ANNUAL WORK PLAN FOR THE FISCAL YEAR 2009-2010
(October 2009 - September 2010)

ON THE

SKUNK HOLLOW VERNAL POOL PRESERVE (S028)

Prepared for

United States Fish and Wildlife Service
California Department of Fish and Game
And
Riverside County Habitat Conservation Agency

Prepared by

Center for Natural Lands Management

Prepared by: Kim Klementowski, Preserve Manager; kklementowski@cnlm.org
Reviewed by: Deborah L. Rogers, Director of Conservation Science; drogers@cnlm.org
215 West Ash Street
Fallbrook, CA 92028
Phone/Fax: 760.731.7790
www.cnlm.org

November 2009

Table of Contents

I. Introduction

The Barry Jones Wetlands Mitigation Bank (referred to here as Skunk Hollow Vernal Pool Preserve) was established in 1997. The Memorandum of Agreement between United States Army Corps of Engineers, United States Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG) and Pacific Bay Homes made credits available for off-site compensatory mitigation for unavoidable impacts to wetlands and waters of the United States, particularly for the Rancho Bella Vista Project (MOA 1997). The project area includes a variety of sensitive biological resources, including Skunk Hollow, a 33-acre vernal pool supported within a 186-acre watershed (Figure 1). The Rancho Bella Vista Habitat Conservation Plan (RBVHCP) was developed to protect and conserve these sensitive resources. A Conservation Easement was recorded over the property known as Skunk Hollow in 2002 in favor of CDFG (CE 2002). Although the bank is still open and wetlands preservation credits remain available through McCollum Associates, Pacific Bay Homes was required to fully fund the endowment. The Center for Natural Lands Management (CNLM) received fee title and management responsibilities in 2003.

The Skunk Hollow Vernal Pool Preserve (Preserve) protects the entire 33-acre (13.4 ha) vernal pool along with approximately 107 ac (43.3 ha) of the pool's upland watershed. The watershed being preserved within the Preserve represents approximately 90 percent of the currently functioning watershed for the pool. An additional 13 ac (5.3 ha) are preserved outside of the Preserve, bringing to approximately 98 percent the amount of the pool's watershed under permanent protection. The Preserve supports several state and/or federally-listed plant and animal species or their habitats, including California Orcutt grass *(Orcuttia californica*), Riverside fairy shrimp (*Streptocephalus wootoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), San Diego ambrosia (*Ambrosia pumila*), Quino checkerspot butterfly (*Euphydryas editha quino*), coastal California gnatcatcher (*Polioptila californica californica*), and Stephens' kangaroo rat (*Dipodomys stephensi*), as well as numerous other sensitive species.

The Preserve also provides open space that links the Riversidean sage scrub conservation area within the Rancho Bella Vista development project with the Johnson Ranch/Roripaugh Ranch Preserve, and ultimately to the Metropolitan Water District's Lake Skinner East Side Reservoir Preserve and the Southwestern Riverside County Multispecies Reserve (Figure 2).

This Annual Work Plan has been developed from the goals and objectives set forth in the Management Plan for the Barry Jones Wetlands Mitigation Bank (CNLM 2006). The purpose of this Annual Work Plan is to identify the tasks and budget required to complete the management activities for the upcoming fiscal year (October 1, 2009 through September 30, 2010). Unless otherwise stated, all tasks will be performed by CNLM's staff. All activities that require a permit will be performed by someone who has the appropriate permit.

The primary management objectives for the Preserve are (CNLM 2006):

1) Contribute to the preservation and restoration of endangered and threatened species.

2) Contribute to the preservation and restoration of sensitive species not currently listed.

3) Protect the hydrologic quality and integrity of the vernal pool.

4) Increase awareness and build a supportive constituency for the preserve within the planned communities adjacent to the property.

Summary of Goals (○) and Associated Tasks (●) for the 2009-2010 Fiscal Year
The following is a list of tasks to be completed during the year. More detailed explanations of each task, and methods for accomplishing them, are included in the following pages.

- Monitor sensitive animal and plant community structure or abundance
  - Monitor plant community on vernal pool transects
  - Document and inventory birds at Skunk Hollow
  - Survey for presence of larval stages of amphibians
  - Monitor fairy shrimp through wet sampling
- Monitor the physical and chemical characteristics of the vernal pool
  - Map, photograph, and monitor water chemistry
- Maintain habitat and ecological resources for listed or sensitive species
- Support and conduct ecological research that will help reach management objectives
  - Continue to monitor experiment to determine better of three grassland management techniques (mowing, grazing, and fire)
    - Monitor response of vegetation and Stephens' kangaroo rat
    - Monitor artificial burrowing owl burrows in centers of plots
- Maximize the functionality of the Preserve as a wildlife corridor
  - Maintain wildlife-passable fences
  - Control weeds in 20 acres that was hydroseeded with sage scrub species
- Protect native species from negative impacts of trespassing
  - Control access of unauthorized people, vehicles, livestock, and domestic pets into the Preserve by patrolling and maintaining signs, fencing, gates, and locks
- Improve management capabilities
  - Maintain fuel breaks around the perimeter where structures are present on adjacent parcels
- Prepare plans and maintain records for Preserve activities
  - Prepare annual management (work) plans for approval by USFWS
  - Prepare annual report of biological conditions, management activities, and financial status for USFWS, the Riverside County Habitat Conservation Agency (RCHCA), and CDFG

Appendix 1 (*Annual Task Schedule*) identifies the approximate schedule of field work throughout the fiscal year. Appendix 2 (*Annual Budget Task Detail*) provides a financial summary for both anticipated staff time and other costs for the year.

II. Management Activities

The following sections identify and describe the activities to be performed during the next fiscal year. Based upon the Property Analysis Record (PAR©) developed by CNLM to outline long-term management tasks and costs, management activities for the Preserve can be broken down into six tasks: Biotic Surveys, Field Equipment, Habitat Maintenance, Office Maintenance, Operations, and Reporting. Each of these categories is discussed below.

A. Biotic Surveys

1. Vernal Pool Monitoring
   In 2008, a vernal pool flora monitoring protocol was tested (Figure 3 & Appendix III). The objective of this monitoring protocol is to monitor distribution and relative abundance of rare native (i.e., Orcutt's grass) and nonnative plants. This protocol will likely be refined in 2010 to better inventory the pool and to ensure methods can detect small amounts of change in species composition from year to year (the pool did not fill in 2009, therefore sampling and refinement of protocols did not occur). If there is a 20% increase of nonnative plant cover compared to baseline, extra efforts will be made to control nonnatives.

2. Avian Surveys
   No formal bird surveys are planned, although any birds observed on the site will be documented and amended to the cumulative species list being maintained by CNLM.

3. Amphibian Surveys
   Depending on when (or if) the vernal pool fills in 2010, surveys for larval amphibians will be conducted. This work will likely be done in conjunction with fairy shrimp surveys.

4. Fairy Shrimp Surveys
   The Skunk Hollow Vernal Pool and two other ephemeral pools on the Preserve will be sampled following USFWS protocol and will be sampled once every two weeks if the timing and amount of precipitation allow pools to fill. Both *Streptocephalus woottoni* and *Brachinecta lynchi* have been documented in the Skunk Hollow Vernal Pool. The objective of monitoring in 2010 is to gain a complete inventory of all branchiopod species within the pools on the Preserve and to confirm the presence of a third species of shrimp in Skunk Hollow as reported Eng et al (1990) and in Simovich and Fugate (1990). Furthermore, in 2010, we would like to develop a systematic approach to surveying Skunk Hollow due to its large size. Fairy shrimp will be inventoried by Lee Ann Carranza, CNLM's Preserve Manager in Orange County. She has a USFWS permit to do so.

5. Water Quality Monitoring
   During fairy shrimp sampling, water chemistry will be monitored using a handheld multi-parameter water quality sensor.

B. Field Equipment

CNLM vehicles will be used to conduct management activities and some field supplies will be purchased this fiscal year.

C. Habitat Maintenance

1. Fuels Management

   There is a dirt road along the perimeter of the Preserve adjacent to properties with structures. This road will be maintained as the primary fuel break. Along the edge of this road, a 30' mowed strip will also be maintained as a reduced fuels zone.

2. Treatment of nonnative plants

   a) *Vernal pool.* In 2008, CNLM documented three species of nonnative grasses occupying Skunk Hollow and eight species of nonnative grasses in the ecotone between the vernal pool and grassland surrounding the pool. As described in Zedler (1990), *Crypsis* species make up a large component of the vernal pool community. According to preliminary analysis of vernal pool transect data taken in 2008, *Crypsis* species occurred in an average of 27% of quadrats. Perhaps more interesting is cover of *Polypogon monspeliensis*, which occurred in an average of 46% of quadrats. In spring 2010, the nonnative vegetation will be hand-pulled where sensitive plant species are found.

   b) *Mowing of hydroseed area.* In FY 2006-2007, CNLM staff wrote a proposal for and CNLM was granted funds from the USFWS Partner's for Fish and Wildlife Grant Program for the restoration of a 20-acre strip of former agricultural field to sage scrub. This 20-acre strip stretches from Johnson Ranch through the Preserve (Figure 4) and is designed to create a habitat linkage between the high-quality sage scrub at the neighboring Johnson Ranch and the high-quality sage scrub on the western side of the Preserve and the future Rancho Bella Vista Preserve. The area has been hydroseeded and we have committed to doing weed control in this restoration area. We will mow the hydroseeded area to reduce nonnative grass cover in 2010.

3. Stephens' kangaroo rat habitat management study

   An extension of the study that was initiated in 2008 for CNLM's March Stephens' Kangaroo Rat (SKR) Preserve was also implemented in the former agricultural fields on the Preserve. This study tests which method of vegetation management will better enhance the annual grasslands for SKR: burning, grazing, or mowing (CNLM 2007, Figure 4). This study is funded from another source and Preserve's budget does not cover this activity. Seven 2.68-acre plots were established on the Preserve in 2008. These plots were treated in 2008 and 2009 and will be monitored for up to five years. No treatments will be applied in 2010, only monitoring will be conducted.

4. Installation of artificial burrows
   In September 2007, CNLM applied for $21,235 from the CDFG's Natural Community Conservation Plan's Local Assistant Grant Program to install and monitor artificial burrows for burrowing owls in the centers of the SKR habitat management experimental plots on this and other Preserves (see C.2.c above, Figure 4 and Appendix 4). Artificial burrows will be monitored over two years and results will assist in the understanding of the constituents of suitable habitat for these owls, thus informing future management for owl habitat.

D. Office Maintenance

CNLM staff will maintain offices in an organized manner to facilitate maximum efficiency. The budget includes costs for rent, utilities, equipment, and supplies. Costs for these items were budgeted evenly throughout the year.

E. Operations

Operations costs include liability insurance and annual audits, supervisor site visits, staff training, and vacation time. Approximately $2,137 is due this fiscal year to Eastern Municipal Water District for water standby fees. Although the property is unable to be developed, and therefore will never have a need for water services, the Eastern Municipal Water District will not exempt the Preserve from paying these fees.

F. Public Services

Although no funding was specifically allocated for patrolling the Preserve, fences and gates will be checked and trash will be picked up regularly while on the site for other tasks.

G. Reporting

1. Annual Report
   Early in FY 2009-2010, an annual report will be submitted to the USFWS and CDFG detailing the results of management activities during FY 2008-2009. This report will include recommendations for the continuation of various activities for the following fiscal year.

2. Work Plan
   A work plan for FY 2010-2011 will be completed near the end of FY 2009-2010. The work plan will be based upon the Management Plan and experiences during previous years' management. This work plan will be submitted to the USFWS, CDFG, and RCHCA following approval of the budget by CNLM's Board of Directors.

H. Contingency

Although not listed in the Budget Task Detail in Appendix 2, contingency funds, equal to 10% of the operational budget, are set aside for emergency use only.

III. Workload and Budget

A. Supervision and Staffing.

Preserve reports and plans are reviewed by CNLM's Director of Conservation Science, Deborah Rogers. The Preserve Manager, Kim Klementowski, will supervise the Assistant Preserve Manager, Keith Haworth, and a Seasonal Assistant Preserve Manager.

B. Budgeting.

A budget has been prepared for the next fiscal year (Appendix 2). The total budget is approximately $15,469, of which $8,967 is discretionary (i.e., after insurance, audit, and administrative costs are removed) for preserve management. Every effort will be made by Preserve Management staff to allocate time and expenses according to this estimated budget.

IV. REFERENCES

CNLM. 2006. Management Plan for the Barry Jones Wetlands Mitigation Bank. 23pp.

CNLM. 2006. Annual Report for the Fiscal Year 2006 on the Barry Jones Wetland Mitigation Bank. 13pp.

CNLM. 2007. Annual Work Plan for the Fiscal Year 2008 on the AD161 Preserves. 24pp.

CNLM. 2007. Annual Work Plan for the March Stephen's Kangaroo Rat Preserve.

Eng, L. L., Belk, D., and C.H. Eriksen. 1990. Californian Anostraca: distribution, habitat, and status. *Journal of Crustacean Biology* 10: 247-277.

Simovich, M.A. and M. Fugate. 1990. Preliminary studies of Anostracans of Skunk Hollow. *In* Zedler, P. H., C. Frazier, E. Corets, and C. Black. 1990. Ecological studies and management recommendations for the Skunk Hollow vernal pool, Riverside County, California. Prepared for Lane Kuhn Pacific Communities.

Zedler, P. H., C. Frazier, E. Corets, and C. Black. 1990. Ecological studies and management recommendations for the Skunk Hollow vernal pool, Riverside County, California. Prepared for Lane Kuhn Pacific Communities.

V. FIGURES

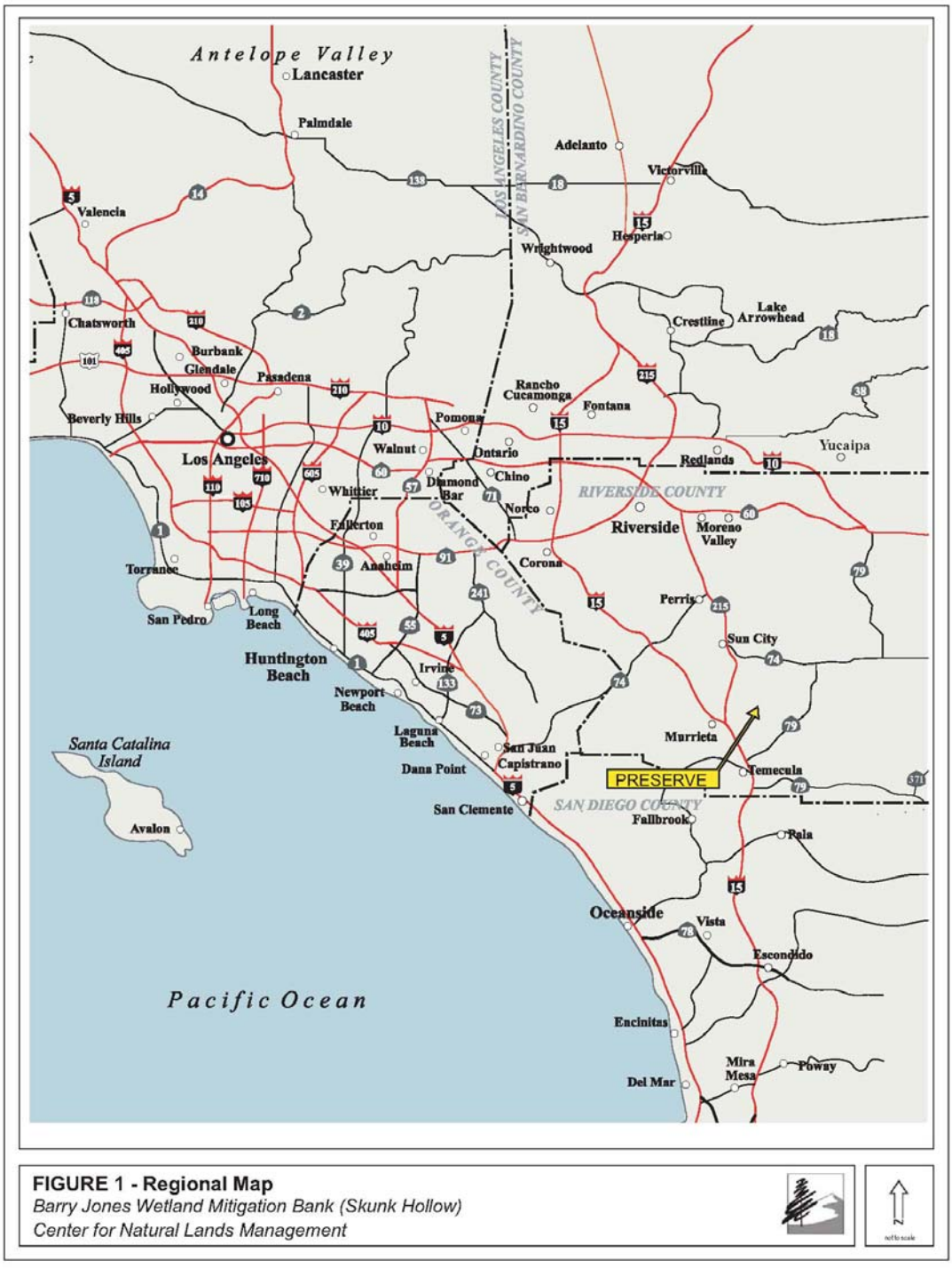

FIGURE 1 - Regional Map
Barry Jones Wetland Mitigation Bank (Skunk Hollow)
Center for Natural Lands Management

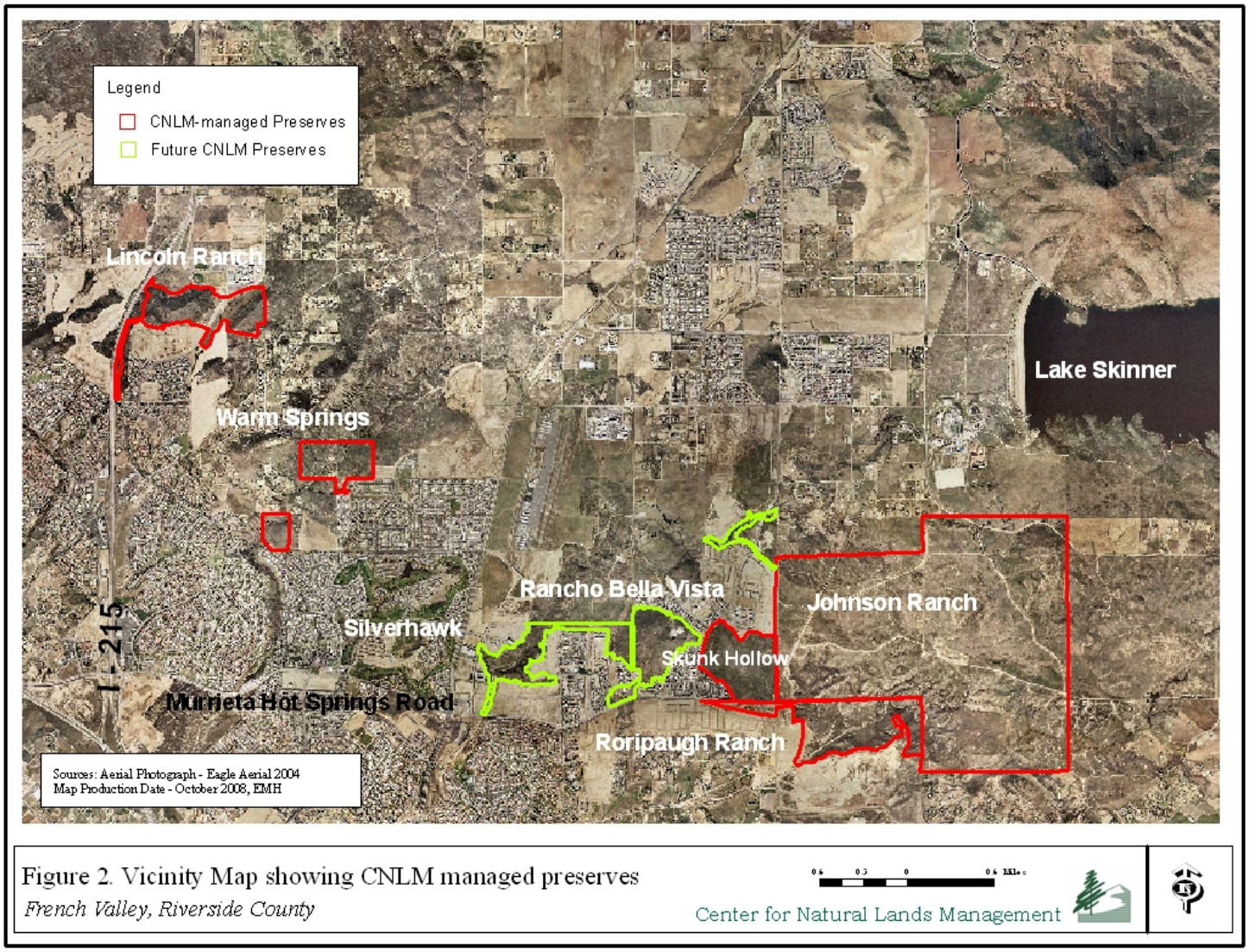

Figure 2. Vicinity Map showing CNLM managed preserves
French Valley, Riverside County

Center for Natural Lands Management

Figure 3. Vernal pool vegetation monitoring transect locations

Skunk Hollow Preserve - Riverside County

Figure 4. Locations of proposed management activities - 2010

Skunk Hollow Preserve - Riverside County

VI. APPENDICES

Appendix 1: Annual Task Schedule

Task	Oct to Dec 2009	Jan to March 2010	April to June 2010	July to Sept 2010
Fencing/Trash pick up	X	X	X	X
Fairy Shrimp Surveys		X	X	
Larval Amphibian Surveys		X	X	
Artificial Burrowing Owl Burrow Installation	X			
Fire Break Maintenance			X	X
Plant Surveys		X	X	
Nonnative plant control		X	X	
Plans/Reports	X			X

Appendix 2: Budget for Fiscal Year 2009

Budget Task Detail
Skunk Hollow VP Preserve
Annual Budget for Yr 2009-2010
Initial and Capital Expenses

08/10/2009

Task list	Specific Description	Unit	Reinvestment	Quantity	Rate	Num Yrs	Cost	Contingency	Administration	Total Cost
Biotic Surveys										
Entomologist	Fairy Shrimp	L. Hours		18.50	47.88	1	885.78	0.00	212.58	1,098.36
Entomologist	QCB Survey	Contract		15.00	75.00	1	1,125.00	0.00	270.00	1,395.00
General Wildlife	Wildlife Camera	L. Hours		12.00	30.11	1	361.32	0.00	86.71	448.03
Plant Ecologist	Vernal Pool Veg	L. Hours		20.00	20.00	1	400.00	0.00	96.00	496.00
Plant Ecologist	Vernal Pool Veg	L. Hours		20.00	30.11	1	602.20	0.00	144.52	746.72
Science Director	Coordination/Overs	L. Hours		7.50	50.00	1	375.00	0.00	90.00	465.00
Sub total							3,749.30	0.00	899.83	4,649.13
Field Equipment										
Power Tools	Misc. Tools	Item		1.00	200.00	1	200.00	0.00	48.00	248.00
Vehicle	Mileage (4x4)	Mile		1,000.00	0.55	1	550.00	0.00	132.00	682.00
Sub total							750.00	0.00	180.00	930.00
Habitat Maintenance										
Exotic Plant Control	Handpull Vernal	L. Hours		8.00	30.11	1	240.88	0.00	57.81	298.69
Exotic Plant Control	Handpull Vernal	L. Hours		32.00	20.00	1	640.00	0.00	153.60	793.60
Exotic Plant Control	Mowing	L. Hours		20.00	26.52	1	530.40	0.00	127.29	657.69
Fire Breaks	Maintenance	L. Hours		20.00	26.52	1	530.40	0.00	127.29	657.69
Plant Procurement	Nassella plugs	Item		300.00	2.00	1	600.00	0.00	144.00	744.00
Revegetation	Volunteer planting	L. Hours		8.00	30.11	1	240.88	0.00	57.81	298.69
Sub total							2,782.56	0.00	667.81	3,450.37

NOTE: Because the values are rounded, there may be small errors.

Budget Task Detail

Skunk Hollow VP Preserve

Annual Budget for Yr 2009-2010

Initial and Capital Expenses

08/10/2009

Task list	Specific Description	Unit	Reinvestment	Quantity	Rate	Num Yrs	Cost	Contingency	Administration	Total Cost
Office Maintenance										
Computer, PC,Monitor,	Maintenance	Item		1.00	30.75	1	30.75	0.00	7.38	38.13
Office Supplies,	Supplies	Annual		1.00	34.78	1	34.78	0.00	8.34	43.12
Telephone	Telephone	Item		1.00	57.31	1	57.31	0.00	13.75	71.06
Sub total							122.84	0.00	29.48	152.32
Operations										
Audit	Audit-cost share	Annual		1.00	176.97	1	176.97	0.00	42.47	219.44
Employee Training	Retreat	L. Hours		2.00	26.52	1	53.04	0.00	12.72	65.76
Employee Training	Retreat	L. Hours		2.00	30.11	1	60.22	0.00	14.45	74.67
Employee Training	Retreat	Annual		1.00	98.44	1	98.44	0.00	23.62	122.06
Insurance	Liability/fee	Annual		1.00	350.89	1	350.89	0.00	84.21	435.10
Insurance	Pesticide liability	Annual		1.00	64.48	1	64.48	0.00	15.47	79.95
Taxes Or Fees	Misc.	Annual		1.00	2,137.40	1	2,137.40	0.00	512.97	2,650.37
Travel	Vacation/Holiday	L. Hours		10.00	26.52	1	265.20	0.00	63.64	328.84
Travel	Vacation/Holiday	L. Hours		10.00	30.11	1	301.10	0.00	72.26	373.36
Sub total							3,507.74	0.00	841.85	4,349.59
Public Services										
Access Control	Enforcement	L. Hours		8.00	26.52	1	212.16	0.00	50.91	263.07
Community Outreach	Meetings	L. Hours		8.00	30.11	1	240.88	0.00	57.81	298.69
Interpretive Literature	Copy	Page		500.00	1.00	1	500.00	0.00	120.00	620.00
Sub total							953.04	0.00	228.72	1,181.76

NOTE: Because the values are rounded, there may be small errors.

Budget Task Detail
Skunk Hollow VP Preserve
Annual Budget for Yr 2009-2010
Initial and Capital Expenses

08/10/2009

Task list	Specific Description	Unit	Reinvestment	Quantity	Rate	Num Yrs	Cost	Contingency	Administration	Total Cost
Reporting										
Agency Report	Annual Report	L. Hours		8.00	30.11	1	240.88	0.00	57.81	298.69
Annual Work Plan	Plan And Par	L. Hours		8.00	30.11	1	240.88	0.00	57.81	298.69
Maintenance Report	Monthly Report	L. Hours		2.00	26.52	1	53.04	0.00	12.72	65.76
Maintenance Report	Monthly Report	L. Hours		2.50	30.11	1	75.28	0.00	18.06	93.34
Sub total							610.08	0.00	146.41	756.49
Sub Total for All Categories							12,475.56	0.00	2,994.13	15,469.69

NOTE: Because the values are rounded, there may be small errors.

Appendix 3. Skunk Hollow Vernal Pool Vegetation Monitoring Protocol

Sampling objective:
Use a combination of quad size and sample size that allows us to be 90% sure of detecting a 20% change in species occurrence (i.e. able to detect the beginning of a nonnative invasion or reduction in a rare plant).

Results of 2008 pilot study:
In 2005, this protocol was developed by CNLM with input from the USFWS (Jonathan Snapp-Cook) and Dr. Paul Zedler. Skunk Hollow vernal pool did not fill again until 2008; thus, the protocol could not be tested for vernal pool species until 2008.

The objective of the pilot study was to determine the most effective size and number of quadrats to accurately monitor all vernal pool species, including rare plants.

One transect that bisected the vernal pool was used for the pilot study. Along the transect, quadrats were positioned at five meter intervals beginning at meter zero. Both 35 cm^2 and 50 cm^2 quadrats were nested inside of one another at each interval and the species present in each quadrat were recorded. The number of species recorded in the 35-cm^2 quadrats was compared with the number found in the 50-cm^2 quadrats to determine the most efficient and accurate amount of area to sample to account for the most species. There were significantly more species recorded in the 50-cm^2 quadrats than the 35-cm^2 quadrats (Student's t-test, $p=0.013$), and the time to record species within the different size quadrats was negligible. Thus, for all other transects, the 50-cm^2 quad was used.

To determine the most efficient and accurate number of quadrats to be inventoried on each transect, data was collected in quadrats positioned at five-meter intervals beginning at meter zero. Given the size of Skunk Hollow, this seemed like a dense sampling regime. To determine if taking data every ten meters would yield the same information as data taken every five meters, the percent of quadrats occupied by a given species in all quadrats sampled was compared to the percent of quadrats occupied by that same species on the same transect but using only data from quadrats positioned every ten meters. Percent of quadrats occupied did not differ for species if data was taken every five meters versus every ten meters (Student's t-test, $p=0.43$). Thus, on subsequent transects, data was taken every ten meters.

In summary, 50 cm^2 quadrats will be placed every ten meters along transects spanning the vernal pool.

Sampling Protocol:

Four transects are evenly spaced at perpendicular angles to the natural southeast axis of the pool (see Figure 1). Transects extend approximately 25 meters into the upland habitat beyond the high-water level of the vernal pool to ensure that the highest point where vernal pool vegetation could occur in a given year is sampled. Thus, transect lengths are variable depending on the topography at the transect location. The ends of transects are

permanently marked with small metal fence posts. Transects longer than 100 meters have a fence post at 100 meters from the beginning of the transect and an additional post at the end of the transect. Transects begin on the north side of the pool.

Along all transects, 50 cm^2 quadrats are placed at 10m intervals; the start of which is randomly chosen each year. A random number generator will provide a starting point between 0 and 9, and all quadrats will be placed at 10m intervals thereafter. For example, if the random number generated is 3, the first quadrat will be placed at meter 3, the next at 13, 23, and so on. Quadrats are randomly placed on the east or west side of the transect, as determined by a coin toss.

Sampling should occur at a time judged to be peak flowering for most vernal pool plant species (i.e. Orcutt's grass), approximately one month after the pool dries.

Within each quadrat, each species rooted inside the quadrat is recorded. This is only a presence/absence measurement. Furthermore, the location of a quadrat in relation to the depth of the pool in a given year will be recorded, i.e."uplands", "ecotone", or "vernal pool"(Figure 2). An example of a data sheet is shown in Table 1 to better illustrate the data that is collected. Percent of quadrats occupied by a given species in a given depth will be generated. The results for each transect will be averaged and compared with subsequent years to determine if there are changes in the species composition over time.

If time is available, areas that were not sampled in permanent quadrats are carefully but quickly scanned for species not documented in the quadrats.

Figure 1. Location of vernal pool vegetation monitoring transects

Barry Jones Wetland Mitigation Bank - Riverside County

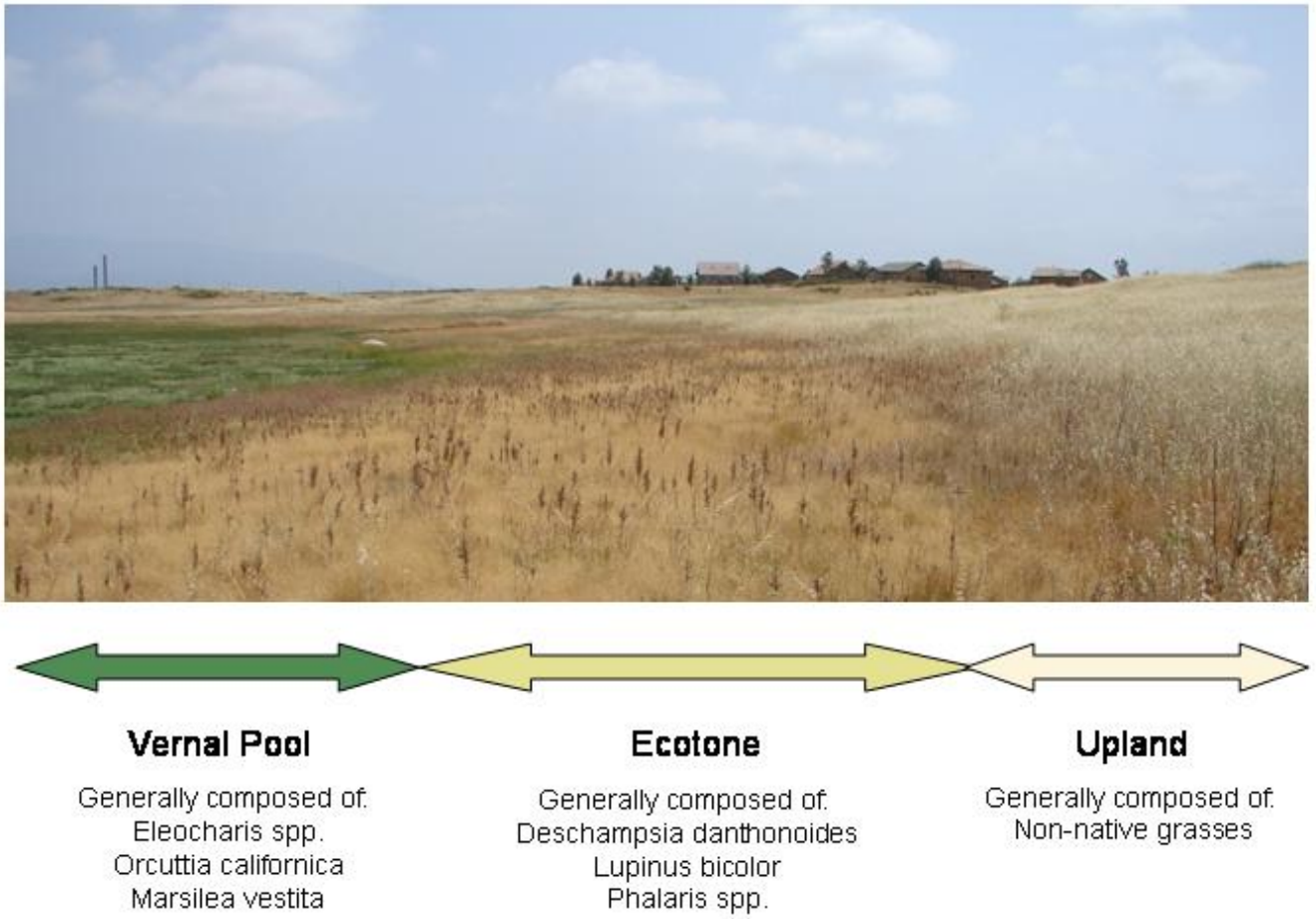

Figure 2. Description of how CNLM distinguishes between vegetation types on vernal pool transects.

Table 1. Sample data sheet for vernal pool vegetation data collection.

		Veg Type	up	up	up	eco	eco	eco	vp	vp	vp	vp	vp	vp	vp	eco	eco	up	up
Date	Transect#	Species	0	20	40	50	60	70	80	90	100	110	120	130	140	150	160	180	200
5/11/08	4	elpa	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	0
		orca	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		marselia	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0
		male	0	0	1	1	0	1	1	0	0	0	0	1	1	0	0	0	0
		epilobium	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0
		polypogon	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
		gnpa	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0
		phpa	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0
		caci	1	0	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1
		deschampsia	0	0	1	0	0	0	1	0	1	1	0	0	1	0	1	0	1
		avfa	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
		depa	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
		brdi	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0
		phle	1	0	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0
		Crypsis	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
		Other																	