) and a portion of two vernal pool system AAs (AA-2 and AA-5) are located on the Fong property. The two vernal pool systems will be discussed as part of the Capri property.

AA-1 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-1 is 78.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 80.6, respectively. All of these scores are higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are structural patch richness [(i.e. the number of different obvious types of physical surfaces or features that may provide habitat for wetland species (Collins *et al.* 2008a)], and all three sub-metrics of the plant community composition metric.

AA-3 is a pond that was assessed as a depressional wetland. The overall AA score for AA-3 is 79.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 91.7, respectively. All of these scores are higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity [i.e. the spatial association with other areas of aquatic resources (Collins *et al.* 2008)], structural patch richness, and the number of co-dominant species.

3.2.2 Capri

The Capri property is composed of dry farmed grassland. One individual vernal pool AA (AA-4) and the remaining portions of the vernal pool systems (AA-2 and AA-5) are located on the Capri property.

AA-4 is comprised of an individual vernal pool with an overall AA score of 59.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 29.2, respectively. All of these scores were lower than the average score across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are structural patch richness, topographic complexity [i.e. micro- and macro-topographic relief (Collins *et al.* 2008a)], all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation [i.e. the variety of distinct plant communities or plant "zones" (Collins *et al.* 2008a)].

AA-2 is a vernal pool system that occurs on both the Capri and Fong properties. The overall AA score for AA-2 is 78.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 80.8, 72.9, and 77.1, respectively. All of these scores are higher than the average score across the site. Metrics and sub-metrics contributing to lower scores are topographic complexity and horizontal interspersion and zonation.

AA-5 is a vernal pool system that occurs on both the Capri and Fong properties. The overall AA score for AA-5 is 70.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 60.4, and 68.8, respectively. All of these scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, topographic complexity, vernal pool endemic richness, percentage of plant invasion, and horizontal interspersion and zonation.

3.2.3 PV 815

Land use on PV 815 is divided into two categories. The northern majority of the parcel, where AAs 7 and 11-16 are located, is dry farmed, and the southeastern corner of the parcel, where AAs 6, 8, and 10 are located, is fallow grassland that was historically disced. Seven vernal pool systems (AA-6, AA-7, AA-8, AA-10, AA-12, AA-14, and AA-16), two individual vernal pool AAs (AA-11 and AA-13), and one depressional wetland AA (AA-15) are located on the PV 815 property.

AA-6 is a vernal pool system with an overall AA score of 59.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.6, 37.5, and 52.1, respectively. The scores for these attributes are all lower than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, buffer conditions [i.e. the condition of the buffer adjacent to the AA according to the extent and quality of its vegetation cover and substrate (Collins *et al.* 2008a)], structural patch richness, topographic complexity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-7 is a vernal pool system with an overall AA score of 67.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 50.0, and 64.6, respectively. The scores are all lower than the average scores across the site except for the physical structure attribute. Metrics and sub-metrics contributing to the lower scores low score are landscape connectivity, structural patch richness, topographic complexity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-8 is a vernal pool system with an overall AA score of 64.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 47.9, 45.8, and 72.9, respectively. The overall AA score and the buffer and landscape score are lower then the average of these scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, buffer condition, structural patch richness, topographic complexity, vernal pool endemic richness, and horizontal interspersion and zonation.

AA-10 is a vernal pool system with an overall AA score of 72.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 66.7, and 66.7, respectively. The buffer and landscape attribute score and biotic structure score were lower than the average scores for these attributes across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity sub-metric, topographic complexity, vernal pool endemic richness, and horizontal interspersion and zonation.

AA-12 is a vernal pool system with an overall AA score of 71.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 58.3, and 70.8, respectively. All of the scores were above the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to lower scores are landscape connectivity, topographic complexity, and vernal pool endemic richness.

AA-14 is a vernal pool system with an overall AA score of 71.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 62.5, and 66.7, respectively. All of the scores were greater than the average scores across the site, except for the buffer and landscape attribute. Metrics and sub-metrics contributing to lower scores are landscape connectivity, topographic complexity, vernal pool endemic richness, and horizontal interspersion and zonation.

AA-16 is a vernal pool system with an overall AA score of 62.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 56.3, and 45.8, respectively. All of the scores are higher than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to lower scores are landscape connectivity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-11 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-11 is 60.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 44.4, respectively. All three attributes and the overall AA score are lower then the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-13 is comprised of an individual vernal pool with an overall AA score of 63.9. Scores for the buffer and landscape, physical structure and biotic structure attributes are 64.1, 37.5, and 54.2, respectively. All three attributes and the overall AA score are lower than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, buffer width [i.e. the width of the buffer that adjoins the AA and provides either protection or stress to the AA (Collins *et al.* 2008a)], structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-15 is comprised of a freshwater marsh that was assessed as a depressional wetland. The overall AA score for AA-15 is 74.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 72.2, respectively. All three of these attributes and the overall AA score were higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, and all three sub-metrics of the plant community composition metric.

3.2.4 Pan de Leon

The Pan de Leon property is composed of fallow grassland that was historically disced. Two individual vernal pool AAs (AA-9 and AA-51) and one depressional wetland AA (AA-52) are located on the Pan de Leon property.

AA-9 is comprised of an individual vernal pool with an overall AA score of 66.0. Scores for the buffer and landscape, physical structure and biotic structure attributes are 64.1, 25.0, and 66.0, respectively. All of the scores are lower than the average scores across the site. Metrics and sub-metrics contributing to the lower scores include landscape connectivity, buffer condition, structural patch richness, topographic complexity, and vernal pool endemic richness.
AA-51 is comprised of an individual vernal pool with an overall AA score of 78.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 76.6, 50.0, and 87.5, respectively. All three of these attributes and the overall score were higher than the average scores across the site. Metrics and sub-metrics contributing to a lower CRAM score were buffer condition, structural patch richness, and vernal pool endemic richness.

AA-52 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-52 is 66.0. Scores for the buffer and landscape, physical structure and biotic structure attributes are 64.1, 25, and 75.0, respectively. All of the scores were lower than the average scores across the site, except for the biotic structure score. Metrics and sub-metrics that contributed to the low scores were landscape connectivity, buffer condition, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

3.2.5 DF 80

No AAs were assessed on this property.

3.2.6 PV 200

No AAs were assessed on this property.

3.2.7 Gulley 20

The Gully 20 property is composed of fallow grassland that was historically disced. One individual vernal pool AA (AA-18) and a small portion of a vernal pool system (AA-19) are located on the Gully 20 property. AA-19 will be discussed as part of the PV 88 property.

AA-18 is comprised of an individual vernal pool with an overall AA score of 66.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 66.7, respectively. The physical structure score, the biotic structure score and the overall AA score were lower than the average scores across the site. Metrics and sub-metrics contributing to the lower scores were structural patch richness, topographic complexity, and vernal pool endemic richness.

3.2.8 PV 88

The PV 88 property is composed of fallow grassland that does not appear to have been historically disced, or at least not in recent times. One vernal pool system (AA-20) and the remainder of AA-19 are located on the PV 88 property.

AA-20 is a vernal pool system with an overall AA of 75.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 93.3, 60.4, and 64.6, respectively. All of the scores except for the biotic structure attribute scored higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores were vernal pool endemic richness and horizontal interspersion and zonation.

AA-19 is a vernal pool system that partially occurs on the Gully 20 property. The overall AA score for AA-19 is 80.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 80.8, 66.7, and 75.0, respectively. All of these scores are higher than the average score for these attributes across the site. Sub-metrics contributing to a slightly lower biotic structure score were vernal pool endemic richness and percentage of invasion.

3.2.9 PV 290 Parcel 1

The PV 290 Parcel 1 property is composed of heavily grazed grassland. One depressional wetland AA (AA-21) is located in the PV 290 Parcel 1 property.

AA-21 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-21 is 58.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 25.0, and 36.1, respectively. All of the score except for the landscape and buffer attribute were below the average of these scores across the site. Metrics and sub-metrics contributing to the lower scores were landscape connectivity, structural patch richness, topographic complexity, and all the metrics and sub-metrics of the biotic structure attribute.

3.2.10 PV 290 Parcel 2

The PV 290 Parcel 2 property is composed of heavily grazed grassland. Two individual vernal pool AAs (AA-22 and AA-23) are located on the PV 290 Parcel 2 property.

AA-22 is comprised of an individual vernal pool with an overall AA score of 78.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 75.0, and 87.5, respectively. Only the buffer and landscape attribute scored lower than average. Metrics and sub-metrics contributing to a lower score were landscape connectivity, structural patch richness, and vernal pool endemic richness.

AA-23 is comprised of an individual vernal pool with an overall AA score of 75.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 50.0, and 79.2, respectively. All of these scores are higher than the average scores for these attributes across the site. Metrics and sub-metrics contributing to lower scores were landscape connectivity and vernal pool endemic richness.

3.2.11 PV A(a)

No AAs were assessed on this property.

3.2.12 PGG Property

The PGG property is comprised of fallow grassland that was historically disced. Two depressional wetland AAs (AA-25 and AA-53) and one individual vernal pool AA (AA-24) are located on the PGG Property.

AA-25 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-25 is 64.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 61.1, respectively. All of the scores are lower than the average across the site. All of the metrics and sub-metrics for these attribures scored relatively low except for percent of buffer around the AA, average buffer width, and vertical biotic structure [i.e. the degree of overlap amongst plant layers (Collins *et al.* 2008a)].

AA-53 is a pond that was assessed as a depressional wetland. The overall AA score for AA-53 is 78.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 88.9, respectively. All of these scores are higher than the average across the site. Metrics and sub-metrics contributing to lower scores were structural patch richness and number of co-dominant species.

AA-24 is comprised of an individual vernal pool with an overall AA score of 78.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 87.5, respectively. All of these scores are higher than the average across the site. Metrics and sub-metrics contributing to lower scores were structural patch richness and vernal pool endemic richness.

3.2.13 PV 356

The PV 356 property is composed of fallow grassland that was historically disced. Two depressional wetland AAs (AA-26 and AA-28) and one individual vernal pool AA (AA-27) are located on the PV 356 property.

AA-26 is seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-26 is 67.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 25.0, and 77.8, respectively. Only the physical structure and overall AA score are below the average score across the site. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, number of plant layers, and percentage of invasion.

AA-28 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-28 is 70.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 72.2, respectively. The only attribute that scored lower than the average is physical structure. Metrics and sub-metrics contributing to the lower scores are structural patch richness, topographic complexity, number of co-dominant species, and percentage of invasion.

AA-27 is comprised of an individual vernal pool with an overall AA score of 80.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 87.5, respectively. All of the scores were higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are structural patch richness, and vernal pool plant endemics.

3.2.14 PV 239

The majority of the PV 239 property is composed of fallow grassland that was historically in rice production. A small portion in the southeastern corner is composed of oak woodland Two depressional wetland AAs (AA-29 and AA-31) are located on the PV 239 property. AA-29 is located within the fallow grassland and AA-31 is located within the oak woodland.

AA-29 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-29 is 62.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 69.4, respectively. All of the scores are below the average score across the site except for biotic structure which is equal to the average score for that attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-31 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-31 is 61.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 25.0, and 61.1, respectively. All of these scores are below the average for these attributes across the site. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

3.2.15 PV A(b)

The PV A(b) property is composed of fallow grassland that was historically disced. Three depressional wetland AAs (AA-30, AA-32, and AA-33) are located on the PV A(b) property.

AA-30 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-30 is 63.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 37.5, and 44.4, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-32 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-32 is 57.1. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 25.0, and 52.8, respectively. All of the scores were lower than the average scores across the site. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-33 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-33 is 69.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 80.6, respectively. All of the scores were lower than the average scores across the site except for the biotic structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

3.2.16 PV 179A

No AAs were assessed on this property.

3.2.17 PV 179B

The PV 179B property is composed of fallow grassland that was historically disced. Two depressional wetland AAs (AA-36 and AA-37) and one individual vernal pool AA (AA-17) are located on this PV 179B property.

AA-36 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-36 is 67.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 61.1, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-37 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-37 is 63.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 25.0, and 69.4, respectively. All of the scores were lower than the average scores across the site except for the biotic structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-17 is comprised of an individual vernal pool with an overall AA score of 74.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 50.0, and 79.2, respectively. All of the scores are above or at the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

3.2.18 PV B

The PV B property is composed of fallow grassland that was historically disced. Four depressional wetland AAs (AA-34, AA-35, AA-38, and AA-50) are located on the PV B property.

AA-34 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-34 is 64.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 50.0, and 66.7, respectively. All of the scores were lower than the average scores across the site except for the physical structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and vertical biotic structure.

AA-35 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-35 is 62.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 25.0, and 52.8, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-38 is a seasonal marsh that was assessed as a depressional wetland. The overall AA score for AA-38 is 50.8. This was the lowest overall AA score for all the AA in the Placer Vinearyds site. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 25.0, and 72.2, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. The score for the hydrology attribute (50.0) also contributed to the low overall AA score for this AA. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, water source, hydroperiod, structural patch richness, topographic complexity, number of co-dominant species, and vertical biotic structure.

AA-50 is a freshwater marsh that was assessed as a depressional wetland. The overall AA score for AA-50 is 61.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 37.5, and 94.4, respectively. The only scores that are lower than average for these attributes are the physical structure score and the overall AA score. The score for the hydrology attribute (41.7) also contributed to the low overall AA score for this AA. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, all three metrics of the hydrology attribute, structural patch richness, and topographic complexity.

3.2.19 Watt x Baseline #3

The Watt x Baseline #3 property is composed of fallow grassland that was historically disced. One vernal pool system (AA-47) and a small portion of another vernal pool system (AA-48) are located on the Watt x Baseline #3 property. AA-48 will be discussed as part of the Doyle property.

AA-47 is vernal pool system with an overall AA score of 68.1. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 33.3, and 79.2, respectively. The only score that was below average is the physical structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and vernal pool endemic richness.

3.2.20 PV C

The PV C property is composed of a fallow grassland that was historically disced. Two depressional wetland AAs (AA-39 and AA-40) and one individual vernal pool AA (AA-41) are located on the PV C property.

AA-39 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-39 is 63.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 25.0, and 61.1, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-40 is a freshwater marsh that was assessed as a depressional wetland. The overall AA score for AA-40 is 64.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 50.0, and 80.6, respectively. All of these scores are at or above the average scores for these attributes except for the overall AA score. The lower overall AA score is due to the low hydrology score (58.3) for this AA. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, hydroperiod, structural patch richness, and number of plant layers.

AA-41 is comprised of an individual vernal pool with an overall AA score of 74.1. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 50.0, and 75.0, respectively. All of the scores were higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness and percentage of invasion.

3.2.21 Hodel

The Hodel property is composed of heavily grazed grassland. One individual vernal pool AA (AA-46) and a small portion of a vernal pool system (AA-48) are located on the Hodel property. AA-48 will be discussed as part of the Doyle property.

AA-46 is comprised of an individual vernal pool with an overall AA score of 78.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 62.5, and 83.3, respectively. All of the scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness, and percentage of invasion.

3.2.22 Doyle

The Doyle property is composed of fallow grassland that was historically disced. Two individual vernal pool AAs (AA-44 and AA-54), one depressional wetland AA (AA-45), one vernal pool system (AA-49) and the remainder of the vernal pool system AA-48 is located on the Doyle property.

AA-44 is comprised of an individual vernal pool with an overall AA score of 77.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 75.0, respectively. All of the scores are above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness, and percentage of invasion.

AA-54 is comprised of an individual vernal pool with an overall AA score of 58.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 37.5, respectively. All of the scores are below the average scores across the site. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-45 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-45 is 74.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 62.5, and 77.8, respectively. All of the scores are above the average scores across the site, except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, and all three sub-metrics of the plant community composition metric.

AA-49 is a vernal pool system with an overall AA score of 80.7. This AA had the highest overall score throughout the entire site. Scores for the buffer and landscape, physical structure and biotic structure attributes are 62.5, 87.5, and 89.6, respectively. All of the scores are above the average scores across the site, except for the buffer and landscape attribute. The only metric that contributed to a lower score was landscape connectivity.

AA-48 is a vernal pool system that is partially on the Watt x Baseline #3, Hodel, and Doyle properties. The overall AA score for AA-48 is 73.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 45.8, and 81.3, respectively. All of the scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, and vernal pool endemic richness.

3.2.23 Mourier 135

The Mourier 135 property is composed of fallow grassland that was historically disced. Two depressional wetland AAs (AA-42 and AA-43) are located on the Mourier 135 property.

AA-42 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-42 is 75.9. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 69.4, respectively. All of the scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness, number of co-dominant species, and vertical biotic structure.

AA-43 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-43 is 66.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 25.0, and 66.4, respectively. All of the scores are at or below the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics for the plant community composition metric.

4.0 SUMMARY

ECORP conducted a CRAM assessment at the Placer Vineyards site in Placer County, California during August and September 2009. The CRAM assessment was conducted to document current (pre-project) conditions and compare relative values of wetlands across the property. ECORP biologists, with the assistance of staff from the Corps, EPA, and U.S. Fish and Wildlife Service, collected field data related to four attributes identified by the CRAM methodology as important indicators of wetland conditions.

The scores for each of the attributes and the overall score for each AA are summarized in Table 2. The average AA score was 69.1, and total AA scores ranged from 50.80 (AA-38) to 80.7 (AA-49) (see Figure 3 and Attachment B).

On average, the depressional wetland AAs (comprised mostly of seasonal wetlands) scored lower than either of the other two AA types (vernal pool systems and individual vernal pools). This is likely due to several factors. First, agricultural practices may have a greater impact on shallower and topographically less-defined features. Second, there is currently no CRAM module to accurately assess seasonal depressional features that are not characterized as vernal pools.

5.0 REFERENCES

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LIST OF FIGURES

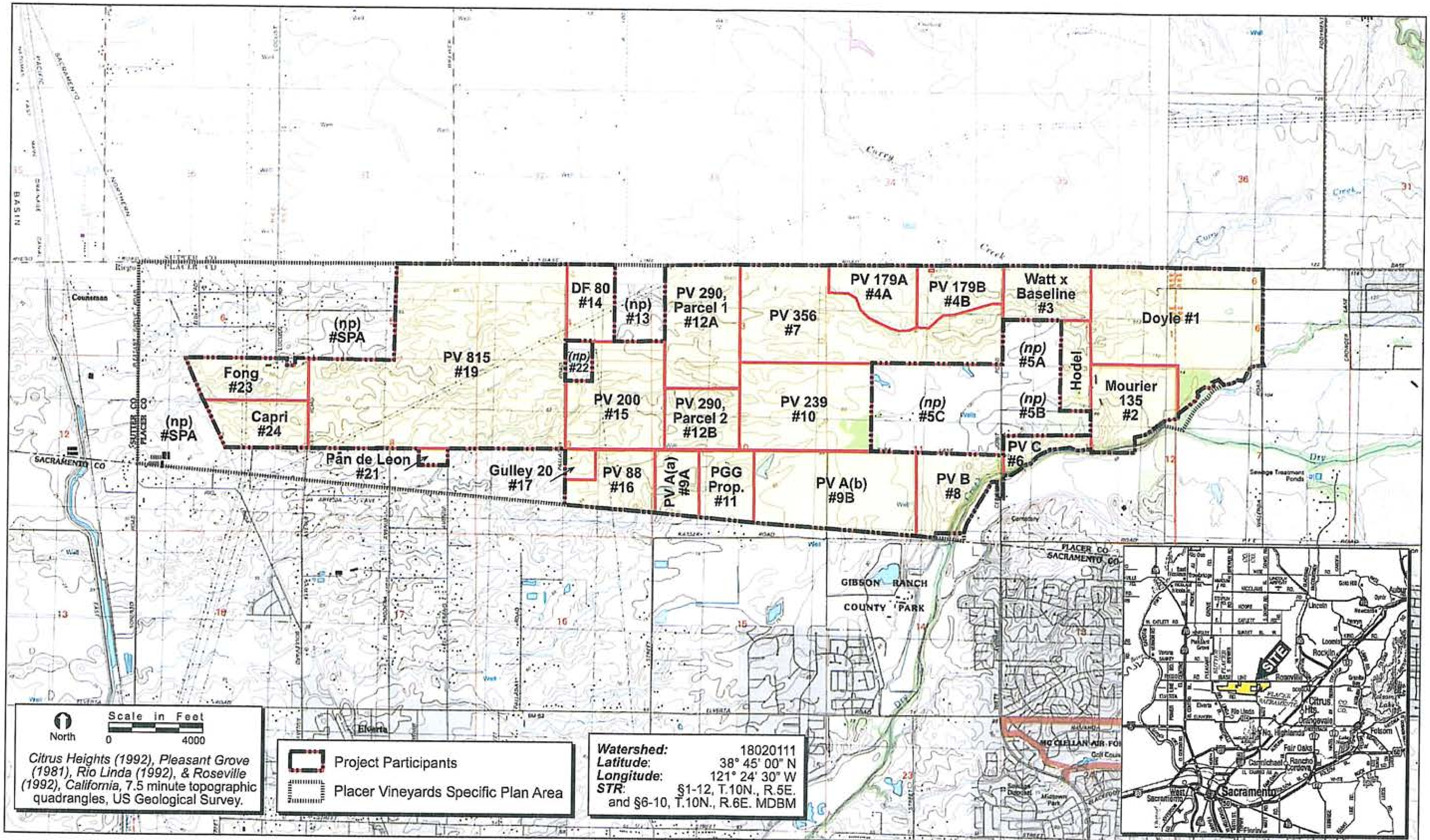

FIGURE 1. Placer Vineyards - Project Site and Vicinity

2001-196 Placer Vineyards

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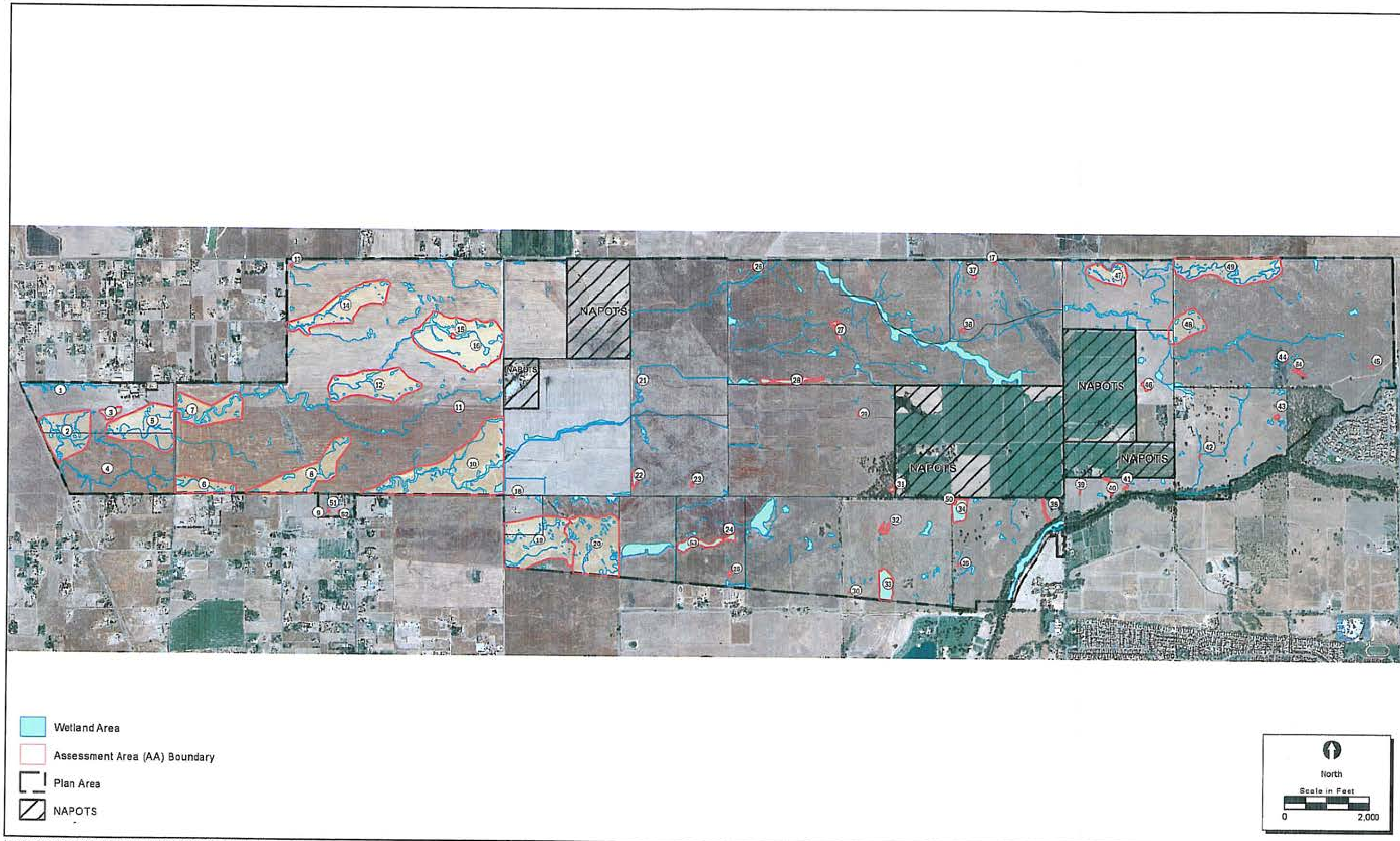

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Map Date: 2009-09-17

Figure 2. CRAM Assessment Areas

2001-196 Placer Vineyard SP

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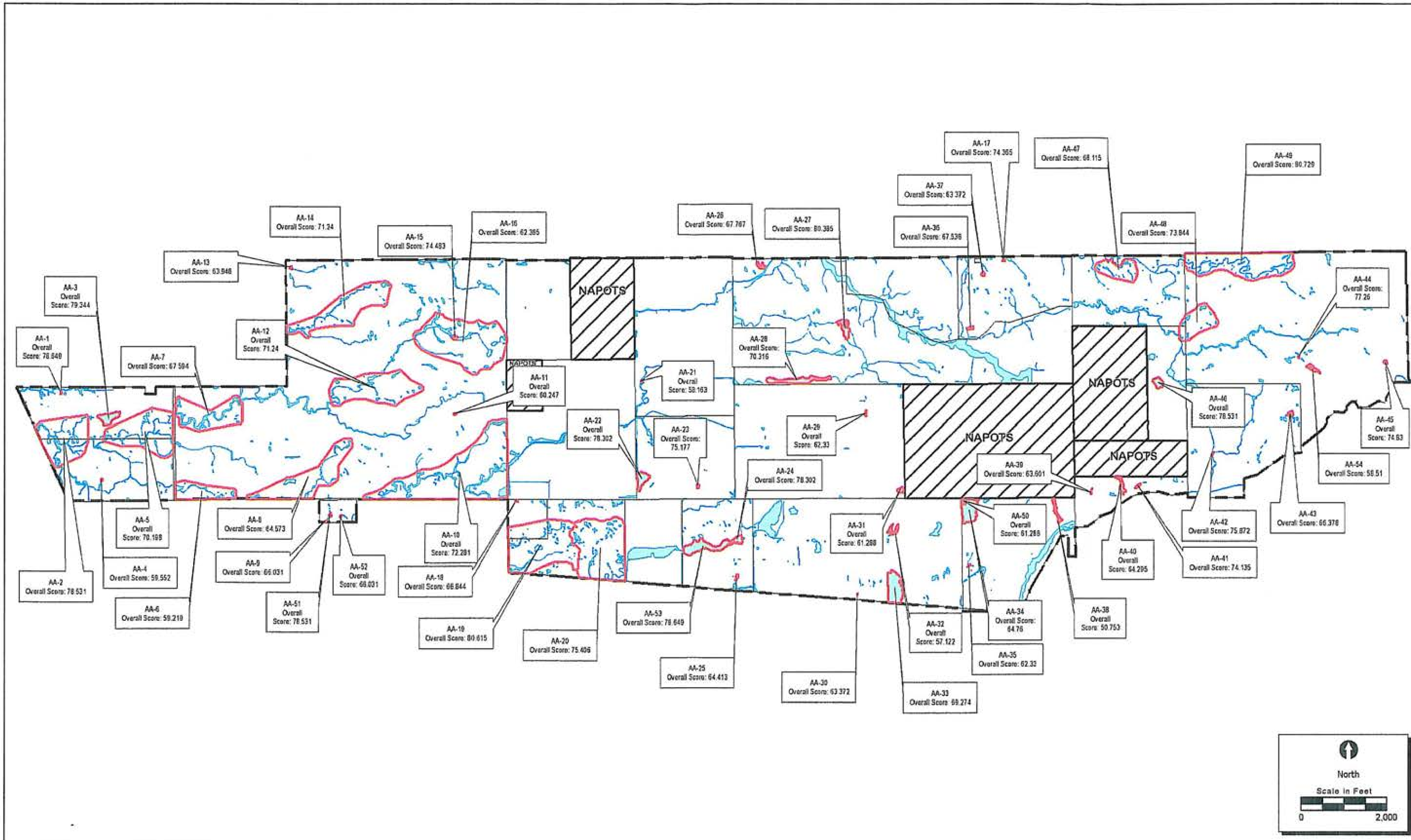

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Figure 3. CRAM Assessment Areas and Overall Scores

2001-196 Placer Vineyard SP

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Figure 4. Overall CRAM Scores For All AAs

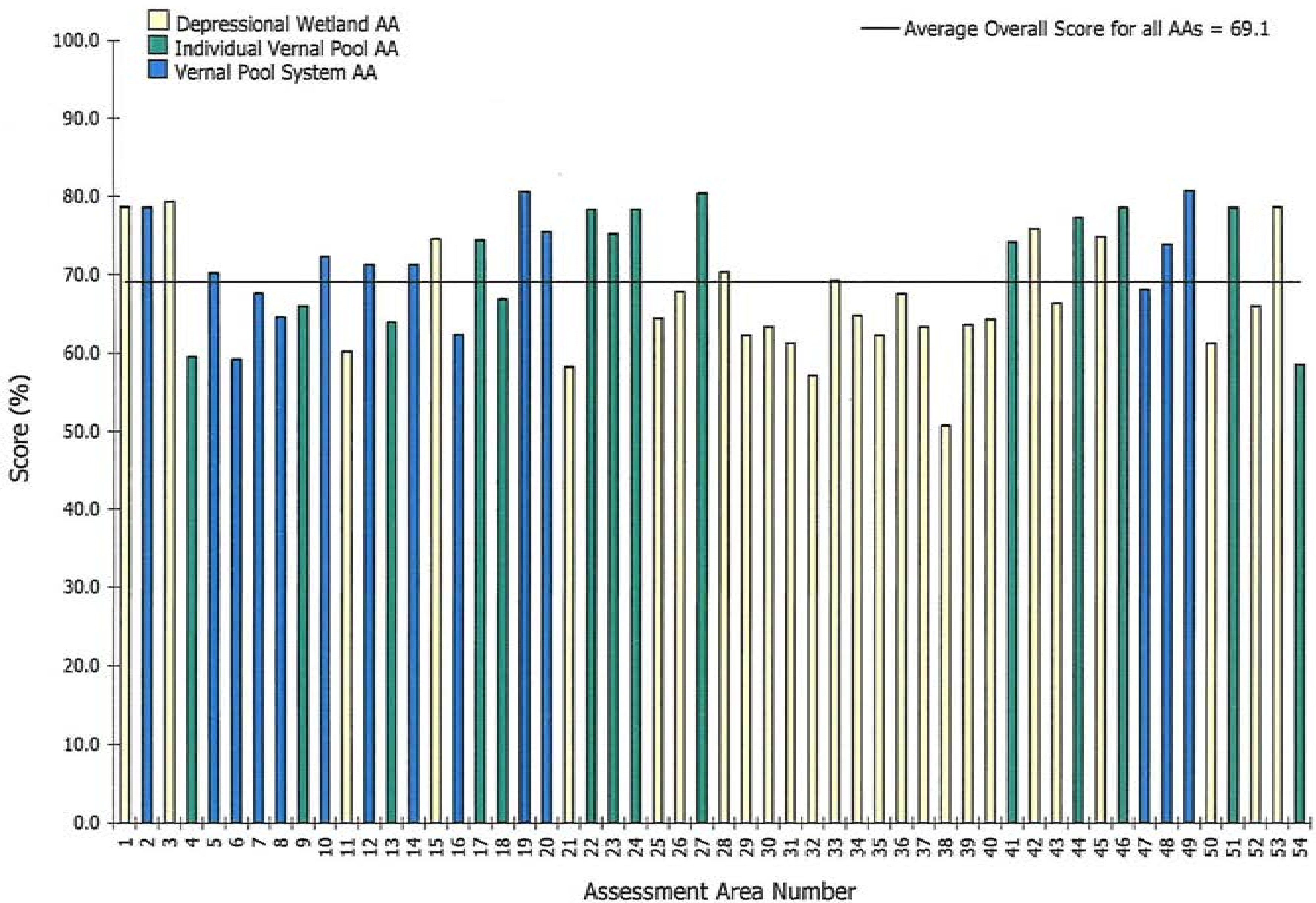
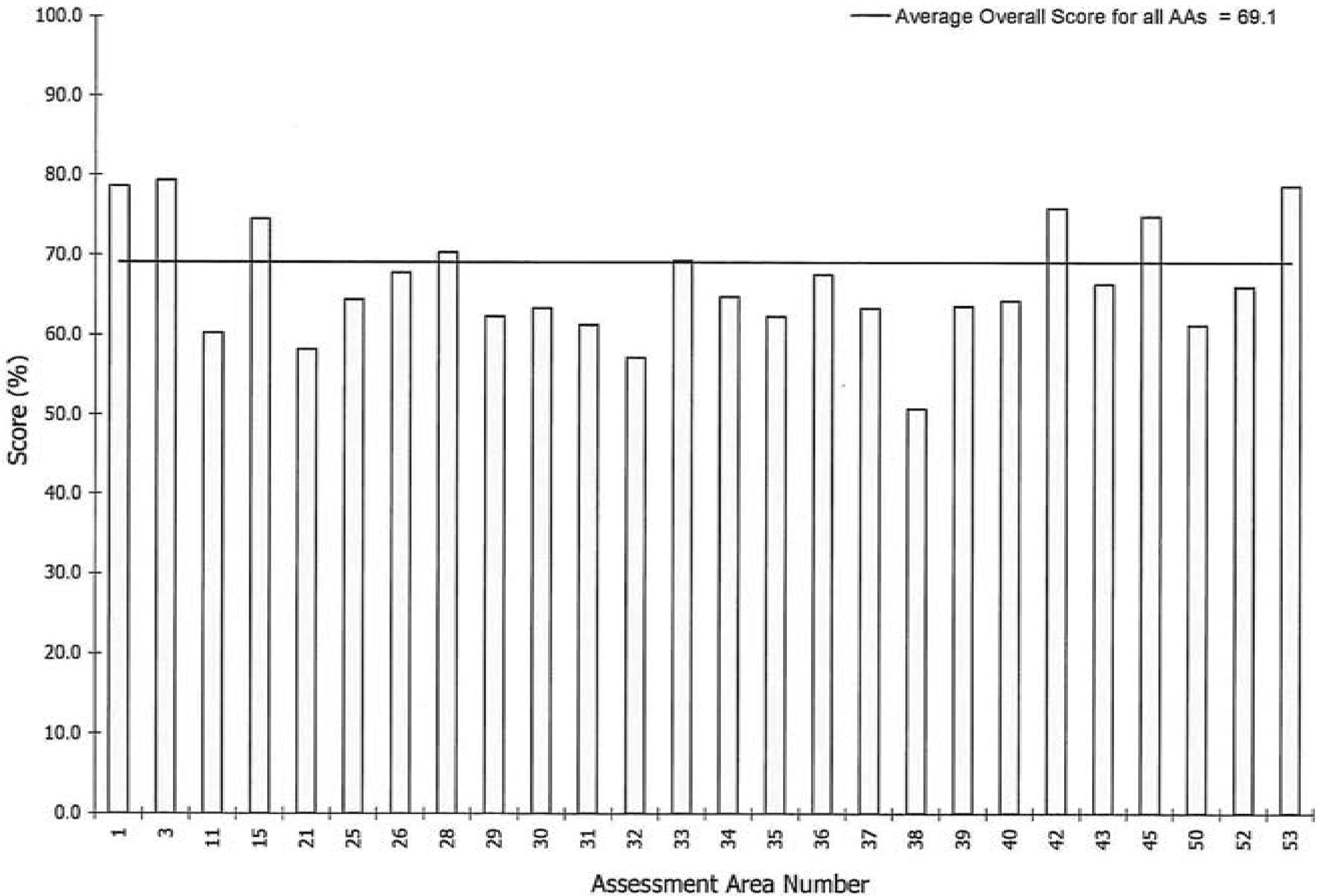
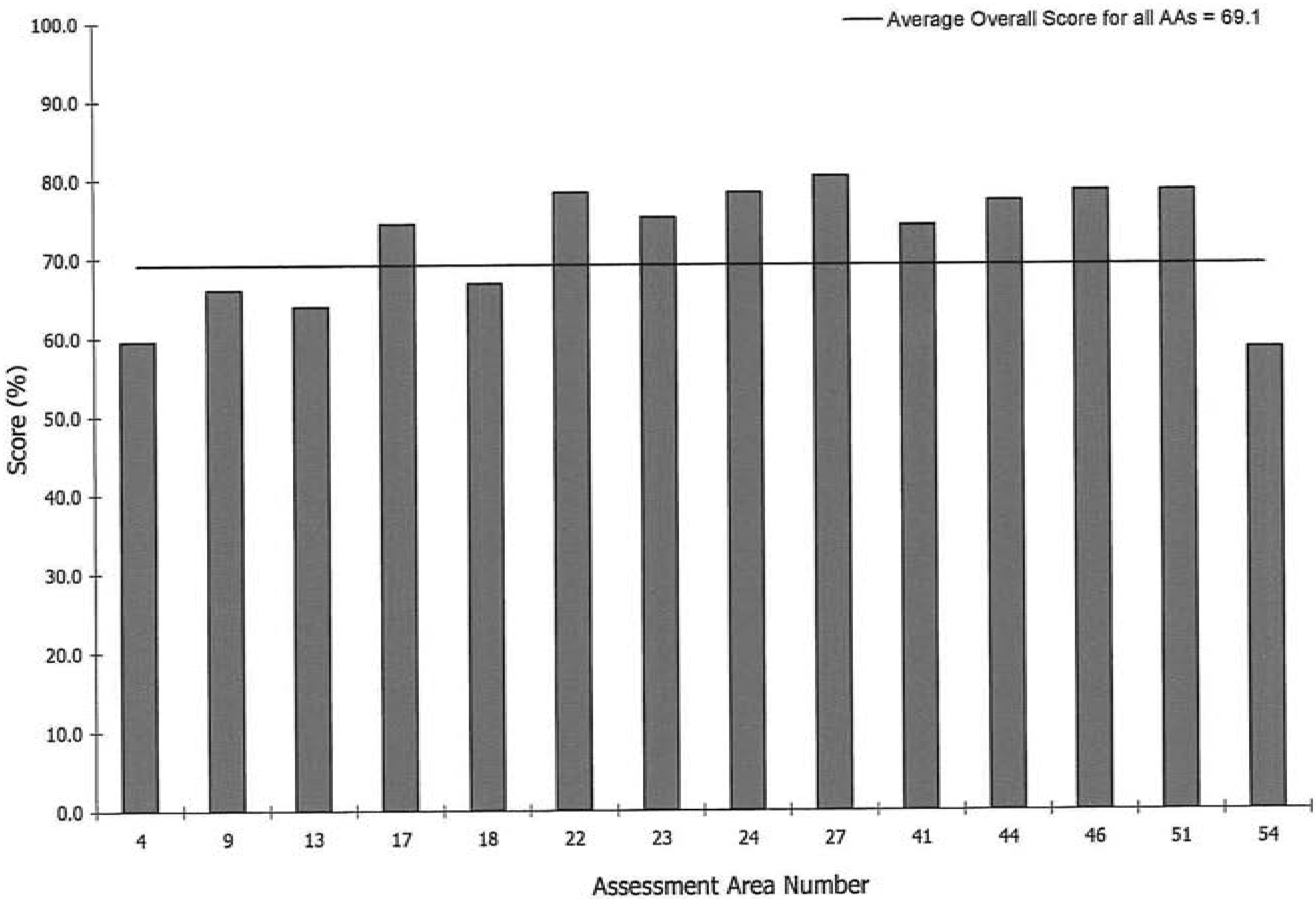


Figure 5. Overall CRAM Scores for Depressional Wetland AAs[1]



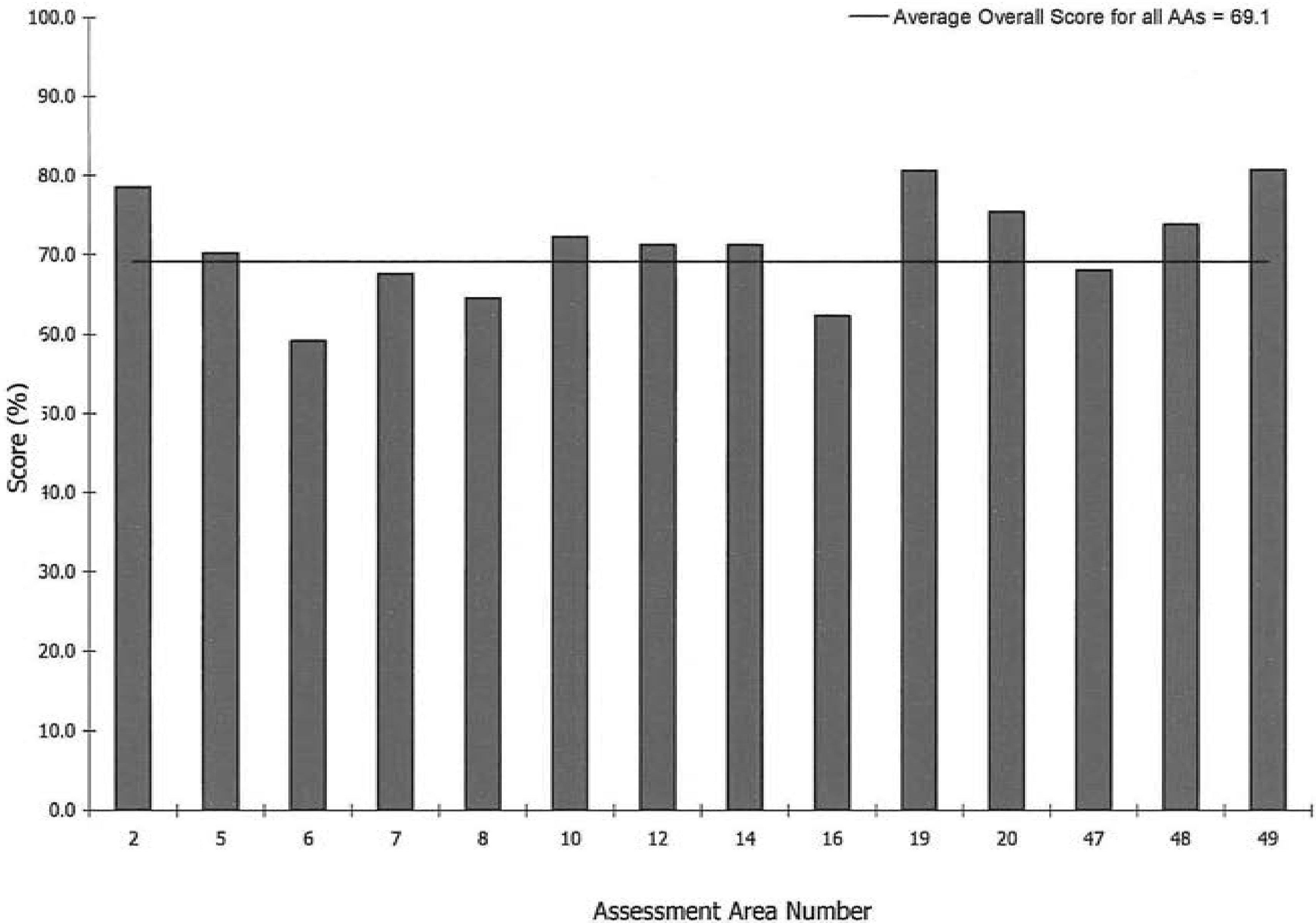
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 4.

Figure 6. Overall CRAM Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 4.

Figure 7. Overall CRAM Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 4.

Figure 8. Buffer and Landscape Context Scores For All AAs

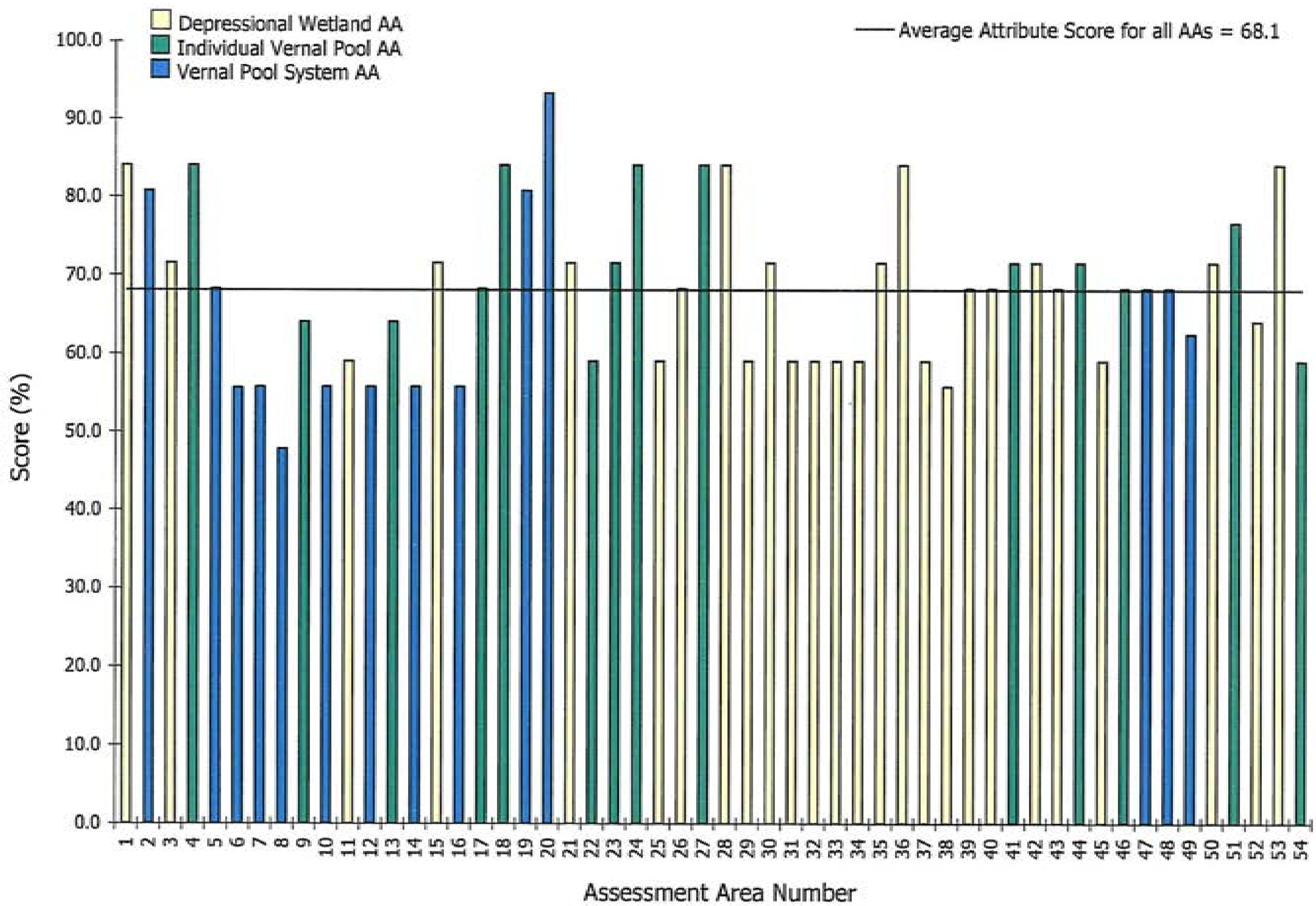
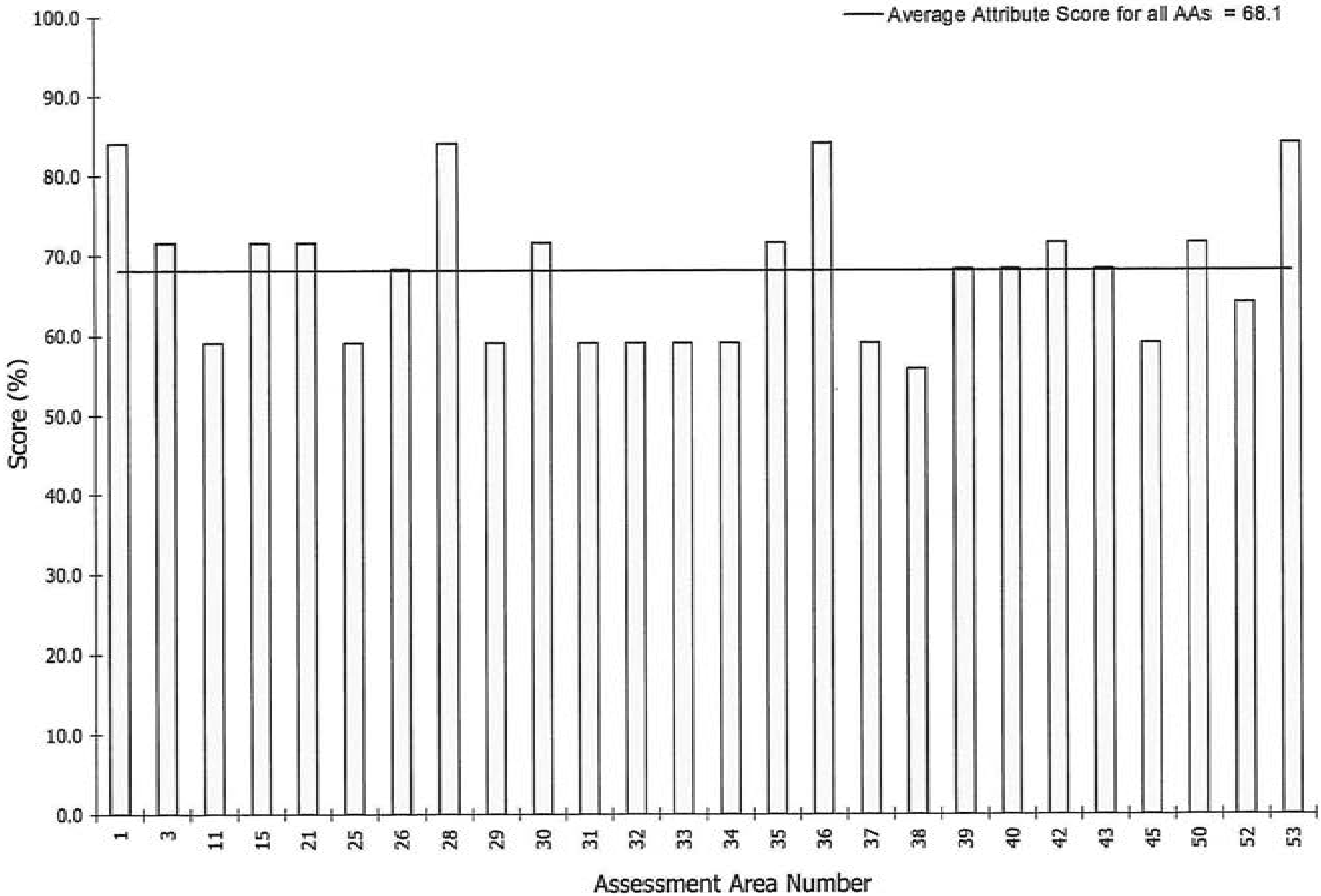
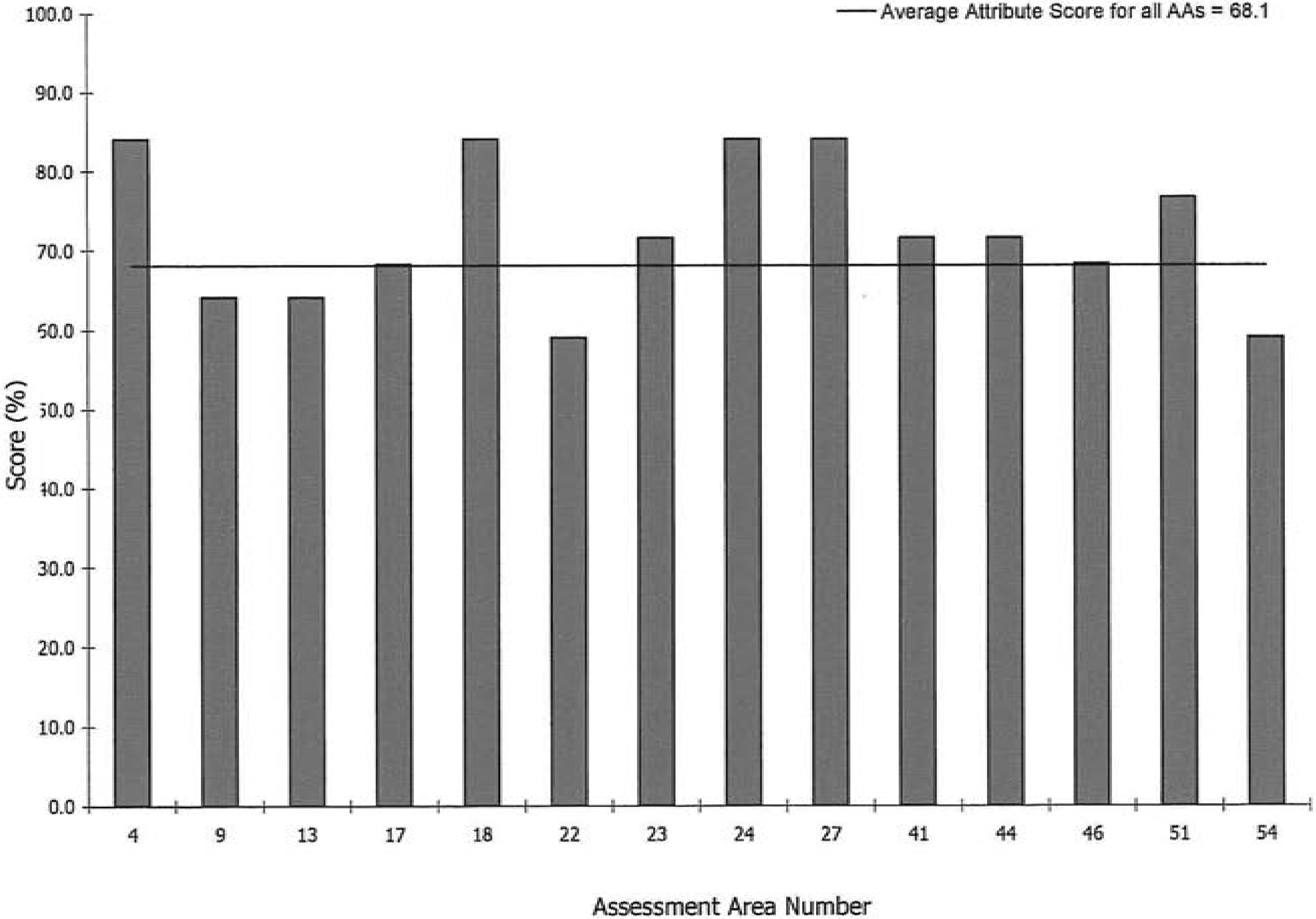


Figure 9. Buffer and Landscape Context Scores for Depressional Wetland AAs[1]



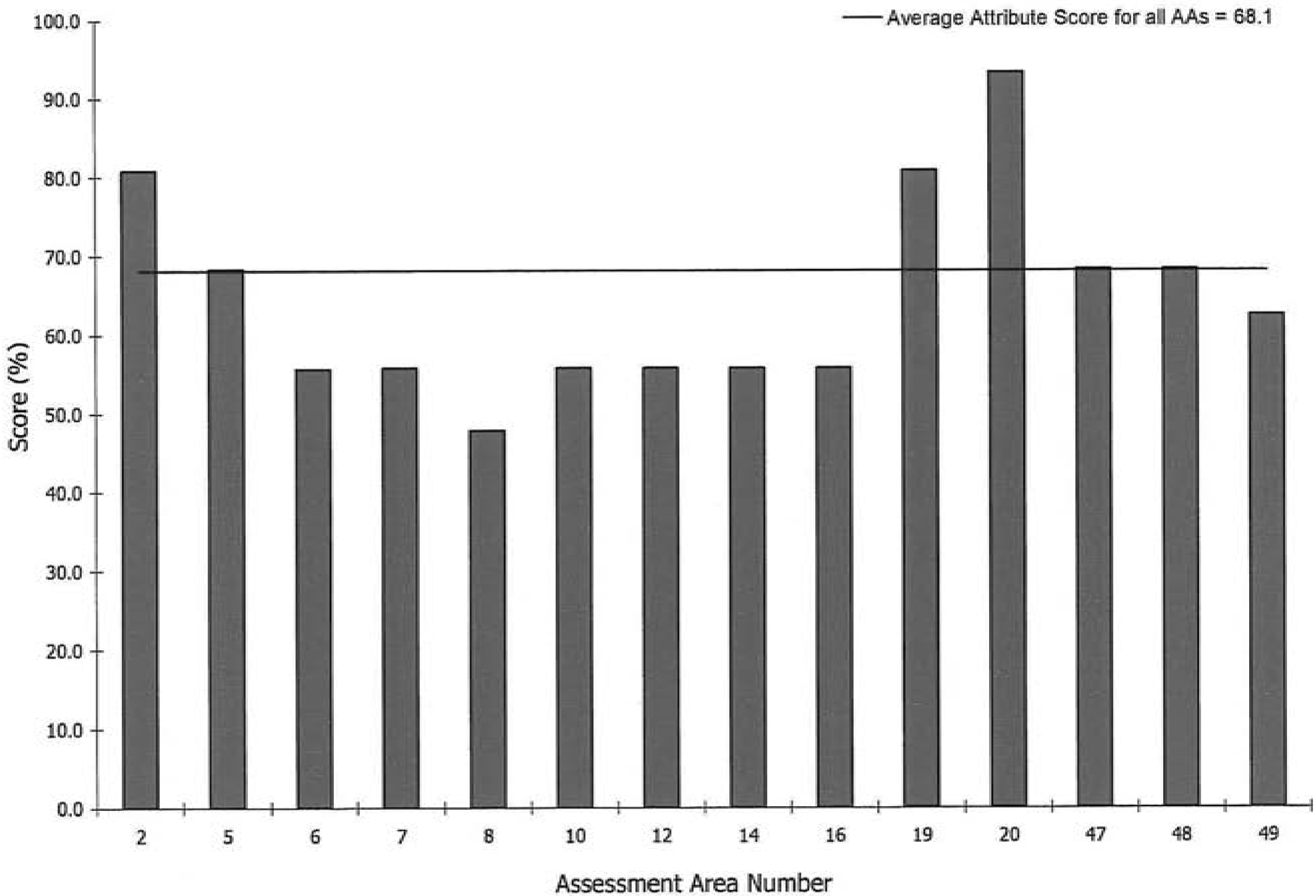
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 8.

Figure 10. Buffer and Landscape Context Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 8.

Figure 11. Buffer and Landscape Context Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 8.

Figure 12. Hydrology Scores For All AAs

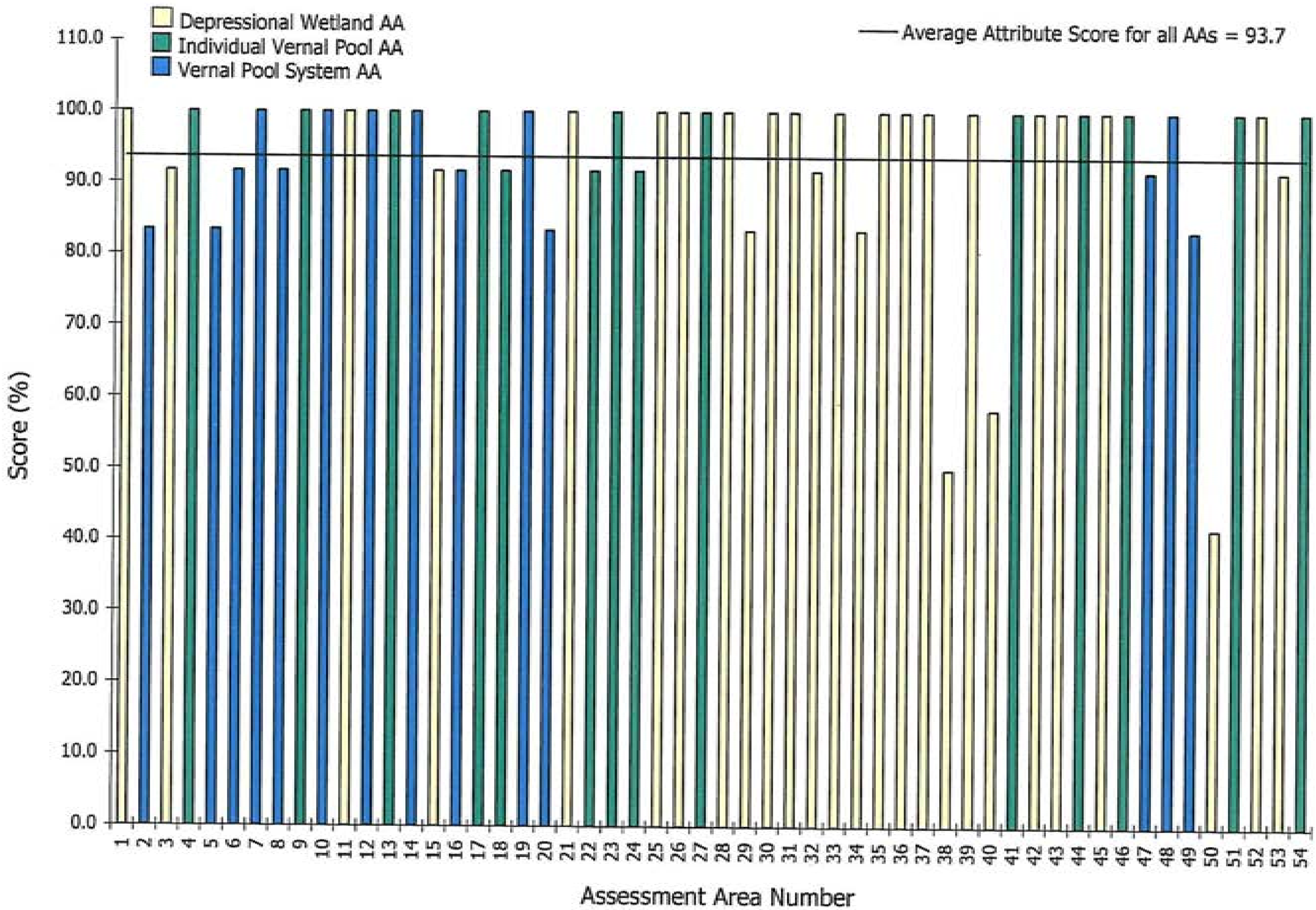
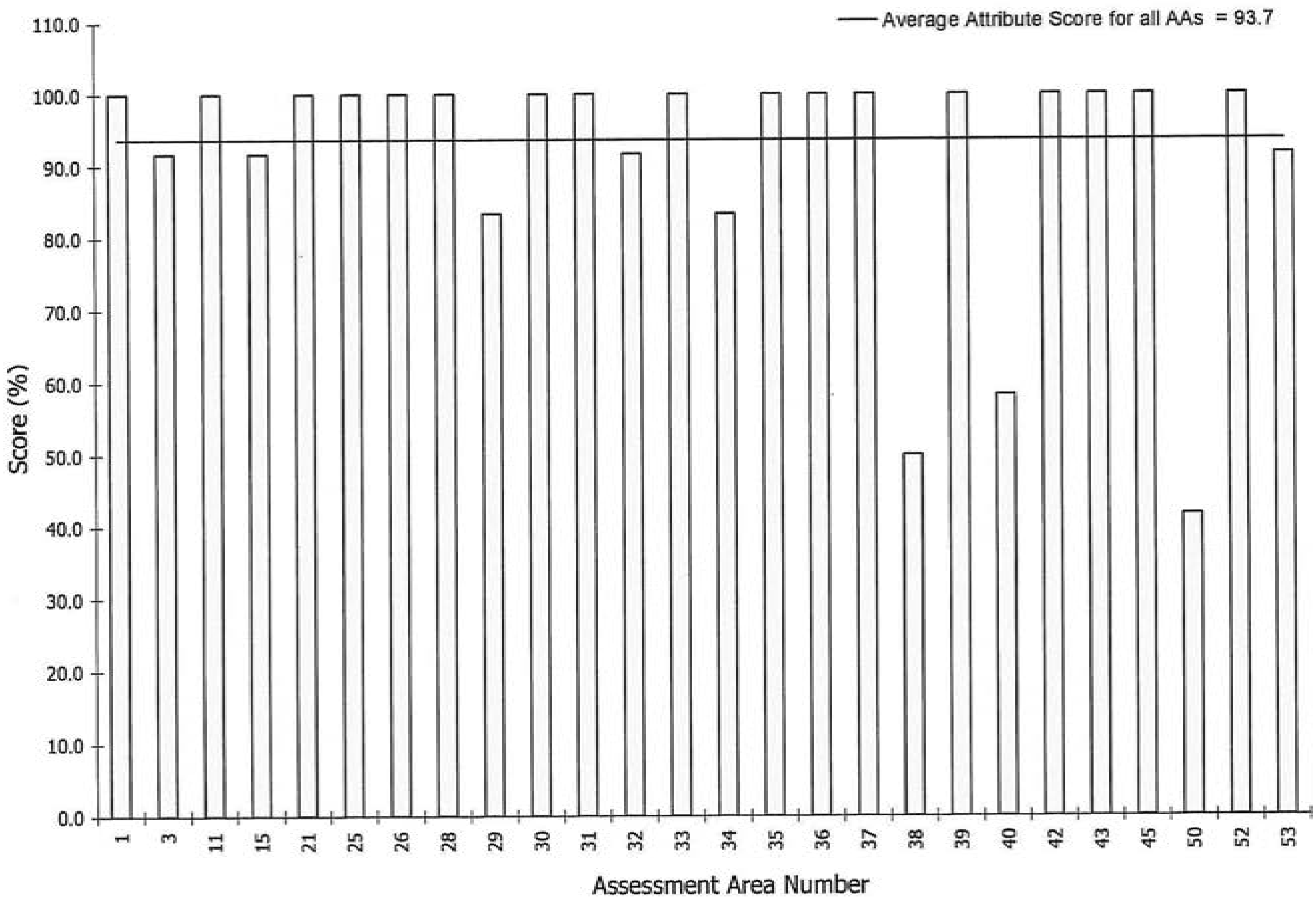
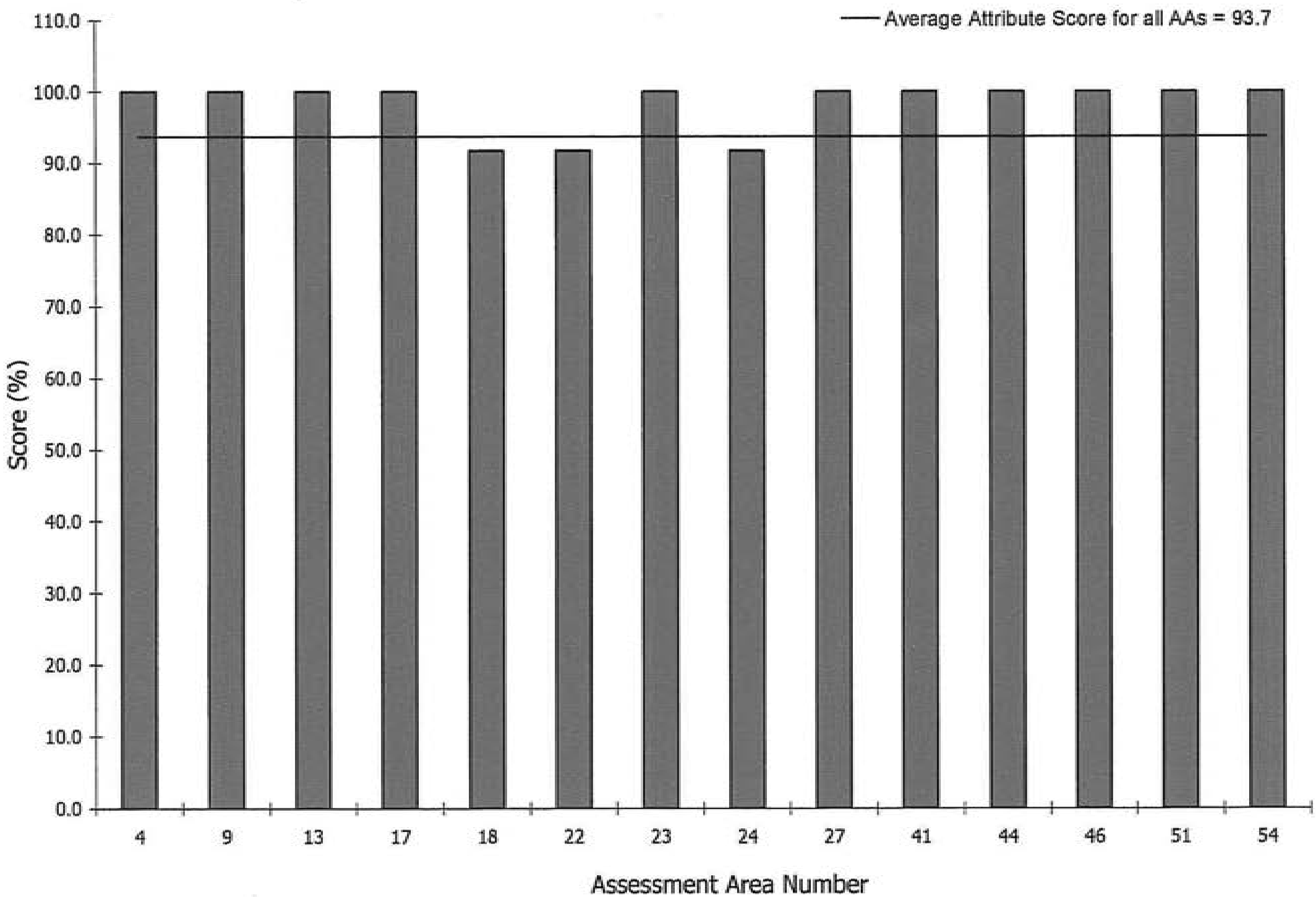


Figure 13. Hydrology Scores for Depressional Wetland AAs[1]



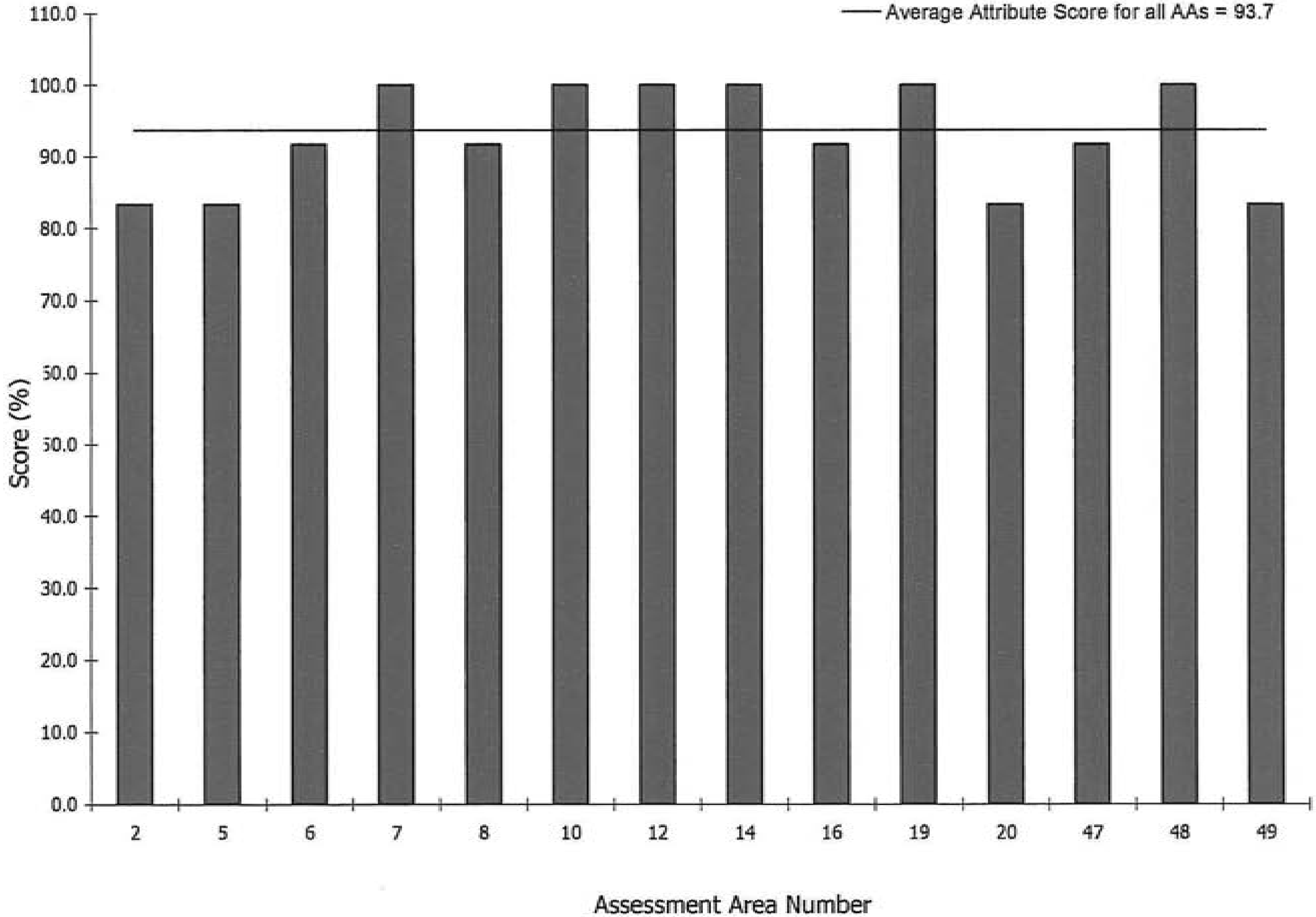
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 12.

Figure 14. Hydrology Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 12.

Figure 15. Hydrology Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 12.

Figure 16. Physical Structure Scores For All AAs

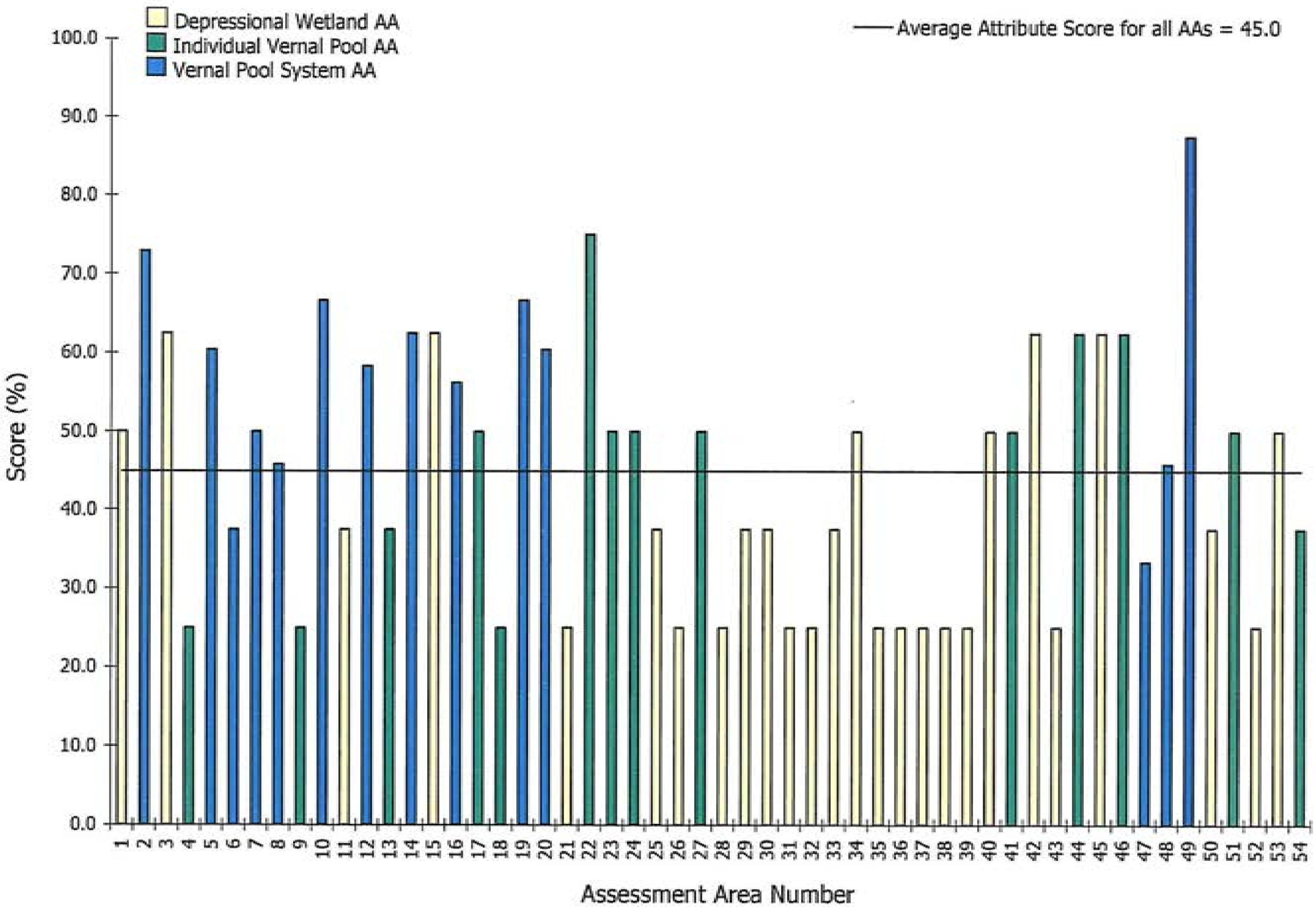
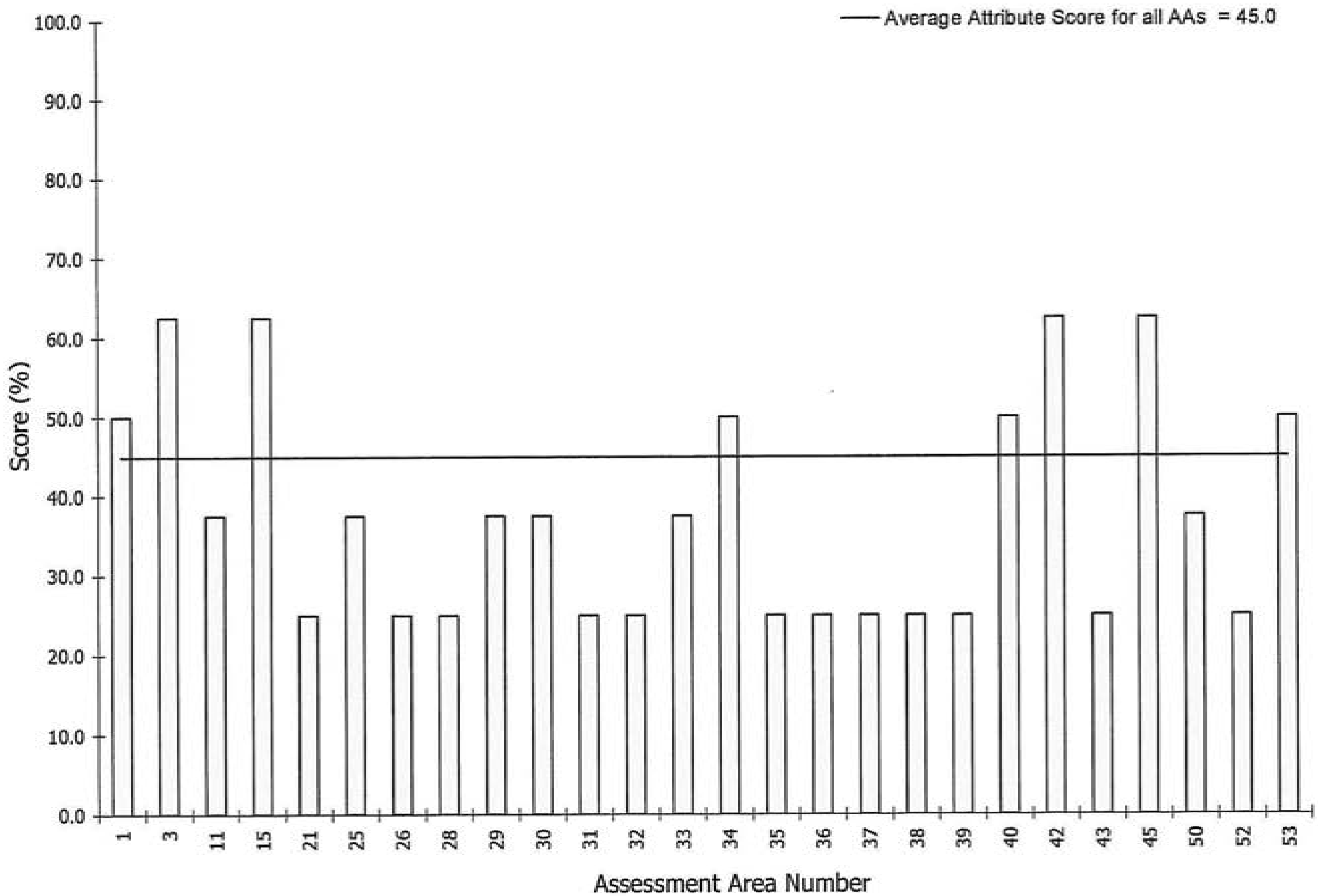
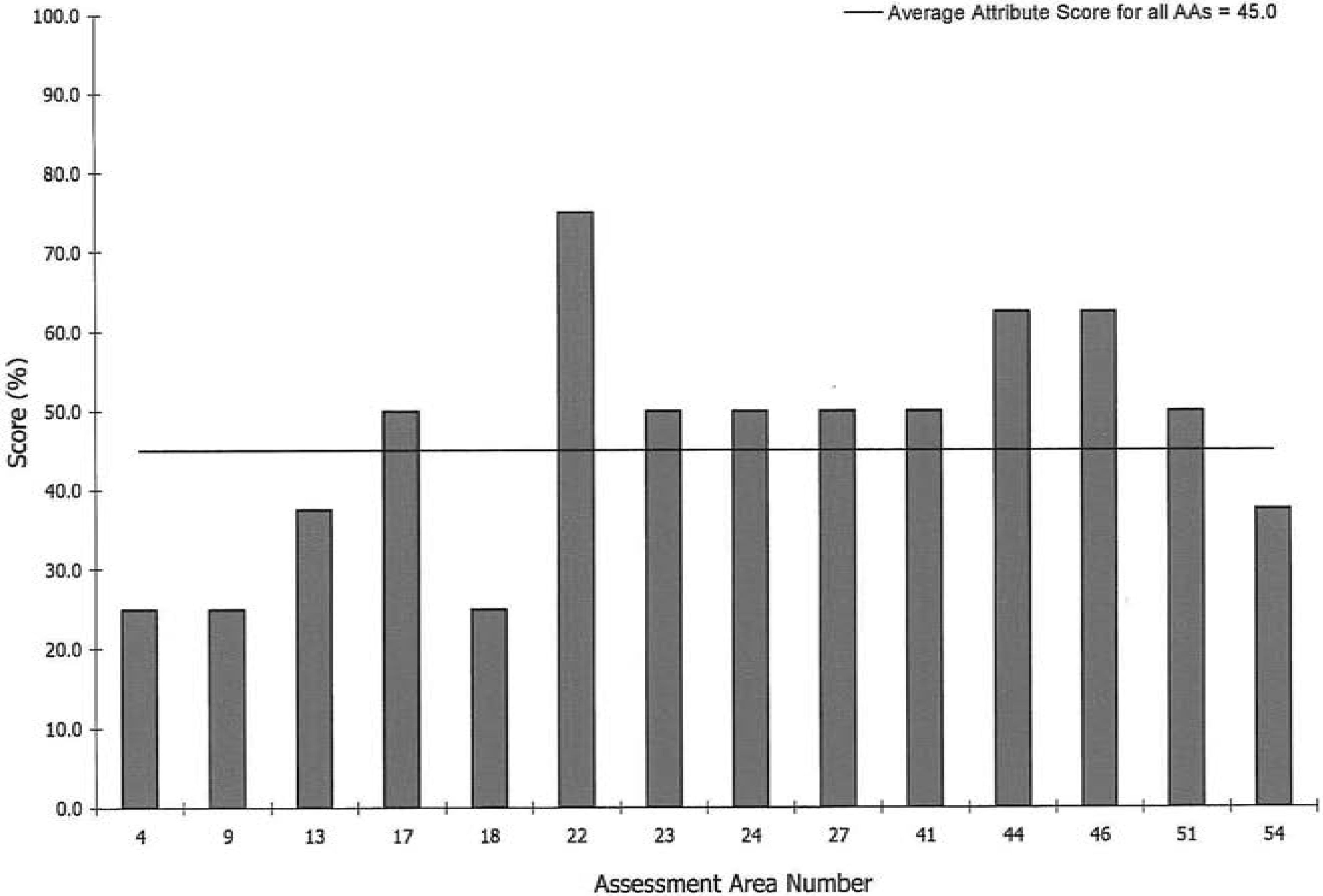


Figure 17. Physical Structure Scores for Depressional Wetland AAs[1]



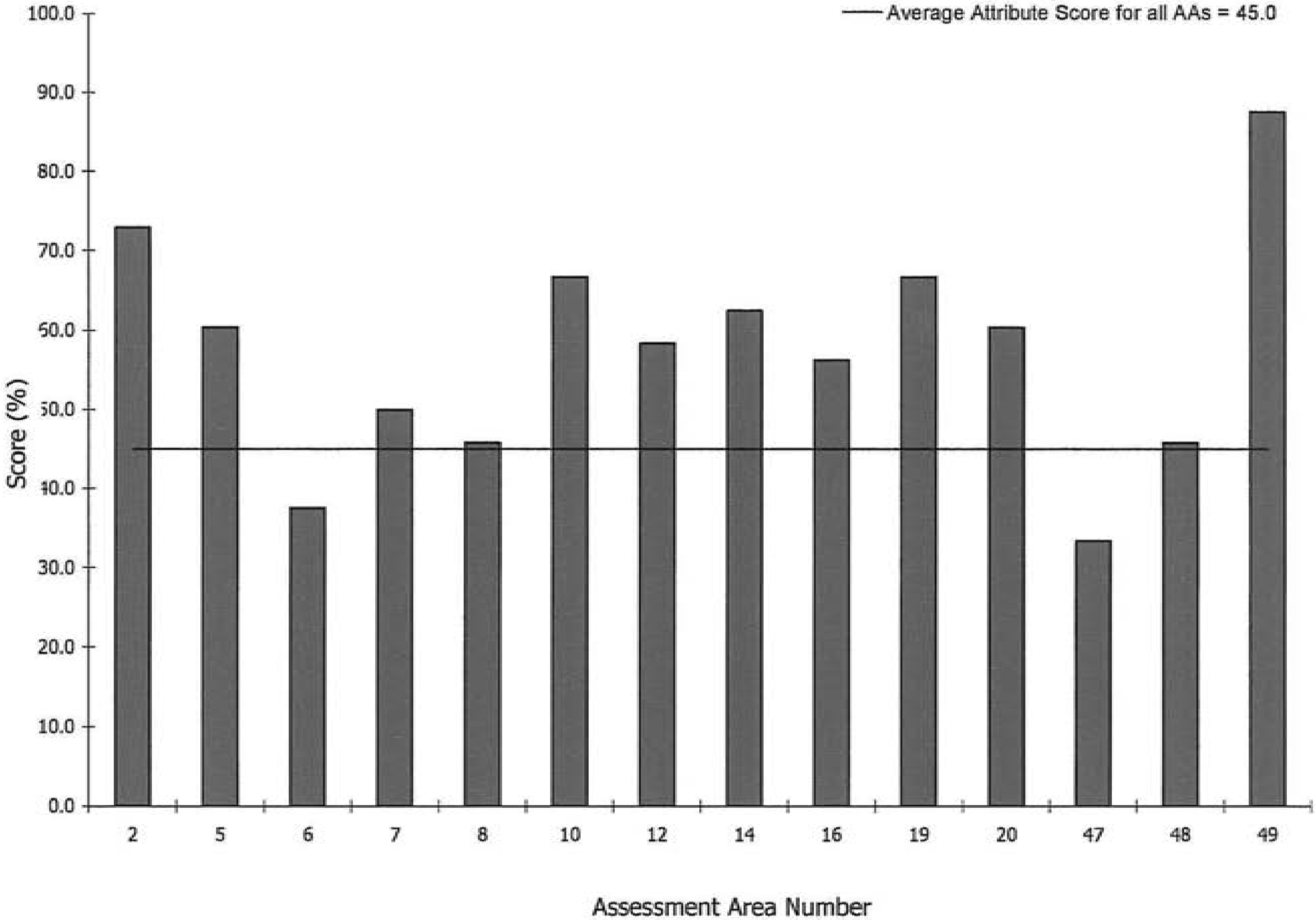
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 16.

Figure 18. Physical Structure Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 16.

Figure 19. Physical Structure Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 16.

Figure 20. Biotic Structure Scores For All AAs

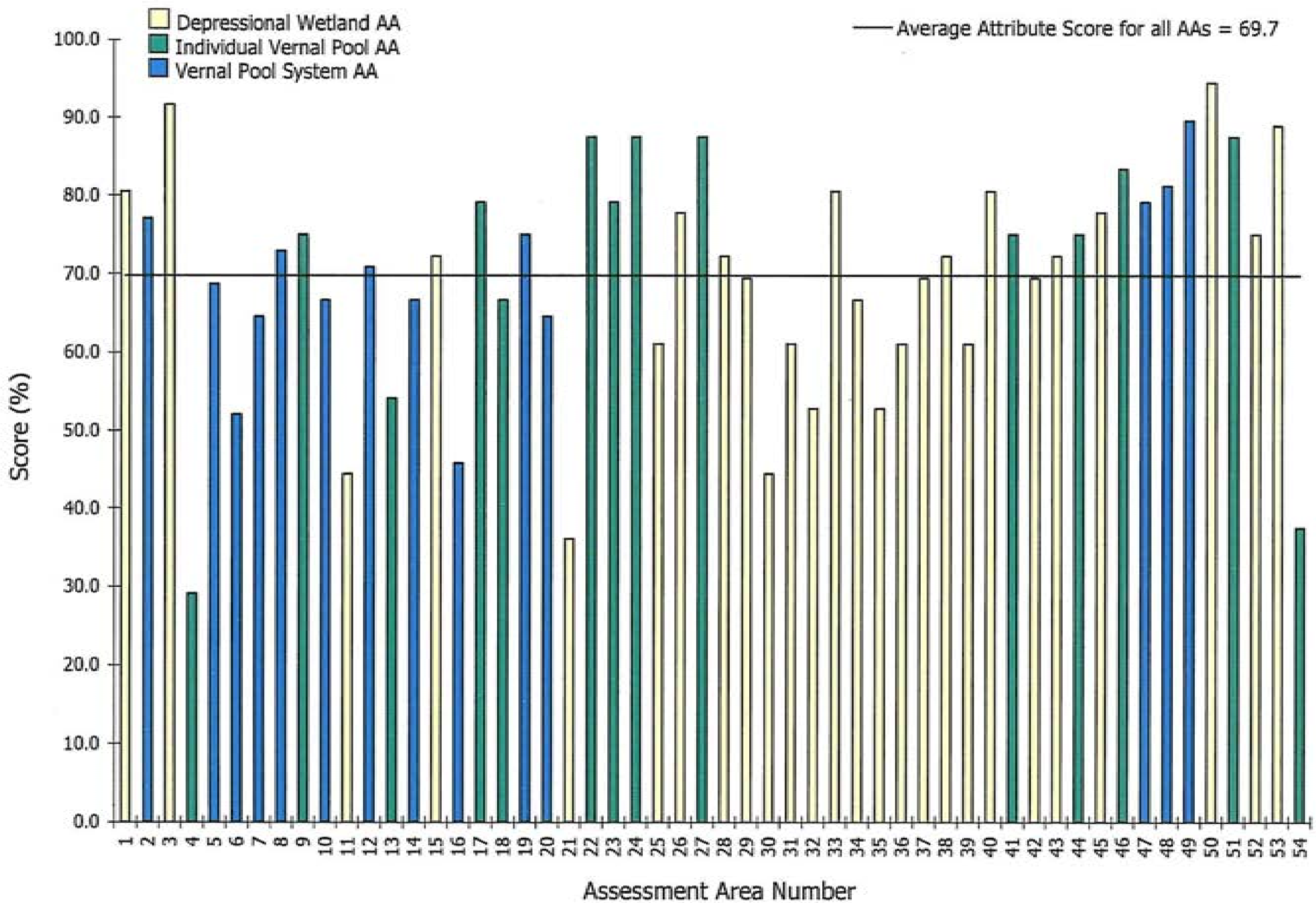
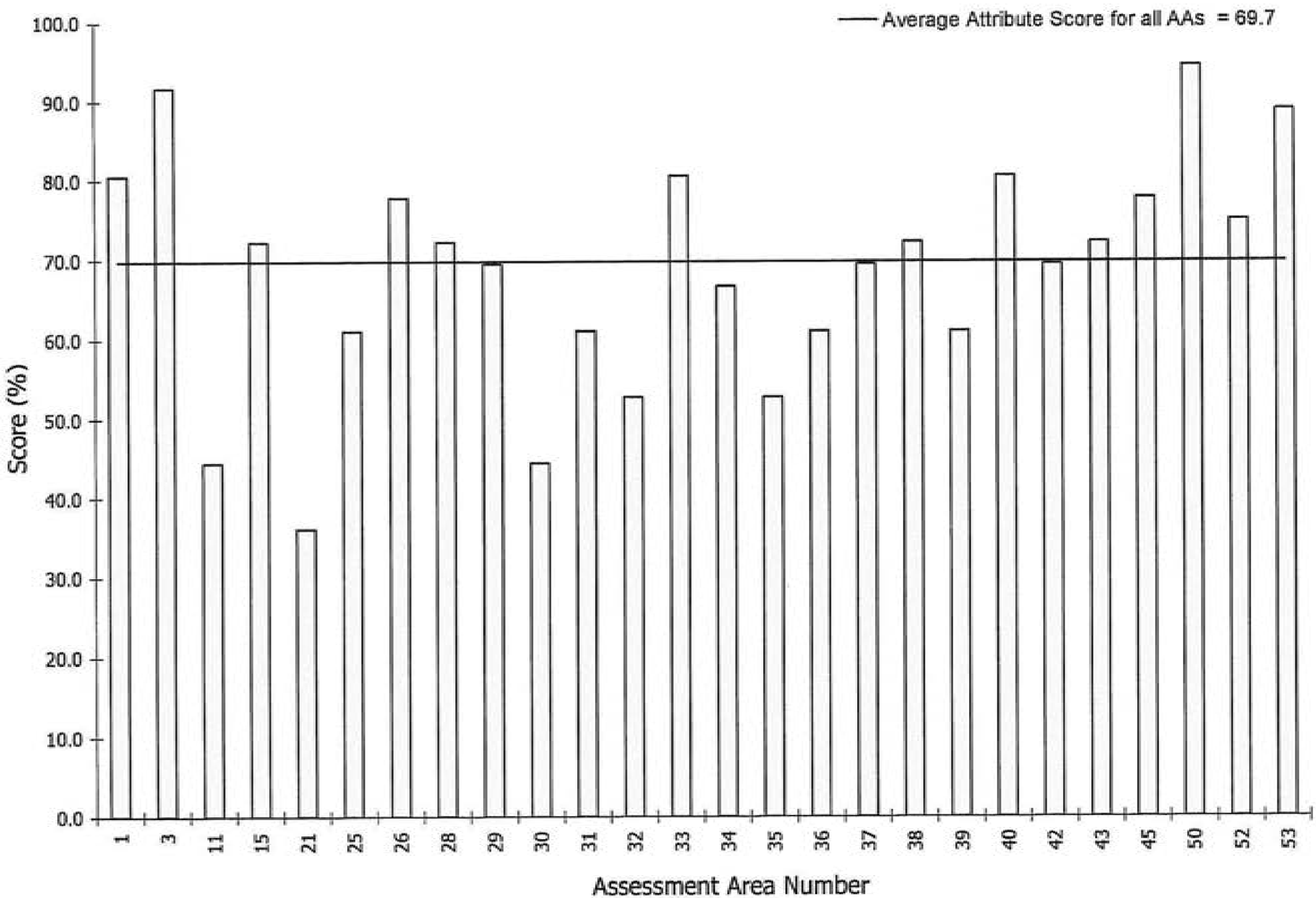
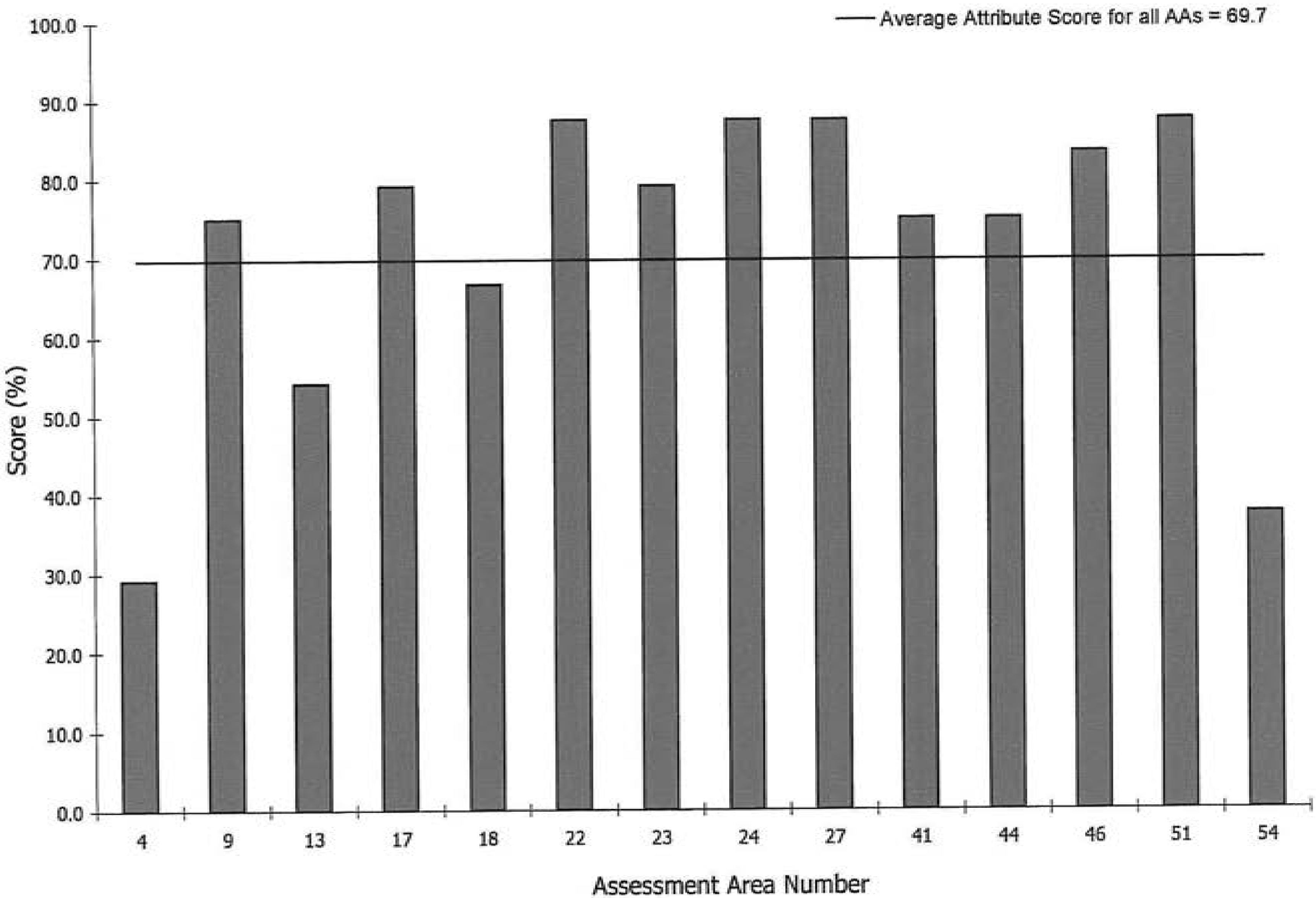


Figure 21. Biotic Structure Scores for Depressional Wetland AAs[1]



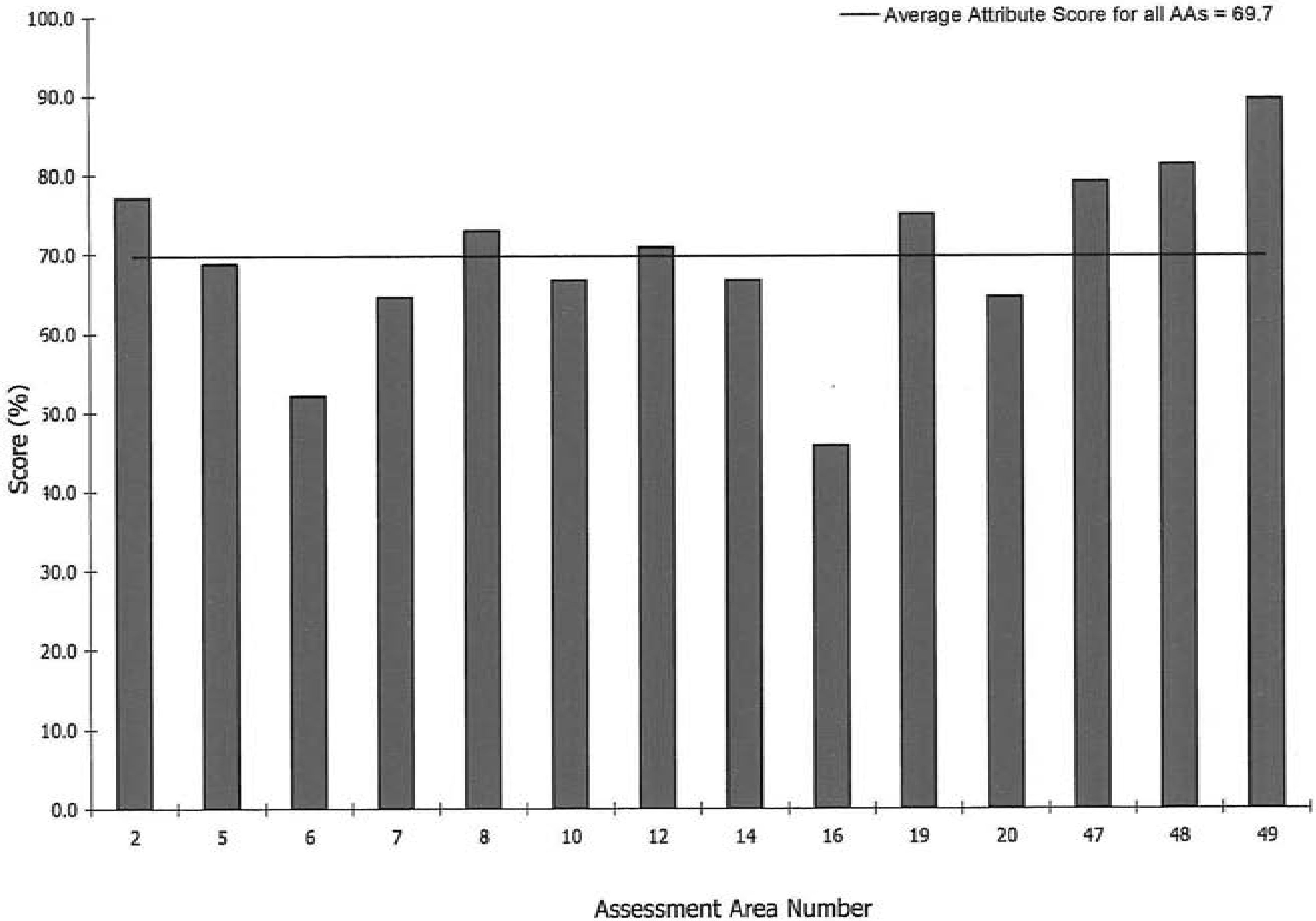
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 20.

Figure 22. Biotic Structure Scores for Individual Vernal Pool AAs[1]



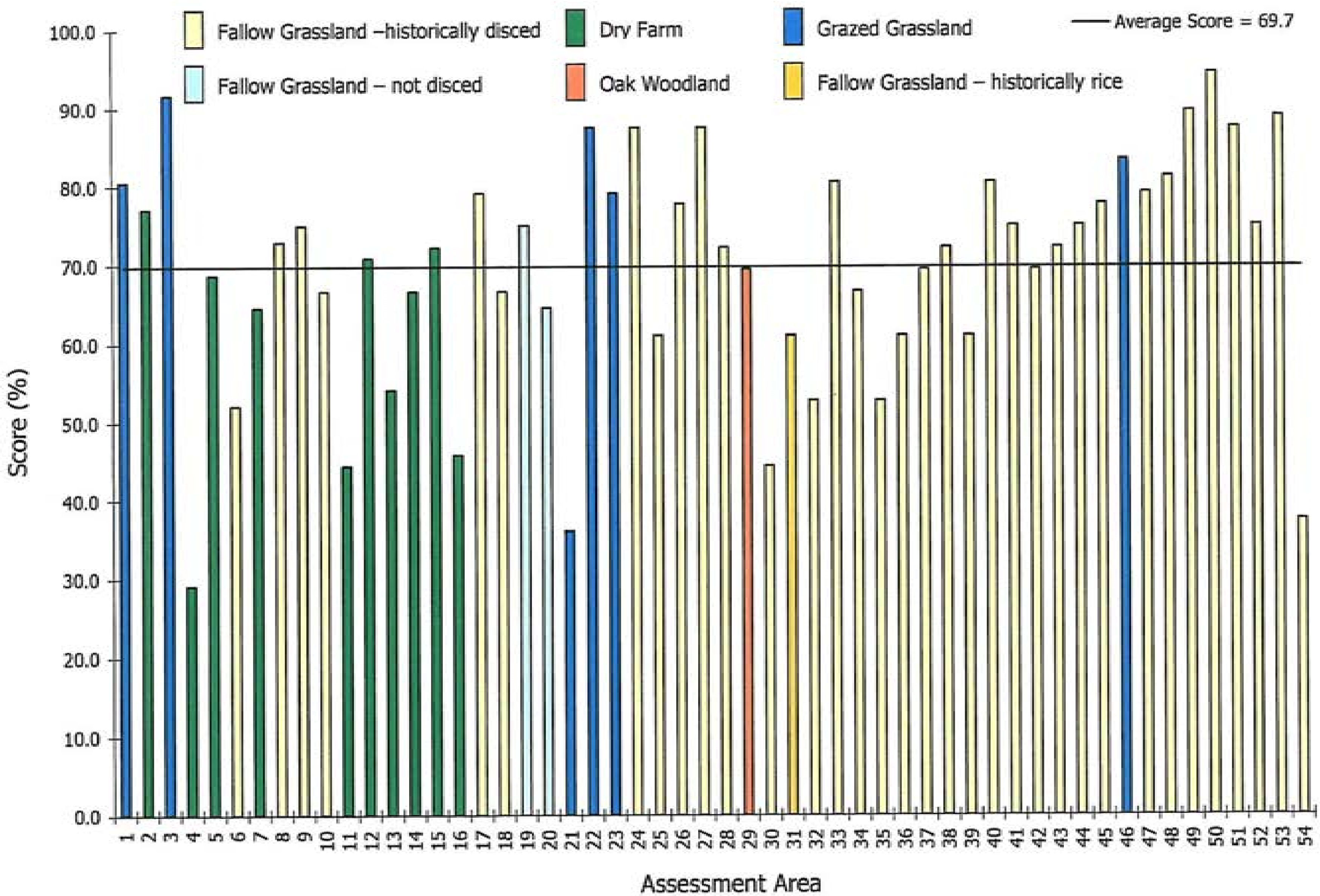
[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 20.

Figure 23. Biotic Structure Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 20.

Figure 24. Scores for Biotic Structure by Land Use Type



LIST OF ATTACHMENTS

Attachment A – CRAM Scoring Sheets and Maps

Attachment B – CRAM Assessment Area Scores

ATTACHMENT A

CRAM Scoring Sheets and Maps

Basic Information Sheet: Seasonal Wetland

Your Name: Eric Stitt	
Assessment Area Name: 1	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 1

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					**Comments**
			Alpha	Numeric	
Landscape Connectivity (Metric A):			B	9	
Buffer (based on sub-metrics B-D)					
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12			
(C Submetric) Score for Buffer: Average Buffer Width	A	12			
(D Submetric) Score for Buffer: Buffer Condition	B	9			
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	**Final Attribute Score= (Raw Score/24) x 100** — 84
Attribute 2: Hydrology Attribute					
			Alpha	Numeric	
Water Source:			A	12	
Hydroperiod:			A	12	
Hydrologic Connectivity:			A	12	
Raw Attribute Score = sum of numeric scores:				36	**Final Attribute Score= (Raw Score/36) x 100** — 100
Attribute 3: Physical Structure Attribute					
			Alpha	Numeric	
Structural Patch Richness:			D	3	
Topographic Complexity:			B	9	
Raw Attribute Score = sum of numeric scores:				12	**Final Attribute Score= (Raw Score/24) x 100** — 50
Attribute 4: Biotic Structure Attribute					
Plant Community Composition (Based on sub-metrics A-C)					
Plant Community Submetric A: Number of Plant Layers	C	6			
Plant Community Submetric B: Number of Co-dominant species	D	3			
Plant Community Submetric C: Percent Invasion	C	6			
Plant Community Composition: (Average of submetrics A-C)				5	
Horizontal Interspersion and Zonation			A	12	
Vertical Biotic Structure			A	12	
Raw Attribute Score = sum of numeric scores:				29	**Final Attribute Score=(Raw Score/36) x 100** — 80.6
Overall AA Score (Average of four final attribute scores)					78.65

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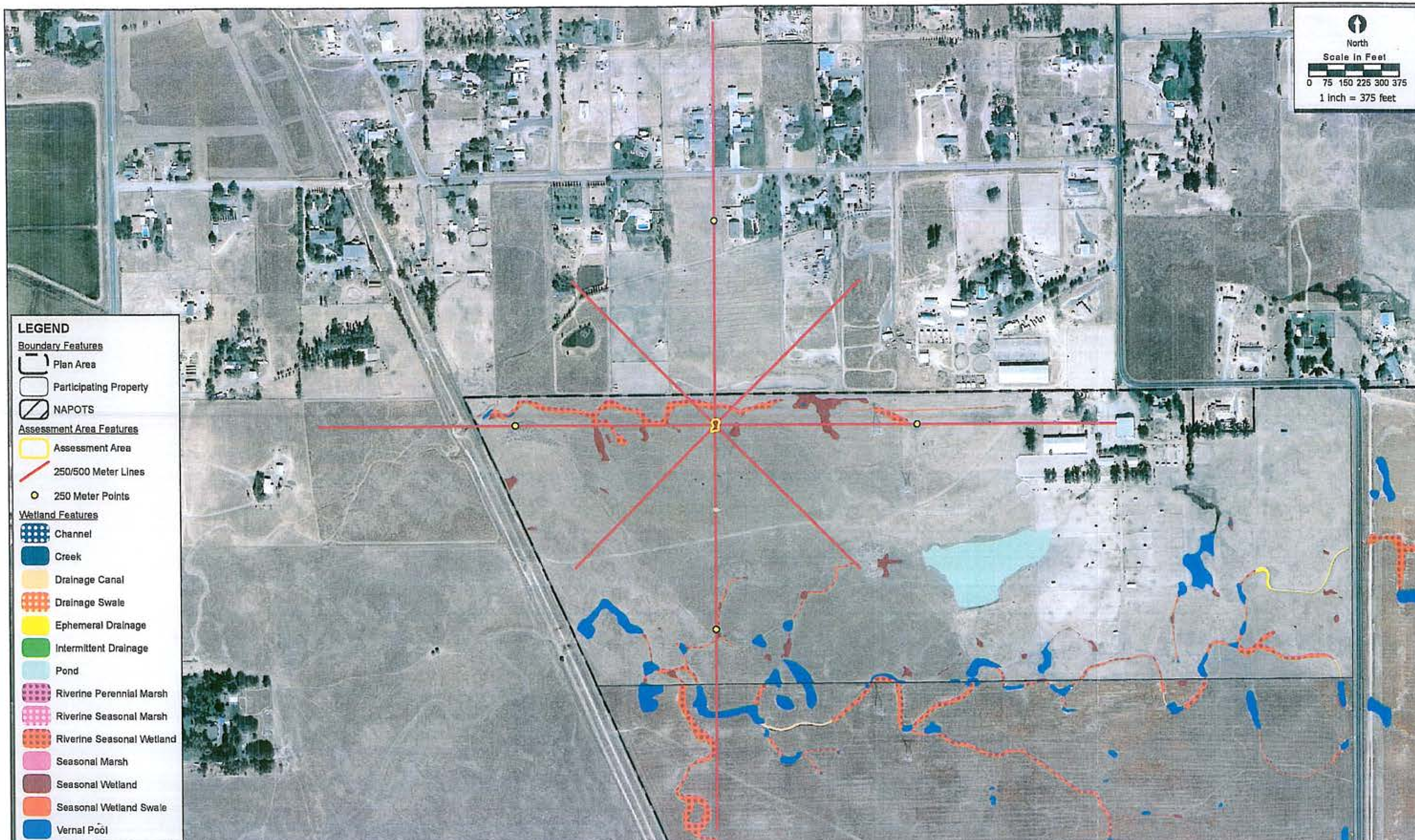
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 1	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Eremocarpus setigerus	☐
Juncus bufonius	☐
Plagiobothrys stipitatus	☐



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08/13/2009

CRAM Assessment Area 1

2001-196 Placer Vineyards

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ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider

Assessment Area Name: 2

Assessment No.		Date: 8/18/2009

Assessment Team Members for This AA

- Debra Sykes
- Jinnah Benn
- Eric Stitt
- Daria Snider

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 2

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				19.39	Final Attribute Score= (Raw Score/24) x 100	80.8
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				17.5	Final Attribute Score= (Raw Score/24) x 100	72.9
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	B	9				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				10		
Horizontal Interspersion and Zonation				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				18.5	Final Attribute Score=(Raw Score/24) x 100	77.1
Overall AA Score (Average of four final attribute scores)						78.53

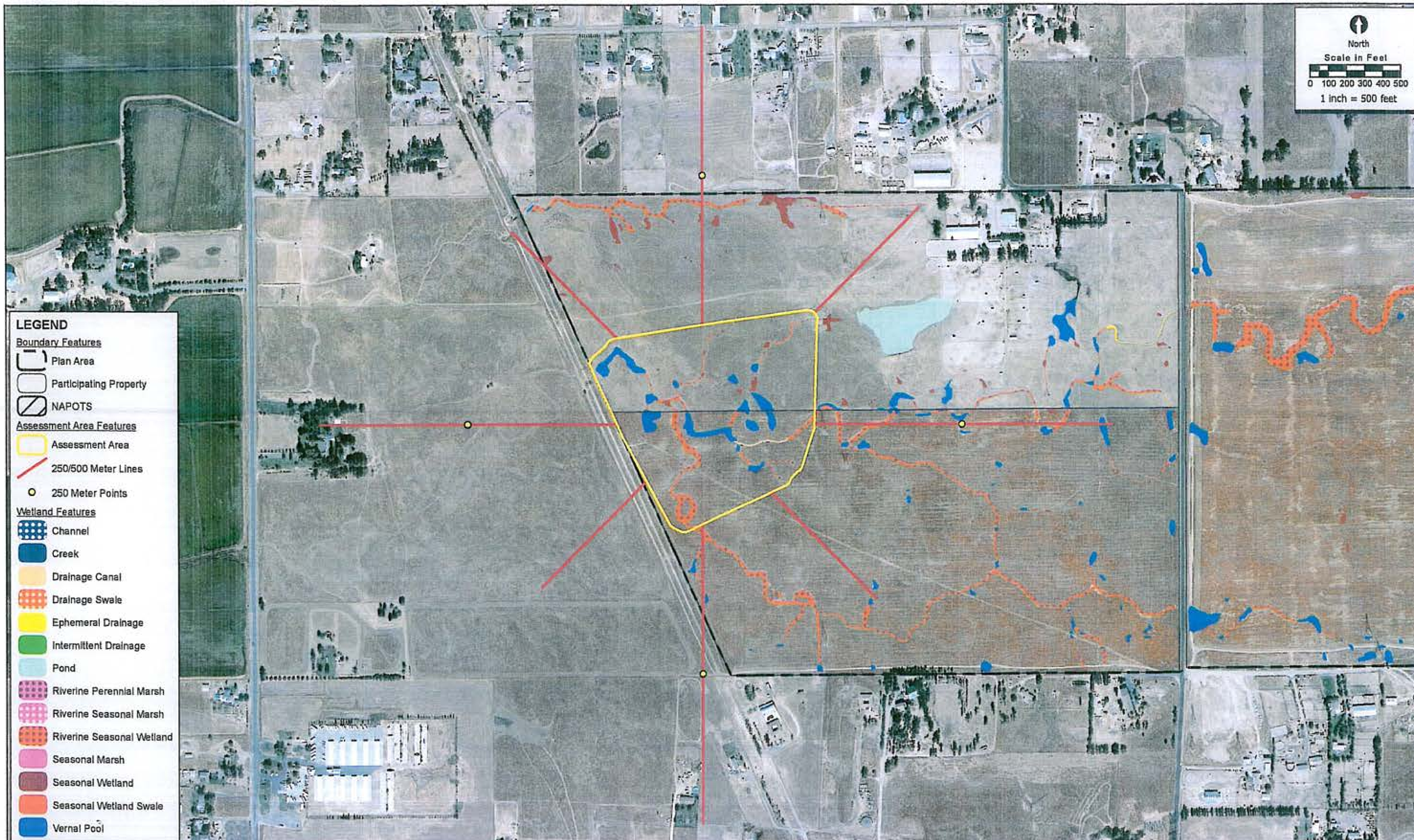
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 2		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Polypogon monspeliensis	☑	☐
Lasthenia glabberima	☐	☑
Convolvulus arvensis	☐	☐
Hemizonia fitchii	☐	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Hemizonia fitchii	☐	☐
Eremocarpus setigerus	☐	☐
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Eremocarpus setigerus	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Deschampsia danthenioides	☐	☑
Hordeum marinum	☑	☐
Hemizonia fitchii	☐	☐
Lolium multiflorum	☑	☐
Polypogon monspeliensis	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Lasthenia glabberima	☐	☑
Rumex crispus	☑	☐
Trifolium species	☐	☐

Co-dominant species richness for Vernal Pool System

Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Eryngium vaseyi	☐	☑
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Plagiobothrys undulatus	☐	☑
Eremocarpus setigerus	☐	☐
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Polypogon monspeliensis	☑	☐
Ranunculus bonariensis	☐	☑

Assessment Area 2	N
Total Invasive Species:	**5**
Total Endemic Species:	**6**
Total Other Species:	**4**
Total Number Unique Species:	**15**



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08/13/2009

CRAM Assessment Area 2

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Pond

Your Name: Eric Stitt	
Assessment Area Name: 3	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Pond

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☑ saturated soil, but no surfacewater ☐ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☑ long-duration ☐ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

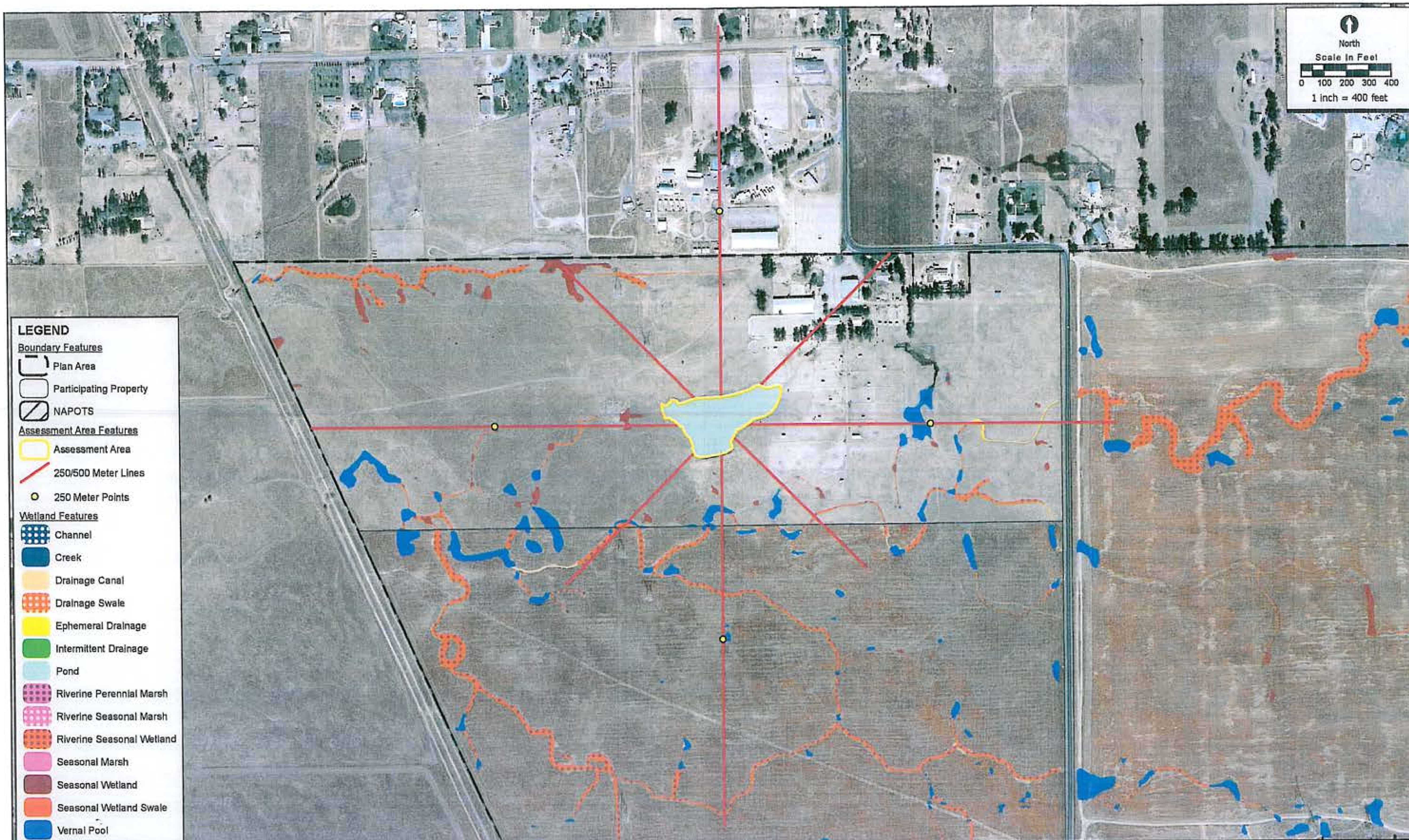
CRAM Scoring Sheet for Assessment Area 3

Depressional Wetland AA: Pond

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			C	6		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	B	9				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	A	12				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score=(Raw Score/36) x 100	91.7
Overall AA Score (Average of four final attribute scores)						79.35

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 3	AA Type: Pond
Plant Layer: Floating or Canopy-forming	**Invasive Species?**
Najas guadalupensis	☐
Plant Layer: Medium	**Invasive Species?**
Rumex crispus	☐
Plant Layer: Short	**Invasive Species?**
Polypogon monspeliensis	☑
Lasthenia glabberima	☐
Epilobium densiflorum	☐
Crypsis schoenoides	☐
Plagiobothrys stipitatus	☐
Eleocharis macrostachya	☐



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08/13/2009

CRAM Assessment Area 3

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider

Assessment Area Name: 4

Assessment No.		Date: 8/25/2009

Assessment Team Members for This AA

Eric Stitt

Daria Snider

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 4

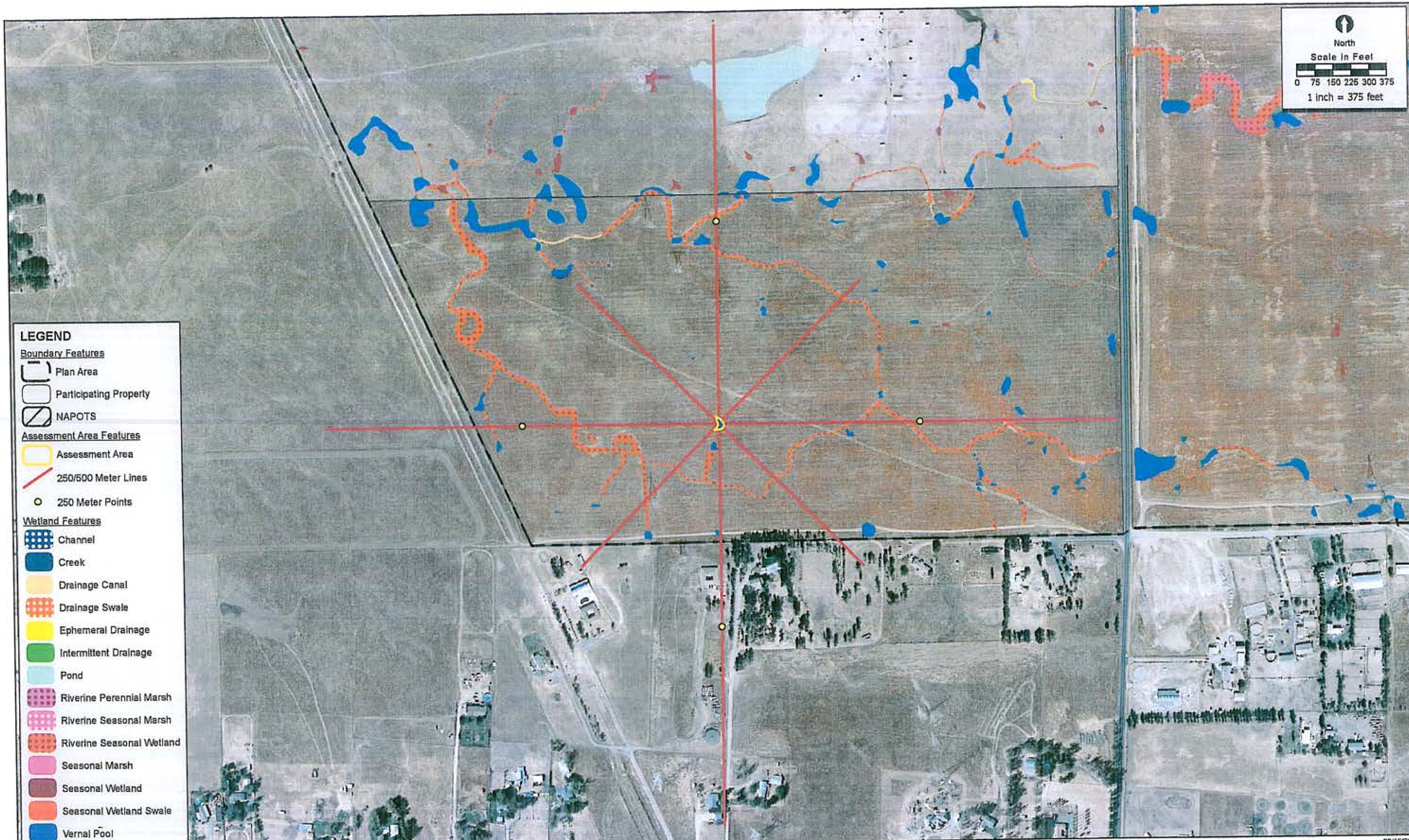
Individual Vernal Pool AA: Vernal Pool

					Comments	
Attribute 1: Buffer and Landscape Context						
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	**Final Attribute Score= (Raw Score/24) x 100**	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	**Final Attribute Score= (Raw Score/36) x 100**	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	**Final Attribute Score= (Raw Score/24) x 100**	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Raw Attribute Score = sum of numeric scores:				7	**Final Attribute Score=(Raw Score/24) x 100**	29.2
Overall AA Score (Average of four final attribute scores)						59.55

Co-dominant species richness for Vernal Pool

Assessment Area Name: 4		
Species List for Vernal pool	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐

Assessment Area 4	N
Total Invasive Species:	**2**
Total Endemic Species:	**1**
Total Other Species:	**0**
Total Number Unique Species:	**3**



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CRAM Assessment Area 4

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 5	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Debra Sykes	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 5

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				5.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				14.5	Final Attribute Score= (Raw Score/24) x 100	60.4
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16.5	Final Attribute Score=(Raw Score/24) x 100	68.8
Overall AA Score (Average of four final attribute scores)						70.2

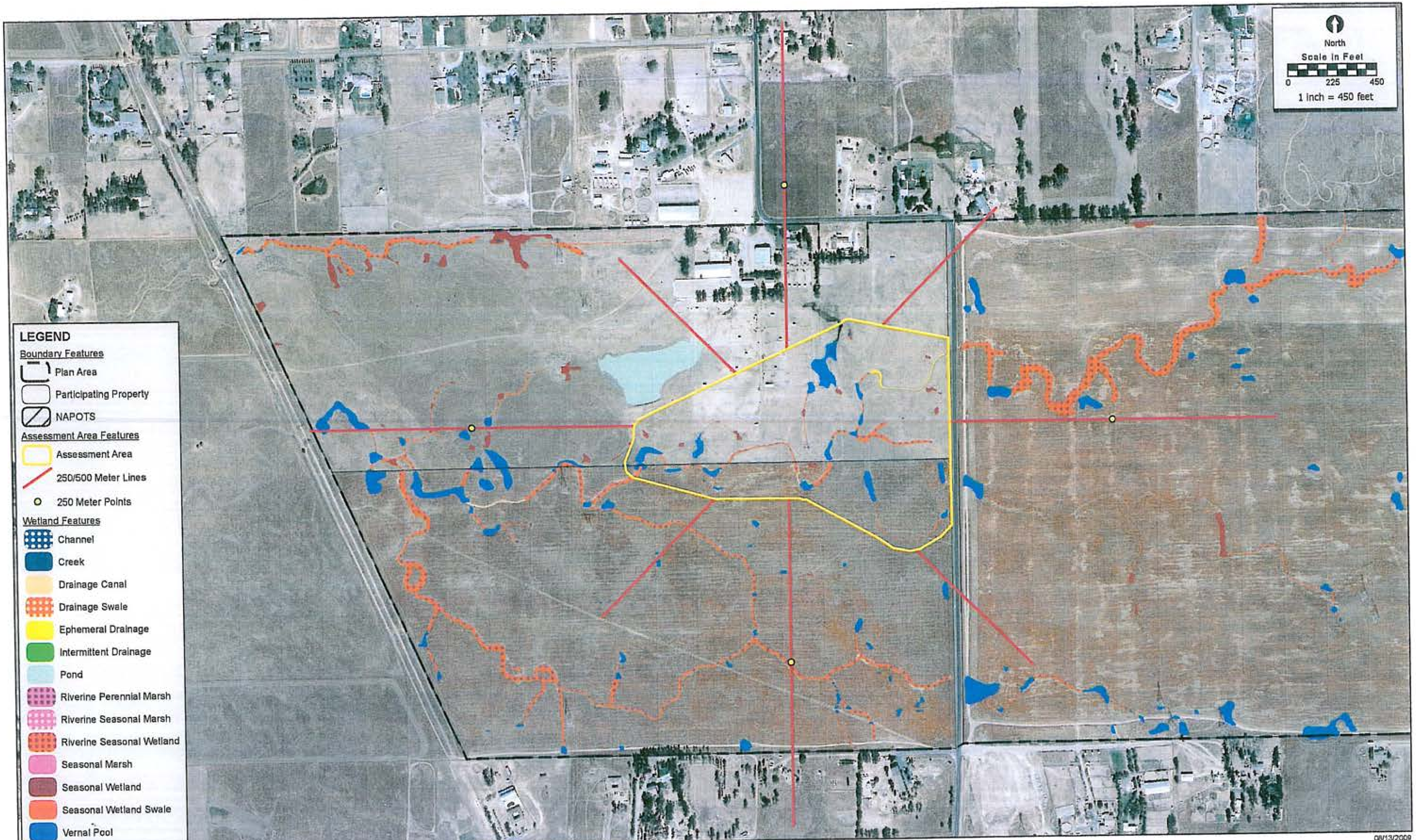
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 5		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Rumex crispus	☑	☐
Lolium multiflorum	☑	☐
Lasthenia glabberima	☐	☑
Trifolium glomeratum	☐	☐
Polypogon monspeliensis	☑	☐
Hordeum marinum	☑	☐
Glyceria declinata	☑	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Polypogon monspeliensis	☑	☐
Eryngium vaseyi	☐	☑
Hordeum marinum	☑	☐
Psilocarphus brevissimus	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Convolvulus arvensis	☐	☐
Eryngium vaseyi	☐	☑
Lolium multiflorum	☑	☐
Lasthenia glabberima	☐	☑
Polypogon monspeliensis	☑	☐
Hemizonia fitchii	☐	☐
Hordeum marinum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑

Co-dominant species richness for Vernal Pool System

Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐

Assessment Area 5	N
Total Invasive Species:	5
Total Endemic Species:	5
Total Other Species:	3
Total Number Unique Species:	13



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CRAM Assessment Area 5

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 6	
Assessment No.	Date: 8/27/2009
Assessment Team Members for This AA	
Daria Snider	
Peter Balfour	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 6

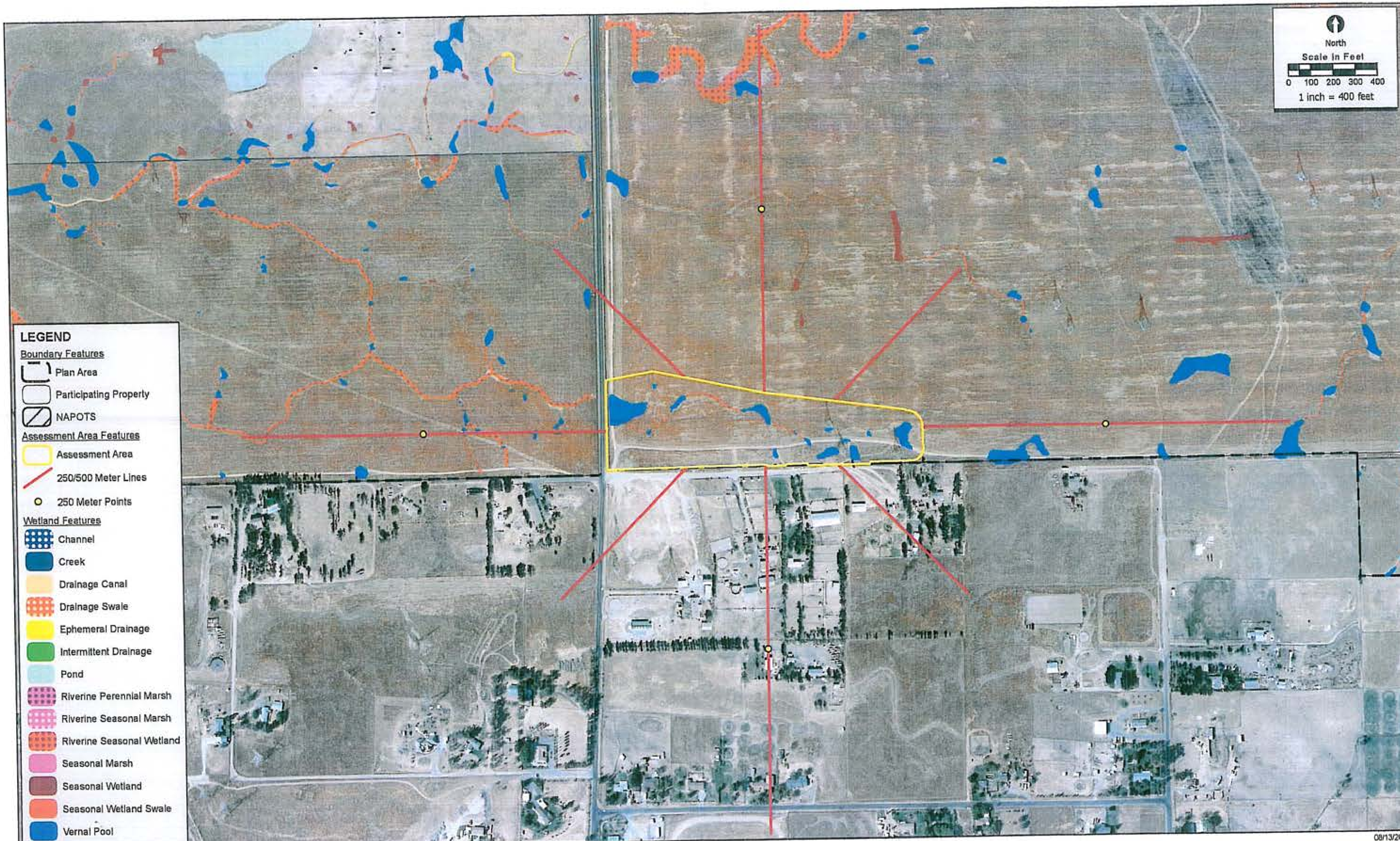
Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	B	9				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.35	Final Attribute Score= (Raw Score/24) x 100	55.6
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				6	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation				7.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				12.5	Final Attribute Score=(Raw Score/24) x 100	52.1
Overall AA Score (Average of four final attribute scores)						59.22

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 6		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Polygonum arenastrum	☐	☐
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐

Assessment Area 6	N
Total Invasive Species:	**3**
Total Endemic Species:	**1**
Total Other Species:	**1**
Total Number Unique Species:	**5**



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CRAM Assessment Area 6

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 7	
Assessment No.	Date: 9/9/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 7

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8

Attribute 2: Hydrology Attribute				
	Alpha	Numeric		
Water Source:	A	12		
Hydroperiod:	A	12		
Hydrologic Connectivity:	A	12		
Raw Attribute Score = sum of numeric scores:		36	Final Attribute Score= (Raw Score/36) x 100	100

Attribute 3: Physical Structure Attribute				
	Alpha	Numeric		
Structural Patch Richness:	C	6		
Topographic Complexity:		6	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:		12	Final Attribute Score= (Raw Score/24) x 100	50

Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				7.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				15.5	Final Attribute Score=(Raw Score/24) x 100	64.6

Overall AA Score (Average of four final attribute scores)	67.6

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 7		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Phalaris species	☐	☐
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Lythrum hyssopifolium	☑	☐
Downingia species	☐	☑
Convolvulus arvensis	☐	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Convolvulus arvensis	☐	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Convolvulus arvensis	☐	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Juncus bufonius	☐	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Convolvulus arvensis	☐	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 7	N
Total Invasive Species:	4
Total Endemic Species:	3
Total Other Species:	3
Total Number Unique Species:	10

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08/13/2009

CRAM Assessment Area 7

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider
Assessment Area Name: 8
Assessment No.   Date: 8/27/2009
Assessment Team Members for This AA
Daria Snider
Peter Balfour

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 8

Vernal Pool System AA: Vernal Pool System

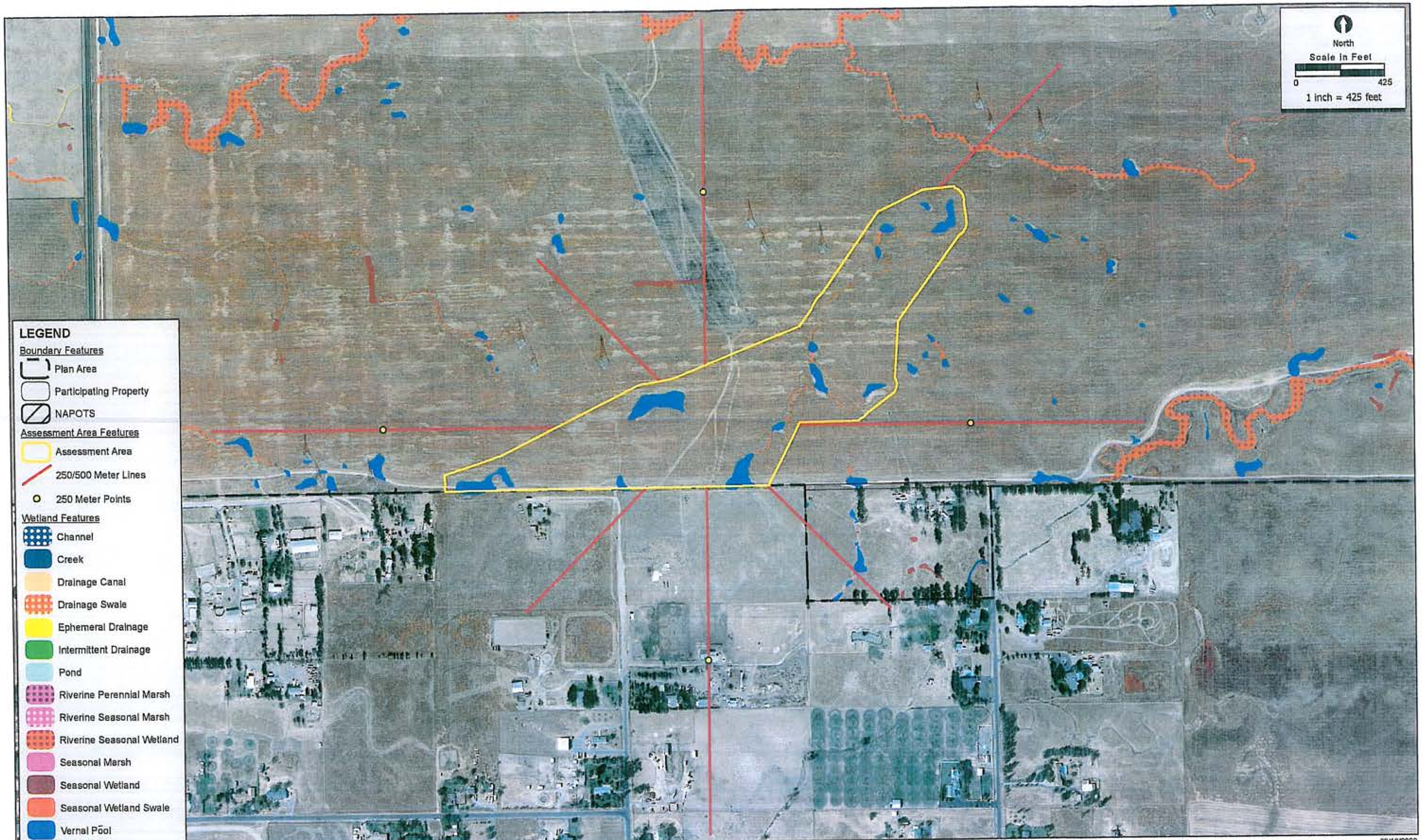
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				11.49	Final Attribute Score= (Raw Score/24) x 100	47.9
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				8	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				11	Final Attribute Score= (Raw Score/24) x 100	45.8
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				17.5	Final Attribute Score=(Raw Score/24) x 100	72.9
Overall AA Score (Average of four final attribute scores)						64.57

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 8		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Lasthenia glabberima	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Eleocharis macrostachya	☐	☑
Lasthenia glabberima	☐	☑
Glyceria declinata	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Juncus bufonius	☐	☐
Lolium multiflorum	☑	☐
Phalaris minor	☐	☐
Hordeum marinum	☑	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Hordeum marinum	☑	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 8	N
Total Invasive Species:	3
Total Endemic Species:	4
Total Other Species:	3
Total Number Unique Species:	10



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CRAM Assessment Area 8

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 9	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 9

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				15.39	Final Attribute Score= (Raw Score/24) x 100	64.1
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			B	9		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)						66.03

Co-dominant species richness for Vernal Pool

Assessment Area Name: 9		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Deschampsia danthenioides	☐	☑
Gnaphalium palustre	☐	☐
Downingia species	☐	☑
Eremocarpus setigerus	☐	☐
Glyceria declinata	☑	☐
Lythrum hyssopifolium	☑	☐

Assessment Area 9	N
Total Invasive Species:	2
Total Endemic Species:	3
Total Other Species:	2
Total Number Unique Species:	7

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CRAM Assessment Area 9

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 10	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 10

Vernal Pool System AA: Vernal Pool System

			Alpha	Numeric	Comments	
Attribute 1: Buffer and Landscape Context						
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	**Final Attribute Score= (Raw Score/24) x 100**	55.8
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	**Final Attribute Score= (Raw Score/36) x 100**	100
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				7	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16	**Final Attribute Score= (Raw Score/24) x 100**	66.7
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				7	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16	**Final Attribute Score=(Raw Score/24) x 100**	66.7
Overall AA Score (Average of four final attribute scores)						72.3

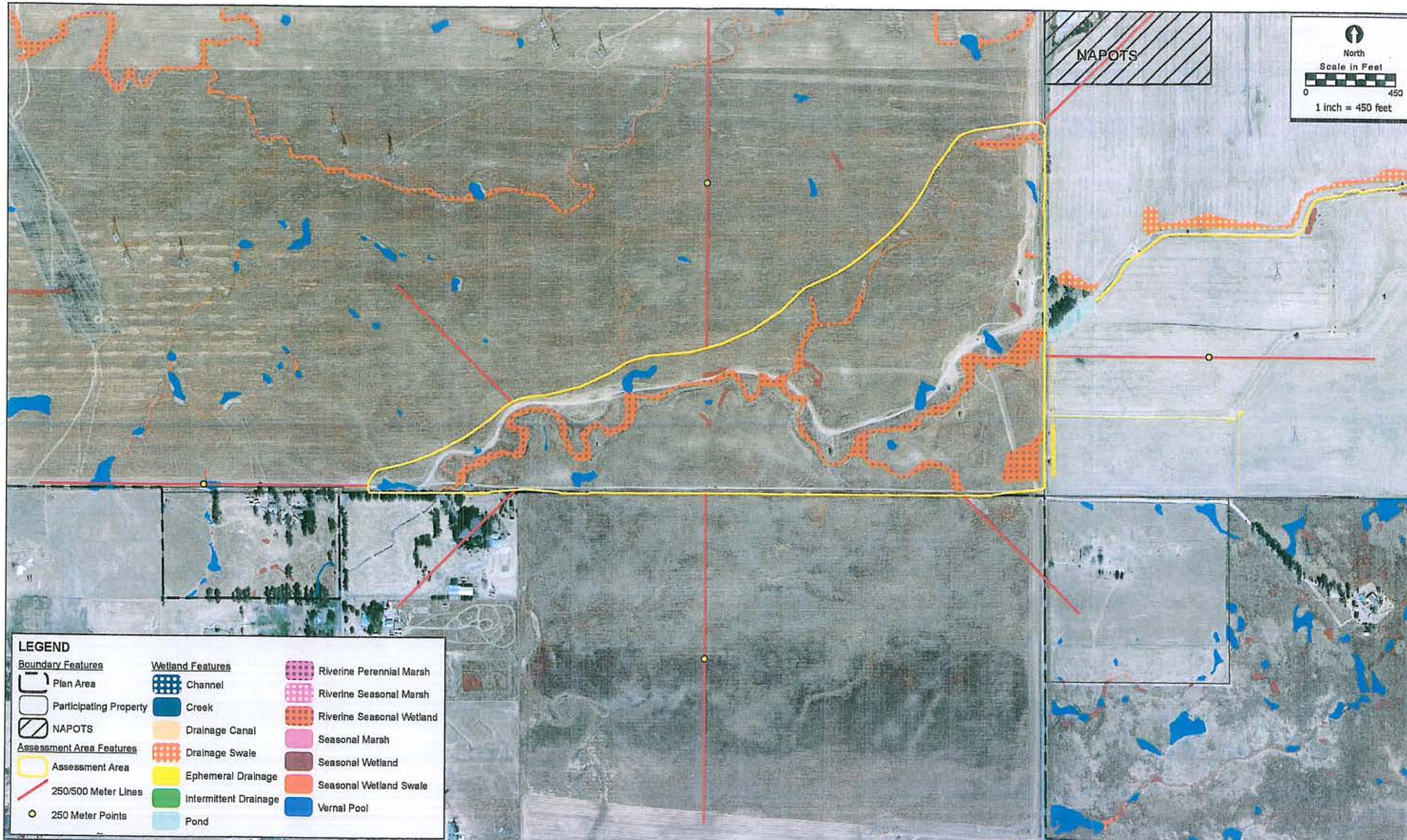
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 10

Species List for Large Pool 1	Invasive Species	Endemic Species
Polygonum arenastrum	☐	☐
Lolium multiflorum	☑	☐
Lythrum hyssopifolium	☑	☐
Convolvulus arvensis	☐	☐
Juncus bufonius	☐	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Polygonum arenastrum	☐	☐
Deschampsia danthenioides	☐	☑
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eryngium vaseyi	☐	☑
Lasthenia glabberima	☐	☑
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Ranunculus bonariensis	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hordeum marinum	☑	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Polygonum arenastrum	☐	☐
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Co-dominant species richness for Vernal Pool System

Assessment Area 10	N
Total Invasive Species:	4
Total Endemic Species:	5
Total Other Species:	4
Total Number Unique Species:	13



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08/13/2009

CRAM Assessment Area 10

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 11	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Daria Snider	
Pete Balfour	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 11

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/36) x 100	44.4
Overall AA Score (Average of four final attribute scores)						60.22

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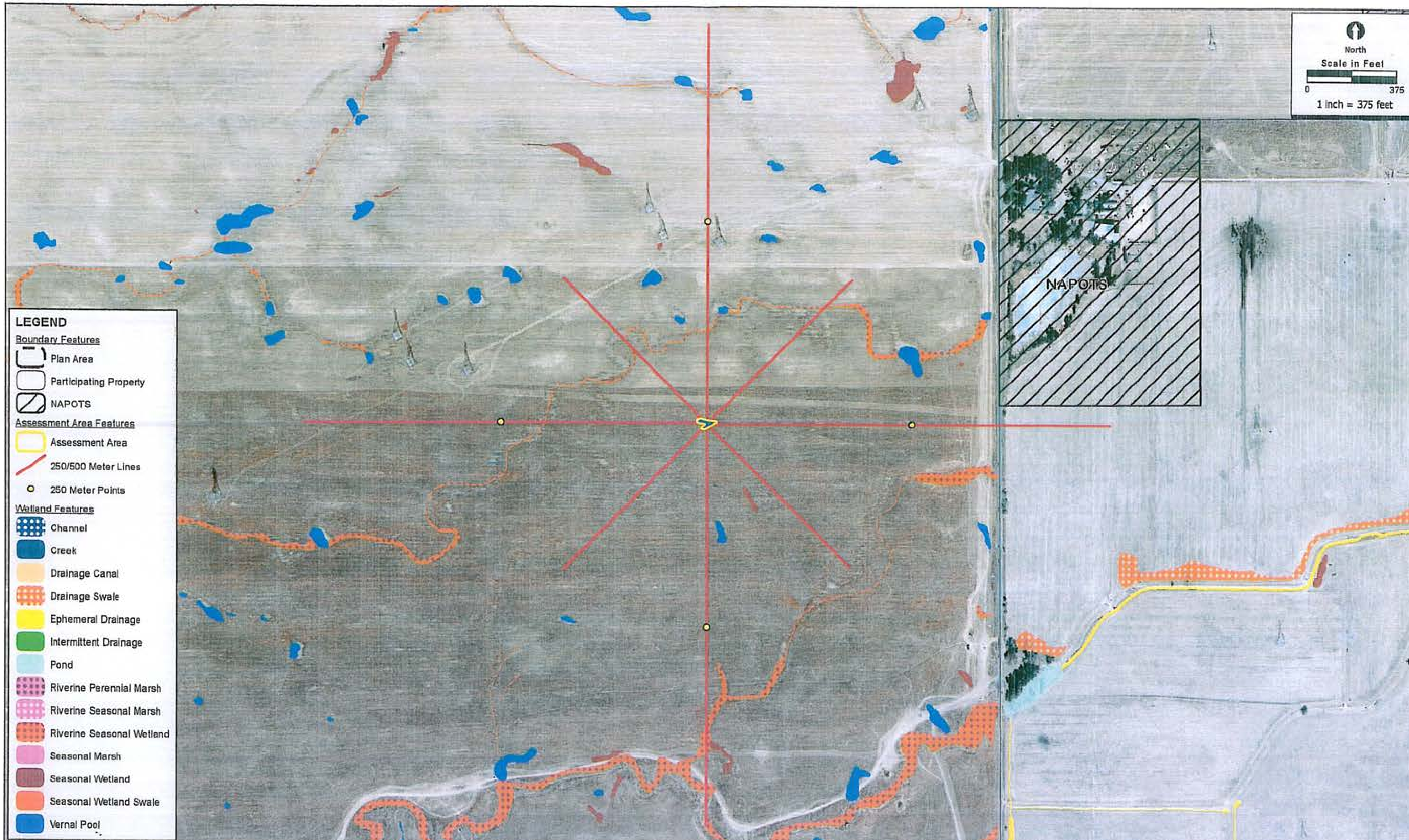
Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 11	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑



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08/13/2009

CRAM Assessment Area 11

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 12	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 12

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				14	Final Attribute Score= (Raw Score/24) x 100	58.3
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				9	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				17	Final Attribute Score=(Raw Score/24) x 100	70.8
Overall AA Score (Average of four final attribute scores)						71.23

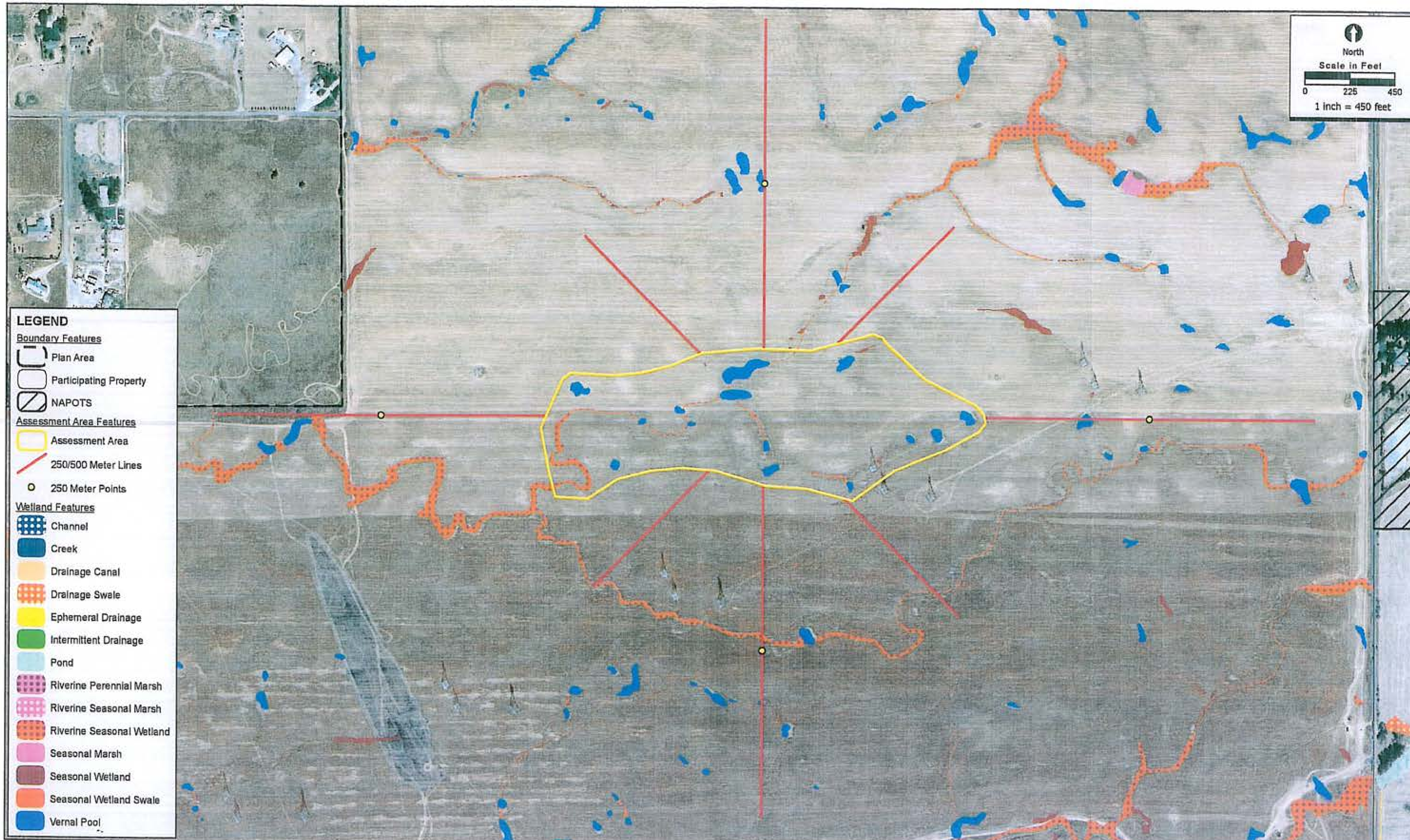
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 12		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Juncus bufonius	☐	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Hemizonia fitchii	☐	☐
Convolvulus arvensis	☐	☐
Polypogon monspeliensis	☑	☐
Juncus bufonius	☐	☐
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Juncus bufonius	☐	☐
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Phalaris species	☐	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Briza minor	☐	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Co-dominant species richness for Vernal Pool System

Spergularia arvensis	☐	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Juncus bufonius	☐	☐
Phalaris species	☐	☐

Assessment Area 12	N
Total Invasive Species:	4
Total Endemic Species:	2
Total Other Species:	6
Total Number Unique Species:	12



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CRAM Assessment Area 12

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 13	
Assessment No.	Date: 9/9/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 13

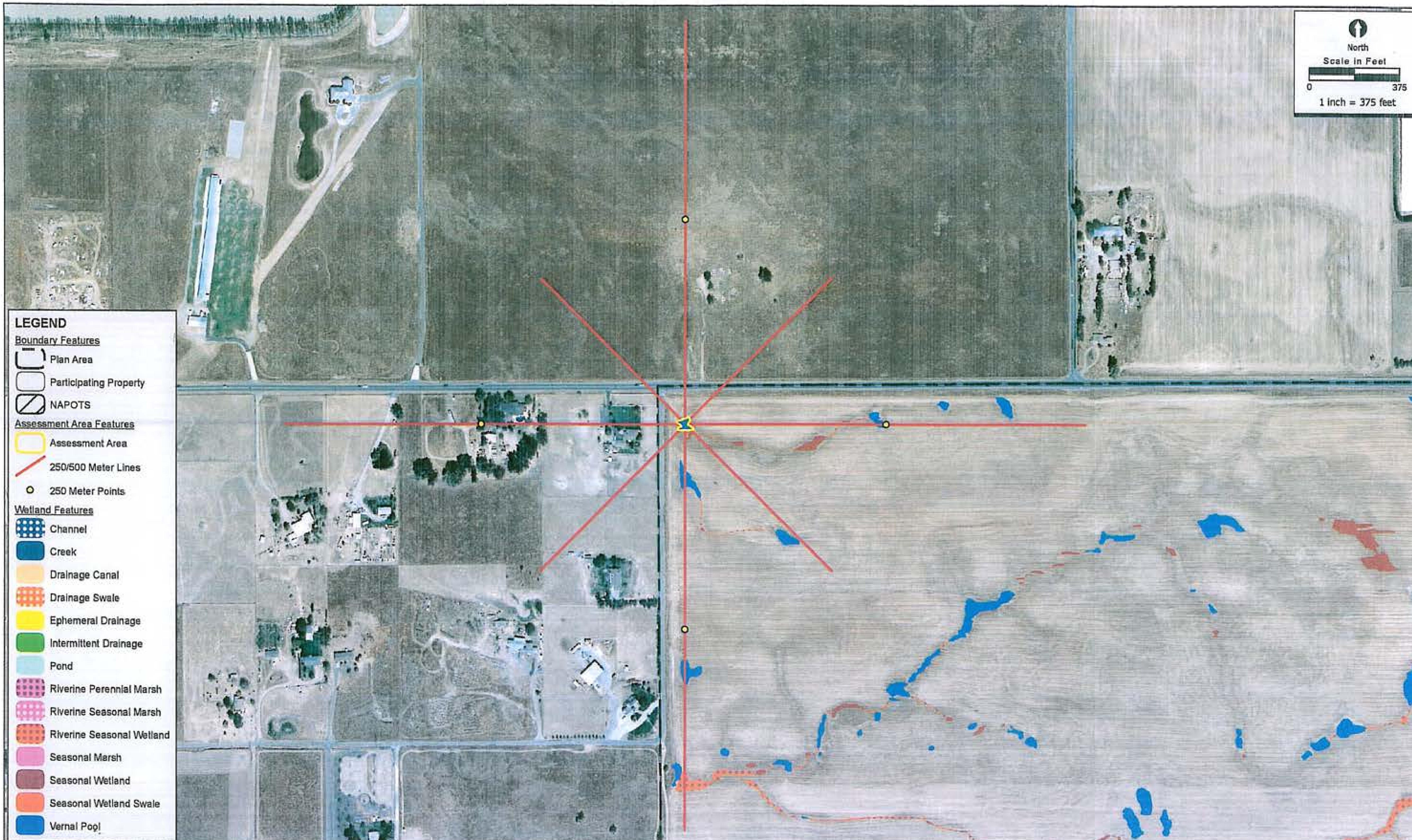
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	C	6				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				15.39	Final Attribute Score= (Raw Score/24) x 100	64.1
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Raw Attribute Score = sum of numeric scores:				13	Final Attribute Score=(Raw Score/24) x 100	54.2
Overall AA Score (Average of four final attribute scores)						63.95

Co-dominant species richness for Vernal Pool

Assessment Area Name: 13		
Species List for Vernal Pool	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Glyceria declinata	☑	☐

Assessment Area 13	N
Total Invasive Species:	2
Total Endemic Species:	1
Total Other Species:	0
Total Number Unique Species:	3



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CRAM Assessment Area 13

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 14	
Assessment No.	Date: 9/9/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 14

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				6	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				8	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/24) x 100	66.7
Overall AA Score (Average of four final attribute scores)						71.25

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ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 14		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Juncus bufonius	☐	☐
Spergularia arvensis	☐	☐
Hemizonia fitchii	☐	☐
Glyceria declinata	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Juncus bufonius	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Glyceria declinata	☑	☐
Hemizonia fitchii	☐	☐
Phalaris species	☐	☐
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Juncus bufonius	☐	☐
Hemizonia fitchii	☐	☐
Eremocarpus setigerus	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Briza minor	☐	☐
Juncus bufonius	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Leontodon taraxacoides	☐	☐
Lolium multiflorum	☑	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 14	N
Total Invasive Species:	2
Total Endemic Species:	1
Total Other Species:	7
Total Number Unique Species:	10

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CRAM Assessment Area 14

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Freshwater Marsh

Your Name: Daria Snider	
Assessment Area Name: 15	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☑ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☐ other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☑ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 15

Depressional Wetland AA: Freshwater Marsh

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				26	Final Attribute Score=(Raw Score/36) x 100	72.2
Overall AA Score (Average of four final attribute scores)						74.47

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 15	AA Type: Freshwater Marsh
Plant Layer: Short	**Invasive Species?**
Plagiobothrys stipitatus	☐
Gnaphalium luteo-album	☐
Eremocarpus setigerus	☐
Lolium multiflorum	☑
Polypogon monspeliensis	☑

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08/13/2009

CRAM Assessment Area 15

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 16	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 16

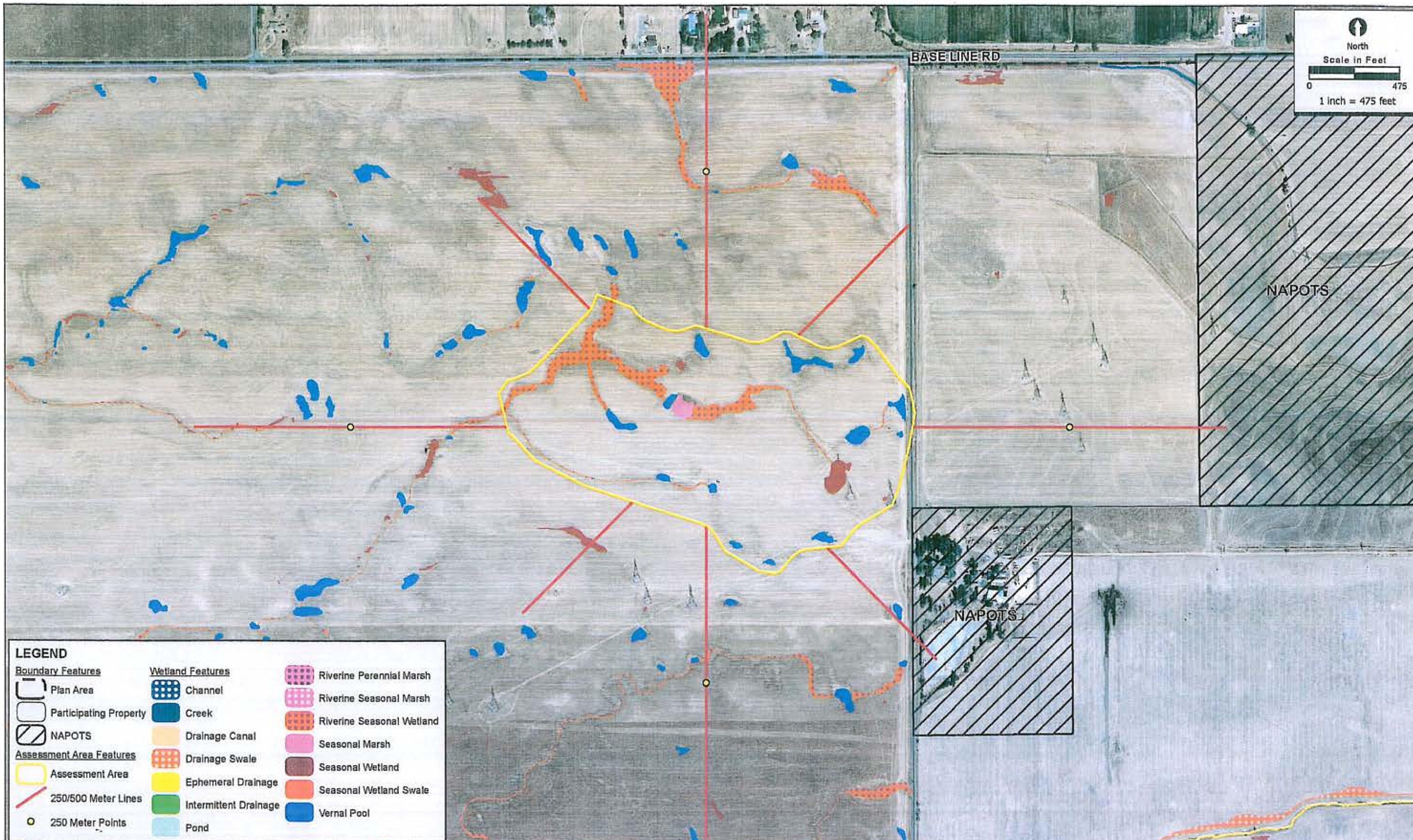
Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				4.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				13.5	Final Attribute Score= (Raw Score/24) x 100	56.2
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation				5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				11	Final Attribute Score=(Raw Score/24) x 100	45.8
Overall AA Score (Average of four final attribute scores)						62.38

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 16		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Glyceria declinata	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Polypogon monspeliensis	☑	☐
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Spergularia arvensis	☐	☐
Lolium multiflorum	☑	☐
Leontodon taraxacoides	☐	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Spergularia arvensis	☐	☐

Assessment Area 16	N
Total Invasive Species:	3
Total Endemic Species:	0
Total Other Species:	3
Total Number Unique Species:	6



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08/13/2009

CRAM Assessment Area 16

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes	
Assessment Area Name: 17	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 17

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/24) x 100	79.2
Overall AA Score (Average of four final attribute scores)						74.38

Co-dominant species richness for Vernal Pool

Assessment Area Name: 17		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Eremocarpus setigerus	☐	☐
Glyceria declinata	☑	☐
Lythrum hyssopifolium	☑	☐
Ranunculus bonariensis	☐	☑
Deschampsia danthenioides	☐	☑
Leontodon taraxacoides	☐	☐
Lolium multiflorum	☑	☐

Assessment Area 17	N
Total Invasive Species:	3
Total Endemic Species:	2
Total Other Species:	2
Total Number Unique Species:	7

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CRAM Assessment Area 17

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes	
Assessment Area Name: 18	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Eric Stitt	
Debra Sykes	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 18

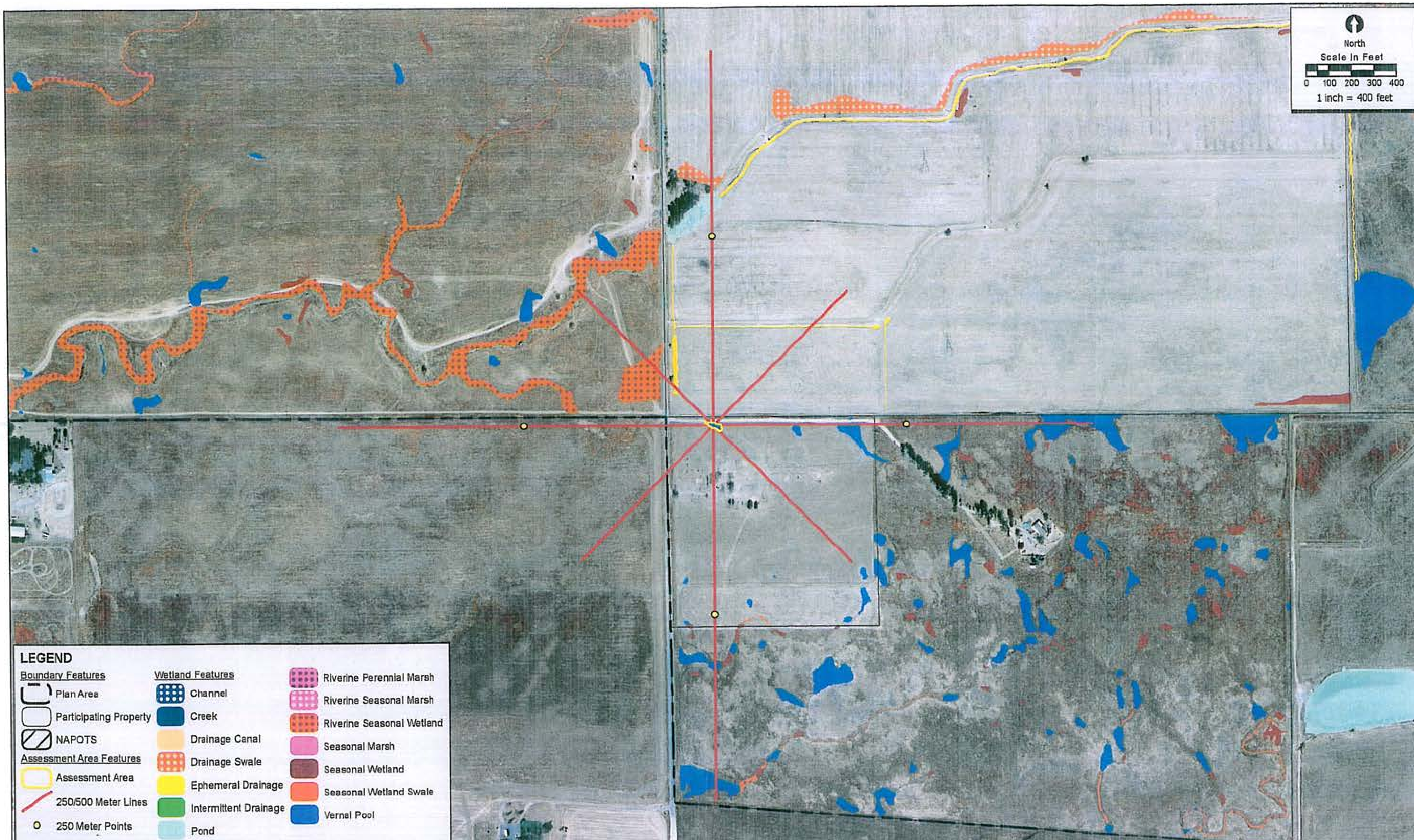
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			B	9		
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/24) x 100	66.7
Overall AA Score (Average of four final attribute scores)						66.85

Co-dominant species richness for Vernal Pool

Assessment Area Name: 18		
Species List for Vernal Pool	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lythrum hyssopifolium	☑	☐
Eremocarpus setigerus	☐	☐
Hemizonia fitchii	☐	☐
Juncus bufonius	☐	☐
Polypogon monspeliensis	☑	☐

Assessment Area 18	N
Total Invasive Species:	**2**
Total Endemic Species:	**1**
Total Other Species:	**3**
Total Number Unique Species:	**6**



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08/13/2009

CRAM Assessment Area 18

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Debra Sykes

Assessment Area Name: 19

Assessment No.		Date: 8/18/2009

Assessment Team Members for This AA

Eric Stitt

Debra Sykes

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 19

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				19.39	Final Attribute Score= (Raw Score/24) x 100	80.8
Attribute 2: Hydrology Attribute			**Alpha**	**Numeric**		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute			**Alpha**	**Numeric**		
Structural Patch Richness:			B	9		
Topographic Complexity:				7	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score= (Raw Score/24) x 100	66.7
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				10	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)						80.62

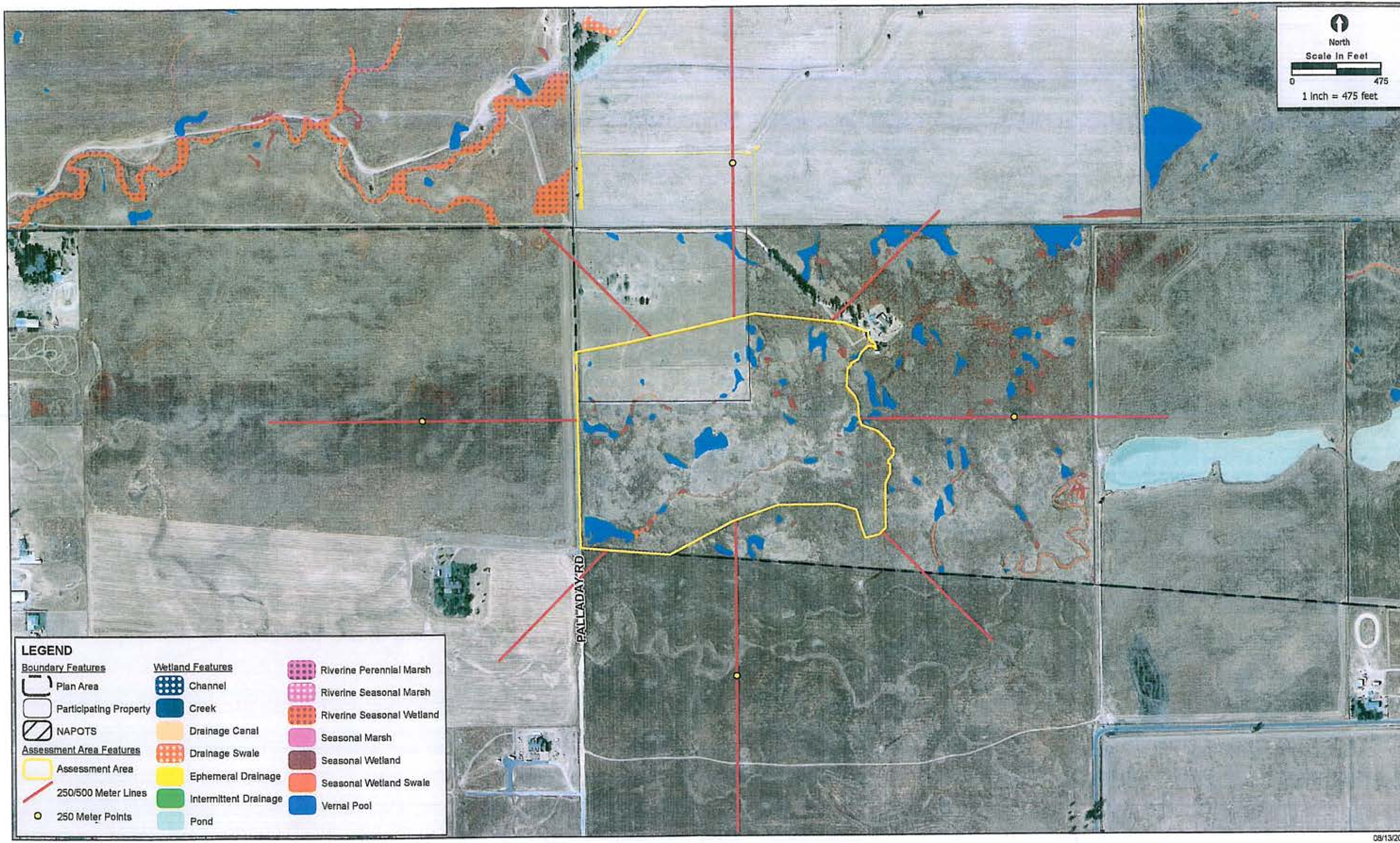
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 19		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Leontodon taraxacoides	☐	☐
Eryngium vaseyi	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Polypogon monspeliensis	☑	☐
Lasthenia glabberima	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Eryngium vaseyi	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Eryngium vaseyi	☐	☑
Phalaris species	☐	☐
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Taeniatherum caput-medusae	☑	☐
Hemizonia fitchii	☐	☐
Bromus hordeaceus	☑	☐
Hordeum marinum	☑	☐
Vulpia bromoides	☐	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Bromus hordeaceus	☑	☐
Hordeum marinum	☑	☐
Taeniatherum caput-medusae	☑	☐
Rumex crispus	☑	☐
Lolium multiflorum	☑	☐
Deschampsia danthenioides	☐	☑

Co-dominant species richness for Vernal Pool System

Species List for Small pool 3	Invasive Species	Endemic Species
Lasthenia glabberima	☐	☑
Rumex crispus	☑	☐
Lolium multiflorum	☑	☐
Bromus hordeaceus	☑	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Assessment Area 19	**N**
Total Invasive Species:	**6**
Total Endemic Species:	**4**
Total Other Species:	**4**
Total Number Unique Species:	**14**



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08/13/2009

CRAM Assessment Area 19

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 20	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Jinnah Benn	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 20

Vernal Pool System AA: Vernal Pool System

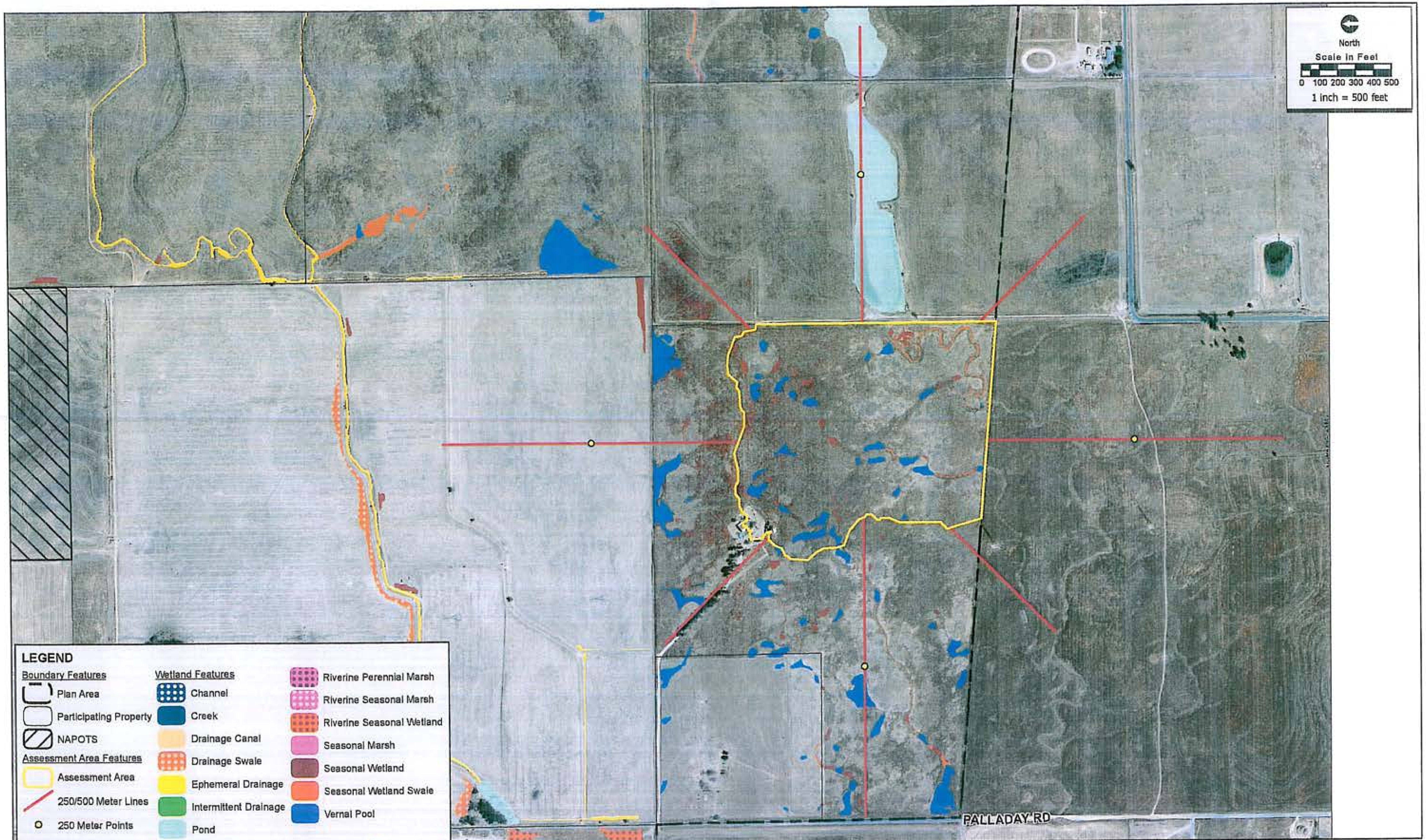
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			A	12		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				22.39	Final Attribute Score= (Raw Score/24) x 100	93.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				5.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				14.5	Final Attribute Score= (Raw Score/24) x 100	60.4
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				7.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				15.5	Final Attribute Score=(Raw Score/24) x 100	64.6
Overall AA Score (Average of four final attribute scores)						75.4

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 20		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eleocharis macrostachya	☐	☑
Lasthenia glabberima	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 20	N
Total Invasive Species:	2
Total Endemic Species:	4
Total Other Species:	0
Total Number Unique Species:	6



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CRAM Assessment Area 20

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 21	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

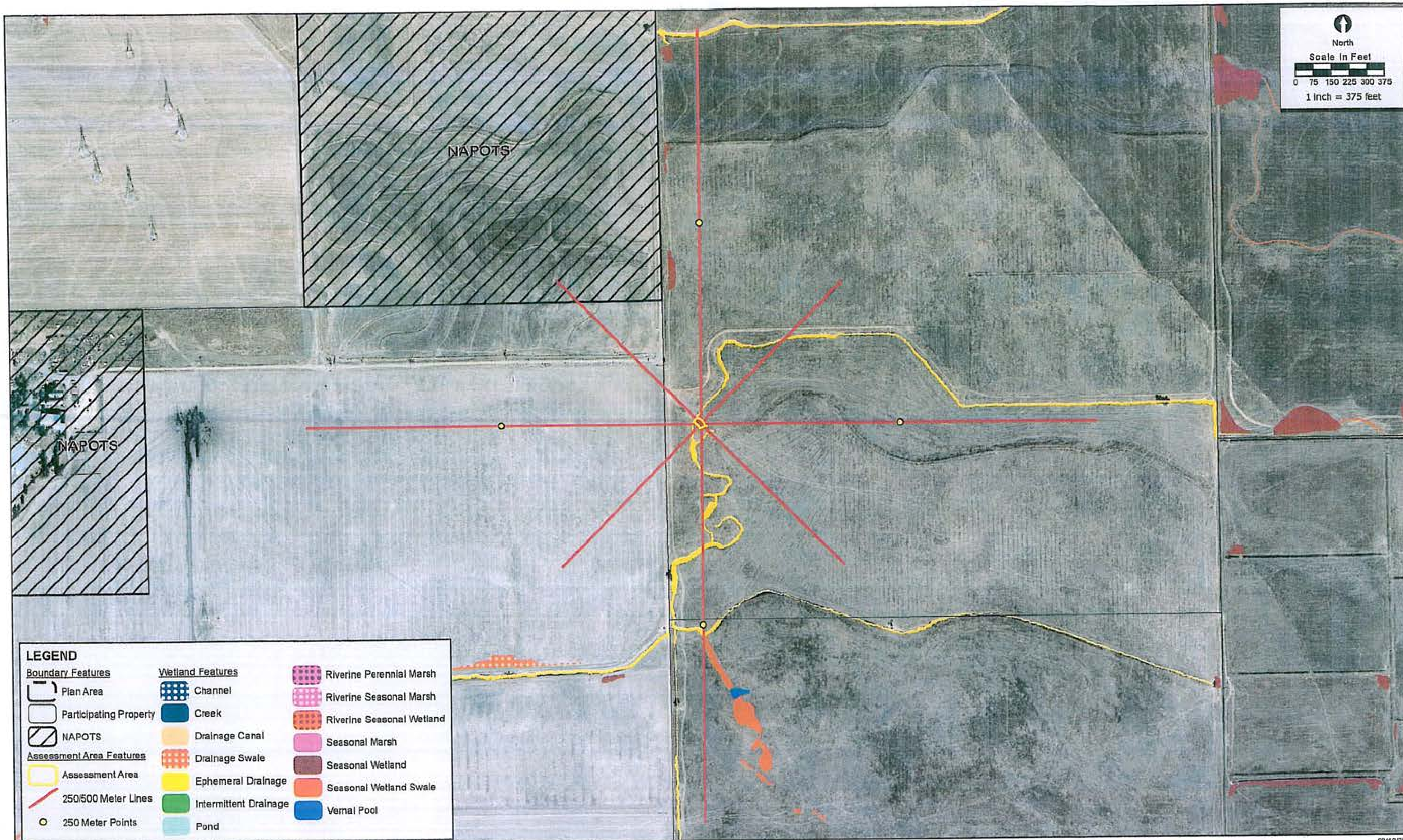
CRAM Scoring Sheet for Assessment Area 21

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			D	3		
Raw Attribute Score = sum of numeric scores:				13	Final Attribute Score=(Raw Score/36) x 100	36.1
Overall AA Score (Average of four final attribute scores)						58.15

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 21	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Polypogon monspeliensis	☑
Polygonum arenastrum	☐



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CRAM Assessment Area 21

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 22	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Daria Snider	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 22

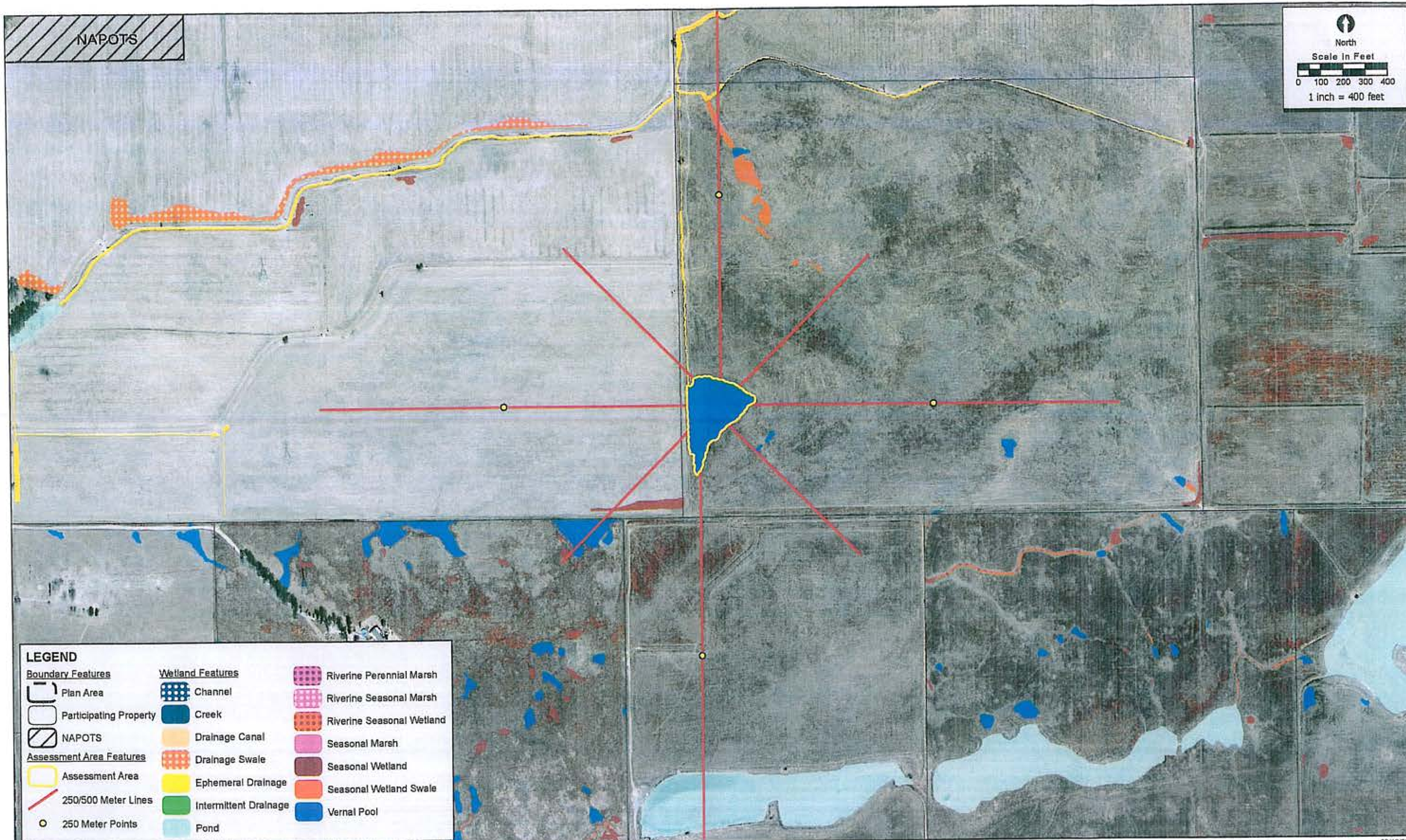
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			C	6		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score= (Raw Score/24) x 100	75
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						78.3

Co-dominant species richness for Vernal Pool

Assessment Area Name: 22		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Eleocharis aciculuaris	☐	☑
Lasthenia glabberima	☐	☑
Trichostema lanceolatum	☐	☐

Assessment Area 22	N
Total Invasive Species:	2
Total Endemic Species:	3
Total Other Species:	2
Total Number Unique Species:	7



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CRAM Assessment Area 22

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 23	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Daria Snider	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 23

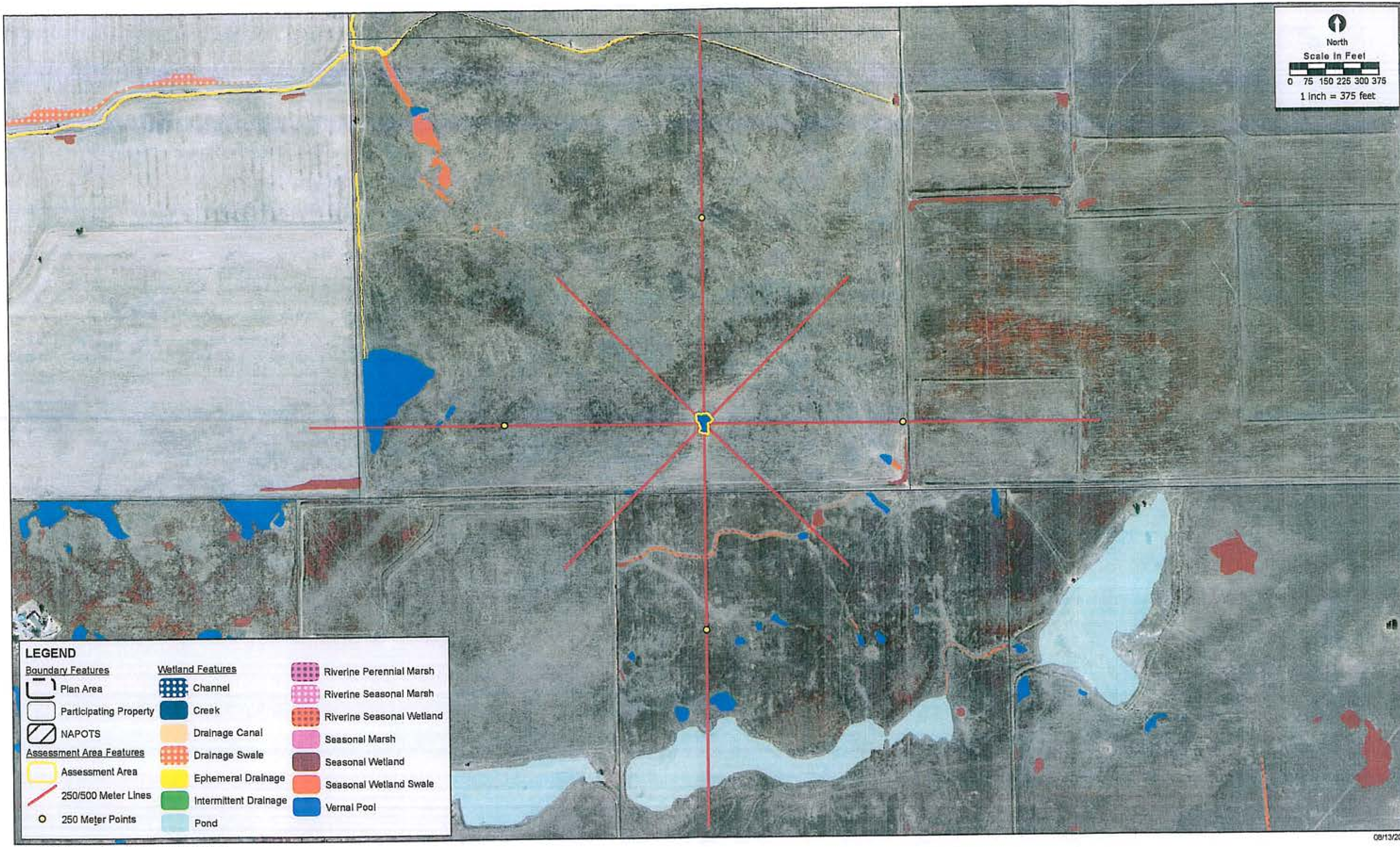
Individual Vernal Pool AA: Vernal Pool

			Alpha	Numeric	Comments	
Attribute 1: Buffer and Landscape Context						
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	**Final Attribute Score= (Raw Score/24) x 100**	71.5
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	**Final Attribute Score= (Raw Score/36) x 100**	100
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	**Final Attribute Score= (Raw Score/24) x 100**	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				19	**Final Attribute Score=(Raw Score/24) x 100**	79.2
Overall AA Score (Average of four final attribute scores)						75.18

Co-dominant species richness for Vernal Pool

Assessment Area Name: 23		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Polygonum arenastrum	☐	☐

Assessment Area 23	N
Total Invasive Species:	**1**
Total Endemic Species:	**1**
Total Other Species:	**3**
Total Number Unique Species:	**5**



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CRAM Assessment Area 23

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 24	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 24

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						78.3

Co-dominant species richness for Vernal Pool

Assessment Area Name: 24		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Polygonum arenastrum	☐	☐
Polypogon monspeliensis	☑	☐
Hemizonia fitchii	☐	☐
Lasthenia glabberima	☐	☑
Eremocarpus setigerus	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eleocharis macrostachya	☐	☑

Assessment Area 24	N
Total Invasive Species:	2
Total Endemic Species:	3
Total Other Species:	3
Total Number Unique Species:	8

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08/28/2009

CRAM Assessment Area 24

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider

Assessment Area Name: 25

Assessment No. | Date: 8/25/2009

Assessment Team Members for This AA

Daria Snider

Eric Stitt

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

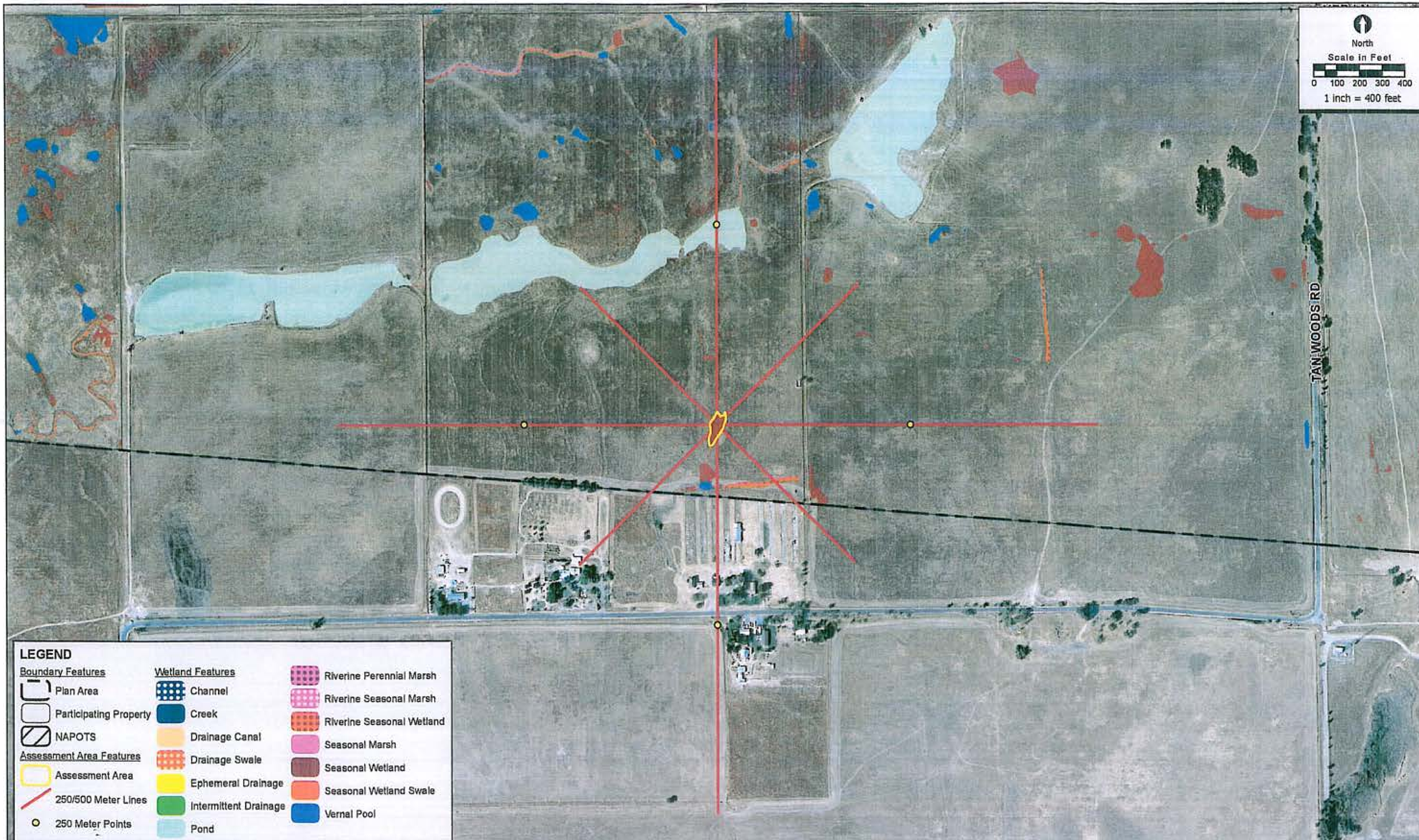
CRAM Scoring Sheet for Assessment Area 25

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						64.4

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 25	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Bromus hordeaceus	☑
Phalaris paradoxa	☐



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CRAM Assessment Area 25

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 26	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

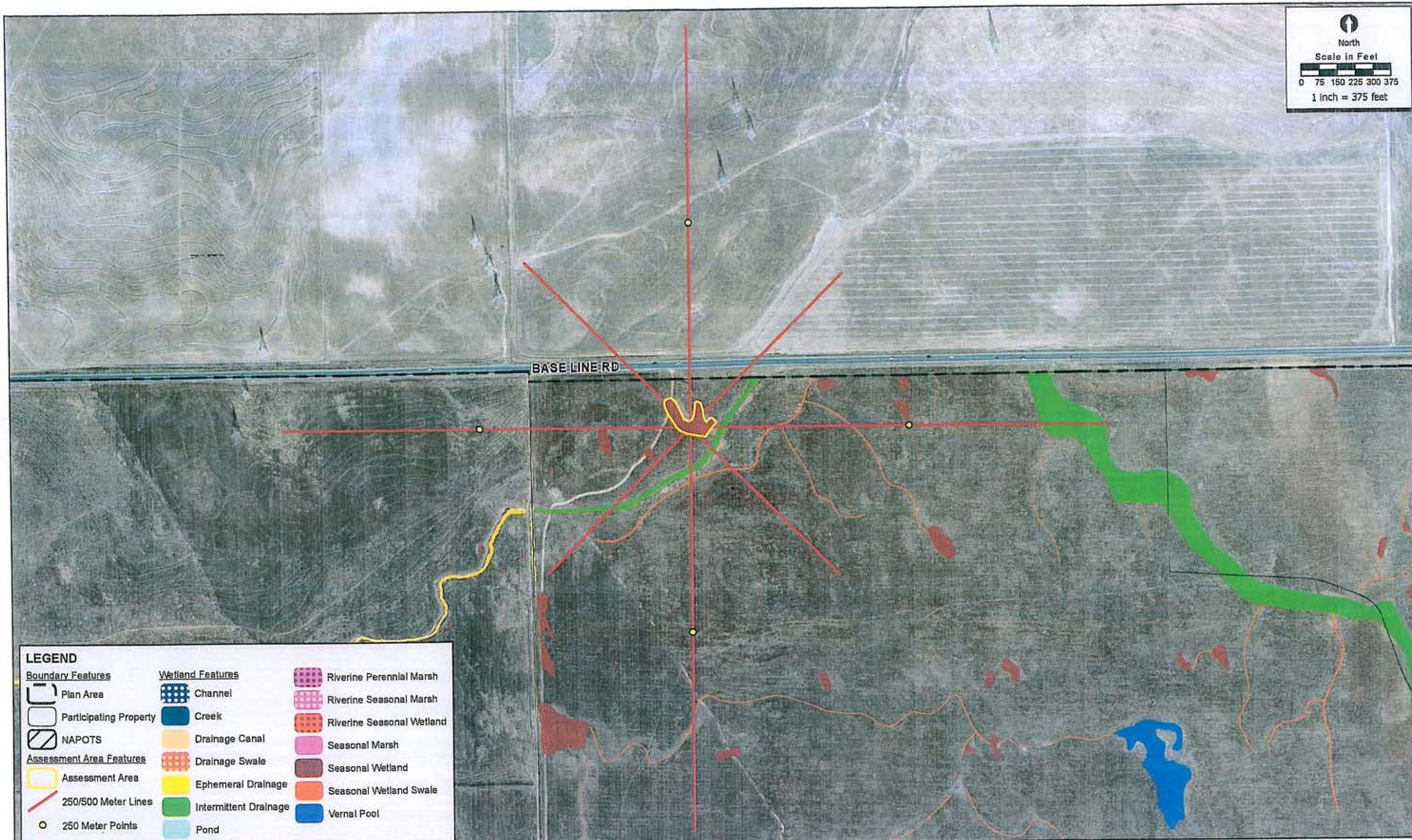
CRAM Scoring Sheet for Assessment Area 26

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context	Alpha	Numeric	Comments	
	Alpha	Numeric		
Landscape Connectivity (Metric A):	C	6		
Buffer (based on sub-metrics B-D)				
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12		
(C Submetric) Score for Buffer: Average Buffer Width:	B	9		
(D Submetric) Score for Buffer: Buffer Condition	B	9		
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)		16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute				
	Alpha	Numeric		
Water Source:	A	12		
Hydroperiod:	A	12		
Hydrologic Connectivity:	A	12		
Raw Attribute Score = sum of numeric scores:		36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute				
	Alpha	Numeric		
Structural Patch Richness:	D	3		
Topographic Complexity:	D	3		
Raw Attribute Score = sum of numeric scores:		6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute				
Plant Community Composition (Based on sub-metrics A-C)				
Plant Community Submetric A: Number of Plant Layers	C	6		
Plant Community Submetric B: Number of Co-dominant species	B	9		
Plant Community Submetric C: Percent Invasion	C	6		
Plant Community Composition: (Average of submetrics A-C)		7		
Horizontal Interspersion and Zonation	A	12		
Vertical Biotic Structure	B	9		
Raw Attribute Score = sum of numeric scores:		28	Final Attribute Score=(Raw Score/36) x 100	77.8
Overall AA Score (Average of four final attribute scores)				67.78

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 26	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Plagiobothrys stipitatus	☐
Convolvulus arvensis	☐
Eryngium vaseyi	☐
Gnaphalium palustre	☐
Sonchus oleraceus	☐
Lythrum hyssopifolium	☑
Glyceria declinata	☑
Lolium multiflorum	☑
Eremocarpus setigerus	☐



08/13/2009

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CRAM Assessment Area 26

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes	
Assessment Area Name: 27	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 27

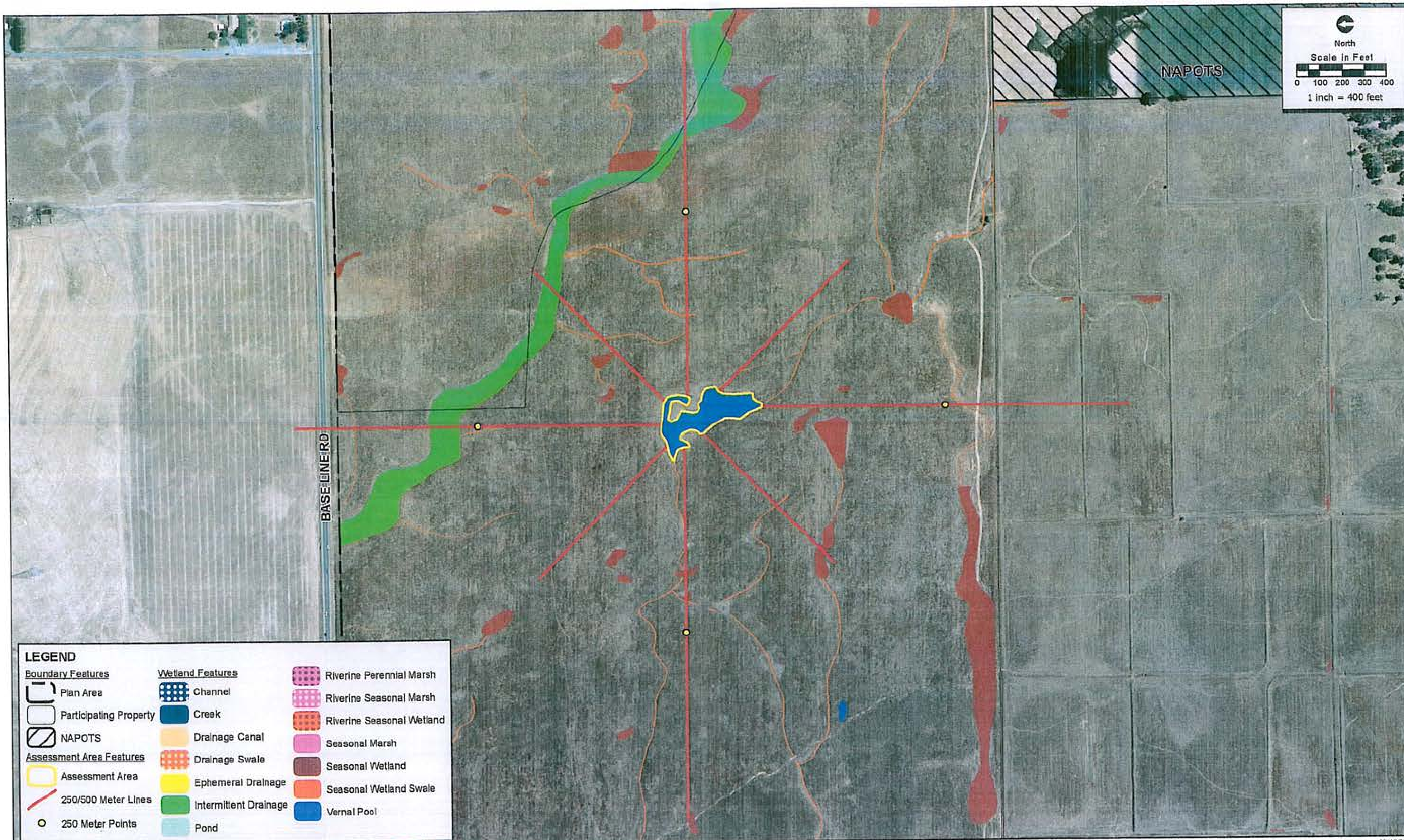
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						80.38

Co-dominant species richness for Vernal Pool

Assessment Area Name: 27		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Rumex crispus	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eryngium vaseyi	☐	☑
Convolvulus arvensis	☐	☐
Eremocarpus setigerus	☐	☐
Phalaris species	☐	☐
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐

Assessment Area 27	N
Total Invasive Species:	2
Total Endemic Species:	3
Total Other Species:	3
Total Number Unique Species:	8



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CRAM Assessment Area 27

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 28	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 28

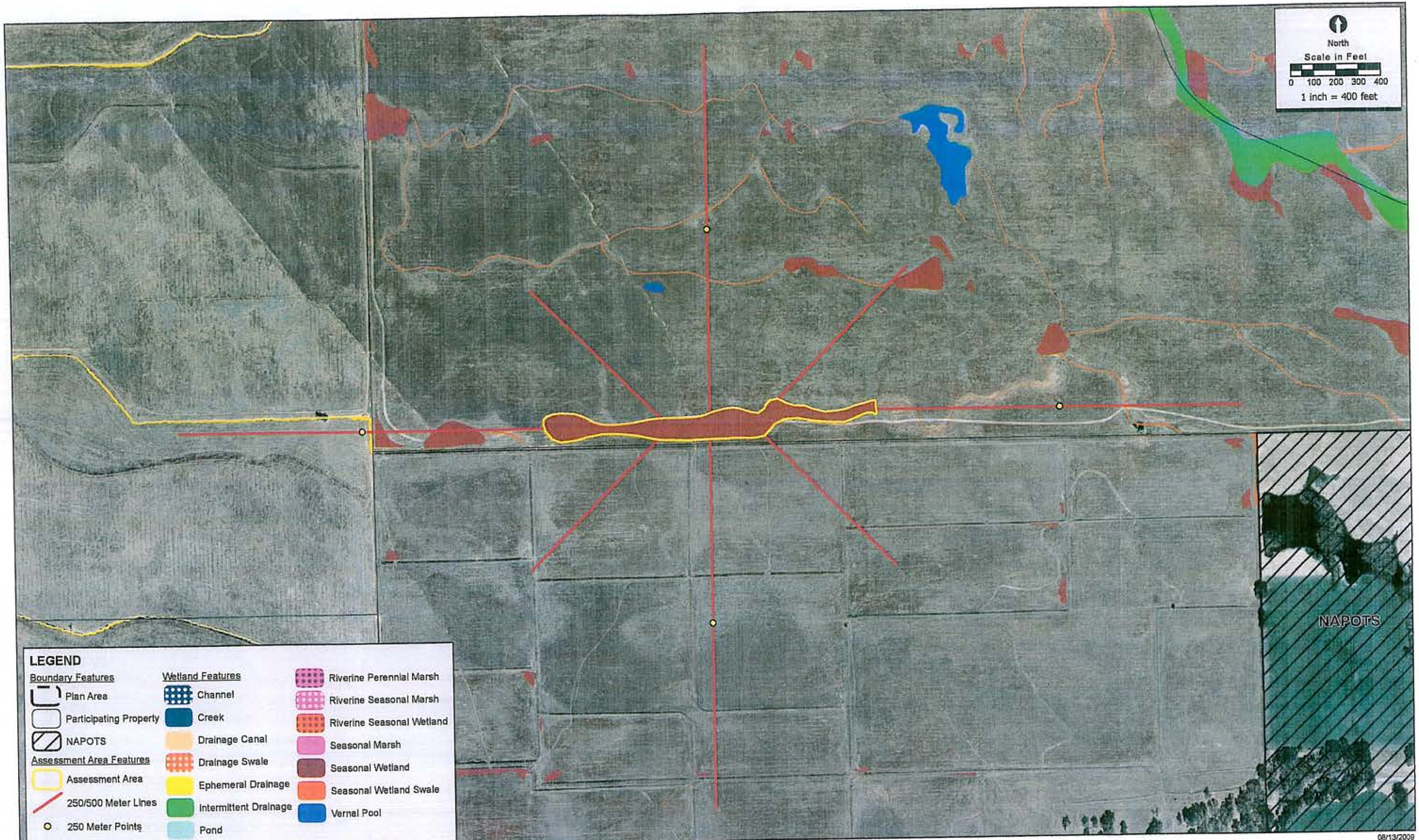
Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	B	9				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				26	Final Attribute Score=(Raw Score/36) x 100	72.2
Overall AA Score (Average of four final attribute scores)						70.3

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 28	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Lactuca serriola	☐
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Plant Layer: Tall	**Invasive Species?**
Lactuca serriola	☐



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ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

CRAM Assessment Area 28

2001-196 Placer Vineyards

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 29	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 29

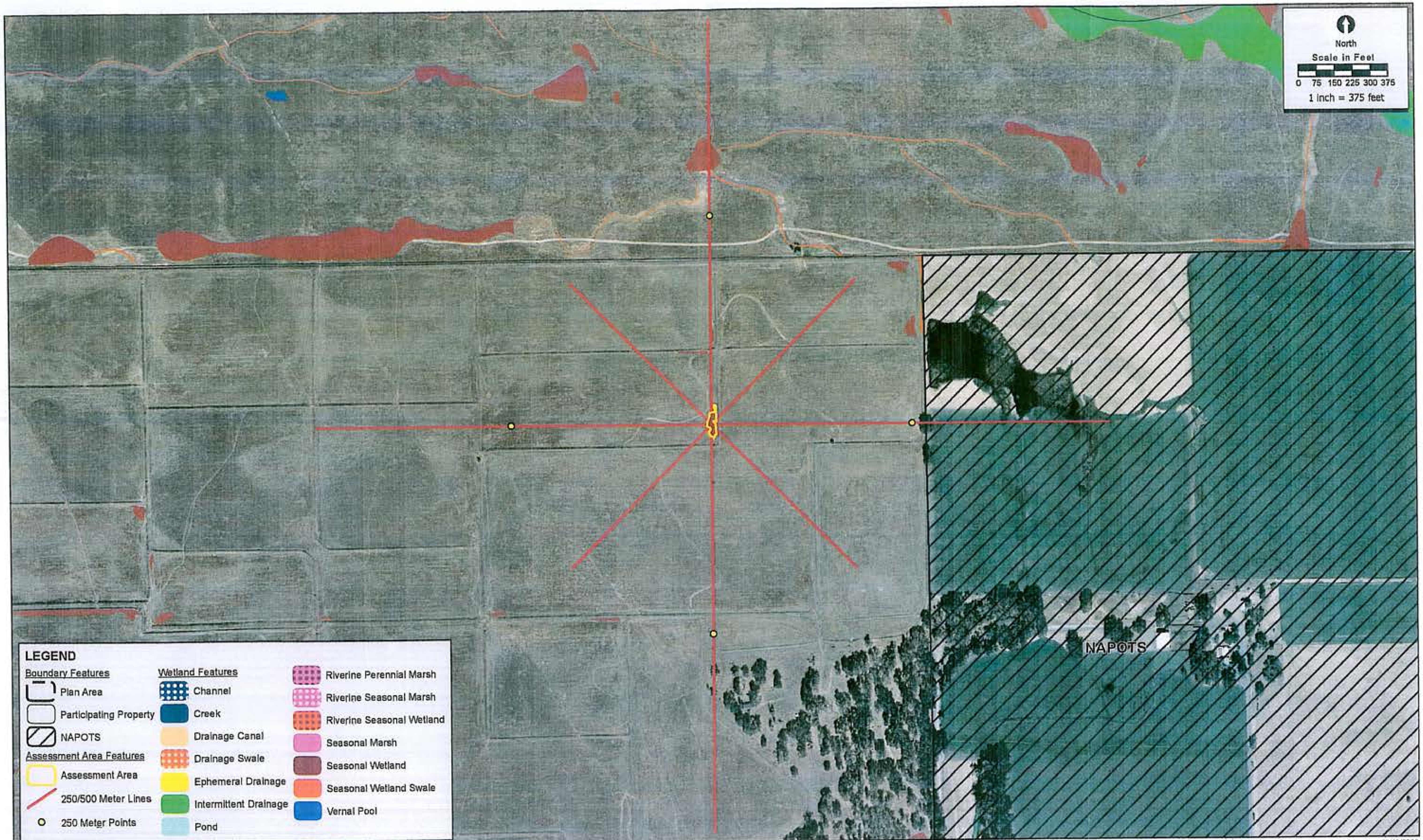
Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				25	Final Attribute Score=(Raw Score/36) x 100	69.4
Overall AA Score (Average of four final attribute scores)						62.3

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 29	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑



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CRAM Assessment Area 29

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider

Assessment Area Name: 30

Assessment No. | Date: 8/25/2009

Assessment Team Members for This AA

Daria Snider

Eric Stitt

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

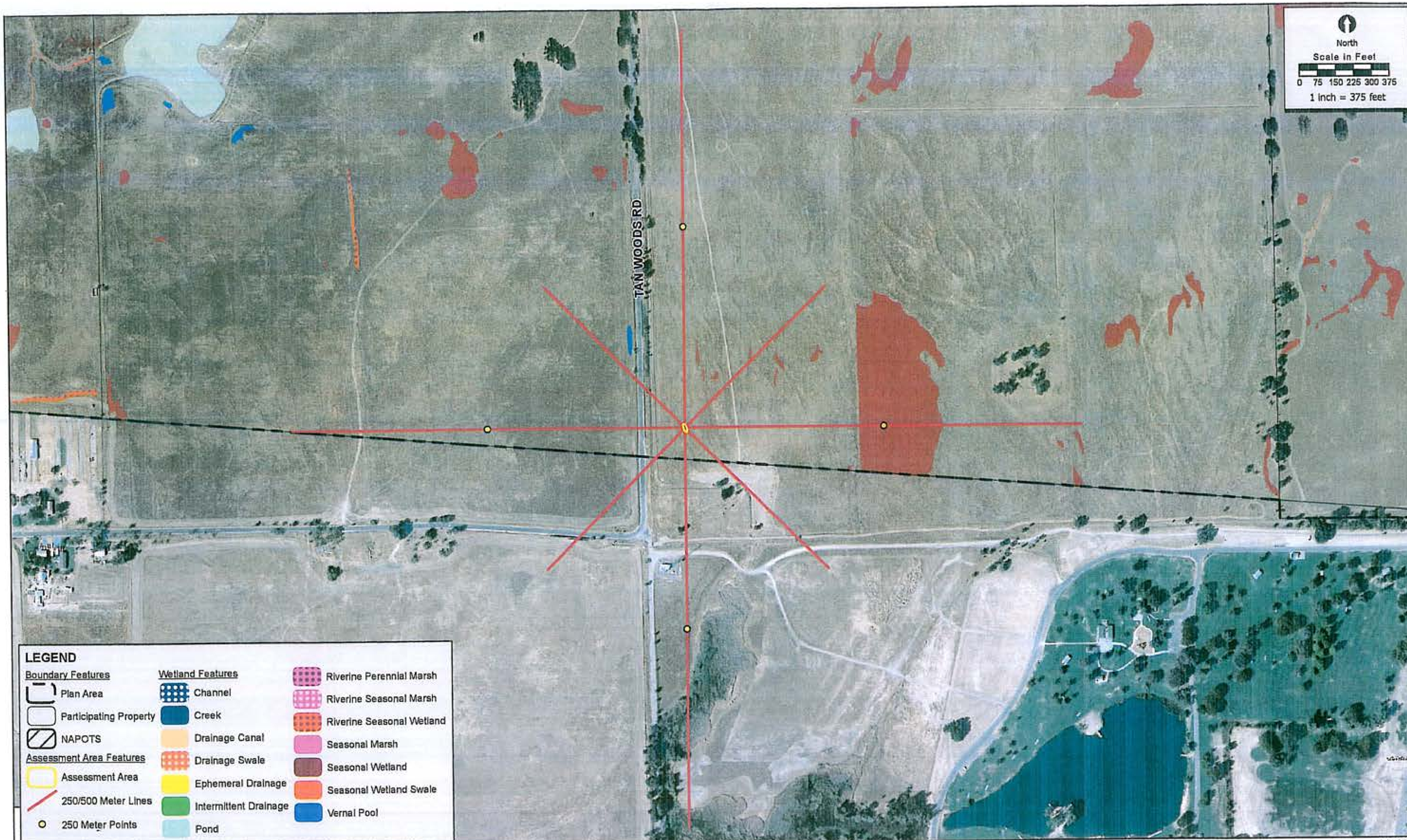
CRAM Scoring Sheet for Assessment Area 30

Depressional Wetland AA: Seasonal Wetland

					Comments	
Attribute 1: Buffer and Landscape Context						
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	**Final Attribute Score= (Raw Score/24) x 100**	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	**Final Attribute Score= (Raw Score/36) x 100**	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	**Final Attribute Score= (Raw Score/24) x 100**	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				16	**Final Attribute Score=(Raw Score/36) x 100**	44.4
Overall AA Score (Average of four final attribute scores)						63.35

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 30	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Bromus hordeaceus	☑
Vulpia bromoides	☐



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CRAM Assessment Area 30

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 31	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

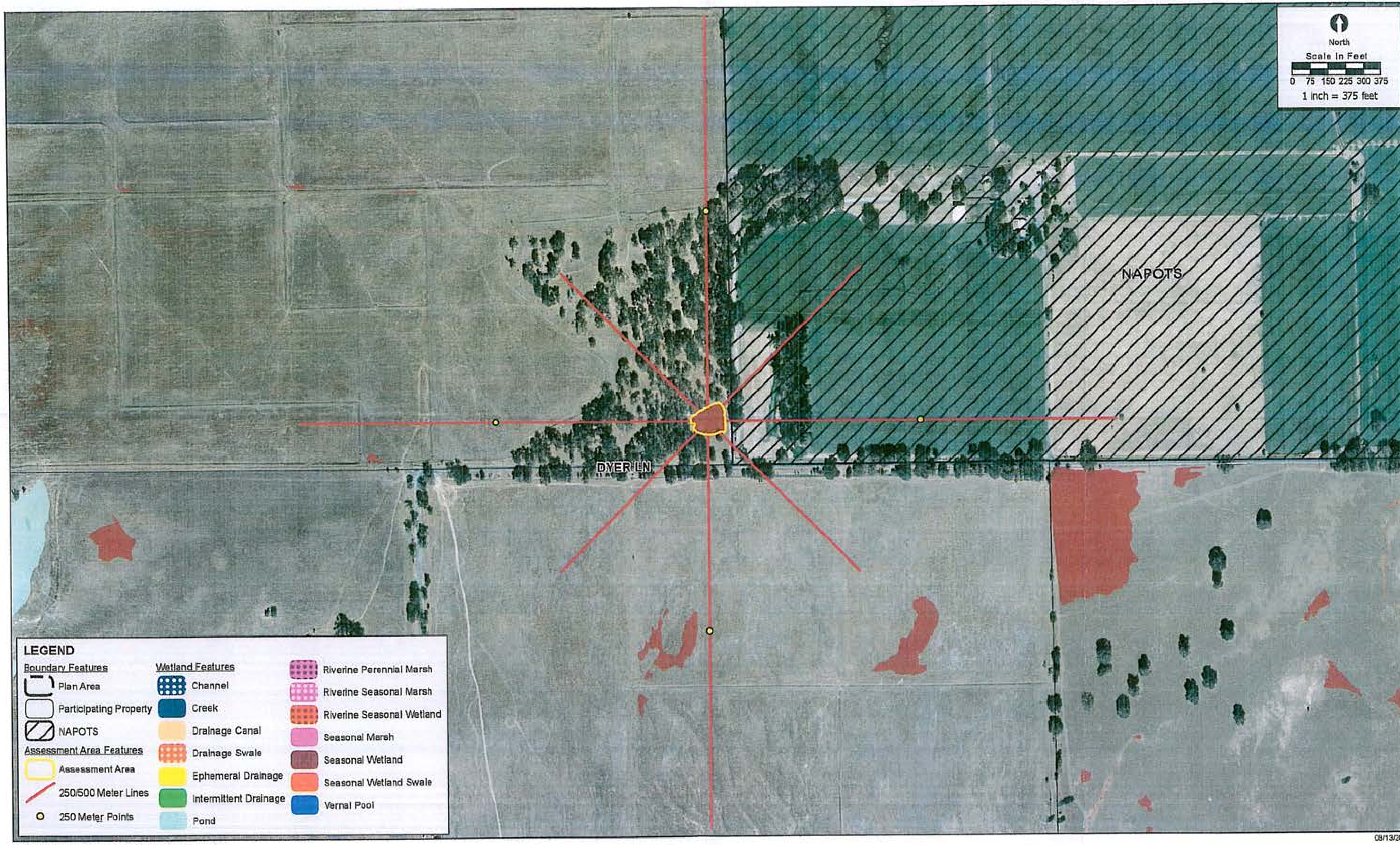
CRAM Scoring Sheet for Assessment Area 31

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						61.28

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 31	**AA Type: Seasonal Wetland**
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑
Eryngium vaseyi	☐



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CRAM Assessment Area 31

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider

Assessment Area Name: 32

Assessment No.		Date: 8/25/2009

Assessment Team Members for This AA

Daria Snider

Eric Stitt

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

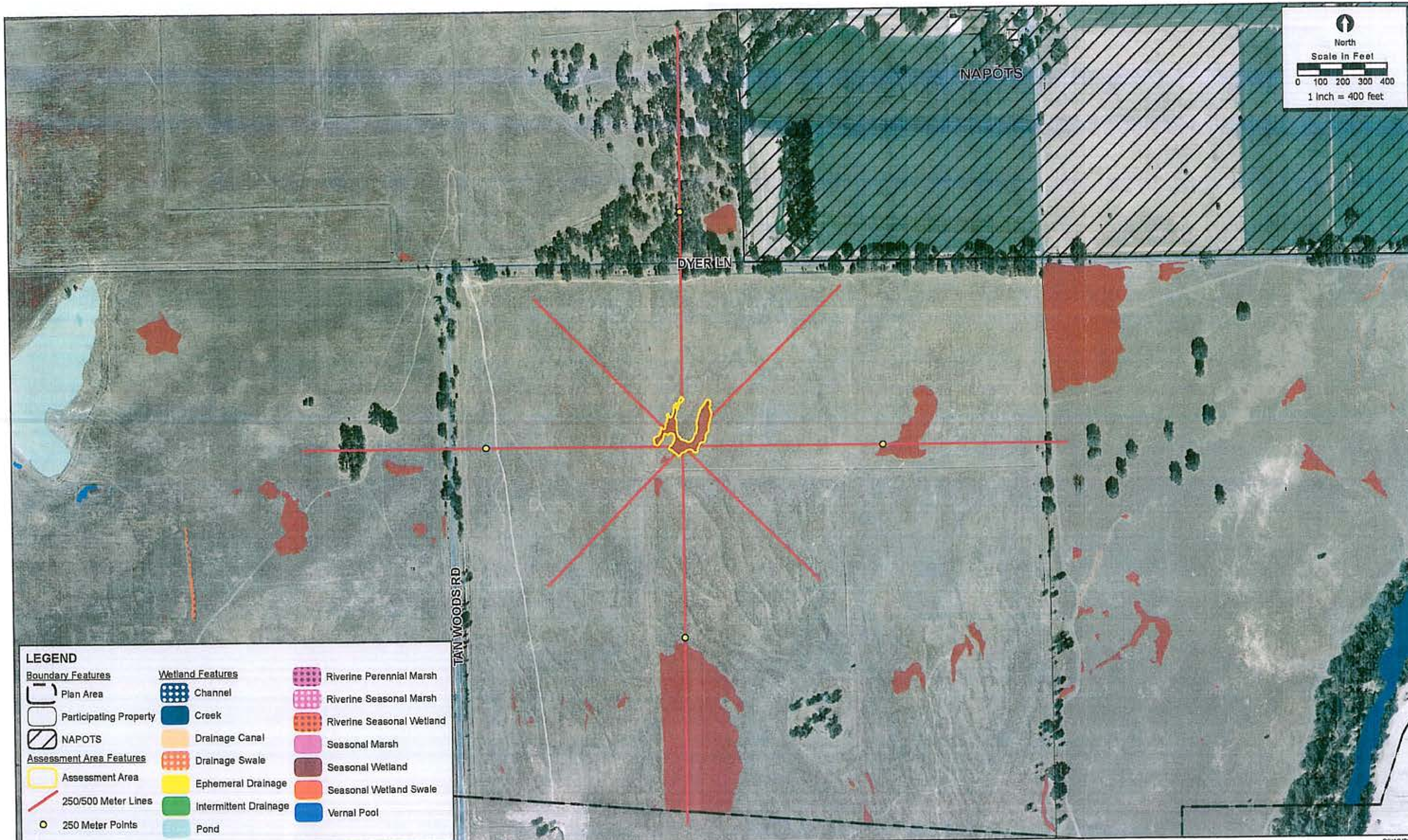
CRAM Scoring Sheet for Assessment Area 32

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/36) x 100	52.8
Overall AA Score (Average of four final attribute scores)						57.12

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 32	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Bromus hordeaceus	☑
Lolium multiflorum	☑



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CRAM Assessment Area 32

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 33	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

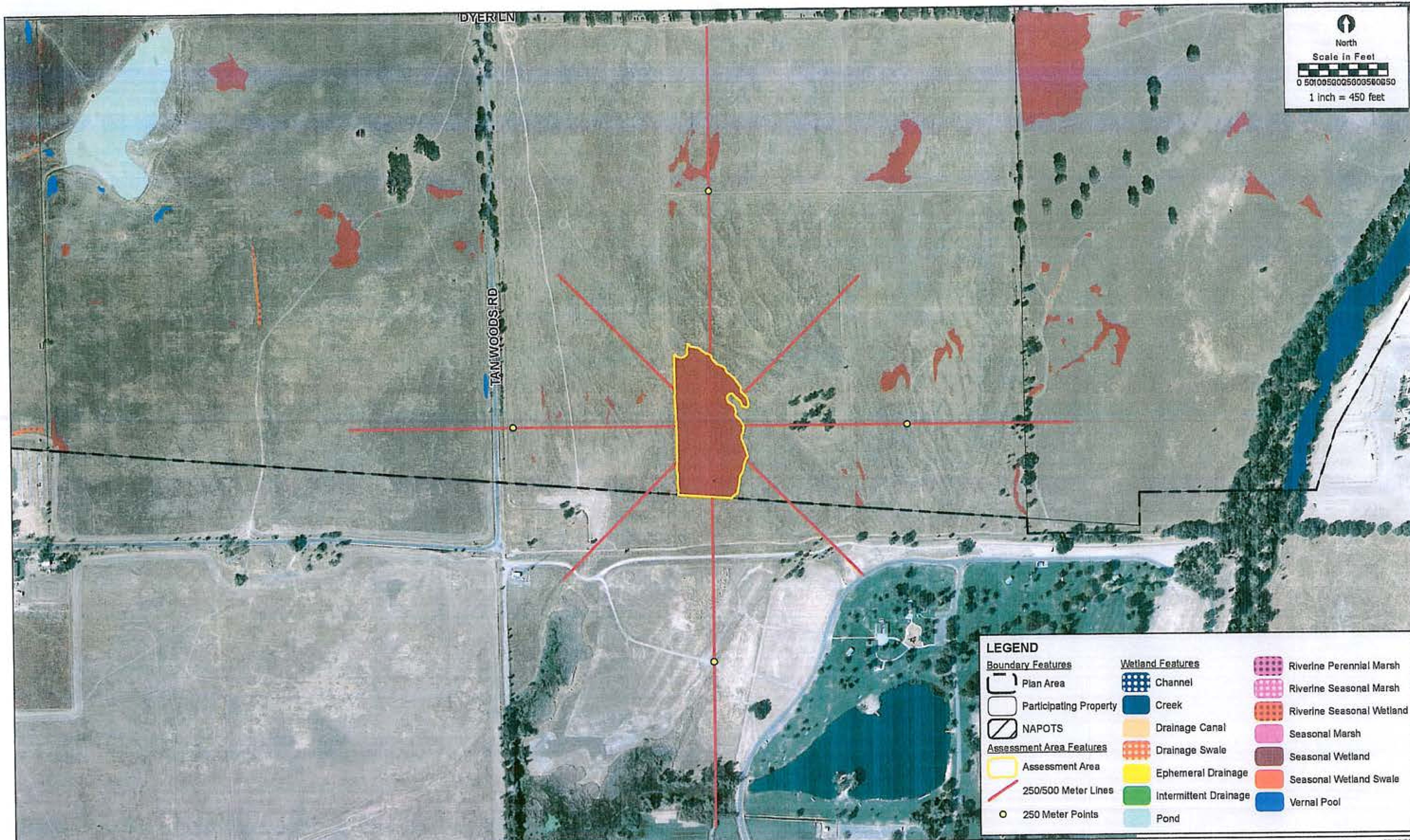
CRAM Scoring Sheet for Assessment Area 33

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				29	Final Attribute Score=(Raw Score/36) x 100	80.6
Overall AA Score (Average of four final attribute scores)						69.28

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 33	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Rumex crispus	☐
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑
Bromus hordeaceus	☑
Bromus diandrus	☑
Vulpia myuros	☑



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CRAM Assessment Area 33

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 34	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 34

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			B	9		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			C	6		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores:				24	Final Attribute Score=(Raw Score/36) x 100	66.7
Overall AA Score (Average of four final attribute scores)						64.75

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 34	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Vulpia bromoides	☐
Erodium botrys	☐
Holocarpha virgata	☐
Bromus hordeaceus	☑
Lolium multiflorum	☑
Leontodon taraxacoides	☐

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08/28/2009

CRAM Assessment Area 34

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 35	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 35

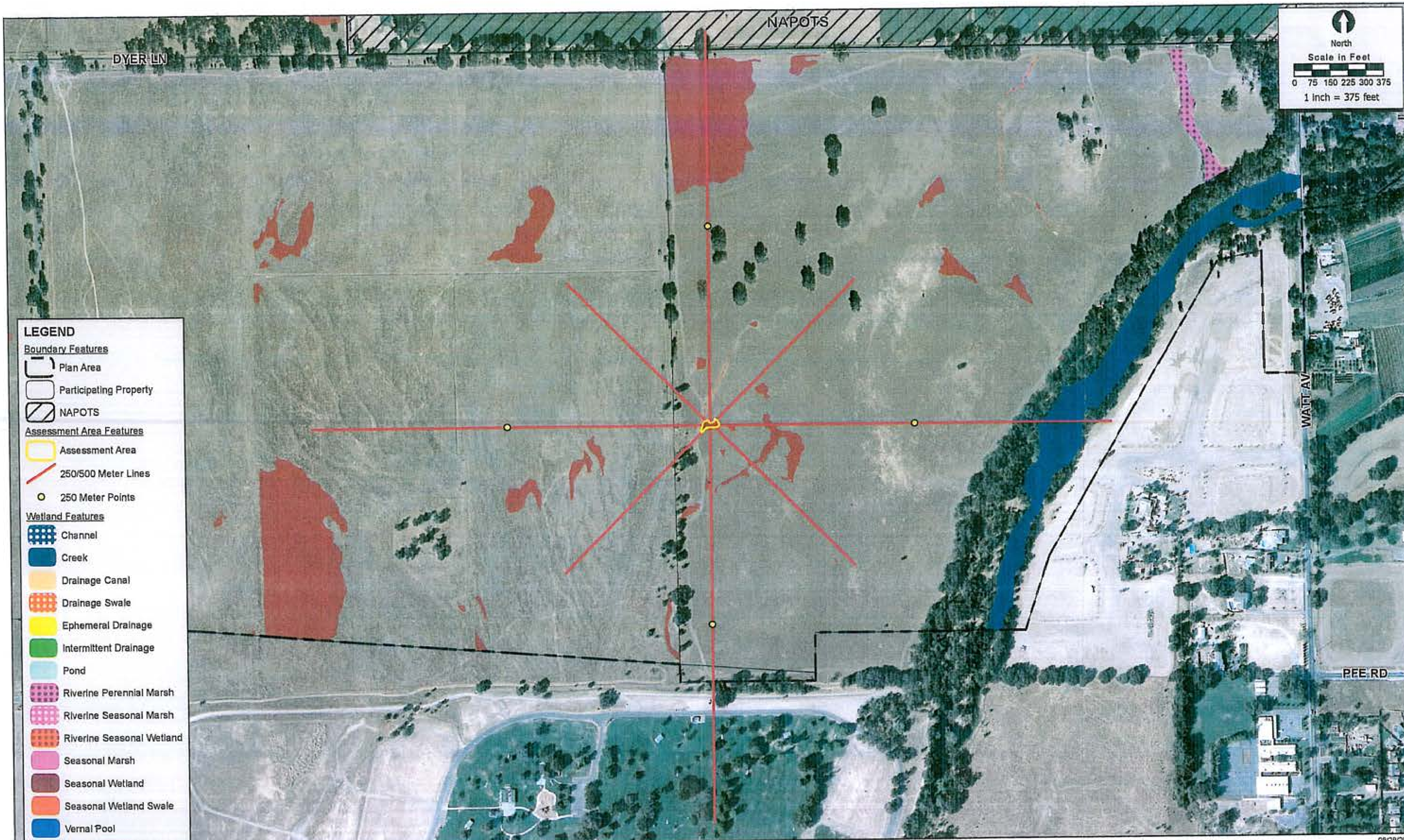
Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/36) x 100	52.8
Overall AA Score (Average of four final attribute scores)						62.32

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 35	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hemizonia fitchii	☐
Lolium multiflorum	☑
Hordeum marinum	☑
Leontodon taraxacoides	☐



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CRAM Assessment Area 35

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 36	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

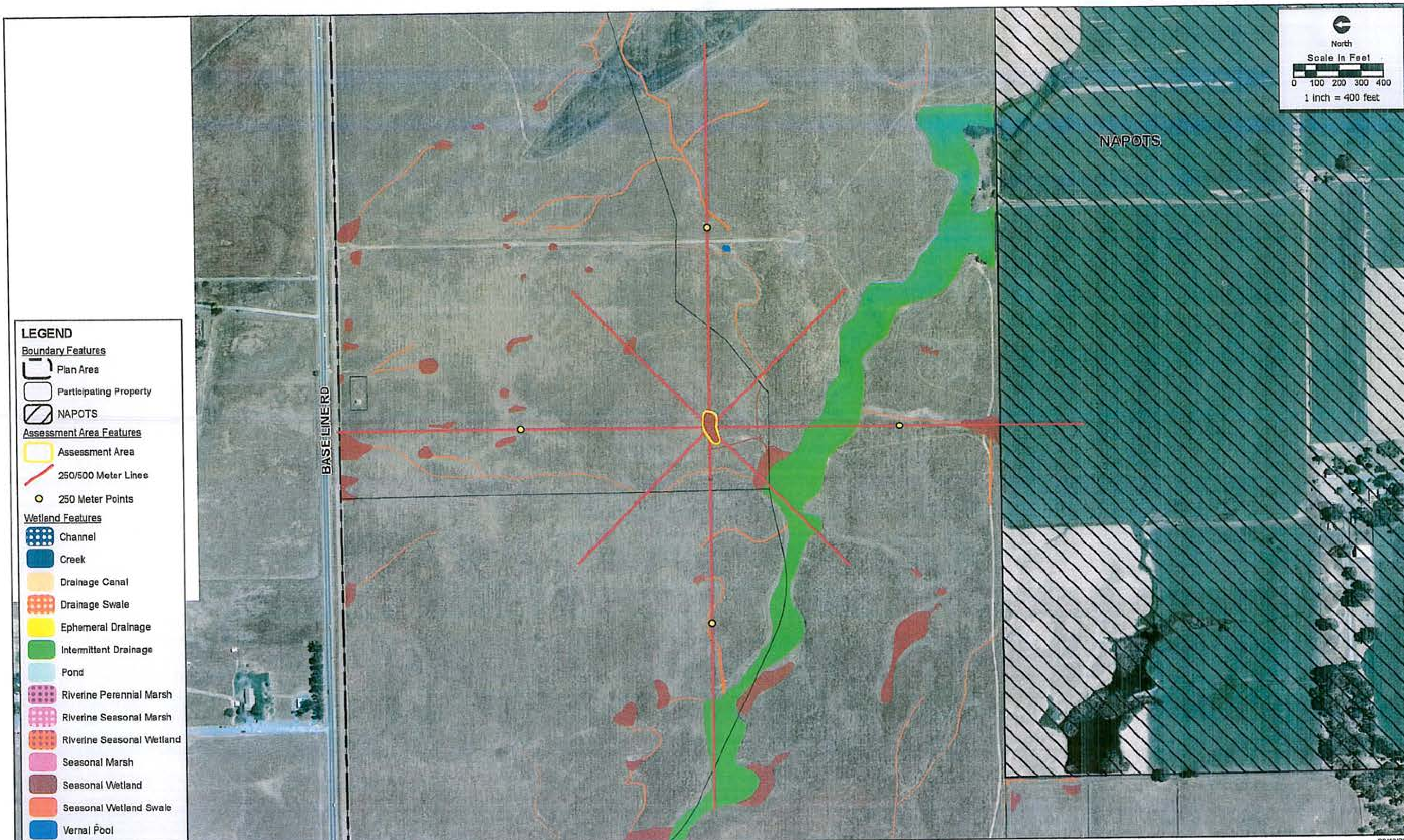
CRAM Scoring Sheet for Assessment Area 36

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						67.53

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 36	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Bromus hordeaceus	☑
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Convolvulus arvensis	☐



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CRAM Assessment Area 36

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 37	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 37

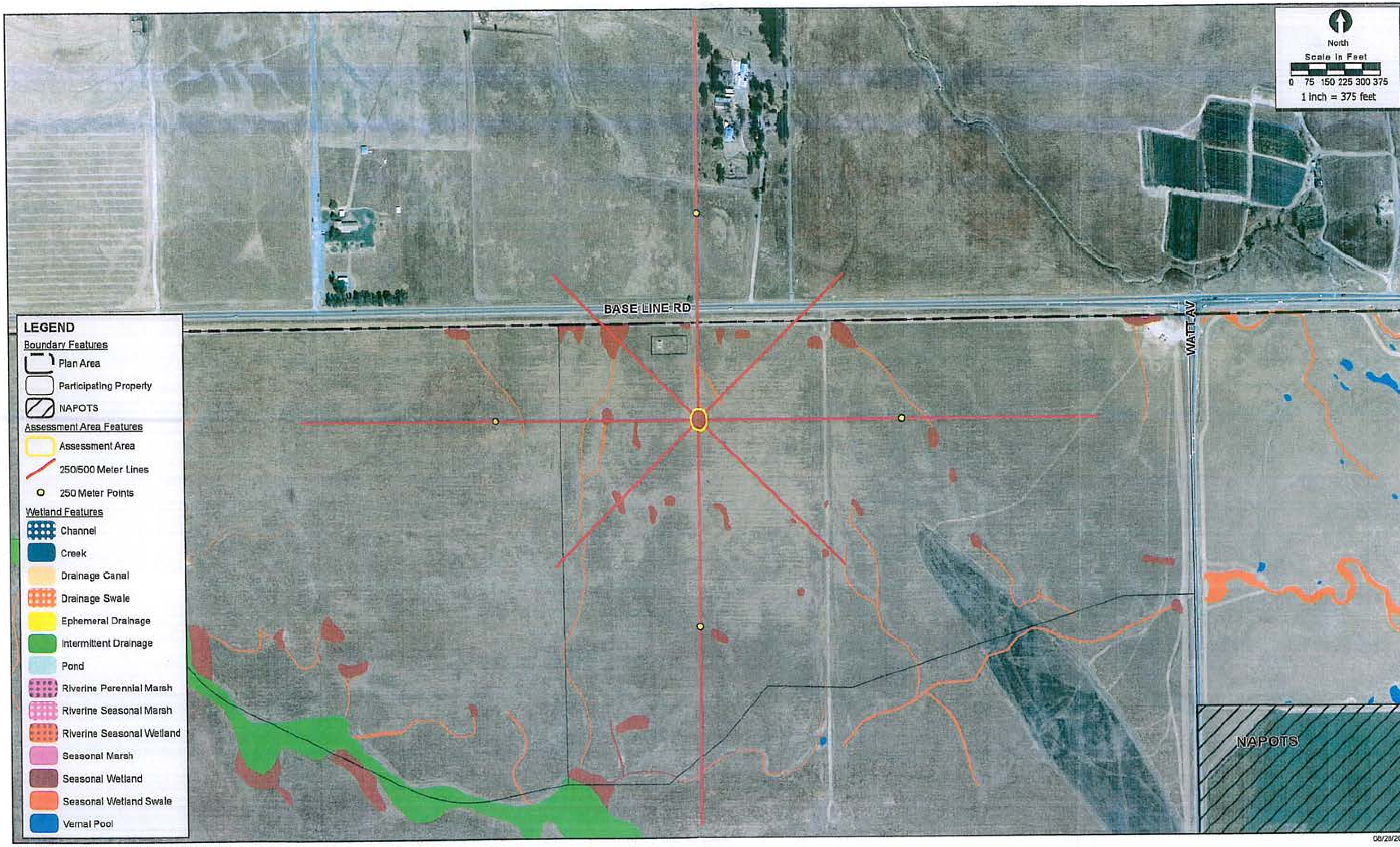
Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					**Comments**	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	**Final Attribute Score= (Raw Score/24) x 100**	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	**Final Attribute Score= (Raw Score/36) x 100**	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	**Final Attribute Score= (Raw Score/24) x 100**	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				25	**Final Attribute Score=(Raw Score/36) x 100**	69.4
Overall AA Score (Average of four final attribute scores)						63.35

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 37	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑
Convolvulus arvensis	☐



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CRAM Assessment Area 37

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Marsh

Your Name: Jinnah Benn

Assessment Area Name: 38

Assessment No. Date: 8/17/2009

Assessment Team Members for This AA

Daria Snider

Debra Sykes

Eric Stitt

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Marsh

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☑ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

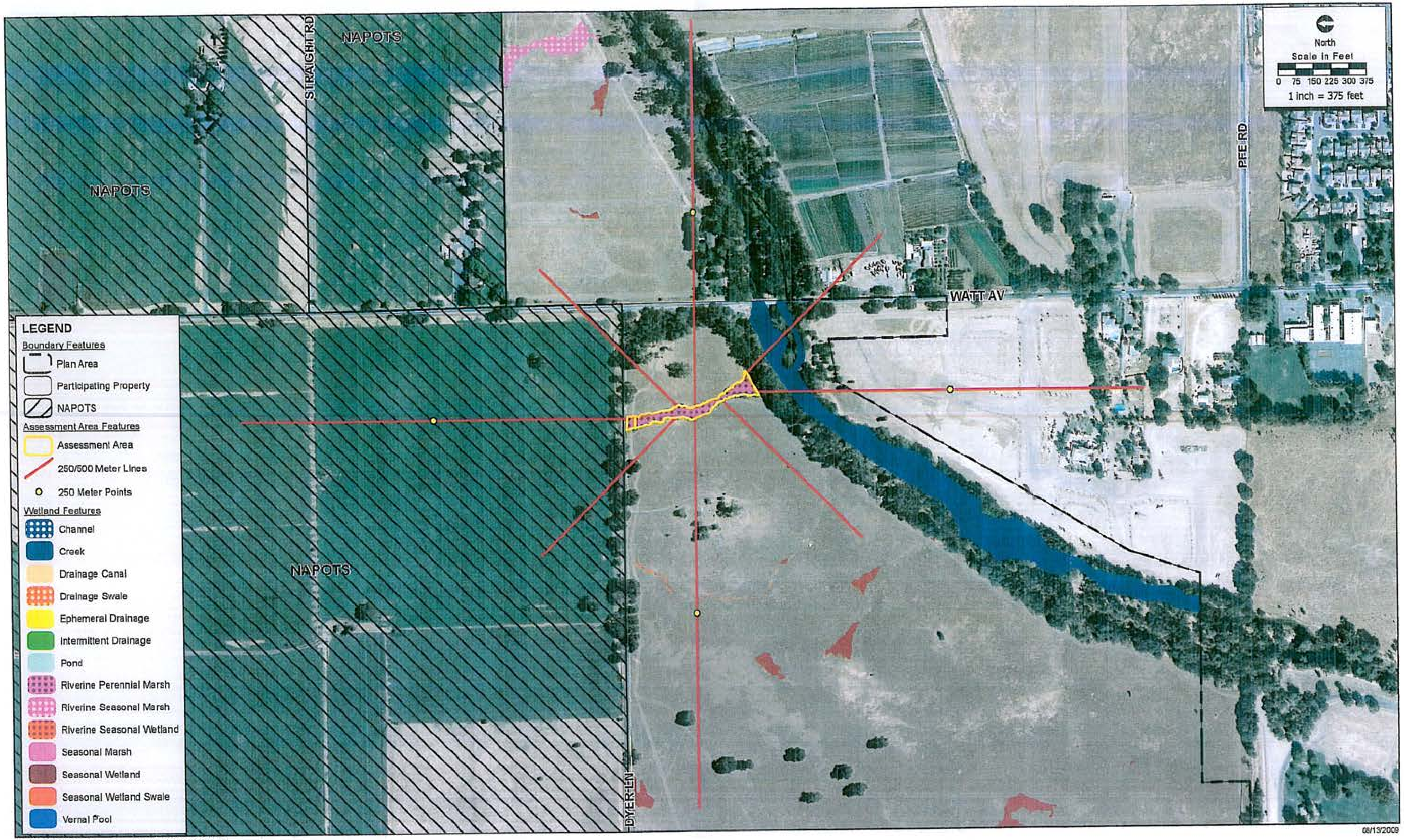
CRAM Scoring Sheet for Assessment Area 38

Depressional Wetland AA: Seasonal Marsh

			Alpha	Numeric	Comments	
Attribute 1: Buffer and Landscape Context						
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				13.39	**Final Attribute Score= (Raw Score/24) x 100**	55.8
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			C	6		
Hydroperiod:			D	3		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				18	**Final Attribute Score= (Raw Score/36) x 100**	50
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	**Final Attribute Score= (Raw Score/24) x 100**	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	A	12				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores:				26	**Final Attribute Score=(Raw Score/36) x 100**	72.2
Overall AA Score (Average of four final attribute scores)						50.75

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 38	AA Type: Seasonal Marsh
Plant Layer: Medium	**Invasive Species?**
Paspalum dilatatum	☐
Plant Layer: Short	**Invasive Species?**
Chenopodium ambrosioides	☐
Plant Layer: Tall	**Invasive Species?**
Rubus armeniacus	☑
Plant Layer: Very Tall	**Invasive Species?**
Populus fremontii	☐



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CRAM Assessment Area 38

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 39	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 39

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						63.6

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 39	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Rumex pulcher	☐
Lolium multiflorum	☑

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CRAM Assessment Area 39

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Freshwater Marsh

Your Name: Jinnah Benn	
Assessment Area Name: 40	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☑ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☐ other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☑ saturated soil, but no surfacewater ☐ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☑ long-duration ☐ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 40

Depressional Wetland AA: Freshwater Marsh

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			B	9		
Hydroperiod:			D	3		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score= (Raw Score/36) x 100	58.3
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				29	Final Attribute Score=(Raw Score/36) x 100	80.6
Overall AA Score (Average of four final attribute scores)						64.3

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 40	AA Type: Freshwater Marsh
Plant Layer: Medium	**Invasive Species?**
Juncus effusus	☐
Scirpus acutus	☐
Plant Layer: Short	**Invasive Species?**
Cynodon dactylon	☑
Xanthium strumarium	☐
Chenopodium ambrosioides	☐
Polygonum arenastrum	☐
Polypogon monspeliensis	☑
Eleocharis macrostachya	☐
Rumex crispus	☐

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ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

CRAM Assessment Area 40

2001-196 Placer Vineyards

Basic Information Sheet: Vernal Pool

Your Name: Jinnah Benn	
Assessment Area Name: 41	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 41

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)						74.12

Co-dominant species richness for Vernal Pool

Assessment Area Name: 41		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Hemizonia fitchii	☐	☐
Hordeum marinum	☑	☐

Assessment Area 41	N
Total Invasive Species:	2
Total Endemic Species:	2
Total Other Species:	1
Total Number Unique Species:	5

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CRAM Assessment Area 41

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 42	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 42

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores:				25	Final Attribute Score=(Raw Score/36) x 100	69.4
Overall AA Score (Average of four final attribute scores)						75.85

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 42	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Vulpia bromoides	☐
Trifolium glomeratum	☐
Hemizonia fitchii	☐
Erodium botrys	☐
Plagiobothrys stipitatus	☐
Hordeum marinum	☑
Lolium multiflorum	☑
Polygonum arenastrum	☐

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CRAM Assessment Area 42

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 43	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 43

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				26	Final Attribute Score=(Raw Score/36) x 100	72.2
Overall AA Score (Average of four final attribute scores)						66.38

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 43	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Holocarpha virgata	☐
Lolium multiflorum	☑
Taeniatherum caput-medusae	☑
Plant Layer: Short	**Invasive Species?**
Vulpia bromoides	☐
Leontodon taraxacoides	☐
Bromus hordeaceus	☑
Hordeum marinum	☑

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CRAM Assessment Area 43

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 44	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Eric Stitt	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 44

Individual Vernal Pool AA: Vernal Pool

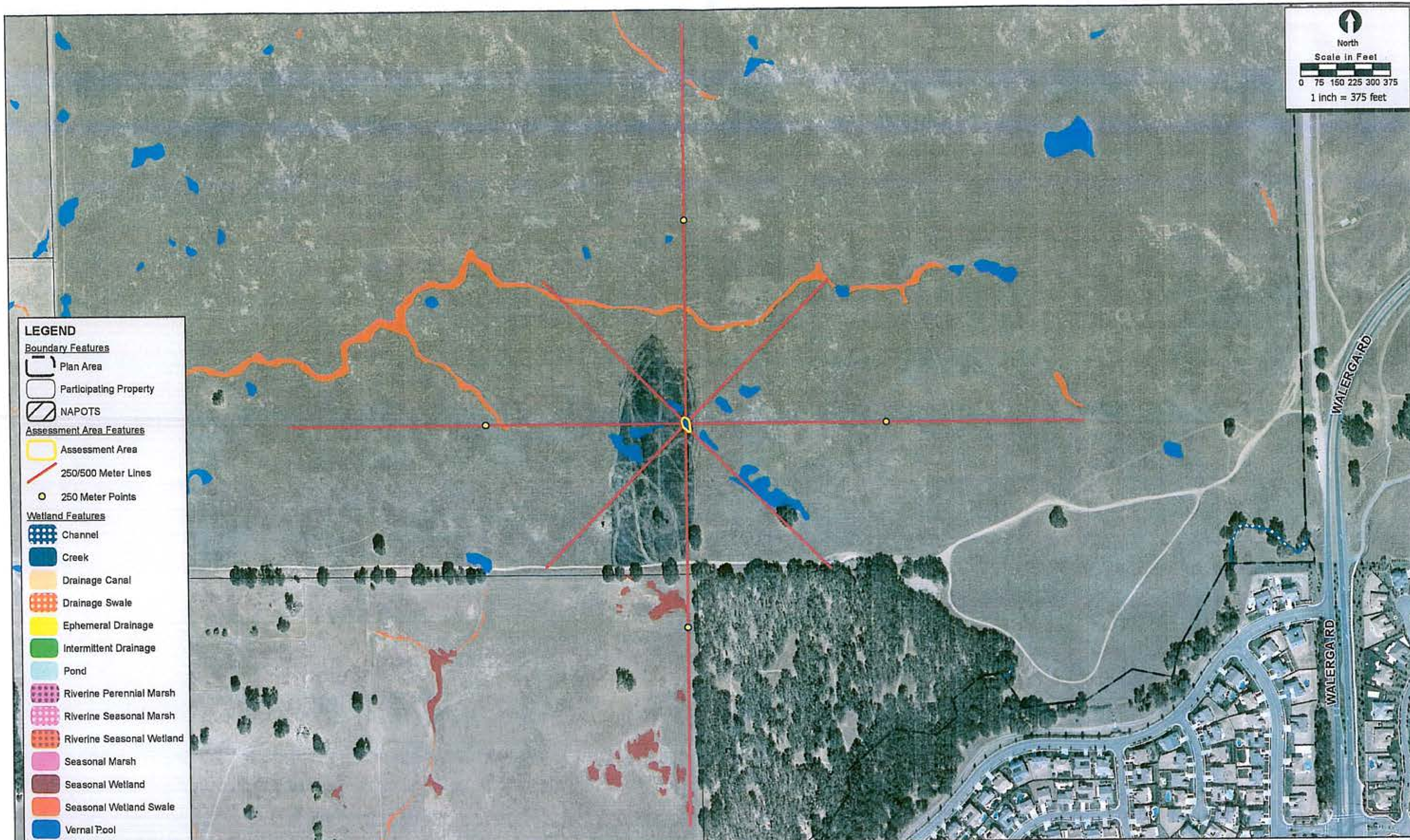
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)						77.25

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Vernal Pool

Assessment Area Name: 44		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Leontodon taraxacoides	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Juncus bufonius	☐	☐
Lolium multiflorum	☑	☐

Assessment Area 44	N
Total Invasive Species:	**2**
Total Endemic Species:	**1**
Total Other Species:	**2**
Total Number Unique Species:	**5**



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CRAM Assessment Area 44

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider

Assessment Area Name: 45

Assessment No. | Date: 8/26/2009

Assessment Team Members for This AA

Daria Snider

Eric Stitt

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

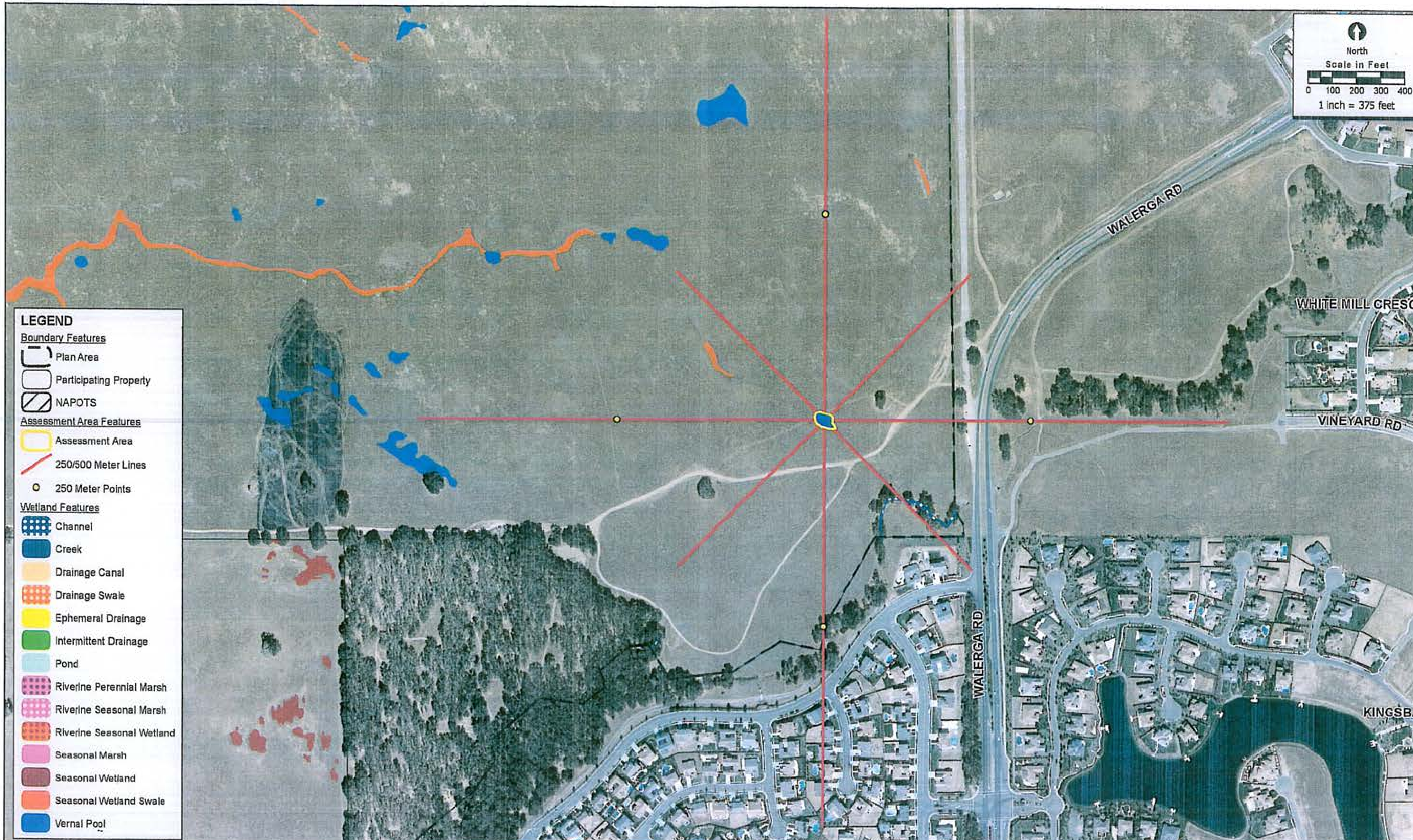
CRAM Scoring Sheet for Assessment Area 45

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				28	Final Attribute Score=(Raw Score/36) x 100	77.8
Overall AA Score (Average of four final attribute scores)						74.82

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 45	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Lasthenia glabberima	☐
Leontodon taraxacoides	☐



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CRAM Assessment Area 45

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes	
Assessment Area Name: 46	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 46

Individual Vernal Pool AA: Vernal Pool

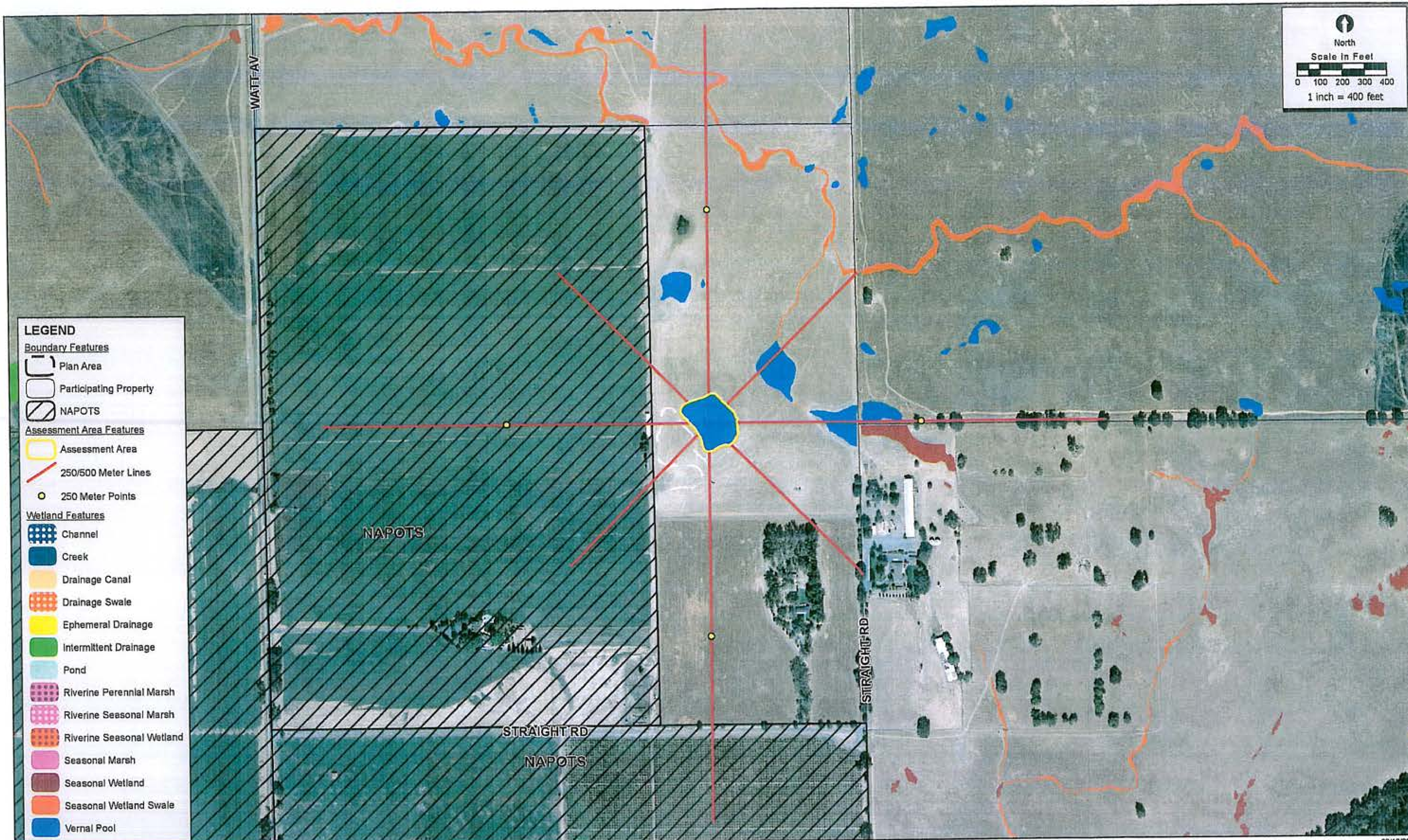
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				20	Final Attribute Score=(Raw Score/24) x 100	83.3
Overall AA Score (Average of four final attribute scores)						78.53

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Vernal Pool

Assessment Area Name: 46		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Hemizonia fitchii	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eryngium vaseyi	☐	☑
Navarretia leucocephala	☐	☑

Assessment Area 46	N
Total Invasive Species:	3
Total Endemic Species:	3
Total Other Species:	2
Total Number Unique Species:	8



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CRAM Assessment Area 46

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 47	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 47

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				8	Final Attribute Score= (Raw Score/24) x 100	33.3
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				10	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/24) x 100	79.2
Overall AA Score (Average of four final attribute scores)						68.12

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Vernal Pool System

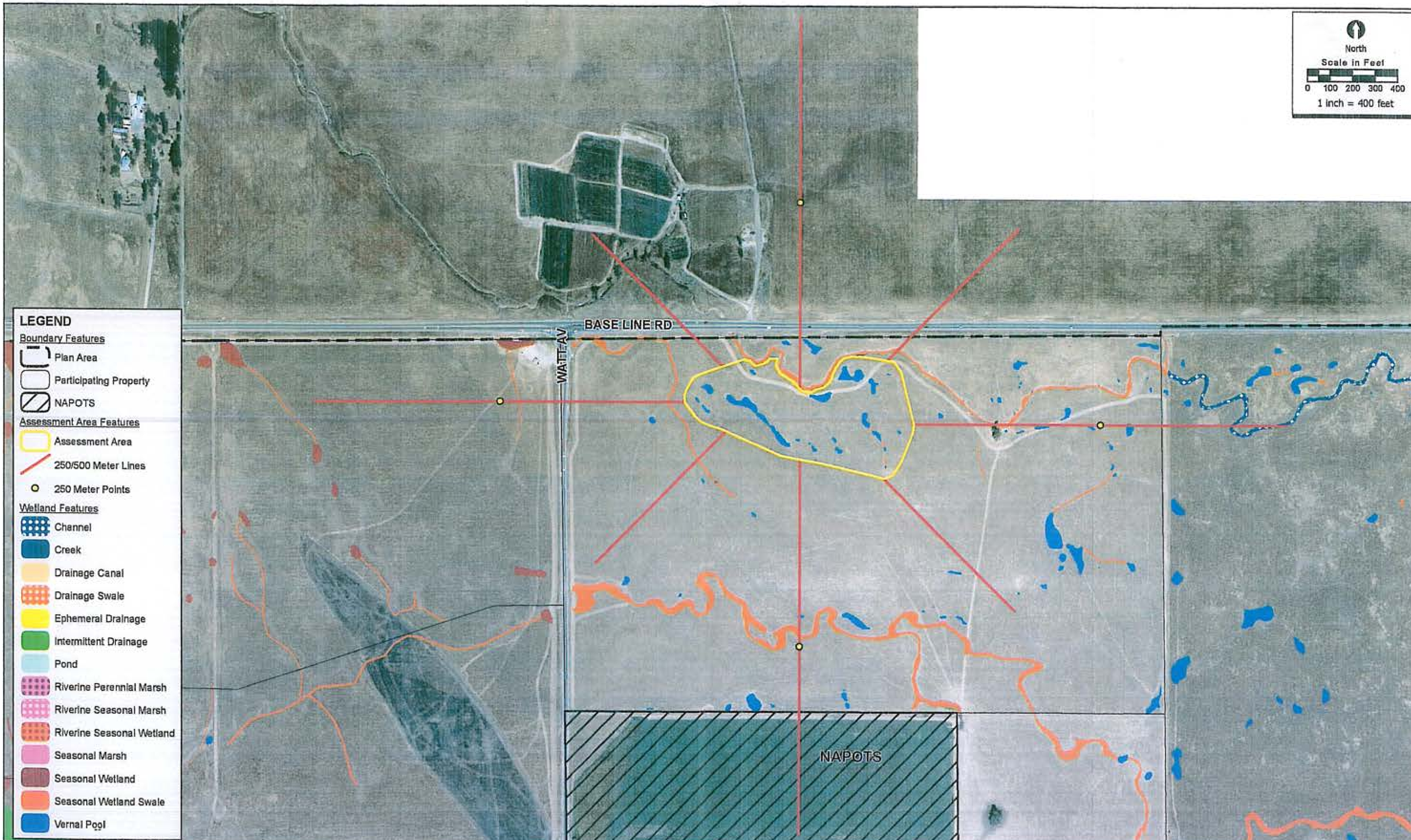
<u>Assessment Area Name: 47</u>

Species List for Large pool 1	Invasive Species	Endemic Species
Hemizonia fitchii	☐	☐
Briza minor	☐	☐
Vulpia bromoides	☐	☐
Polypogon monspeliensis	☑	☐
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Deschampsia danthenioides	☐	☑
Lasthenia glabberima	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Leontodon taraxacoides	☐	☐
Phalaris minor	☐	☐
Marsilea vestita	☐	☑
Hemizonia fitchii	☐	☐
Deschampsia danthenioides	☐	☑
Polypogon monspeliensis	☑	☐
Lolium multiflorum	☑	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Phalaris minor	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Leontodon taraxacoides	☐	☐
Lolium multiflorum	☑	☐
Holocarpha virgata	☐	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Deschampsia danthenioides	☐	☑
Bromus hordeaceus	☑	☐
Erodium botrys	☐	☐
Briza minor	☐	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**

Co-dominant species richness for Vernal Pool System

Deschampsia danthenioides	☐	☑
Lolium multiflorum	☑	☐
Leontodon taraxacoides	☐	☐
Bromus hordeaceus	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Rumex pulcher	☐	☐
Polypogon monspeliensis	☑	☐
Lolium multiflorum	☑	☐

Assessment Area 47	N
Total Invasive Species:	3
Total Endemic Species:	5
Total Other Species:	8
Total Number Unique Species:	16



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CRAM Assessment Area 47

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 48	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 48

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				8	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				11	Final Attribute Score= (Raw Score/24) x 100	45.8
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				10.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				19.5	Final Attribute Score=(Raw Score/24) x 100	81.2
Overall AA Score (Average of four final attribute scores)						73.82

Co-dominant species richness for Vernal Pool System

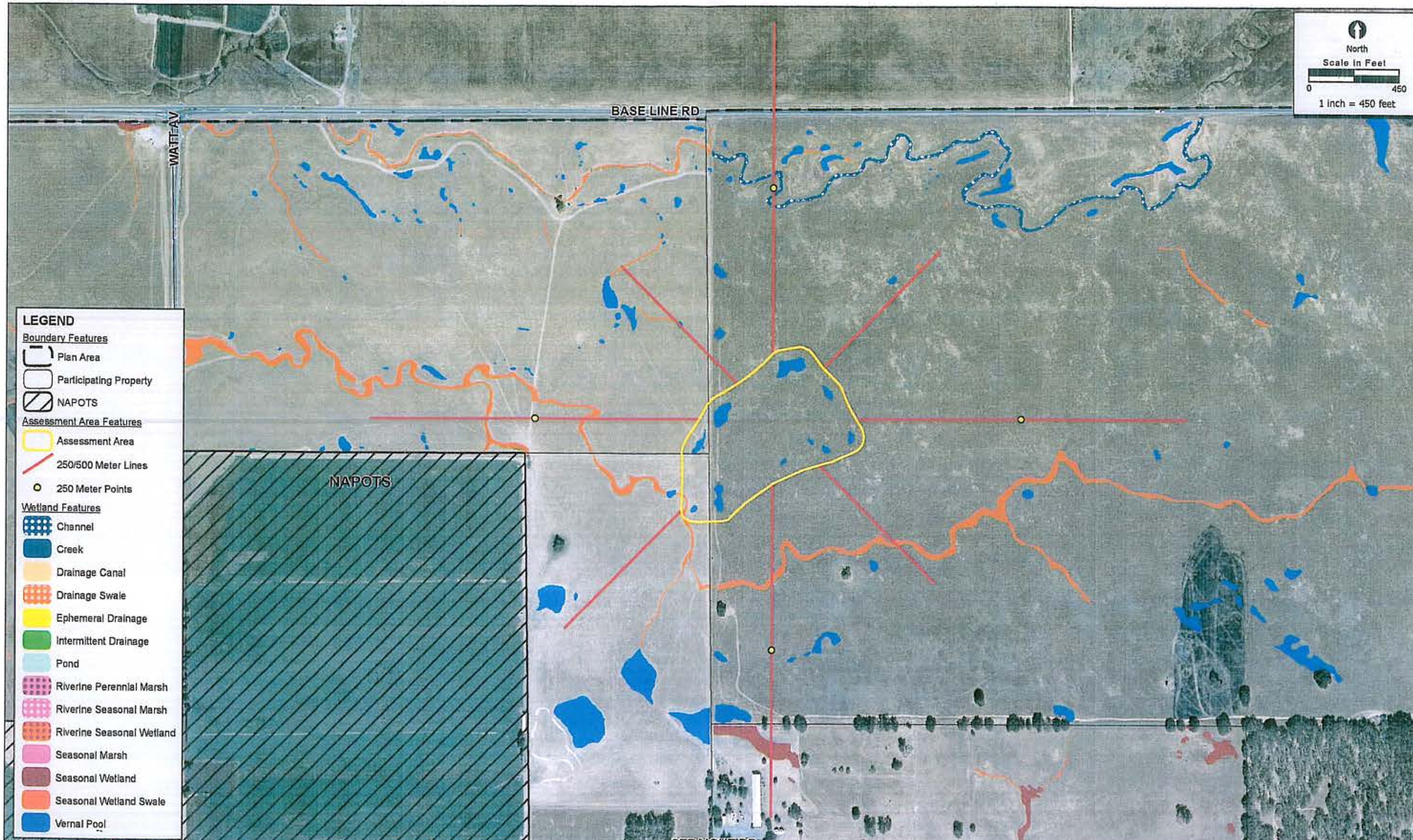
Assessment Area Name: 48

Species List for Large pool 1	Invasive Species	Endemic Species
Hordeum marinum	☑	☐
Lasthenia glabberima	☐	☑
Hemizonia fitchii	☐	☐
Deschampsia danthenioides	☐	☑
Lolium multiflorum	☑	☐
Leontodon taraxacoides	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Phalaris minor	☐	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Deschampsia danthenioides	☐	☑
Hemizonia fitchii	☐	☐
Vulpia bromoides	☐	☐
Ranunculus bonariensis	☐	☑
Leontodon taraxacoides	☐	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eleocharis macrostachya	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Hordeum marinum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Erodium botrys	☐	☐
Juncus bufonius	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐

Co-dominant species richness for Vernal Pool System

Hordeum marinum	☑	☐
Phalaris minor	☐	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐

Assessment Area 48	N
Total Invasive Species:	**3**
Total Endemic Species:	**5**
Total Other Species:	**7**
Total Number Unique Species:	**15**



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08/13/2009

CRAM Assessment Area 48

2001-196 Placer Vineyards

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Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 49	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	
Eric Stitt	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 49

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	B	9				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			A	12		
Topographic Complexity:				9	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score= (Raw Score/24) x 100	87.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	B	9				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				10		
Horizontal Interspersion and Zonation				11.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				21.5	Final Attribute Score=(Raw Score/24) x 100	89.6
Overall AA Score (Average of four final attribute scores)						80.72

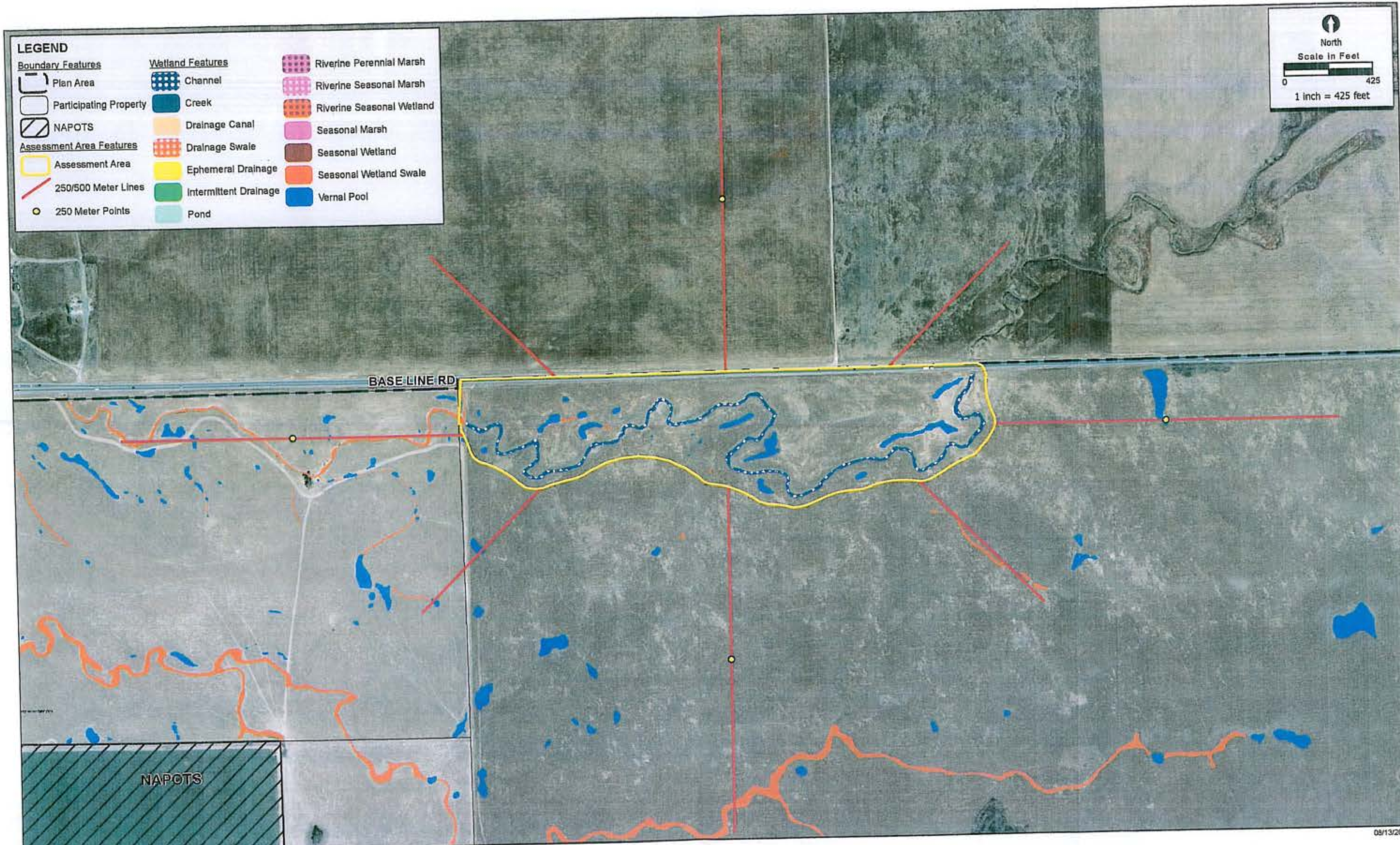
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 49		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Juncus bufonius	☐	☐
Trifolium campestre	☐	☐
Hemizonia fitchii	☐	☐
Leontodon taraxacoides	☐	☐
Deschampsia danthenioides	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Downingia species	☐	☑
Gnaphalium palustre	☐	☐
Eremocarpus setigerus	☐	☐
Lythrum hyssopifolium	☑	☐
Glyceria declinata	☑	☐
Deschampsia danthenioides	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Crassula aquatica	☐	☑
Downingia species	☐	☑
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Gnaphalium palustre	☐	☐
Mollugo verticillata	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Deschampsia danthenioides	☐	☑
Eremocarpus setigerus	☐	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Eremocarpus setigerus	☐	☐
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Ranunculus bonariensis	☐	☑
Deschampsia danthenioides	☐	☑

Co-dominant species richness for Vernal Pool System

Species List for Small pool 2	Invasive Species	Endemic Species
Leontodon taraxacoides	☐	☐
Deschampsia danthenioides	☐	☑
Lolium multiflorum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Leontodon taraxacoides	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Deschampsia danthenioides	☐	☑
Vulpia bromoides	☐	☐

Assessment Area 49	N
Total Invasive Species:	3
Total Endemic Species:	6
Total Other Species:	8
Total Number Unique Species:	17



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CRAM Assessment Area 49

2001-196 Placer Vineyards

Basic Information Sheet: Freshwater Marsh

Your Name: Daria Snider	
Assessment Area Name: 50	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☑ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☐ other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☐ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☑ long-duration ☐ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

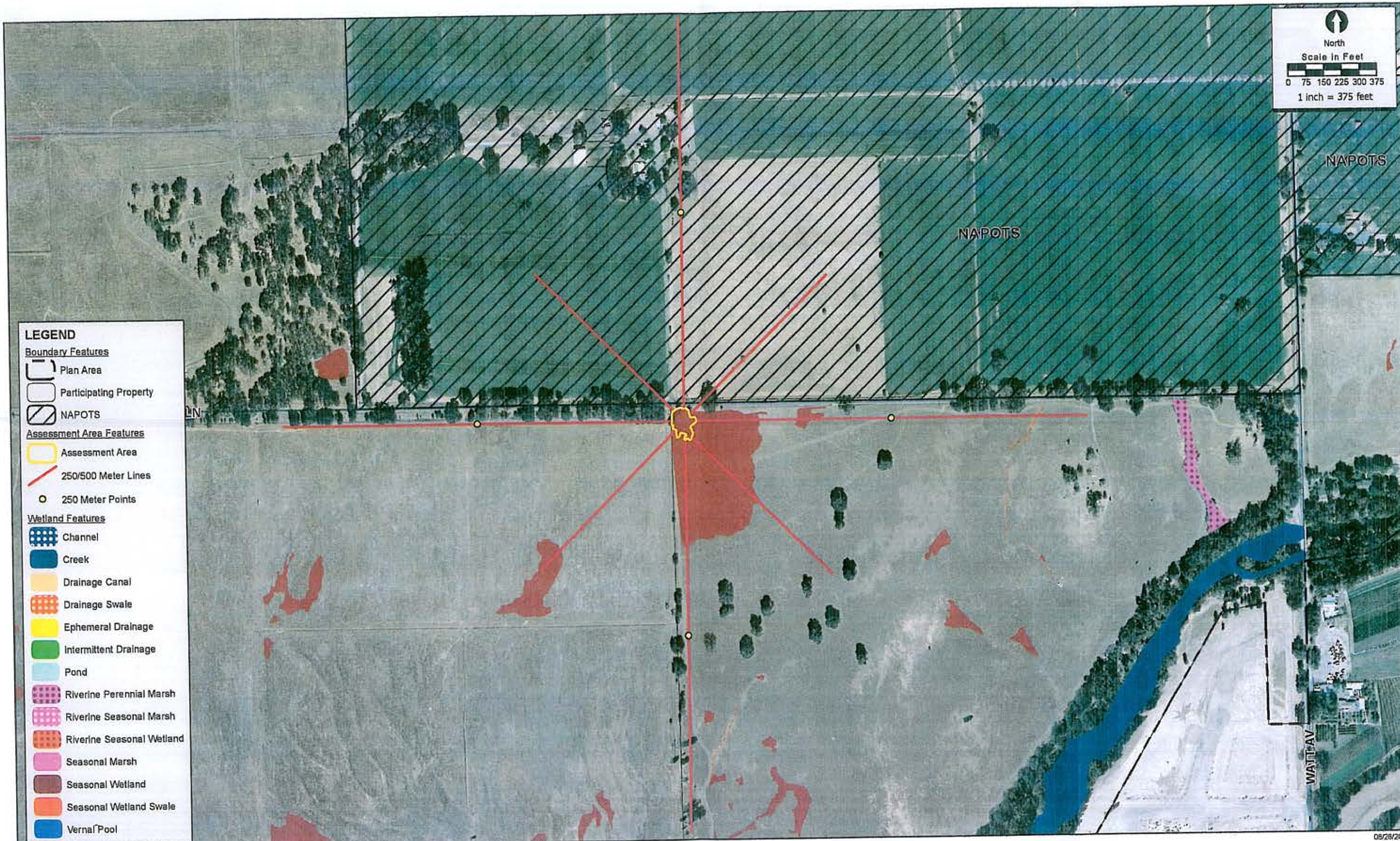
CRAM Scoring Sheet for Assessment Area 50

Depressional Wetland AA: Freshwater Marsh

Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			C	6		
Hydroperiod:			D	3		
Hydrologic Connectivity:			C	6		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/36) x 100	41.7
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	A	12				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				10		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				34	Final Attribute Score=(Raw Score/36) x 100	94.4
Overall AA Score (Average of four final attribute scores)						61.28

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 50	AA Type: Freshwater Marsh
Plant Layer: Medium	**Invasive Species?**
Leptochloa fascicularis	☐
Polygonum sp.	☐
Echinochloa crus-galli	☐
Plant Layer: Short	**Invasive Species?**
Cynodon dactylon	☑
Cyperus eragrostis	☐
Polypogon monspeliensis	☑
Plant Layer: Tall	**Invasive Species?**
Paspalum dilatatum	☐
Echinochloa crus-galli	☐
Plant Layer: Very Tall	**Invasive Species?**
Quercus lobata	☐
Salix goodingii	☐
Quercus wislizenii	☐



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CRAM Assessment Area 50

2001-196 Placer Vineyards

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider

Assessment Area Name: 51

Assessment No. | Date: 8/25/2009

Assessment Team Members for This AA

Daria Snider

Eric Stitt

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 51

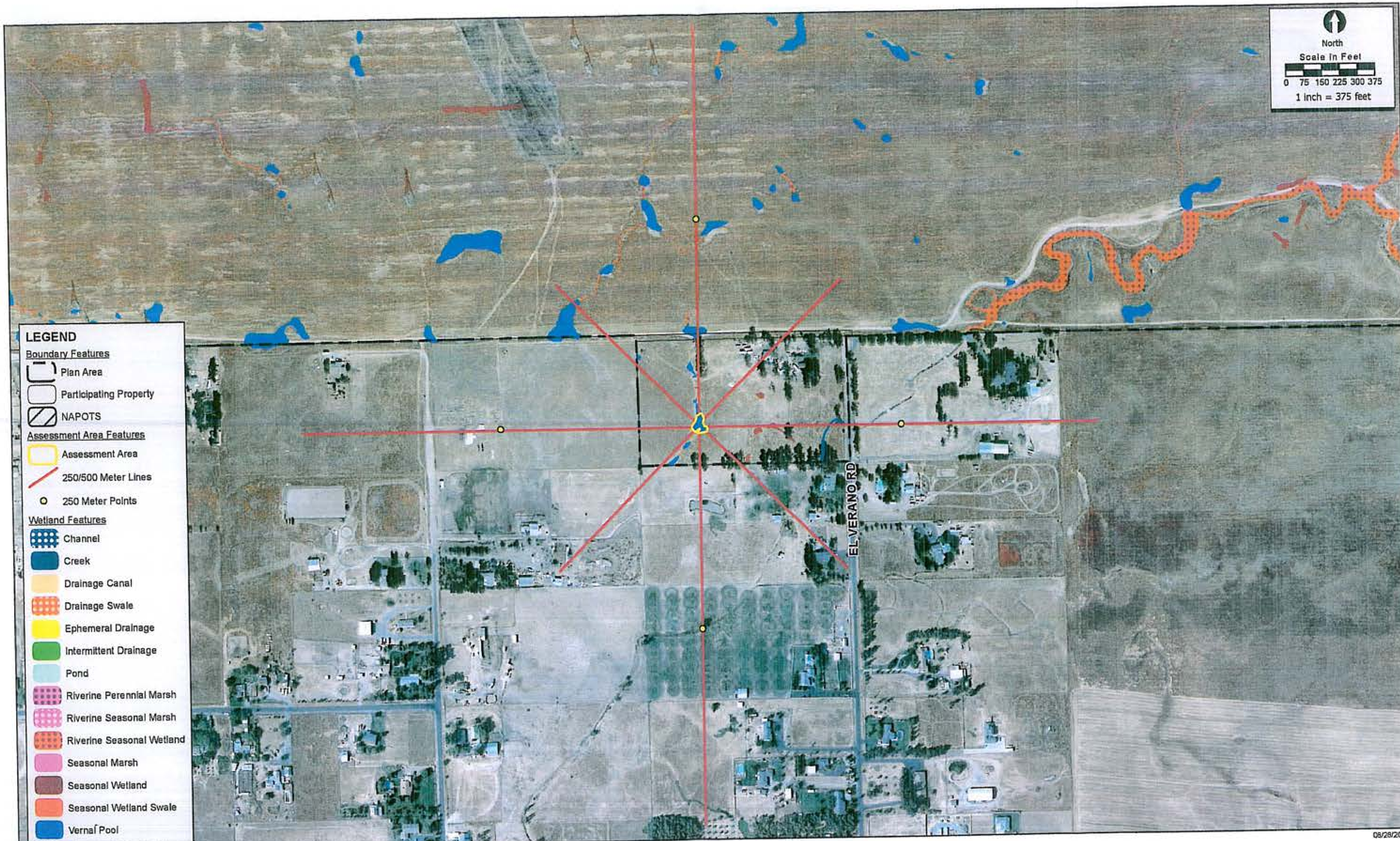
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				18.39	Final Attribute Score= (Raw Score/24) x 100	76.6
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						78.53

Co-dominant species richness for Vernal Pool

Assessment Area Name: 51		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Eryngium vaseyi	☐	☑
Glyceria declinata	☑	☐
Polypogon monspeliensis	☑	☐
Deschampsia danthenioides	☐	☑
Vulpia bromoides	☐	☐
Eleocharis macrostachya	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Anthemis cotula	☐	☐

Assessment Area 51	N
Total Invasive Species:	2
Total Endemic Species:	4
Total Other Species:	2
Total Number Unique Species:	8



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CRAM Assessment Area 51

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 52	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

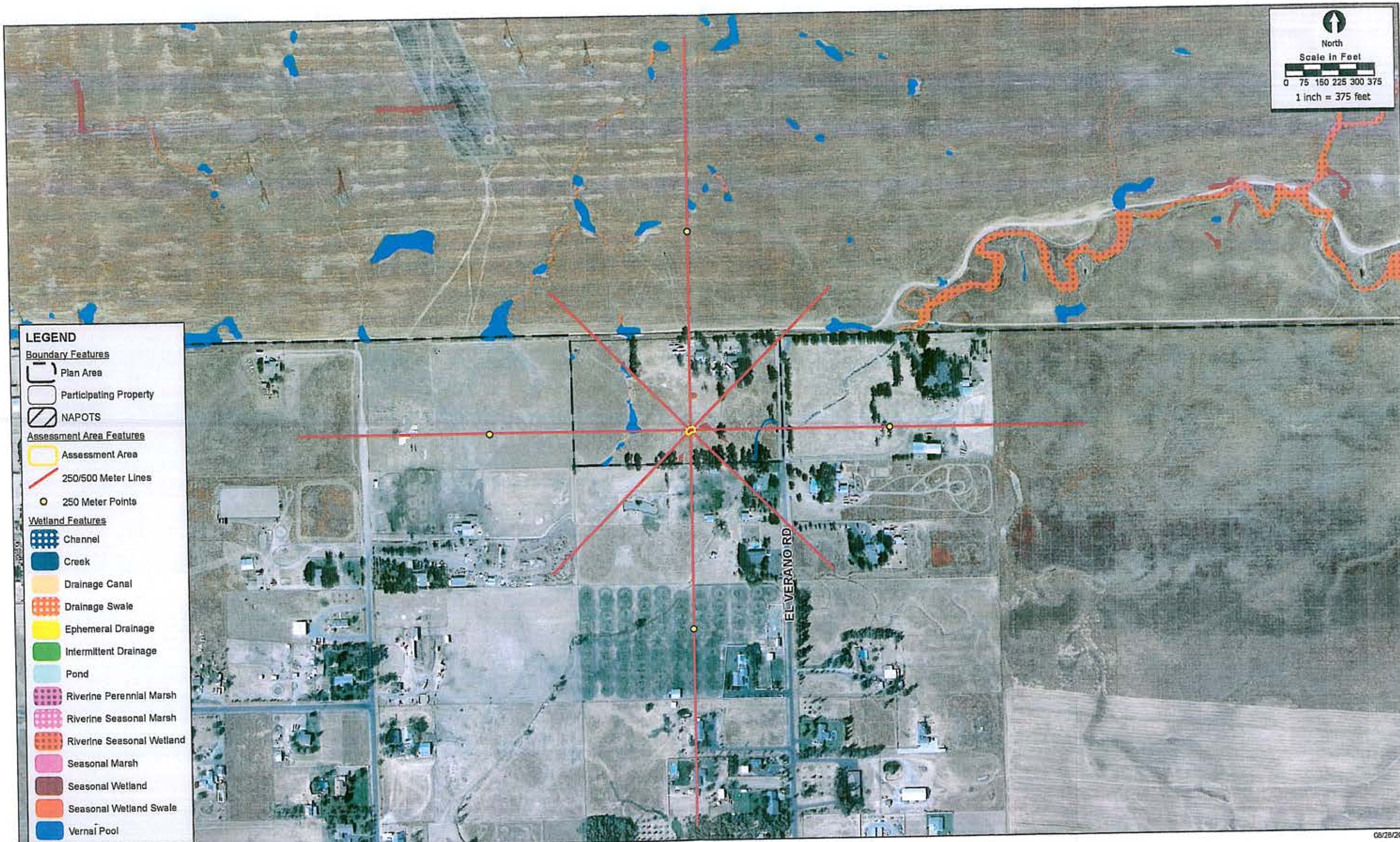
CRAM Scoring Sheet for Assessment Area 52

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				15.39	Final Attribute Score= (Raw Score/24) x 100	64.1
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				27	Final Attribute Score=(Raw Score/36) x 100	75
Overall AA Score (Average of four final attribute scores)						66.03

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 52	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Poa annua	☐
Lolium multiflorum	☑
Hordeum marinum	☑
Cynodon dactylon	☑
Holocarpha virgata	☐
Vulpia bromoides	☐
Anthemis cotula	☐



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CRAM Assessment Area 52

2001-196 Placer Vineyards

Basic Information Sheet: Pond

Your Name: Daria Snider

Assessment Area Name: 53

Assessment No. | Date: 8/25/2009

Assessment Team Members for This AA

Daria Snider

Eric Stitt

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Pond

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☑ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 53

Depressional Wetland AA: Pond

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	B	9				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				32	Final Attribute Score=(Raw Score/36) x 100	88.9
Overall AA Score (Average of four final attribute scores)						78.65

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 53	AA Type: Pond
Plant Layer: Medium	**Invasive Species?**
Centaurea solstitialis	☑
Plant Layer: Short	**Invasive Species?**
Plagiobothrys stipitatus	☐
Eleocharis macrostachya	☐
Crypsis schoenoides	☐
Gnaphalium palustre	☐
Echinodorus berteroi	☐
Polypogon monspeliensis	☑
Plant Layer: Tall	**Invasive Species?**
Scirpus acutus	☐

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CRAM Assessment Area 53

2001-196 Placer Vineyards

ECORP Consulting, Inc.
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Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 54	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 54

Individual Vernal Pool AA: Vernal Pool

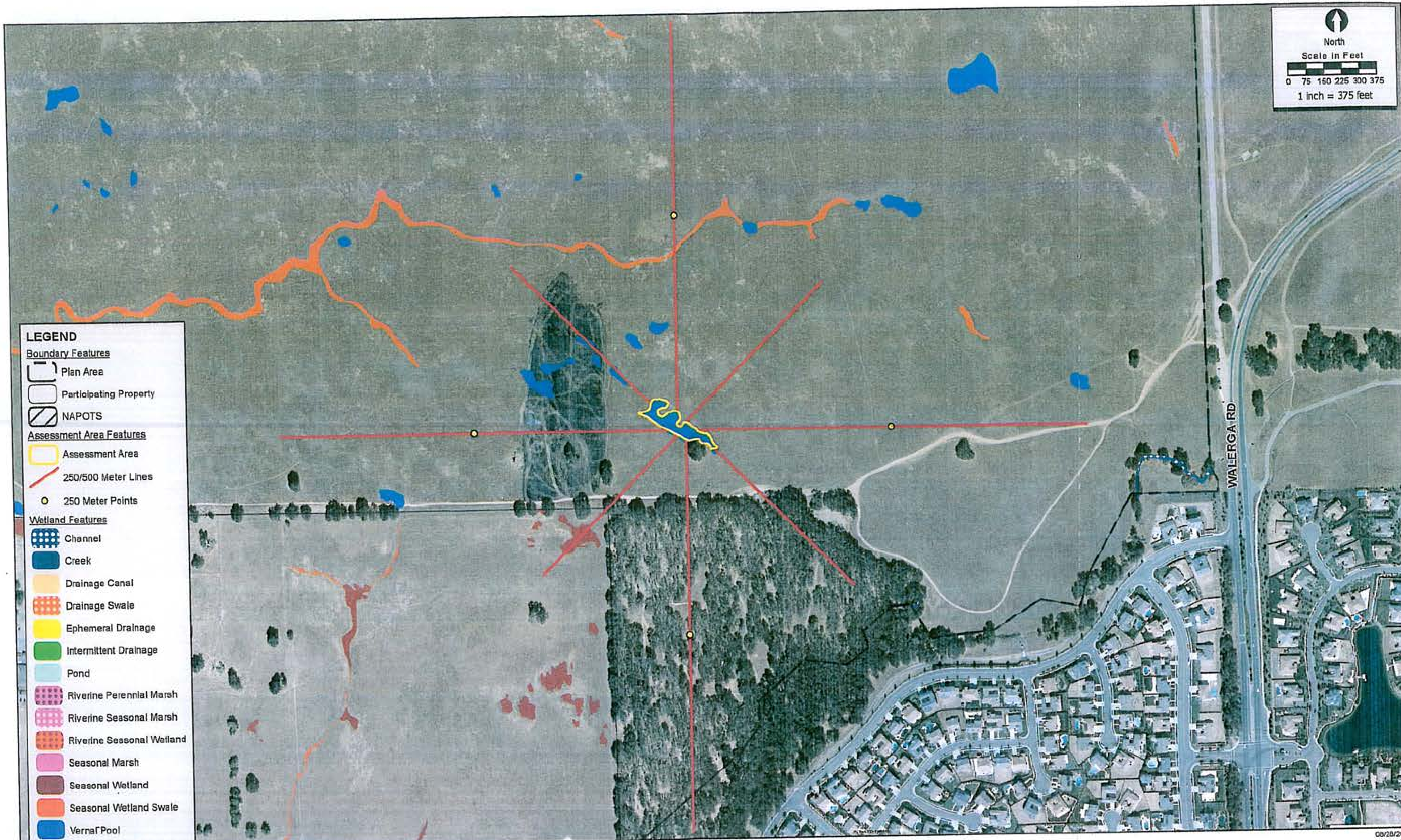
Attribute 1: Buffer and Landscape Context			Alpha	Numeric	Comments	
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			D	3		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score=(Raw Score/24) x 100	37.5
Overall AA Score (Average of four final attribute scores)						58.5

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Co-dominant species richness for Vernal Pool

Assessment Area Name: 54		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Assessment Area 54	N
Total Invasive Species:	**1**
Total Endemic Species:	**2**
Total Other Species:	**0**
Total Number Unique Species:	**3**



J:\GIS_Maps\2001-196_Placer_Vineyards\CRAM\PV_CRAM_AA54.mxd

CRAM Assessment Area 54

2001-196 Placer Vineyards

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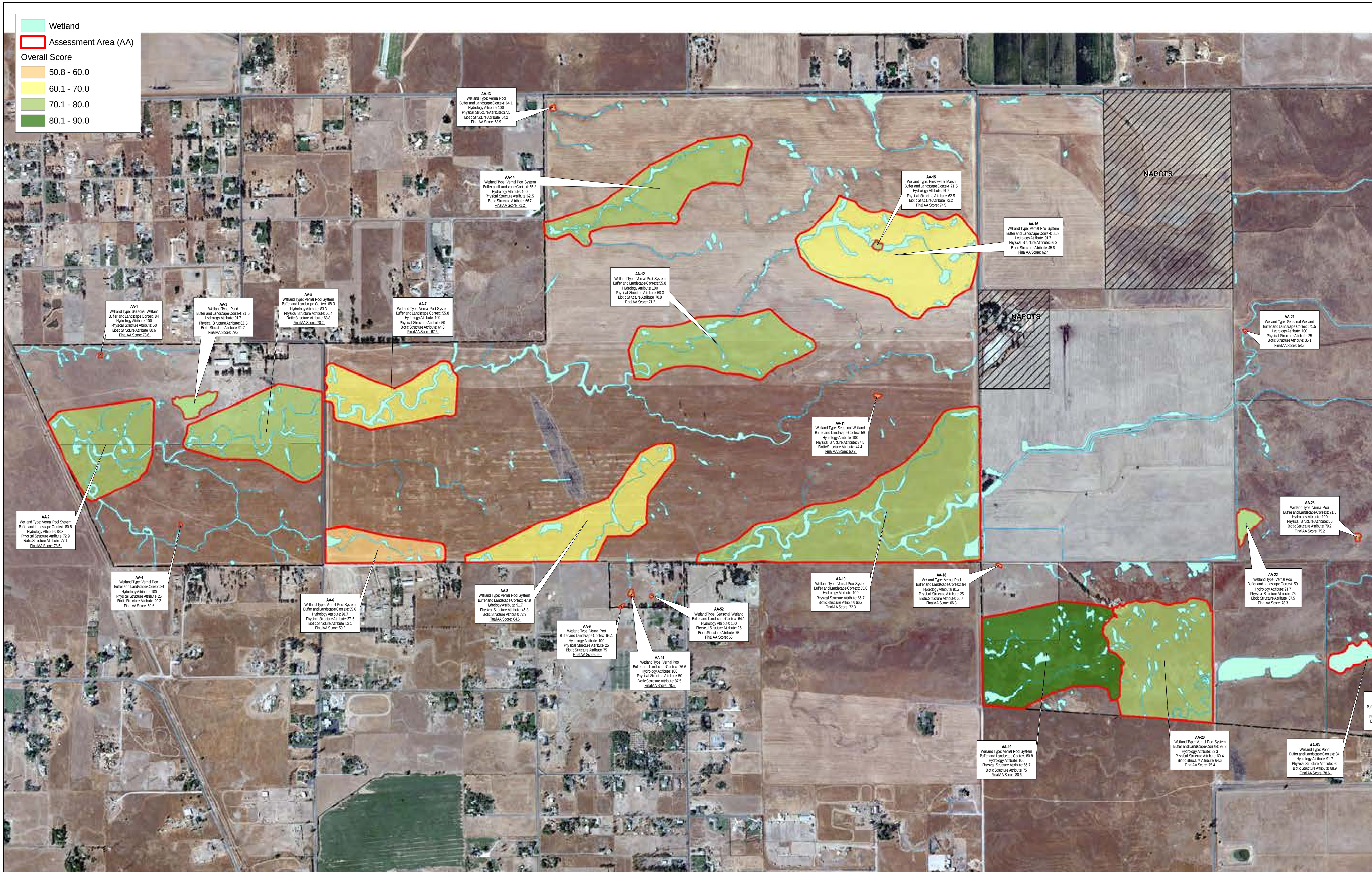
ATTACHMENT B

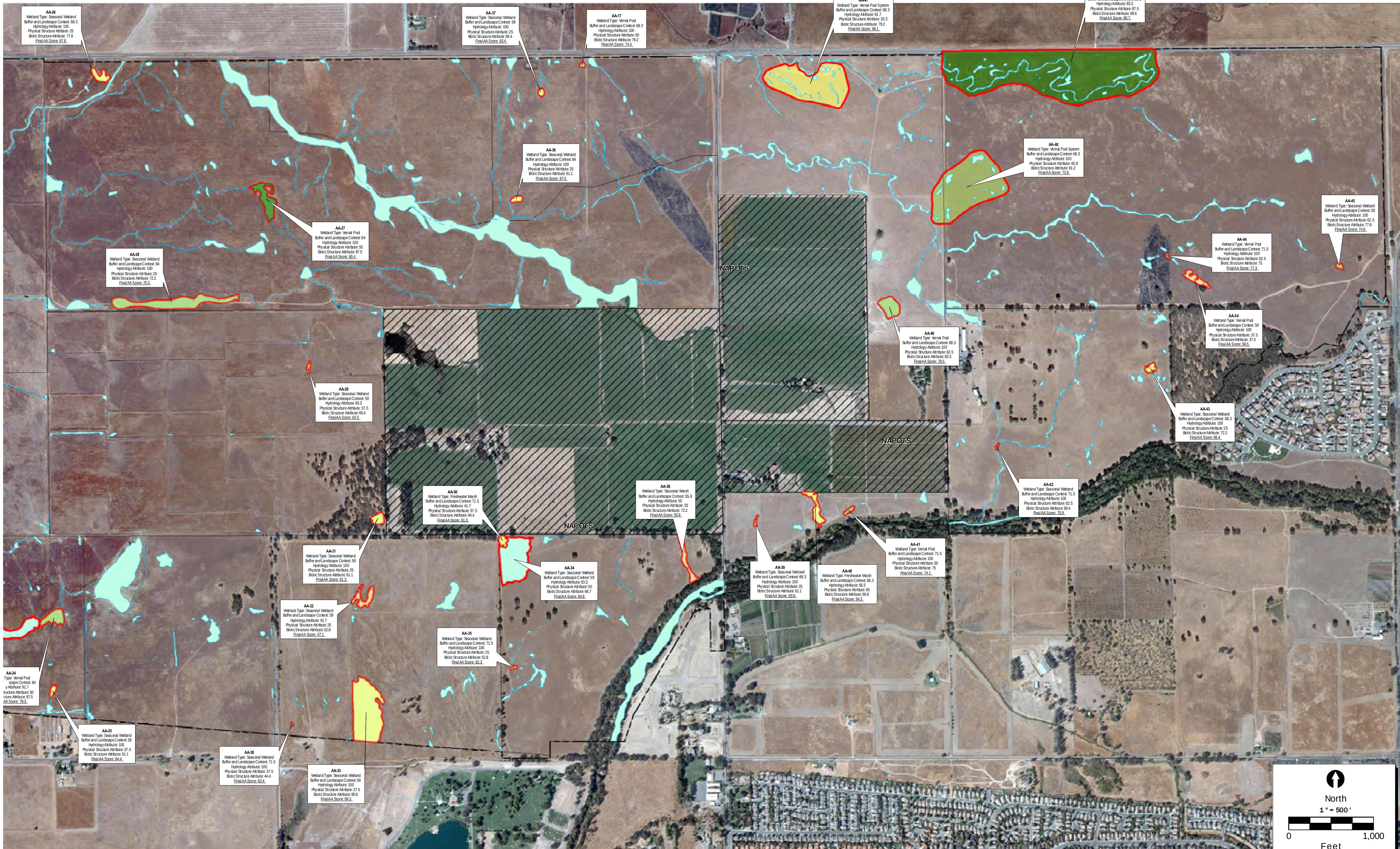
CRAM Assessment Area Scores



J:\GIS_Maps\2001-196_Placer_Vineyards\CRAM\AttachementB_CRAM_AA_v5_Overall_Scores.mxd

Attachment B. CRAM Assessment Area Scores

2001-196 Placer Vineyards



Map Date: 09/28/2009

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Current Status of Initial and Long Term Water Supply for the Proposed Action

In planning for the future, the Placer County Water Agency (PCWA) identifies water supplies intended to serve full build-out of the local jurisdictions in its service area. In order to meet this objective over the next 20 years or more, PCWA will not only have to continue to rely on its existing water supplies, but will also have to fund and build the infrastructure needed to bring an additional supply on-line: the so-called Sacramento River project, which would divert, treat, and deliver water previously anticipated to be diverted from the American River. Notably, PCWA has the water rights and/or contract rights needed for its Sacramento River project; it just needs to get various regulatory approvals and to build diversion, treatment, and delivery infrastructure.

Although PCWA's Urban Water Management Plan and Integrated Water Resources Plan anticipate serving all approved development in the agency's service area as shown in various adopted city and county General Plans, PCWA nevertheless provides water to new development on a first come, first served basis, making water available to developing areas only as they near the point of physically constructing new water-consuming development. In practice, this means that PCWA will not assign any particular major water supply (such as its "Middle Fork Project" water treated at the existing American River Pump Station) to any one particular specific plan area such as Placer Vineyards. Rather, newly developing areas, in effect, compete with one another for currently available water and then continue to compete with one another for subsequent supplies as the infrastructure associated with those new supplies comes on line. Thus, although the American River Pump Station (ARPS) supply – a total of 35,500 acre feet per annually (afa) – might be sufficient to serve all of Placer Vineyards in the absence of competing development projects, in reality that supply will be used not only by Placer Vineyards, but also by other major developing areas served by PCWA.

In its 2007 Second Partially Recirculated Revised Draft EIR (SPRRDEIR), Placer County assumed that Placer Vineyards would consume up to approximately 6,000 acre feet annually ("afa") from the ARPS before a Sacramento River water supply became available. (SPRRDEIR, p. 4.3-4.) This ARPS water – approximately 17 percent of the total amount diverted by the ARPS – would initially be delivered to Placer Vineyards through an existing east-west pipeline coming to the project's eastern border through the City of Roseville after being treated at PCWA's existing Foothill Treatment Plant. As of 2007, that pipeline had a total unused capacity of 8.15 million gallons per day (mgd), not all of which would be reserved for Placer Vineyards. When that remaining capacity was fully utilized by Placer Vineyards and other projects (e.g., the Dry Creek Community

Plan, the Regional University Specific Plan, and others), an alternative route for delivery to the project site would come down from the north in new pipelines emanating from PCWA's planned Ophir Treatment Plant. These pipelines would be funded and built in part by anticipated development to the north of Placer Vineyards (e.g., the Regional University Specific Plan). The SPRRDEIR, written before the recent major economic downturn, assumed that the City of Roseville pipeline would be able to supply Placer Vineyards for the first four or five years of projected development (2,000 to 2,500 residential units). (*Id.*, pp. 4.3-6 and 4.3-7 [Table 4.3.5-1].) At that point, the alternative delivery system (the northerly pipeline from the Ophir plant) was expected to be ready to deliver the remainder of the 6,000 afa of ARPS water assumed to be consumed by Placer Vineyards. Since the "Base Plan" version of the project was projected to consume a total of approximately 11,500 afa of potable water at full-build-out,[1] the SPRRDEIR assumed that approximately 52 percent of Placer Vineyards – approximately 7,360 units – could be developed before this 6,000 afa of available ARPS water was consumed. Thus, if the City of Roseville pipeline were able to supply the first 2,500 units, the alternative pipeline system could have served an additional 4,860 units.

PCWA completed the design and construction drawings for the building of a new 30 million gallons per day (mgd) Water Treatment Plant near Ohpir using the supply from the American River. All necessary permits were obtained to permit construction. Just before the project was to be advertised for bids, however, PCWA decided not to proceed at the current time due to the slow-down in the economy and the reduced number of requests for water connections. PCWA currently does not anticipate construction of this water treatment plant until 2022, a date that reflects its most recent forecasts of growth and the need for additional treatment capacity. If demand warrants starting sooner, the construction plans are complete and renewal of necessary permits could be pursued allowing construction to begin upon completion of that process. In order to deliver water to Placer Vineyards from this source, construction of an additional conveyance pipeline would be necessary. Since completion of the water treatment plant has not begun and the

[1] The Blueprint Alternative, in contrast to the Base Plan, was predicted to require a total of 14,453 afa of potable water, an increase of 2,953 afa over what the Base Plan would require. (Revised Draft EIR, vol. 3, pp. 6-139 – 6-140.) Notably, however, per capita use would be less under the Blueprint Plan than under the Base Plan, as is evident from the fact that a nearly 50 percent increase in residential units would only create an approximate 20 percent increase in potable water demand. (*Id.*, p. 6-141.)

demand for new water connections has been greatly reduced, PCWA has not yet begun the design work for this additional pipeline. Notably, though, since 2007, when County completed the SPRRDEIR, very little, if any, of the conveyance capacity through the Roseville system has been consumed.

The SPRRDEIR also identified a "secondary initial surface water supply" that could provide up to 6,000 afa of PCWA's Middle for American River water currently under contract to the Sacramento Suburban Water District, which has a contract for up to 29,000 afa from that PCWA source. This secondary initial supply might be needed if the Placer Vineyards project uses all of the approximately 6,000 afa of water available to it from the ARPS supply prior to the time when the long-term water supply from the Sacramento River becomes available. This supply would be diverted from Folsom Lake, treated by the San Juan Water District at its Sidney N. Peterson Water Treatment Plant, and conveyed to the project site by a Cooperative Transmission Pipeline that currently ends near Antelope and Walerga Roads. Because this supply has not been actively pursued in recent years, the water it could yield would only become available after one of the agencies involved – either PCWA, the San Juan Water District, or the Sacramento Suburban Water District – completes environmental review under CEQA and the multiple parties involved, including the Placer Vineyards landowners, finalize the negotiations needed to reach the agreements needed for the water to flow. Assuming that these regulatory and legal steps can be completed as contemplated and that the full 6,000 afa discussed in the SPRRDEIR become available, this supply, added to the ARPS supply described earlier, would bring the total amount of American River water available to Placer Vineyards to approximately 12,000 afa, which is more than the 11,500 afa needed for full build-out. These two combined supplies, then, would be sufficient for build-out of the entire project. PCWA would be free, however, to substitute Sacramento River water for some of this American River water if PCWA determined that such a reallocation better optimized its entire system.

As of 2007, PCWA and the County expected the Sacramento River water supply project to be in place and ready to deliver water by approximately 2016. (SPRRDEIR, p. 4.3-9.) In the aftermath of the recent recession, however, that target date has been moved back to a date uncertain, perhaps as late as the 2020s. PCWA will only recommence the process of completing environmental review and permitting, as well as construction, when the real estate market in western Placer County has returned to a point where the need for Sacramento River water is sufficiently imminent that PCWA can confidently assume that hookup fees from new development will suffice to reimburse PCWA for its up-front costs associated with developing and building the new diversion.

As noted above, it is possible that Placer Vineyards could fully build out even without the Sacramento River supply, provided that the project is successful in obtaining 6,00 afa from PCWA's ARPS supply and another 6,000 afa from the secondary initial supply described above. Even if all 12,000 afa of these two supplies are not forthcoming, however, this change in PCWA's timing with respect to the Sacramento River supply should not adversely affect the build-out of Placer Vineyards. This is because, just as PCWA had to adjust its time frame for pursuing its Sacramento River project, so too have the proponents of Placer Vineyards had to adjust the period in which build-out is predicted. Whereas the SPRRDEIR assumed build-out by approximately 2025, more recent predictions envision build-out occurring as late as 2040. PCWA will monitor the pace of build-out of all development occurring in its service area, and will recommence in earnest its efforts to bring the Sacramento River project to fruition sufficiently in advance of the demand for Sacramento River water to ensure the avoidance of any temporary water hookup moratorium.

PLACER VINEYARDS MITIGATION STRATEGY

NOVEMBER 2012

I. Overview of Open Space, Agricultural Land and Biological Resource Mitigation Strategy

The Placer Vineyards Specific Plan (the "Plan or "Plan Area") is a very large plan encompassing many properties under separate and distinct ownership that will be developed independently over a period of decades in association with numerous individual Clean Water Act permitting actions. Current ownership includes a diverse mix of participating and non-participating developers, investors, and farmers, including many who are unlikely to be involved in the physical development of the property. The cumulative development of property within the Plan provides a substantial portion of the long-term residential and employment growth envisioned for unincorporated Placer County in both the County's General Plan and SACOG's Sustainable Communities Strategy. Accordingly, mitigation planning for Placer Vineyards is an important component of long-term conservation planning for both Placer County and the Sacramento Region.

This Mitigation Strategy was developed in consultation with Placer County, SACOG, the Sierra Club and the Audubon Society to mitigate for the development of individual properties within the Plan Area in a manner that will also be cumulatively effective and supportive of long-term conservation planning goals. The Mitigation Strategy reflects the best available science regarding the aquatic resources and associated habitat known to exist in the Plan Area and Southwest Placer County, including biological information and conservation strategies developed in conjunction with the proposed Placer County Conservation Plan (PCCP). However, any such information utilized from the PCCP planning effort has been carefully reviewed and adapted for the specific purpose of providing effective mitigation that meets all applicable regulatory requirements for development of Placer Vineyards in the absence of an adopted PCCP. At the same time, the proposed Mitigation Strategy is also intended to provide a relatively seamless transition in the event that the proposed PCCP, County in-lieu fee, or other similar conservation plan is adopted during the build-out of the Plan Area.

The cumulative development of the Placer Vineyards Specific Plan is expected to result in substantial, irreversible conversion of the existing natural and semi-natural landscape to urban and suburban use. Although elements of the existing landscape show varying degrees of disturbance and are no longer functioning as a natural ecosystem, the mosaic of open lands in the Plan area cumulatively provides habitat and connectivity for several species. Even loss of intensively farmed land will diminish these regional values.

Most of the natural communities represented in the Plan Area require large contiguous and intact habitat to retain maximum biological function. Avoidance of small patches of communities such as vernal pool grassland may result in short-term avoidance of take of species present, but is generally inconsistent with long-term maintenance of stable species populations due to multiple factors such as reduced population size, loss of contributing hydrology, edge effects, increased non-native species, lack of management oversight, inability to implement management activities due to adjacent land uses, etc. (Placer County 2011). Similarly, compatible agriculture that is important for long-term management of preserved lands is best served by large contiguous blocks of land that can minimize edge effects from surrounding urbanization. For this reason, impacts to agricultural land and biological resources at the natural community level are addressed by designating large areas for conservation outside of the area planned for future growth. Lands designated for conservation through this mitigation measure (the “open space, agricultural land and biological resource mitigation strategy,” “mitigation strategy,” or “strategy”) will include substantial amounts of agricultural land and habitat for affected species, as well as natural communities important for maintaining regional biological diversity. Land designated for conservation will be acquired from willing sellers in fee title and/or protected through establishment of conservation easements.

This strategy mitigates for irreversible land conversion through permanent conservation of large tracts of land with similar land cover, habitat, and agricultural value strategically located off-site in the area described on attached Figure A-1 (the “Reserve Acquisition Area” or “RAA”). The RAA was selected in collaboration with Placer County, SACOG, Sierra Club and Audubon based upon the best available information as the area with the greatest opportunity to create a regionally important expanse of private and public land that will continue to support aquatic functions and meet species needs in the long term with minimal edge effect and fragmentation from urbanization. The mitigation obligations set forth in this Mitigation Strategy are intended to meet all regulatory requirements while, to the greatest extent possible, advancing effective long-term conservation planning. This approach to conservation of agricultural land, wetlands and habitat complements efforts to avoid and/or minimize impacts on-site for key components of the aquatic system, rare habitat, and individual species and is strongly encouraged by the responsible local planning agencies and environmental stakeholders.

The Reserve Acquisition Area where land will be preserved under this mitigation measure is largely comprised of “Important Farmland,” as defined by the State of California Department of Conservation. Most of this land is designated Farmland of Local Importance or Grazing. Many ongoing agricultural activities are consistent with, and essential to, the protection and enhancement of the natural communities that are supported by this land. Accordingly, ongoing agricultural use will be an integral component of the long-term management of preserved lands. The required conservation easements recorded on such lands will specifically encourage compatible agricultural use. As a result, the land preserved under this mitigation measure will also preserve opportunity for agricultural use, thus mitigating for the impacts of lost agricultural land and open space within the Project site, in addition to mitigating for impacts on vernal pool complexes and other ecological features.

The grassland vernal pool land type is mitigated by any grassland without regard to wetted area density. Actual wetted area is accounted for by the separate requirement for wetland mitigation. The wetland mitigation described below can only be carried out if in fact much of the grassland acquired to mitigate land conversion does in fact have a high density of preserved and restored vernal pool. Thus, application of the two measures – land area and wetland area – will jointly provide for conservation of wetland-dependent natural communities. The intent here is to approach the mitigation needs of the Plan through a more holistic approach that better responds to the regional landscape. This approach is similar to the landscape-level approach developed in connection with the PCCP effort, which places emphasis on the value of these resources as an ecosystem, rather than as individual features, while still addressing regulatory requirements for no net loss. As such, this approach reflects the best available scientific evidence relative to the mitigation of wetland impacts in Southwest Placer County. Given the large acreage of the Placer Vineyards Plan Area and the broad impact assumptions that require preservation of large amounts of vernal pool grassland regardless of the wetland density of impacted sites, this approach will ensure acquisition of significant portions of the RAA.

Under this strategy, mitigation to minimize impacts to natural and semi-natural communities falls into three categories:

1. **Mitigation Ratios for Land Cover**. Off-site mitigation is accomplished mainly through mitigation ratios requiring conservation or restoration of a set amount of land calculated as a proportion of land cover conversion or "take." The term "land cover take" as used herein means the conversion of natural or semi-natural lands to urban or suburban use.

2. **Mitigation Ratios for Wetland Area**. Because of their particular regulatory status and their biological importance, wetlands are accounted for separately through mitigation ratios requiring preservation and restoration or creation of a set amount of wetted area calculated as a proportion of wetland "take." It is intended that all of the wetted area mitigation along with all associated upland will be counted towards mitigation required for land cover "take." Likewise, all wetted acres contained within land cover mitigation shall be counted towards wetted area mitigation.

3. **Site Specific Avoidance and Minimization**. Protection of existing resources on site is accomplished through specific avoidance, restoration, and enhancement measures incorporated into the Specific Plan. In addition, separate mitigation measures will be implemented to avoid or minimize on-site impacts to individual species.

The areas included in the RAA, described above, are similar to those targeted for conservation in the proposed PCCP (Figure 5-3). The intent of this mitigation strategy is to contribute towards a regionally-important expanse of contiguous private and public land that will continue to support important aquatic functions, meet species needs in the long term and aid recovery objectives for a broad variety of species, including those targeted for conservation by the County's Biological Working Group (stakeholder group formed by the County to analyze biological information and make recommendations for the conservation strategy of the PCCP) and included in the proposed PCCP (Table 1 below). This regional approach to conservation of agricultural land, wetlands and habitat complements efforts to avoid and/or minimize impacts on site for key components of the aquatic system, rare habitat, and individual species.

Regardless of whether the PCCP is adopted, this Mitigation Plan represents the most sound approach towards mitigation of a very large plan area such as Placer Vineyards. However, the Mitigation Plan has the added benefit of being compatible with the Conservation Strategy being proposed for the PCCP. Thus, if the PCCP is adopted during the build-out of Placer Vineyards, development projects within the Specific Plan may fulfill mitigation requirements by compliance with the terms of the adopted PCCP in lieu of this mitigation strategy, creating a relatively seamless transition. Such compliance shall constitute sufficient mitigation that will obviate the need to comply with the measures herein.

Table 1 – PCCP Covered Species Expected to Benefit from Vernal Pool Grassland Complex and Grassland Conservation	
Vernal Pool Species	**Grassland Species**
Vernal pool fairy shrimp	Swainson's hawk
Vernal pool tadpole shrimp	American peregrine falcon
Conservancy fairy shrimp	Western burrowing owl
Western spadefoot	Loggerhead shrike
Bogg's Lake hedge-hyssop	Northern harrier
Dwarf downingia	Ferrunginous hawk
Legenere	Grasshopper sparrow
Ahart's dwarf rush	Tricolored blackbird
Red Bluff dwarf rush	Western spadefoot

This measure is intended to be compatible with all required state and federal permits related to land conversion, or other regulated activity within habitat covered by state or federal jurisdiction specifically including Federal Clean Water Act Section 404 permits, federal Endangered Species Act Section 7 "incidental take statements," state Endangered Species Act compliance, state "stream bed alteration agreements" and state certification under Clean Water Act Section 401. Any and all conservation, restoration, enhancement, and creation of land cover, natural communities, and wetland features required by any state or federal permitting agency, either in conformity with this strategy or in addition to it, shall be fully credited towards the obligations of this mitigation strategy, regardless of whether such mitigation is achieved through the acquisition of land and/or conservation easements or through the purchase of credits from an approved mitigation bank.

In order to preserve land for agriculture, compatible agricultural use that supports and enhances wildlife value is encouraged on lands conserved under this measure. The goal of conservation easements on farmlands will be to maintain viable agricultural operations while also meeting the biological objectives of this mitigation measure.

This mitigation strategy shall serve as mitigation for all land conversion impacts, specifically including impacts to vernal pools and other wetlands, vernal pool grasslands, grasslands, Swainson's hawk foraging habitat, agricultural land, and open space. No additional mitigation shall be required for these impacts. This strategy shall not apply to the Special Planning Area (SPA) where no urban development is proposed.

II. **Land Cover Mitigation**

A. Mitigation Ratio

For every 1.0 acres of land cover taken, 1.35 acres of land will be conserved. The take area shall be calculated to the nearest one-tenth (0.1) acre. The total amount of required acreage will be automatically reduced by any and all off-site conservation or mitigation land required by any permitting agency, specifically including upland areas required in association with wetland mitigation, whether acquired through mitigation bank credits or other means.

B. Calculation of Land Cover Take

All land within the Specific Plan (not including the SPA area) is included in the calculation of take, with the exception of land that will be maintained in or restored to a natural or semi-natural condition as required by the County and/or any state or federal permitting agency. Figure A-2 and Table A-3 show the take area and take calculation by property based upon the proposed land use and avoidance required for compliance with County standards through adoption of the Specific Plan, prior to consideration of any additional avoidance that may be required by a permitting agency. For purposes of this mitigation measure, the take acreage may only be reduced below that shown on Figure A-2 and Table A-3 to the extent that additional avoidance is required by the County and/or any state or federal permitting agency. Similarly, the take acreage and corresponding mitigation requirements will be increased to the extent that the County and the state and federal permitting agencies allow future development of any area not included in the take calculations as shown in Figure A-2 and Table A-3.

C. Mitigation Land Criteria

Land conserved under this measure shall, to the fullest extent feasible, be located within the Reserve Acquisition Area (Figure A-1).

Impacts to annual grassland, vernal pool grassland, and pasture lands shall be mitigated on existing or restorable grassland (as identified in Figure A-4). All other land cover impacts may be mitigated on any natural or semi-natural land within the RAA, specifically including agricultural land. Vernal pool grassland is mitigated by any grassland without regard to wetted area density. Actual wetted area is accounted for by the separate requirement for wetland mitigation discussed below. The wetland mitigation described below can only be carried out if much of the grassland acquired to mitigate land conversion does in fact have a high density of preserved and restored vernal pool habitat. Application of the two measures – land area and wetland area – will jointly provide for conservation of wetland-dependent natural communities.

In general, the minimum area for a vernal pool conservation site is 200 acres if the site is not contiguous with other reserve lands. Sites of less than 200 acres may be allowed if it is determined that the proposed site has key strategic value for the County's overall conservation strategy or has especially high resource value that can be reasonably protected from edge effects. The area may consist of one or more properties. There is no minimum size for conservation sites that are adjacent to other reserve lands or the Stream System (as identified in Figure A-5). There is also no minimum size for conservation sites incorporating vernal pools that occur on Mehrten Formations. Mehrten vernal pools will only be excluded from consideration if it is determined that existing or future hydrologic, land use, or other characteristics threaten long-term viability.

The vast majority of land targeted for conservation in the RAA is suitable for agriculture and continued agricultural use will be encouraged by the conservation easements required under this mitigation measure. Accordingly, no additional agricultural mitigation will be required beyond the 1.35 to 1 requirement for the take of land cover noted above. Likewise, the land cover mitigation criteria is such that it will also provide suitable foraging habitat mitigation for Swainson's hawk. No additional land mitigation will be required beyond the 1.35 to 1 requirement for the take of land cover noted above for these impacts.

D. Conservation Easement / Management Plans

Conservation sites shall be subject to recorded conservation easements and management plans with an identified funding source for long-term management of conserved lands. The conservation easements and management plans are subject to approval and shall provide for the long-term maintenance of biological functions and values while, whenever feasible, also providing for compatible agricultural use.

E. Use of Mitigation Bank Credits or In-Lieu Fees

Project applicants may use credits from approved conservation or mitigation banks to meet all or a part of the conservation required by this strategy. Specifically, the uplands associated with any bank wetland preservation, restoration, enhancement or creation may be applied towards the Land Cover mitigation requirement provided that the uplands are subject to an appropriate conservation easement and the applicant can demonstrate that the approved mitigation credits include both wetland and upland land cover. Similarly, all or a part of the conservation required by this strategy may be met through an approved in-lieu fee, including both wetland and upland acreage acquired through the in-lieu fee program.

Mitigation and conservation banks must be approved. Credits can count toward mitigation obligations if the banks are consistent with the requirements of state and federal natural resource agencies. Any out-of-county bank must have a service area that extends into the Plan area.

F. Use of Excess Mitigation Assigned from Other Projects in Specific Plan

It is anticipated that, depending on the availability and relative parcel size of potential conservation sites, some projects within the Specific Plan may provide land cover mitigation in excess of the acreage required by this strategy. Excess mitigation may be freely assigned by private agreement between projects within the Specific Plan. Such assignment will be documented and tracked. Project applicants may apply excess mitigation assigned from other projects in the Specific Plan to meet all or a part of the land cover mitigation required by this measure provided proof of assignment can be provided.

G. Out-of-County Mitigation

A limited amount of out-of-county mitigation may be allowed that meets the biological intent of this mitigation strategy. In addition, credits from out-of-county conservation or mitigation banks may be accepted towards full or partial compliance with this measure, if the project is within the agency-approved service area for the credits. Such mitigation will be fully credited towards any mitigation required by this mitigation strategy.

In order to receive credit towards the obligations of this Mitigation Strategy, any conservation outside the RAA, including the purchase of credits from a mitigation bank, must adhere to the criteria, below:

It is intended that the main part of the Reserve System will be established within the RAA. There are several places outside the RAA where conservation management activities to improve watershed integrity would serve the mitigation strategy. Cooperative conservation actions in these areas could also benefit the reserve system by expanding the resource available for a reserve, increasing contiguous reserve size, or improving connectivity, particularly in a high priority watershed. Figure A-6 depicts the location where acquisition and management of conservation could occur. Lands that may meet these needs are:

- Land along the Placer/Sutter County border, in particular, the lower portion of the Coon Creek and Auburn Ravine.
- Portions of the floodplain along the Bear River that is within the Coon Creek watershed within Sutter County.
- Lands contained within the levees of the Natomas East Main Drainage, Cross Canal, Pleasant Grove Creek Canal, and East Side Canal for conservation actions which improve fish passage and water quality for salmonids in Placer County.
- Mitigation and Conservation Banks approved by the Wildlife Agencies and/or the ACOE that contain the Plan area within the service boundary. Mitigation and Conservation Banks locations are not depicted on Figure A-6.

III. Wetland Mitigation

A. Overlap with Land Cover Mitigation

Because of their particular regulatory status and their biological importance, wetlands are accounted for separately through mitigation ratios requiring preservation and/or restoration of a set amount of wetted area calculated as a proportion of wetland take. These wetted acres, along with any upland area that is conserved in association with the wetted acres, are fully credited towards the required land cover mitigation. In other words, it is intended that all of the wetland mitigation will be counted towards land cover mitigation requirements. Likewise, all wetted acres contained within land cover mitigation shall be counted towards wetland mitigation.

B. Calculation of Wetland Take

Wetland take is calculated as all wetland area that falls in the Land Cover take area as defined in Section II.B. above.

In practice, certain wetland types are not easily distinguished and often intergrade. This mitigation strategy minimizes the effect of field interpretation by applying the same ratios for all wetland types and by allowing broad latitude for out-of-kind mitigation. For the purposes of applying mitigation requirements, the definition of vernal pool wetland habitat includes vernal pools and depressional areas within vernal swales, ephemeral drainages, and other seasonal wetlands.

Any wetland area required to be avoided, restored, and/or enhanced on site by the County and/or any permitting agency is automatically excluded from the take calculation.

Mitigation at the time of impact will be subject to a finding of baseline consistency with land cover conditions as of 2009/11 (based upon 2009 LIDR and 2011 air photos). If the County suspects, based on inconsistency with this information or other similar information, that wetland area may have changed from baseline conditions, it may require that a baseline consistency analysis be prepared and submitted to the County for review and approval. The baseline consistency finding requires all of the following:

a. Property land uses are essentially the same property land uses present in 2009/11 as determined by available data.
b. There is no evidence that the property has been mass-graded without proper authorization.
c. The micro-topography and hydrology of the property are substantially unchanged from 2009/2011conditions.
d. Creeks, swales and other drainage in same location (within 100 feet).
e. At least 70 percent of ponded water and/or other wetlands are still present on the property.
f. The proportion of parcel area in a topographic depression (depressional index) has not been diminished by more than 20 percent from the 2009/2011 index.

The baseline consistency finding establishes a comparison of resources. A finding of non-consistency does not establish responsibility for changes to the land-cover type. Foreseeable changes such as drought, arson fire or flood may result in non-consistency. However, if an apparent significant change in baseline land-cover is detected, the changes will be reviewed to determine if baseline land-cover information was inaccurate in 2009/11 or if land-cover conditions have in fact changed significantly. If land-cover conditions have changed significantly, the baseline land-cover conditions will be used as the basis for determining these mitigation strategy requirements. If a mapping error occurred, then mitigation will be based on existing land cover type at the time the consistency finding was requested.

C. Mitigation Ratio: Preservation

For each 1.00 acres of vernal pool take, 1.00 acres of vernal pool will be preserved. For the purposes of both take and mitigation under this measure, vernal pools include seasonal depressional wetlands. For each 1.00 acres of take of any other wetland type, the preservation requirement may be met by preserving 1.00 acres of any wetland type without regard for in-kind mitigation. The preservation requirement for open water may be met through preservation of 1.00 acres of open water or any wetland type for each 1.00 acres of take. The total amount of required wetland preservation under this strategy will be automatically reduced by any and all wetland preservation required by any permitting agency. For the purposes of calculating the amount of preservation, the take calculation shall include any identifiable quantity of the resource affected.

D. Mitigation Ratio: Restoration, Enhancement and Creation

As indicated in Table 2 below, for each 1.00 acres of vernal pool take, 1.25 acres of compensatory wetlands will be restored, enhanced or created, including a minimum of 0.75 acres of vernal pool and no more than 0.50 acres of other wetlands. For the purposes of both take and mitigation under this strategy, vernal pools include seasonal depressional wetlands. For each 1.00 acres of take of any other wetland type, the compensatory restoration, enhancement and creation requirement may be met by restoring, enhancing and/or creating 1.25 acres of any wetland type without regard for in-kind mitigation. The compensatory requirement for open water may be met through restoration, enhancement or creation of 1.25 acres of open water or any wetland type for each 1.00 acres of take. The total amount of required compensatory wetland restoration, enhancement, or creation under this strategy may be reduced by wetland preservation required by a permitting agency greater than the wetland preservation amount required by this mitigation strategy. However, in no event shall the compensatory requirement be reduced to below 1.00 by excess preservation. For the purposes of calculating the amount of restoration, enhancement, or creation, the take calculation shall include any identifiable quantity of the resource affected.

In some circumstances, enhancement of existing wetland habitat may add greater wetland function and value to the aquatic system and conserved natural communities than restoration of previously existing or degraded features or creation of new wetland habitat. Consistent with the criteria below, enhancement may be allowed to apply towards the restoration requirement, provided that the enhanced features may not also be applied towards the preservation requirement. In limited circumstances, creation of new wetland features may also be appropriate and beneficial. If approved, created wetlands will apply towards the restoration requirement.

Restored, enhanced and created wetland habitat can help expand and link existing high quality vernal pool complexes that have been become fragmented in the landscape, losing some of their native community value.

Table 2. Mitigation Ratios for Impacts to Wetlands: Valley and Foothills

	Preservation Ratio	Restoration Ratio	Mitigation Community Type
Vernal pool (1)	1:1	1.25:1	Preservation: All vernal pool Restoration: 0.75 minimum vernal pool up to 0.50 may be any wetland
Open water	1:1	1.25:1	Open-water or any wetland type
Fresh emergent wetland	1:1	1.25:1	Any wetland (2)
Other seasonal wetland Spring and seep	1:1	1.25:1	Any wetland

1) Vernal pools include seasonal depressional wetland.
2) California Black rail habitat must be mitigated in-kind where it occurs.

E. Restoration

Vernal pool complexes have been degraded in western Placer County and throughout their range by direct disturbance, invasion of non-native species, or by alteration of hydrological patterns, primarily due to agricultural use. For many complexes, habitat restoration may be necessary to regain proper functioning of a vernal pool ecosystem (USFWS 2005). Furthermore, vernal pools and other wetlands will be restored and created to provide compensatory mitigation for take and to ensure no net loss of wetted area. The goal of restoration is to return natural wetland functions to areas where historic wetland landscapes and features have been converted or heavily degraded.

Vernal pool habitat will be restored where soils and hydrologic conditions will support long-term viability, natural topography can be reproduced and evidence indicates the historical presence of vernal pools. Restoration plans will use nearby, natural, high-quality pools as well as historical evidence as models. Restoration plans will consider the size and depth of pools to be constructed, hydrologic connections within complexes, depth from soil surface to hardpan, and upland area to pool-area ratios (USFWS 2005).

Restoration of previously disturbed vernal pool complexes is to be based on whether restoration is likely to increase vernal pool density (as measured in wetted-per-total acre) without exceeding the density present in 1937 aerial photos or other information approved by USFWS and/or CDFG and without harming existing vernal pools. Additional criteria will include whether or not sites occur outside of the Stream System, historically supported vernal pools (based on 1937 and 1938 aerial photos or other information approved by USFWS and/or CDFG), have hydrological conditions that ensure vernal pool complexes can be restored and protected in perpetuity, and have not been laser-leveled for agriculture or other uses.

Clearly defined objectives will be identified for all restoration projects. Success criteria will be established before each restoration plan is implemented. Monitoring of restored and created vernal pools in Placer County indicates that future restoration in the proposed locations has a high potential for success. It is essential that the Mitigation Strategy require an effective monitoring and adaptive management program in order to ensure the success of vernal pool restoration, enhancement and creation.

F. Enhancement

The goal of enhancement is to improve wetland functions and values in areas where they have been degraded, but not entirely lost. Although qualifying enhancement actions will be determined by the County on a case-by-case basis, they will be conducted to ameliorate the specific threats that occur on each site. Specific threats to vernal pool grasslands include modification to the duration of inundation and hydro-period due to changes in the hydrology of surface flows and perched groundwater flows; non-native vegetation (including annual grasses and noxious weeds); impacts from recreational use; impacts to water quality; non-native predators; and decreased pollination and dispersal of vernal pool species due to impacts to vernal pool uplands. Therefore, actions for maintaining and enhancing preserves with vernal pool grasslands may include restoration of vernal pool topography; restoration of vernal pool isolation; re-introduction of vernal pool cysts, seeds and/or plants; restoring and enhancing vernal pool water quality; and invasive plant control.

G. Creation

Creation is generally considered more appropriate for other wetland types than for vernal pools. In some cases creation of wetland habitat may be necessary to mitigate for lost resources. Creation is the construction of wetland features where none have existed historically (as compared to restoration which can include the construction of wetland habitat in areas that historically contained wetlands).

Little data exists to assess the long-term success of the creation of vernal pools. Preliminary results indicate that some created vernal pools have vernal pool fairy shrimp, vernal pool tadpole shrimp and other invertebrates and plants native to vernal pools (De Weese 1998; EcoAnalysts 2009). Creation of vernal pools within a vernal pool complex of existing pools is not recommended by the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005) because it may alter the hydrology of the existing pool system and may have an adverse effect on ground nesting bees and other upland plant and animal species. Therefore, the use of vernal pool creation as a strategy to mitigate for lost resources will be minimized. Rather, conservation efforts will focus on preservation and enhancement of existing high quality vernal pools, with restoration serving to supplement preservation to protect and restore vernal pool complexes at the levels of the landscape and local watershed and to mitigate for resources lost. Creation of vernal pools must be approved by the appropriate resource agencies to receive credit for mitigation under this measure. Vernal pool creation credits from an approved mitigation bank may apply towards this mitigation requirement. The bank must be acceptable and consistent with the requirements of state and federal natural resource agencies. Any out-of-county bank must include a service area that extends into the Placer Vineyards Specific Plan area.

H. Uplands and Buffer Requirements

Wetland preservation, restoration, enhancement and creation shall be accompanied by the associated uplands and hydrology necessary to sustain long-term viability in a natural or restored environmental setting. To minimize edge effects from adjacent urban and suburban land, vernal pools should be no closer than 250 feet from existing or planned urban or suburban development or located such that adequate hydrology can be maintained in the event of future development.

I. Conservation Easements / Management Plans

It is anticipated that most wetland preservation, restoration, enhancement and creation will be accomplished on land conserved to meet the land cover mitigation requirement and will be subject to the required conservation easements and management plans. However, if additional lands are conserved to meet the wetland mitigation requirement, the same requirements for conservation easements and management plans apply.

J. Use of Mitigation Bank Credits and In-Lieu Fee

Consistent with the requirements listed above, project applicants may use credits from approved conservation or mitigation banks or in-lieu fees to meet all or a part of the wetland mitigation required by this strategy.

K. Use of Excess Mitigation Assigned from Other Projects in Specific Plan

It is anticipated that, depending on the density of wetlands on land conserved to meet the land cover mitigation requirement, some projects within the Specific Plan may provide wetland mitigation in excess of the acreage required by this strategy. Excess mitigation may be freely assigned by private agreement between projects within the Specific Plan. Such assignment will be documented and tracked. Project applicants may apply excess mitigation assigned from other projects in the Specific Plan to meet all or a part of the wetland mitigation required by this strategy provided proof of assignment can be demonstrated.

L. Out-of-County Mitigation

A limited amount of out-of-county mitigation may be allowed that advances the conservation goals and meets the biological intent of this mitigation strategy. In addition, credits from out-of-county conservation or mitigation banks shall be accepted towards full or partial compliance with this strategy, if the project is within the agency-approved service area for the credits.

In order to receive credit towards the obligations of this mitigation strategy, any conservation outside the RAA, including the purchase of credits from a mitigation bank, must adhere to the criteria below.

It is intended that the main part of the Reserve System will be established within the RAA. There are several places outside the RAA where conservation management activities to improve watershed integrity would serve the mitigation strategy. Cooperative conservation actions in these areas could also benefit the reserve system by expanding the resource available for a reserve, increasing contiguous reserve size, or improving connectivity, particularly in a high priority watershed. Figure A-6 depicts the location where acquisition and management of conservation could occur. Lands that may meet these needs are:

- Land along the Placer/Sutter County border, in particular, the lower portion of the Coon Creek and Auburn Ravine.
- Portions of the floodplain along the Bear River that is within the Coon Creek watershed within Sutter County.
- Lands contained within the levees of the Natomas East Main Drainage, Cross Canal, Pleasant Grove Creek Canal, and East Side Canal for conservation actions which improve fish passage and water quality for salmonids in Placer County.
- Mitigation and Conservation Banks approved by the Wildlife Agencies and/or the ACOE that contain the Plan area within the service boundary. Mitigation and Conservation Banks locations are not depicted on Figure A-6.

IV. Site Specific Avoidance and Minimization

The Specific Plan design incorporates measures for preserving and enhancing critical aquatic resources on-site. The Specific Plan Area incorporates a 709-acre open space area that restores historic habitat linkages and habitat quality through the Plan Area. Specific areas that exhibit habitat degradation through historic land use were identified and will be enhanced under the Specific Plan. Large contiguous areas that exhibited habitat integrity have been preserved with adequate buffers to protect aquatic function. The Specific Plan incorporates minimization and low-impact development strategies to minimize long-term habitat degradation within avoided open space areas. This Specific Plan level avoidance and minimization is reflected in Figure A-2. Additional on-site avoidance of habitat is not encouraged and is generally considered to be inconsistent with the core strategy of creating large-scale preserves located in areas that can be more readily linked and expanded to create a sustainable ecosystem at a landscape level.