

**Habitat Management Plan  
for the  
Kelly Ranch  
Habitat Conservation Area**

*Prepared for:*

United States Fish and Wildlife Service  
California Department of Fish and Game

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## Table of Contents

<b>I. Introduction .....</b>	<b>1</b>
<b>II. Background .....</b>	<b>1</b>
<b>III. Reserve Site Characteristics.....</b>	<b>5</b>
A. Physical Characteristics .....	5
B. Biological Characteristics .....	5
C. Threats.....	8
<b>IV. Management Goals and Objectives .....</b>	<b>9</b>
A. Ecological Models.....	9
B. Objectives.....	10
<b>V. Management Strategies .....</b>	<b>10</b>
A. Coordination and Partnerships.....	10
B. Permit and Legal Requirements .....	10
C. Inventory, Monitoring, and Adaptive Management .....	10
D. Restoration, Enhancement and Reintroduction.....	14
E. Invasive Pests/Exotic Plant Species Control .....	14
F. Fire Management .....	15
G. Public Use .....	15
H. Maintenance Program .....	16
<b>VI. Funding Mechanisms .....</b>	<b>16</b>
<b>VII. Reporting Requirements .....</b>	<b>16</b>
A. Management Reports and Annual Reports .....	16
B. Budgets.....	18
<b>VII. References.....</b>	<b>18</b>
<b>Appendix A. Biological Resources.....</b>	<b>19</b>
<b>Appendix B. Preserve Budget and Endowment.....</b>	<b>20</b>

## **List of Tables and Figures**

<b>Figure 1. Regional Map .....</b>	<b>2</b>
<b>Figure 2. Preserve Vicinity.....</b>	<b>3</b>
<b>Figure 3. Preserve Boundaries.....</b>	<b>4</b>
<b>Figure 4. Vegetation Communities Map .....</b>	<b>6</b>
<b>Figure 5. Trails and Vista Locations.....</b>	<b>17</b>
<b>Table 1. Vegetation Communities Acreage .....</b>	<b>5</b>
<b>Table 2. Sensitive Plant Species Observed.....</b>	<b>7</b>
<b>Table 3. Sensitive Animal Species Observed .....</b>	<b>8</b>
<b>Table 4. Sensitive Plant Monitoring Timetable.....</b>	<b>13</b>

## **I. Introduction**

The Kelly Ranch Habitat Conservation Area (Preserve) is an 63 acre open space set aside by the Kelly Land Company as mitigation for impacts to natural habitat as part of the Kelly Ranch development. The limits of the Preserve (Figures 1-3) have been approved by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) with the primary goal of protecting habitat of the federally listed coastal California gnatcatcher, as well as other sensitive plant and wildlife species, and sensitive vegetation communities.

As part of the open space conservation agreements of the Kelly Ranch property, Kelly Land Company was required to name and endow a natural land management organization to manage the sites resources in perpetuity. The USFWS, CDFG and other wildlife agencies and organizations have determined that merely setting lands aside and preventing development is not sufficient to preserve and protect biological integrity. Identifying the critical processes and elements that need protection, then planning, budgeting and funding for sustaining these processes and elements in perpetuity is the essence of long-term land protection. The Center for Natural Lands Management was given the management responsibility to the Preserve and received title and an endowment in March of 2002.

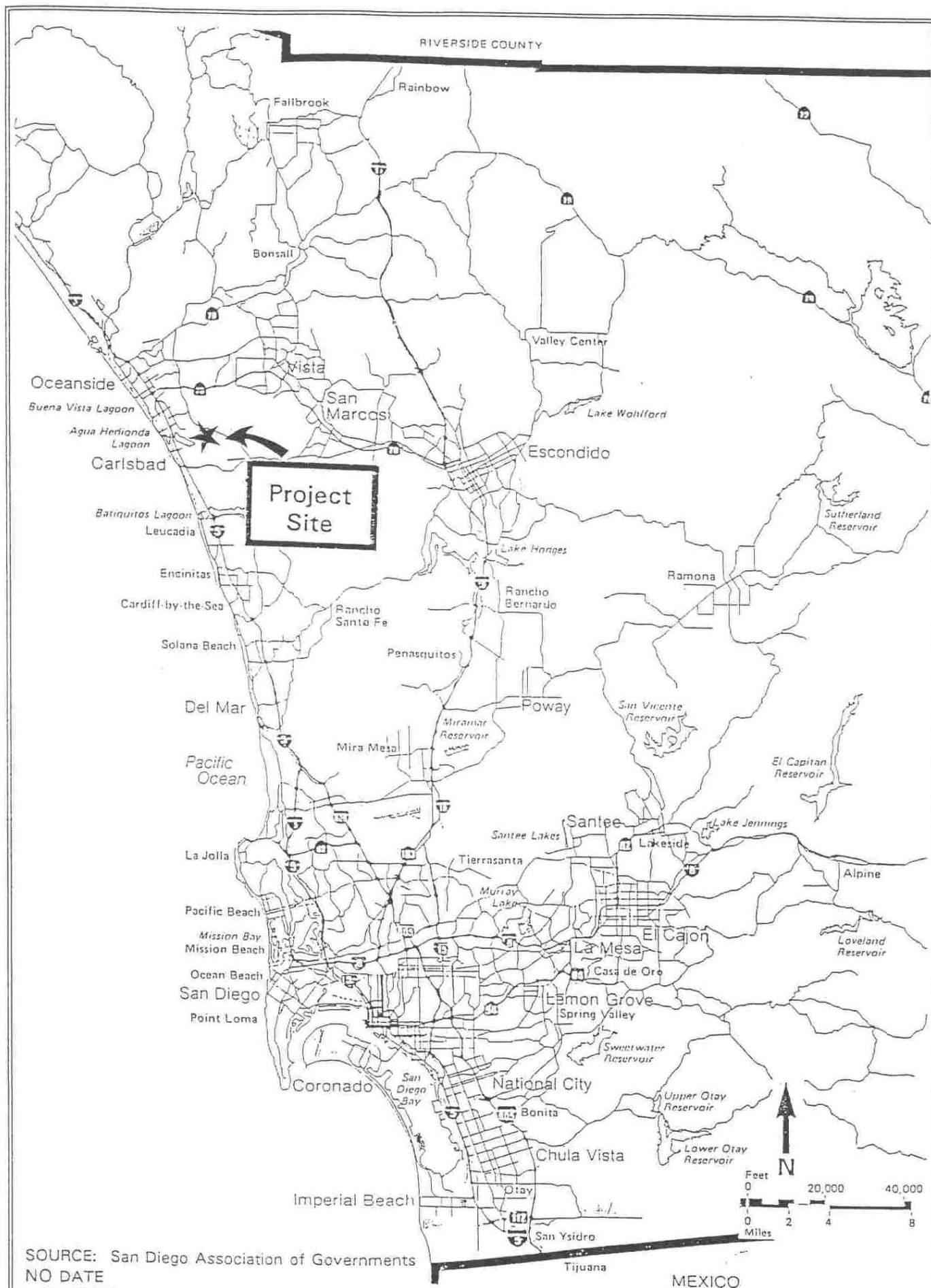
This document is to provide a comprehensive, cost-effective management plan that states the information, management and funding requirements necessary to ensure an ecologically sustainable conservation area. The plan will outline the Preserve's resources and characteristics and will provide a brief overview of general tenets of conservation biology for natural areas management as it applies to this Preserve. The plan follows guidelines and management practices deemed acceptable by the Center for Natural Lands Management. This plan will also suffice as the first year annual work plan for the Preserve.

## **II. Background**

The Kelly Ranch Habitat Conservation Area resulted from the development of Kelly Ranch in Carlsbad, California. The Preserve was set aside to protect some of the last remaining stands of habitat left in Carlsbad, and to create additional open space to connect adjacent dedicated open space in the vicinity, such as Macario Canyon to the north and Batiquitos Lagoon to the west.

The Center for Natural Lands Management started managing the property in March of 2002. However, due to heavy construction activities resulting from the housing and road development, management in the first year has been minimal as the site has been too hazardous to access and to conduct management activities. Full management will commence once the site becomes more accessible. At the time of this report, the Center could only post the site with "habitat conservation area" signs, and has not been able to do any more on-site activities.

Figure 1



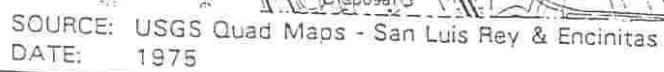
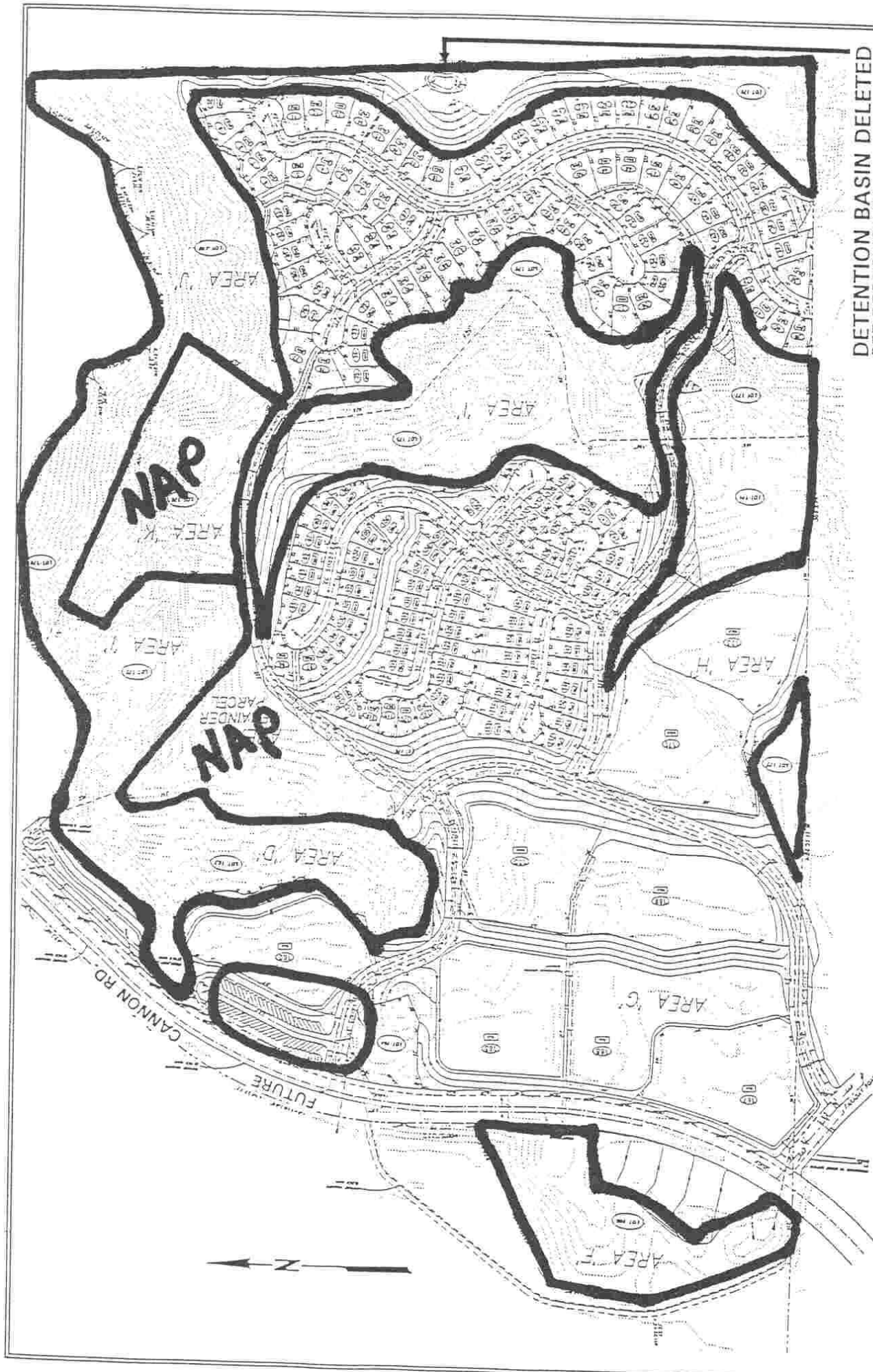


Figure 2



DETENTION BASIN DELETED  
SEE RESPONSE #3

SOURCE: Project Design Consultants  
DATE: 1997

A.D.Hinshaw Associates

Preserve Boundary

Figure 3

### III. Reserve Site Characteristics

**A. Physical Characteristics** The Preserve is located approximately 1 to 2 miles inland from the Pacific Ocean and lies at the east end of Batiquitos Lagoon. Roads near the Preserve include Cannon Road along the western boundary and Faraday Avenue near its southern boundary. The Preserve is not one unit, but is made of multiple parcels varying in size from a few acres to about 15 acres that are located within the housing development of Kelly Ranch and surrounding communities (see Figure 3). The site's topography varies between different units and ranges from 50 to 200 feet above mean sea level. Steep slopes characterize the northern and eastern parcels, and gentle slope characterize the remaining parcels. Most of the area of the Preserve and adjacent land was formerly known as Evans Point.

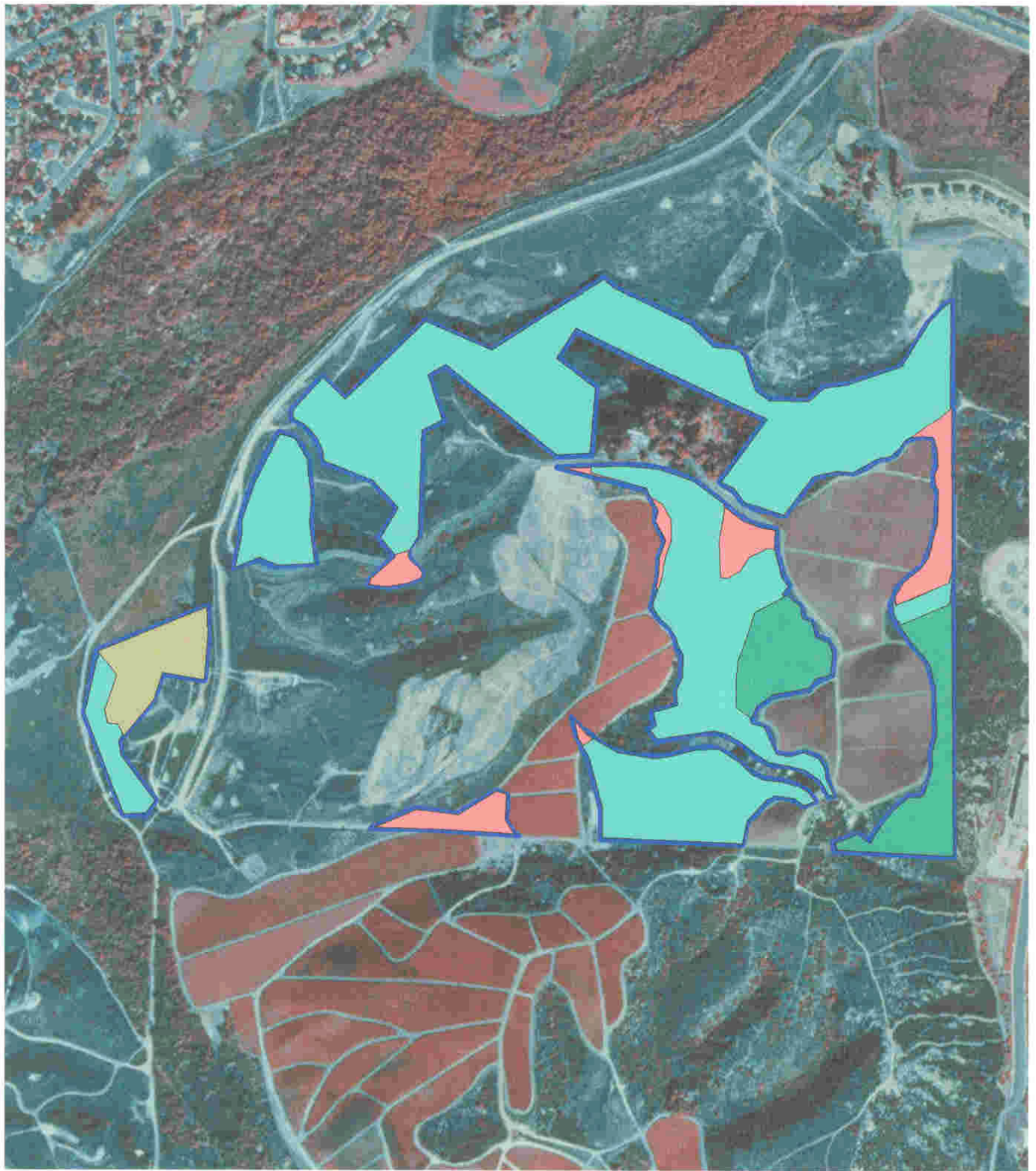
**B. Biological Characteristics** The vegetation communities found at the Preserve are predominantly Diegan coastal sage scrub and southern maritime chaparral, with small patches of native grasslands (Merkel & Assoc., 1998). The western most parcel would be considered highly disturbed, as it has both numerous utility roads and has a large amount of the non-native plant mustard (*Brassica* sp.). Vegetation community types and acreages found at the Preserve are detailed in Table 1 and shown in Figure 4..

**Table 1. Vegetation Communities found at the Preserve**

Vegetation Community	Total Acreage
Diegan Coastal Sage Scrub	49
Southern Maritime Chaparral	7
Disturbed	4
Native Grasslands	1
Non-native Grasslands	2
<b>Total</b>	<b>63</b>

The Preserve has one listed threatened species, the coastal California gnatcatcher (*Poliophtila californica californica*). The site may also have the federally listed endangered Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), but the individuals identified in the pre-construction report mention that it is likely *A.g. ssp. zacaensis* (Merkel & Assoc., 1998). Follow up confirmation will be necessary. Prior to grading, The Kelly Ranch and Cannon Road development areas had approximately 4 gnatcatcher "use areas". Two of these were to be impacted by road construction, leaving two gnatcatcher pair to be conserved by the Preserve. Current gnatcatcher





Kelly Ranch

# Vegetation Communities

- Coastal sage scrub restoration
- Diegan coastal sage scrub
- Disturbed/dominated by mustard
- Southern Maritime Chaparral
- Preserve Boundary



Figure 4.

Vegetation Communities

status is unknown. The “Del Mar manzanita” population was estimated to be 29 shrubs, with all being conserved by the project (Merkel & Assoc., 1998).

Numerous other sensitive plants and wildlife have been identified on the Preserve or have potential to occur (Merkel & Assoc., 1998). Other sensitive plant species which were observed include California adolphia (*Adolphia californica*), Nuttall’s scrub oak (*Quercus dumosa*), and western dichondra (*Dicondra occidentalis*) (Table 2). Other sensitive animal species which were observed

**Table 2. Sensitive Plant Species observed (data from Merkel & Assoc., 1998).**

Species	Listing Status*	Estimated Population (from Merkel & Assoc., 1998)
California adolphia ( <i>Adolphia californica</i> )	CNPS List 2.	“Several hundred”
Del Mar manzanita ( <i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> )	FE, CNPS List 1B, MHCP.	29 (probably spp. <i>zacaensis</i> )
Wart-stemmed ceanothus ( <i>Ceanothus verrucosus</i> )	CNPS List 2, MHCP	“in the hundreds”
Small-flowered microseris ( <i>Microseris douglasii</i> )	CNPS List 4	20
Prostrate spineflower ( <i>Chorizanthe procumbens</i> )	CNPS List 4	??? (“loss of majority of population” due to construction)
Western dichondra ( <i>Dicondra occidentalis</i> )	CNPS List 4	unknown
Palmer’s grapplinghook ( <i>Harpagonella palmeri</i> )	CNPS List 2	???
Decumbent goldenbush ( <i>Isocoma menziesii</i> )	CNPS List 1B	???
Nuttall’s scrub oak ( <i>Quercus dumosa</i> )	MHCP, CNPS List 1B	??? (“lightly scattered”)
Cliff spurge ( <i>Euphorbia misera</i> )	MHCP, CNPS List 2	“one thicket”
Ashy-spike moss ( <i>Selaginella cinerascens</i> )	CNPS List 4	???

\* FE= Federally listed endangered; MHCP= Multiple Habitat Conservation Program Covered Species; CNPS= California Native Plant Society; ???= no initial count made during planning process.

to occur include the orange-throat whiptail (*Cnemidophorus hyperythrus beldingi*) and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) (Table 3.).

**Table 3. Sensitive Animal Species observed (data from Merkel & Assoc., 1998).**

Species	Listing Status*	Occurrence (from Merkel & Assoc., 1998)
Orange-throat whiptail ( <i>Cnemidophorus hyperythrus beldingi</i> )	MHCP	“several occurrences”
White-tailed kite ( <i>Elanus leucurus</i> )	CDFG	previously seen foraging, non-nesting
Northern harrier ( <i>Circus cyaneus</i> )	CDFG SSC	previously seen foraging, non-nesting
California horned lark ( <i>Eremophila alpestris actia</i> )	CDFG SSC	“flock” observed
Loggerhead Shrike ( <i>Lanius ludocianus</i> )	CDFG SSC	observed
Southern California rufous-crowned sparrow ( <i>Aimophila ruficeps canescens</i> )	MHCP	observed
Coastal California gnatcatcher ( <i>Poliophtila californica californica</i> )	FT, MHCP	2 pairs in Preserve area
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	CDFG SSC	observed
Northwestern San Diego pocket mouse ( <i>Chaetodipus fallax fallax</i> )	CDFG SSC	observed during trapping studies

\*FT= Federally listed threatened; CDFG=Fully protected, Special animal; CDFG SSC= Species of special concern; MHCP=Multiple Habitat Conservation Program Covered Species.

A complete list of plant and wildlife species observed during the compilation of the biological impact report is provided in Appendix A (from Merkel & Assoc., 1998).

### C. Threats

The predominant threats to the Preserve are the invasion of non-native plant species, such as mustard and non-native grasses, an altered fire regime, and the effects of edge, urbanization and fragmentation. Non-native plant species can out-compete native species and change the vegetation community structure and composition. This change can lead to a deterioration or elimination of habitat quality and thus a decline of the sensitive plant and animal species found at the Preserve. Edge, urbanization and fragmentation can also result in the loss of biodiversity due

to such vectors as feral and domestic cats, increased run-off and vandalism. Each of these threats will need to be evaluated and minimized as best as possible.

#### **IV. Management Goals and Objectives**

##### **A. Ecological Models**

Descriptive ecological models are valuable tools to identify assumptions about how a particular habitat/landscape responds to natural and artificial perturbations. While the models reflect current knowledge, they are meant to be modified over time as our knowledge of, and experience with, particular habitats increases. The model represents an assumption about how a particular habitat/landscape will respond to management practices and thus provides a rationale for the implementation of particular management technologies. The model also represents a testable hypothesis for inclusion in an adaptive management scenario.

The ecological model and adaptive management plan for the Preserve will be based on the ecology of its primary natural community, Diegan coastal sage scrub. This vegetation community is fire - adapted with fires occurring naturally, but most likely under the extreme Santa Ana heat and winds of late summer and fall. During these conditions there would generally be a “complete burn” where all above ground vegetation within the fire’s path would be consumed.

After such a fire herbaceous plants, which are known to sprout after fires, would dominate the landscape for a few years. Over time (3-5 years) the shrub lands would regain their dominance, and after 7-10 years a mature assemblage of wildlife would again be found on site.

Active fire management will most likely not be used for the management of this Preserve because of the close proximity to residential homes. The site’s fire history is not known at this time. However, the Preserve is expected to burn from fire naturally and possibly by anthropogenic sources, but is expected to recover naturally. Management protocols will include monitoring and observing habitat recovery following any fires to ensure that the native plant species dominate the Preserve and that non-native plant species do not take over.

Management objectives include determining the distribution and abundance of plants and animals found at the Preserve and building a baseline database from this information to guide management practices. Management will include monitoring specific taxonomic groups to determine whether the site is functioning naturally or if the biological diversity of the site is being degraded or diminished.

Additional management of the Preserve will include dealing with threats posed by human encroachment, and from non-native plants and animals that have been introduced into California over the last hundred years. All threats will need to be monitored and managed appropriately.

Therefore, management strategies will be implemented that will combine the knowledge of the natural ecological characteristics and parameters of Diegan coastal sage scrub, with the challenges posed by the threats to the Preserve's integrity.

#### **B. Objectives**

Following is a list of management objectives for the Preserve. These will likely be modified (Adaptive Management) as more is learned about the Preserve:

1. Control or eliminate non-native plant and animal species that are invasive and threaten the Preserve.
2. Protect the Preserve from the threats posed by its urban setting, such as illegal use, dumping and collecting of biological material.
3. Monitor the vegetation communities and plant and animal species to provide data for management and regulatory purposes.
4. Include the public in appreciation of the Preserve's natural resources.

### **V. Management Strategies**

#### **A. Coordination and Partnerships**

The Center will coordinate all management activities and will report annually to the USFWS and CDFG. Annual reporting will include a summary of yearly results and an annual work plan that outlines the next year's monitoring activities and budgets (see Reporting section).

#### **B. Permit and Legal Requirements**

The management entity will obtain all necessary state and federal survey permits which authorize the entity to manage state and federally listed species.

#### **C. Inventory, Monitoring, and Adaptive Management**

Inventory and monitoring are used to track the condition of targeted habitats and populations relative to the ecological goals that have been set for them. Adaptive management is a process whereby evaluation of monitoring results are compared to the goals or defined "measures of success" so that management practices can be changed or modified as needed.

No standardized monitoring protocols or success criteria have been established by the USFWS or CDFG for the NCCP preserve areas. The MHCP planning group is currently developing standardized monitoring protocols, and the Center will make its best effort to adopt these protocols if they are different than those currently proposed. At this time, this management plan reflects what is thought to be a reasonable monitoring scenario that allows for the analysis of multiple taxonomic groups that can benefit a preserve manager in creating measures of success and in making appropriate management decisions.

**In the first 3 to 5 years**, biological monitoring will focus on establishing a detailed inventory of plants and animals found within the Preserve. Therefore, monitoring will include plant, bird, insect and herpetofaunal surveys, and small mammal trapping. Methods that will be considered are outlined in the following section. In addition, landscape level analysis, such as vegetation community description and mapping, will be conducted.

Long-term monitoring guidelines will be established and implemented after the inventory process is complete. Due to the small and fragmented nature of the Preserve, it is anticipated that it will be very difficult to collect strong quantitative data that will be useful to detect changes in populations or status of many species. However, the Center will give its best effort to create a set of guidelines that will provide the necessary data to the wildlife agencies and hopefully to direct management decisions.

The ultimate goal of the long-term monitoring effort is to not only determine whether identify if population changes are occurring, but also to identify causes so that remedial management actions can be taken. Community level monitoring allows us to determine if the changes are community wide or are restricted to a single species. This alone gives important clues as to where to look for causal factors. It also provides data to assess the success or failure of any management actions occurring at the Preserve.

The following monitoring protocols may be employed in the long-term and are designed to provide the necessary community wide data to guide management decisions and are applicable to all areas of the Preserve:

1. **Bird Surveys.** Monitoring the avian community can provide information in regards to how the the how threats, such as habitat fragmentation and feral animals (cats), are impacting the Preserve. The distribution, abundance and composition of the bird community found at the Preserve will be determined using either annual point counts or time-constrained surveys. Again, due to the small nature of the Preserve, it will be difficult to collect much useful quantitative data. However, some form of presence/absence data can be useful to management.

Other methods may be employed to supplement point counts in monitoring of the avian community, such as focused surveys, or nest monitoring.

Coastal California Gnatcatcher. A primary goal of preserve management is to maintain the population of gnatcatchers found at the Preserve. At this time, however, it is uncertain as to how many pairs of gnatcatchers can reasonably be expected to persist on the site. Two pairs were estimated to be protected by the Preserve. However, project development, and natural factors may temporarily leave the site with an excess or lack of pairs in relation to the site's "normal" capacity. The management entity will track population trends of the gnatcatcher in the first 5 years to ascertain a baseline range of pairs that are likely to persist on the site. Once a baseline range has been determined, the management entity will manage the site to maintain the population within this range. Gnatcatcher populations may fluctuate naturally with "natural" oscillations of resource levels. This natural variability will be determined and the target population size will be managed to be within those normal highs and lows, rather than at a static level.

If the population of gnatcatchers falls below the optimal range, attempts will be made to determine the causes of the decline. Potential causes for declines could be site specific in nature, such as cowbird parasitism, or regional, such as low rainfall. Management actions will be taken based on what is determined to be the cause of gnatcatcher decline. Many of the potential threats, such as cowbird parasitism or nest destruction from house cats, will be monitored yearly and their impact constantly minimized to reduce the potential for a population decline. Constant monitoring of threats to the gnatcatcher will also allow for better analysis of population fluctuations, especially in the event of a decline in numbers.

2. Small Mammal Trapping. Small mammals distribute seeds and are an important prey item for snakes and some raptors. Trapping can monitor the changes within the community, and also identify whether non-native species, such as the Norway rat or house mouse, are invading the site and displacing native species. Unfortunately, it can be quite difficult on small sites, and even large sites, to collect useful population data on small mammals (i.e. detecting significant change is difficult). Therefore, it is likely that small mammal trapping will be used every few years to track species richness and look for invasion of non-native species.
3. Mammal Track Stations. "Large" mammals, such as coyote and bobcat, are important predators within an ecosystem. A lack of coyotes, for example, has been shown to cause "meso-predator release", or an increase in cats, skunks and opossums, within urban canyons of San Diego, suggesting the potential for an increased impact to bird, small mammal and reptile populations. The composition and distribution of medium and large mammals will be monitored using scent stations, or scent boxes, located in various areas of the Preserve.
4. Reptiles, amphibians, invertebrates, etc. Reptiles, amphibian, invertebrate and small mammal (shrew's) populations are extremely susceptible to the threats associated with habitat change. Domestic and feral cats, for example, can kill hundreds of lizards in a short period of time. A common technique used to determine the presence or absence of

reptile and amphibians is the pit-fall trap. However, it has been shown that a large effort of pit-fall trapping (8-12 arrays across several thousand acres) does not necessarily produce quantitative data useful for change analysis. In addition, pit-fall traps can easily be vandalized in urban settings. Therefore, although pit-fall traps may be employed, it is likely that reptile and amphibian surveys will be conducted on foot, using “cover” boards, or with a modified pit-fall system.

5. Sensitive Plant Species. Sensitive plant species monitoring and management will focus on establishing population distribution and abundance information, and on evaluating and minimizing the threats to these species caused by human encroachment or habitat fragmentation. In addition, monitoring will be used to direct conservation and management measures, such as plant propagation, seed storage or restoration.

Populations of sensitive plant species, such as California adolphia, which are sensitive but abundant at the Preserve, will be monitored every 5 years. Sensitive plant species that have low numbers, limited distribution, or are particularly susceptible to fragmentation and other anthropogenic sources will be monitored or assessed every 1 to 3 years. Monitoring will include counting and mapping individuals or populations. Table 4 lists all sensitive plant species found at the Preserve and the proposed management timetable for these species.

Del Mar Manzanita. The Del Mar manzanita population (most likely ssp. *zacaensis*) is estimated at approximately 29 individuals. The main threats to these individuals are likely to be genetic isolation and the impact of a unnatural fire regime (i.e. too frequent fires). Should any ssp. *crassifolia* be located, then management may include collecting and storing seeds, propagating individuals at other suitable locations in the Preserve and minimizing impacts from anthropogenic sources.

6. Vegetation Community. Vegetation community types will be mapped and entered into GIS format within the first year of management. The long-term management goal is to minimize loss of habitat due to non-native species and increase the extent of natural habitat within disturbed areas. Change in the extent of each vegetation community will be determined by re-mapping the Preserve every 5 years, or when appropriate (i.e. more frequently in the event of fire), and comparing GIS databases. Vegetation community mapping will likely involve using remote sensing, such as ArcView Image Analysis. GIS mapping and analysis may be coupled with vegetation transects, or the CNPS “Rapid Analysis” technique, to more accurately assess the cover and distribution of native and non-native plant species.

All data recorded during monitoring will be recorded in GIS and MSAccess databases for storage, review and analysis. Copies of this digital information will be submitted to the wildlife agencies at the time that annual reports are submitted (see Section VIIA.)



**Table 4. Sensitive Plant Monitoring Timetable**

<b>Plant Species</b>	<b>Approximate population size*</b>	<b>Monitoring timetable</b>
California adolphia	“Several hundred”	every 5 years
Del Mar manzanita (if ssp. <i>crassifolia</i> )	29	every 3 years
Wart-stemmed ceanothus	“in the hundreds”	every 5 years
Small-flowered microseris	20	every 3 years
Prostrate spineflower	??? (“loss of majority of population” due to construction)	every 3 years
Western dichondra	unknown	every 5 years
Palmer’s grapplinghook	???	every 3 years
Decumbent goldenbush	???	every 5 years
Nuttal’s scrub oak	??? (“lightly scattered”)	every 5 years
Cliff spurge	“one thicket”	every 3 years
Ashy-spike moss	???	every 5 years

\*from Merkel and Associates 1998.

#### D. Restoration, Enhancement and Reintroduction

Most of the habitat within the Preserve is of high quality and will require no restoration or enhancement. Habitat restoration and enhancement will occur in those areas that are determined to be disturbed or degraded, or for areas such as non-native grasslands. Habitat restoration will involve removing non-native species and revegetating disturbed areas with seed or propagated seedlings. At this time, no reintroduction of any plant or animal species are anticipated. However, this will be determined following the initial inventory period.

#### E. Invasive Pests/Exotic Plant Species Control

Management of the Preserve will include removing non-native plant species which are found to be invading the site. Species observed include, mustard and tree tobacco. Other non-native species, especially non-native grasses also occur or are likely to occur. Attempts will be made to remove most non-native plant species, or significantly reduce their cover (i.e. non-native grasses). Non-native plant species will be removed by hand, mowing or by herbicide depending on the species or location within the Preserve.

The non-native plant management goal is to completely remove those species, such as pampas grass (if present), tree tobacco, acacia (if present), ice plant and other species where complete removal is feasible. For other species, such as non-native grasses and mustard, which are difficult to completely remove, the goal will be to significantly reduce the numbers or cover of these species. The goal for non-native grasses is to have no more than 20% cover in a given area, and for other species, such as mustard, the goal is to have no more than 15% cover in a given area, if possible. The distribution and abundance of non-native plant species will be determined in the first few years of management and re-mapped annually, at which time a more refined approach and target cover goals will be determined.

#### F. Fire Management

Fire management will include coordination with the Fire Department and the Kelly Ranch Home Owners Association to insure that both the Preserve and neighboring areas are adequately protected. The Center will discuss fire management options with the Fire Department and then create a brief fire management plan. Items that should be included in the plan include providing the Fire Department with a map of sensitive resources (such as plants), to minimize the potential of harming these species unnecessarily.

In general, due to the fragmented nature of the Preserve and its close proximity to homes, fire management will be difficult. At best, the Center will ensure that the site is properly protected and managed following any fire event.

#### G. Public Use

The Preserve, with proper stewardship, is a significant amenity to the surrounding community. Informing and educating the local residents of the Preserve's value as open space and wildlife habitat will be essential to maintaining the current resource levels found onsite. Without that local support, there will be an ongoing degradation through misuse, vandalism, poaching and trash dumping. With an actively involved community there will be hundreds of eyes and ears keeping a vigilant watch over the habitat. Rules of access include:

1. Dogs on leashes only
2. No motorized vehicles
3. Hiking on designated trails only
4. No collecting of plant and wildlife species

5. No hunting or shooting
6. No camping

Preserve management will include sending information brochures to the members of the surrounding community, guided nature walks, and possible volunteer programs. A trail system already exists to some degree (Figure 5), and trail head signs and an information kiosk should be posted for visitor information.

Preserve management also includes regular patrolling to monitor public use to ensure that it is not degrading the resources found at the Preserve.

#### H. Maintenance Program

The maintenance program includes maintaining fences, gates, signs and trails. At this time no fences or gates are deemed necessary. However, this may change as more people move into the area. Trail and Vista Points have been delineated by the EIR (Figure 5). The Trail system at this time is very minimal. Various signs will be posted at main access and vista points to the Preserve. Signs will delineate the limits of the Preserve, the preserve manager, and what activities are permitted or illegal.

### **VI. Funding Mechanisms**

Preserve management will be primarily funding by an endowment held by the Center. Other funding mechanisms could include volunteers, public and private donations or grants from wildlife groups or entities. Budget detail are provided in section VIIB.

### **VII. Reporting Requirements**

#### A. Management Reports and Annual Reports

Reporting will include management plans produced every five years, yearly work plans and annual reports. This document will suffice as the first five year management plan. This plan outlines the primary goals of preserve management, the management techniques employed, funding mechanisms and budgets, and preserve manager qualifications.

The yearly work plans should generally be more specific than the five year management plan by identifying specific projects and management activities that will be undertaken in a coming year. The annual reports should summarize all management activities undertaken in a particular year and report and discuss survey results.

Data collected will be entered into GIS and MSAccess database for long term storage and use. All GIS layers pertinent to the annual reports will be submitted to the agencies for their databases.



## **B. Budgets**

The status of the endowment will be included in every five year management plan, and yearly budgets will be reported in every annual work plan.

The Preserve has an original endowment of \$326,343 which will provide approximately \$11,845 of ongoing funds. Funding for the **first two years** of management (Initial and Capital) is \$30,218.

A detailed funding description is provided in Appendix B, including the approximate cost and time required for each of the identified tasks.

## **VIII. References**

A.D. Hinshaw Associates. 1999. Final Supplemental EIR for the Kelly Ranch General Plan Amendment. January 15.

Merkel & Associates, Inc. 1998. Kelly Ranch Biological Constraints Analysis. June 4, 1998.

## **Appendix A.**

### **Biological Resources** (From Merkel & Associates, 1998)

## APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED

HABITAT: C = Southern Maritime Chaparral D = Diegoan Coastal Sage Scrub/Native Grasslands  
 G = Non-native Grasslands M = Coastal Salt Marsh fringe W = Wetlands (Mule Fu/Willow/Rip. Herb  
 X = Disturbed/Exotic Plantings/Agricultural Lands/Ruderal Lands

## HABITAT

## CRYPTOGAMS

Polypodiaceae - Polypody Family  
*Polypodium californicum* Kaulf. California Polypody C

## Pteridaceae - Brake Family

*Pellaea mucronata* (D.C. Eaton) D.C. Eaton var. *mucronata* Bird's-foot Fern D  
*Pentagramma triangularis* (Kaulf.) Yats. ssp. *triangularis* California Goldenback Fern D  
*Pentagramma triangularis* (Kaulf.) Yats. ssp. *viscosa* (Eaton) Yats. Silverback Fern D

## Selaginellaceae - Spike-Moss Family

*Selaginella bigelovii* Underw. Bigelow's Mossfern D  
*Selaginella cinerascens* A.A. Eat. Ashy Spike-moss D,C

## GYMNOSPERMS

## Pinaceae - Pine Family

\* *Pinus torreyana* Carr. Torrey Pine (planted) X

## DICOTYLEDONS

## Alzooaceae - Carpet-weed Family

\* *Carpobrotus edulis* (Molina) N.E. Brit. Hottentot-Fig X  
 \* *Mesembryanthemum crystallinum* L. Crystalline Iceplant X  
 \* *Mesembryanthemum nodiflorum* L. Slender-leaved Iceplant X

## Amaranthaceae - Amaranth Family

\* *Amaranthus blitoides* S. Wats. Prostrate Amaranth X

## Anacardiaceae - Sumac Family

*Malosma laurina* (Torr. & Gray) Abrams Laurel Sumac D  
*Rhus integrifolia* (Nutt.) Benth. & Hook. Lemonadeberry D  
 \* *Schinus molle* L. Peruvian Pepper Tree X  
*Toxicodendron diversilobum* (Torrey & Gray) Greene Western Poison Oak C

## Aplacaceae - Carrot Family

*Apiastrum angustifolium* Nutt. Mock Parsley D  
 \* *Apium graveolens* L. Celery X  
 \* *Conium maculatum* L. Common Poison Hemlock X  
 \* *Daucus carota* L. Queen Anne's Lace D  
 \* *Foeniculum vulgare* Mill. Fennel X  
*Lomatium dasyacarpum* (Torrey & Gray) C. & R. ssp. *dasyacarpum* Woolly-fruit Lomatium C  
*Sanicula arguta* (Torrey & Gray) Coult. & Rose Sharp-tooth Sanicle D

Merkel & Associates, Inc.  
 May 20, 1998

A-1-1

## APPENDIX 1

## FLORAL CHECKLIST OF SPECIES OBSERVED

## Kelly Ranch

Merkel & Associates, Inc.

HABITAT			
	* <i>Pteris schiedae</i> L., Brnxy Ox-tongue		W
	<i>Pluchea odorata</i> Cav., Salt Marsh Fleabane		M
	<i>Psilocarphus tenellus</i> Nutt., Slender Woolly Heads		D
	<i>Rafinesquia californica</i> Nutt., California Chicory		D
	* <i>Senecio vulgaris</i> L., Common Groundsel		D
	* <i>Silybum marianum</i> (L.) Gaern., Milk-thistle		X
	* <i>Sonchus asper</i> (L.) Hill, Prickly Sow Thistle		X
	* <i>Sonchus oleraceus</i> L., Common Sow Thistle		X
	<i>Stebbinsiastris heterocarpa</i> (Nutt.) Chambers, Stebbinsiastris		D
	<i>Stephanomeria diegensis</i> Gottlieb, San Diego Wreath-Plant		D
	<i>Synlactina gnaphaloides</i> Nutt., Everlasting Nest-Straw		D
	<i>Urophapsis lindleyi</i> (DC.) Nutt., Silver Puffs		D
	* <i>Xanthium strumarium</i> L., Cocklebur		W
	<b>Borraginaceae - Borragin Family</b>		
	<i>Anisocaulis menziesii</i> (Lehm.) Nels. & Macbr. var. <i>intermedia</i> (F. & M.) Sanders Ranchlet's Fireweed		D
	<i>Cryptantha inermis</i> (Gray) Greene, Nivias, Cryptantha		D
	* <i>Echium plantaginum</i> L., Viper's Bugloss		X
	<i>Harpagophytum palmieri</i> Gray, Palmer's Grapplinghook		G
	<i>Heliotropium curvascavum</i> L., Salt Heliotrope		M
	<i>Phacelanthus acanthocarpus</i> (Piper) Jtn., Adobe Popcornflower		G
	<b>Brassicaceae - Mustard Family</b>		
	* <i>Brazica nigra</i> (L.) Koch, Black Mustard		X
	* <i>Coronopus didymus</i> (L.) Small, Lesser Water-cress		X
	* <i>Hirschfeldia incana</i> (L.) Lagr.-Fossat, Short-pod Mustard		D
	<i>Lepidium latifolium</i> Torrey & Gray var. <i>latifolium</i> , Sand Perpetegrass		X
	* <i>Raphanus raphanistrum</i> L., Joined Charlock		X
	* <i>Raphanus sativus</i> L., Radish		X
	* <i>Rorippa nasturtium-officinale</i> (L.) Hayek, Water Cress		W
	* <i>Sisymbrium irio</i> L., London Rocket		X
	<b>Cactaceae - Cactus Family</b>		
	<i>Mamillaria dioica</i> K. Bdg., Fish-hook Cactus		C
	* <i>Opuntia ficus-indica</i> (L.) Miller, Indian-fig		D
	* <i>Opuntia littoralis</i> (Engelm.) Cill., Coast Prickly-pear		D
	<i>Opuntia oricola</i> Philbrick, Bush Prickly-pear		D
	<i>Opuntia prolifera</i> Engelm., Cholla		D
	<b>Capparidaceae - Capor Family</b>		
	<i>Myrica arborea</i> Nutt., Bladderpod		D
	<b>Caprifoliaceae - Honeysuckle Family</b>		
	<i>Lonicera subspicata</i> var. <i>denudata</i> Rehd., San Diego Honeysuckle		D
	<i>Sambucus mexicana</i> DC., Blue Elderberry		D
	<b>Caryophyllaceae - Pink Family</b>		
	* <i>Cardiomena ramosissima</i> (Wernm.) Nels. & Macbr., Tread Lightly		D
	* <i>Cerastium glomeratum</i> Thunb., Mouse-ear Chickweed		X
	<i>Pulicaria depretum</i> Nutt., California Polycarp		X
	<i>Silene vulgaris</i> L., Common Catchfly		X



## HABITAT

- Silene laciniata* ssp. *major* Hilleb. & Maguire Southern Pink  
*Spergularia arvensis* L. Suckwort  
*Spergularia macrotheca* (Hornem.) Heyn. var. *macrotheca* Sticky Sand-spurry  
*Spergularia maritima* (L.) Griseb. Salt Marsh Sand-spurry  
*Sedilla media* (L.) Villars Common Chickweed
- Chenopodiaceae - Goosefoot Family**  
*Atriplex lentiformis* (Torr.) Wats. lentiformis Quail Saltbush  
*Atriplex rosea* L. Redscale, Red Saltbush  
*Atriplex semibaccata* B. Br. Australian Saltbush  
*Chenopodium berlandieri* Moq. Pitted Goosefoot  
*Chenopodium californicum* (Wats.) Wats. California Goosefoot  
*Chenopodium murale* L. Nettle-leaf Goosefoot  
*Salicornia virginica* L. Pickleweed  
*Salsola tragus* L. Russian Thistle
- Cistaceae - Rock-Rose Family**  
*Helianthemum scoparium* Nutt. Peak Rush-rose

## Cistaceae - Rock-Rose Family

- Convolvulaceae - Morning-Glory Family**  
*Calycegia macrostegia* (Greene) H. Ruman, sp. *intermedia* (Abrams) Brum. Morning-glory  
*Convolvulus arvensis* L. Bindweed  
*Cressa truxillensis* Kunth. Alkali Weed  
*Dichondra occidentalis* House Western Dichondra

## Cruciferae - Stonecrop Family

- Crassula conzattia* (Rut. & Pav.) Berger Dwarf Stonecrop  
*Dudleya edulis* (Nutt.) Moran Ladies-fingers  
*Dudleya lanceolata* (Nutt.) Britt. & Rose Coastal Dudleya  
*Dudleya pulverulenta* (Nutt.) Brit. & Rose Chalk-ferret

## Cucurbitaceae - Gourd Family

- Cucurbita pepo* L. H.B.K. Cucurbit  
*Marah macrocarpa* (Greene) Greene var. *macrocarpa* Cucamonga Mauroot, Wild-Cucumber

## Cuscutaceae - Dodder Family

- Cuscuta californica* Hook & Arn. var. *californica* Witch's Hair  
*Cuscuta tolimensis* Engelm. Salt Marsh Dodder

## Ericaceae - Heath Family

- Arctostaphylos glandulosa* Eastw. ssp. *crassifolia* (Pursh) Wells Costa Bay Manzanilla  
*Arctostaphylos glandulosa* X Hybrid Manzanilla (A.g. *racemosa* suspected)  
*Comarostaphylos diversifolia* (Pursh) Greene ssp. *diversifolia* Summer Holly (immediately off-site)  
*Xylococcus bicolor* Nutt. Mission Manzanilla

## Euphorbiaceae - Spurge Family

- Chamaesyce polycarpa* (Benth.) Millsp. Small-seed Sandspur  
*Eremocarpus setigerus* (Hook.) Benth. Doveweed  
*Euphorbia misera* Benth. Cliff Spurge

## HABITAT

- Fabaceae - Pea Family**  
*Lonicera corniculata* L. Birdfoot Trefoil  
*Lonicera nana* Greene Grab Lotus  
*Lonicera purshiana* (Benth.) Clem. & Clem. Spanish-clover  
*Lonicera salicifolia* Greene ssp. *salicifolia* Alkali Lotus  
*Lupinus bicolor* Lindl. Miniature Lupine  
*Lupinus conchinnus* Agardh Bajada Lupine  
*Lupinus nana* Greene Benth. Singing Lupine  
*Lupinus succulentus* Koch Arroyo Lupine  
*Lupinus truncatus* Hook & Arn. Collar Lupine  
*Medicago polymorpha* L. California Burclover  
*Melilotus albus* Desr. White Sweetclover  
*Melilotus indicus* (L.) All. Sweetclover

## Fagaceae - Oak Family

- Quercus agrifolia* Nutt. Coast Live Oak  
*Quercus dumosa* Nutt. Nuttall's Scrub Oak  
*Quercus* X Hybrid oak

## Geraniaceae - Geranium Family

- Centaurea venustum* (Gray) Rob. Canehalagua

## Geraniaceae - Geranium Family

- Erodium brachycarpum* (Guss.) Thell. Short-beak Filaree  
*Erodium cicutarium* (L.) L'Hér. Red-stem Filaree  
*Erodium moschatum* (L.) L'Hér. White-stem Filaree  
*Pelargonium zonale* (L.) Ait. Zonal Geranium

## Grossulariaceae - Currant Family

- Ribes speciosum* Pursh. Fuchsia-flowered Gooseberry

## Hydrophyllaceae - Waterleaf Family

- Eriodictyon crassifolium* Benth. var. *crassifolium* Thick-leaved Yerba Santa  
*Phacelia obtusifolia* Greene var. *obtusifolia* Gray Caterpillar Phacelia  
*Phacelia auriculata* (Lindl.) J. B. S. Fiesta Flower

## Lamiaceae - Mint Family

- Alzoreum vulgare* L. Horehound  
*Salvia apiana* Leys. White Sage  
*Salvia columbariae* Benth. Chia  
*Salvia mellifera* Greene Black Sage  
*Salvia quadrifida* Benth. var. *rigida* Leys. & Hoover Hedge Nettle  
*Trichostema lanceolatum* Benth. Vinegar Weed

## Lythraceae - Loosestrife Family

- Lythrum hyssopifolia* L. Grass Poly

## Malvaceae - Mallow Family

- Malacothamnus fasciculatus* (Nutt.) Greene Mesa Bush Mallow, Chaparral Mallow  
*Malva parviflora* L. Chickweed, Little Mallow  
*Malva leprosa* (Ott.) Krapov. Alkali-mallow

	HABITAT
<i>Sidalcea malvaeflora</i> (DC.) Benth. sp. <i>sparsifolia</i> C.L. Hitchc. Checker-bloom	D
Myrtaceae - Myrtle Family	
* <i>Eucalyptus</i> sp. <i>Eucalyptus</i>	X
Nyctaginaceae - Four-O'Clock Family	
<i>Nitellaria californica</i> Gray California Wadsworth Plant	D
Omnigraceae - Evening-Primrose Family	
<i>Camissonia littorea</i> (Torrey & Gray) Raven California Sun Cup	D
<i>Camissonia intermedia</i> Raven Evening Primrose	D
<i>Clarkia purpurea</i> (Curtis) Nelson & Macbr. sp. <i>vininea</i> (Dougl.) Lewis & Lewis Large Clarkia	D
<i>Epilobium canum</i> (E. Greene) Raven sp. <i>canum</i> Houry California Fuchsia	D
<i>Oenothera elata</i> Kunth Great Marsh Evening Primrose	W
Papaveraceae - Poppy Family	
<i>Eschscholzia californica</i> Cham. California Poppy	D
<i>Physostemon californicus</i> Benth. Cream Cups	D
Plantaginaceae - Plantain Family	
<i>Plantago erecta</i> Morris Dot-seed Plantain	D, G
* <i>Plantago lanceolata</i> L. English Plantain	X
Platanaceae - Sycamore Family	
<i>Platanus racemosa</i> Nutt. Western Sycamore	X
Polemoniaceae - Phlox Family	
<i>Linanthus dianthiflorus</i> Greene Ground Pink	D
<i>Navarretia hamata</i> Greene	D
Polygonaceae - Buckwheat Family	
<i>Chorizanthe flabridata</i> Nutt. var. <i>flabridata</i> Fringed Spineflower	D
<i>Chorizanthe procumbens</i> Nutt. Prostrate Spineflower	D
<i>Chorizanthe stanseloides</i> Benth. Turkish Rugging (reported by Sproul 1997)	C
<i>Eriogonum elongatum</i> Benth. var. <i>elongatum</i> Tall Buckwheat	D
<i>Eriogonum fasciculatum</i> Benth. var. <i>fasciculatum</i> Flat-top Buckwheat	D
<i>Lactaria coriacea</i> (Goodm.) Hovever Lactaria	D
* <i>Polygonum arenarium</i> DC. Common Knotweed	X
<i>Pterostegia drymarioides</i> F. & M. Gray's Hairnet	D
* <i>Rumex crispus</i> L. Curly Dock	W
Portulacaceae - Purslane Family	
<i>Calandrinia ciliata</i> (Rut. Lopez & Pavon) DC. Red Maids	G
<i>Claytonia perfoliata</i> Donn sp. <i>perfoliata</i> Common Miner's-tenace	D
<i>Claytonia perfoliata</i> Donn sp. <i>mexicana</i> (Rydb.) Miller & Chambers Miner's-tenace	D
Primulaceae - Primrose Family	
* <i>Androsace arvensis</i> L. Scarlet Pimpernel	G, X
<i>Dodecatheon clelandii</i> Greene sp. <i>clelandii</i> Padre's Shooting Star	D

	HABITAT
Ranunculaceae - Crowfoot Family	
<i>Clematis pauciflora</i> Nutt. Ropevine	D
<i>Delphinium parryi</i> Gray sp. <i>parryi</i> Parry's Larkspur	D
Rhamnaceae - Buckthorn Family	
<i>Adolphia californica</i> Wats. California Adolphia	D
<i>Ceanothus verticillatus</i> Torrey & Gray Warty-stemmed Ceanothus	C
<i>Rhamnus crocea</i> Torrey & Gray Spiny Redberry	D
<i>Rhamnus ilicifolia</i> Kell. Holly-leaf Redberry	C
Rosaceae - Rose Family	
<i>Adenostoma fasciculatum</i> Hook & Arn. Chamise	C
<i>Aphanes occidentalis</i> (Nutt.) Rydb. Western Lady's-mantle	D
<i>Hesperomeles arbutifolia</i> (Ait.) M. Roem. Toyon	D, C
<i>Prunus ilicifolia</i> (Nutt.) Wats. sp. <i>ilicifolia</i> Holly-leafed Cherry	C
Rubiaceae - Madler Family	
<i>Gallium angustifolium</i> Nutt. ex Torrey & Gray sp. <i>angustifolium</i> Narrow-leaf Bedstraw	D
<i>Gallium nuttallii</i> Gray sp. <i>nuttallii</i> Nuttall's Bedstraw	D
Rutaceae - Rue Family	
<i>Cneoridium dumosum</i> (Nutt.) Hook. f. Bushlime	C
Salicaceae - Willow Family	
<i>Salix lasiolepis</i> Benth. Arroyo Willow	W
Saururaceae - Lizard-tail Family	
<i>Arenopsis californica</i> Hook. Yerba Mansa	W
Saxifragaceae - Saxifrage Family	
<i>Jaysonia parryi</i> (Torr.) Small Coast Jaysonia	D
Scrophulariaceae - Figwort Family	
<i>Antirrhinum nuttallianum</i> DC. sp. <i>subsessile</i> (Gray) Thompson Nuttall's Snapdragon	D
<i>Cassiliga exserta</i> (Heller) Chuang & Heckard sp. <i>exserta</i> Purple Owl's-claw	D
<i>Cassiliga foliolosa</i> Hook & Arn. Woolly Indian Paintbrush	D
<i>Corydalis rigida</i> (Benth.) Jeps. sp. <i>rigida</i> Chuang & Heckard Dark-lip Bird's-beak	C
<i>Reckia cordifolia</i> (Benth.) Straw Climbing Bush Penstemon	D
<i>Mimulus aurantiacus</i> Curtis San Diego Monkeyflower	D
<i>Scrophularia californica</i> Cham. & Schltd. sp. <i>floribunda</i> (Greene) Shaw California Pigwort	D
Solanaceae - Nightshade Family	
<i>Datura wrightii</i> Regel Western Jimsonweed	X
* <i>Solanum americanum</i> L. Black Nightshade	X
<i>Solanum douglasii</i> Dunal Douglas' Nightshade	D
<i>Solanum parishii</i> Heller Parish's Nightshade	D
Tamaricaceae - Tamarisk Family	
* <i>Tamarix</i> sp. Tamarisk	W

M&A# 95-000-01

HABITAT

Urticaceae - Nettle Family

- *Urtica urens* L. Dwarf Nettle

X

MONOCOTYLEDONS

Cyperaceae - Sedge Family

- *Carex triquetra* W. Boon Triangular-fruit Sedge

C

Iridaceae - Iris Family

- *Syrinchium bellum* Wats. Blue-eyed-grass

D

Juncaceae - Rush Family

- *Juncus acutus* L. ssp. *leopoldii* (Pursh) Snag. Spiny Rush
- *Juncus bufonius* L. var. *bufonius* Toad Rush

W  
W

Liliaceae - Lily Family

- *Agave americana* L. American Agave
- *Allium praecox* Bdg. Early Onion
- *Bloomeria crocea* (Torr.) Cov. Common Goldenstar
- *Calochortus concolor* (Baker) Purdy Golden-bowl Mariposa
- *Chlorogalum parviflorum* Wats. Small-flower Soap-plant
- *Dichelostemma capitatum* Wood ssp. *capitatum* Wild Hyacinth
- *Yucca schottigera* Ortgies Mojave Yucca
- *Yucca whipplei* Torr. Our Lord's Candle

X  
D  
D  
D  
D  
C.D  
D  
D  
D  
D

Poaceae - Grass Family

- *Achnatherum coronatum* (Thurber) Barkworth Giant Needlegrass
- *Avena barbata* Link. Slender Wild Oat
- *Boerhaavia barbinodis* (Lag.) Herter Cane Broom
- *Bromus diandrus* Roth Rippit Grass
- *Bromus hordeaceus* L. Soft Chess
- *Bromus madriensis* L. ssp. *rubens* (L.) Husnot Red Brome
- *Coriaria jubata* (Lam.) Stapf Pampas Grass
- *Cynodon dactylon* (L.) Pers. Bermuda Grass
- *Distichlis spicata* (L.) Greene Saltgrass
- *Garridium verticillatum* (Gouan) Schinz & Thell. Nit Grass
- *Hordeum murinum* ssp. *leporinum* (Link) Arcang. Hare Barley
- *Koeleria macrantha* (Ledeb.) Schultes Junegrass
- *Lamarckia aurea* (L.) Moench Golden-top
- *Leymus condensatus* (Presl) A. Love Giant Wild Rye
- *Leymus stictoides* (Buckley) Pilger Beardless Wild Ryegrass
- *Lolium multiflorum* Lam. Italian Ryegrass
- *Lolium perenne* L. Perennial Ryegrass
- *Melica imperfecta* Trin. Coast Range Melic
- *Muhlenbergia micrantha* (DC.) Kunth Linseed Mubly
- *Nassella lepidota* (A.S. Hitchcock) Barkworth Foothill Needlegrass
- *Nassella pulchra* (A.S. Hitchcock) Barkworth Purple Needlegrass
- *Poa annua* L. Annual Bluegrass
- *Poa pratensis* L. ssp. *pratensis* Kentucky Bluegrass
- *Polypogon monspeliensis* (L.) Desf. Annual Beard Grass

C  
G.X  
D  
G.X  
G.X  
G.X  
X  
G.X  
M.X  
G  
G  
C  
X  
X  
D  
D  
D  
D  
D  
D  
X.G  
X.G  
W

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May 20, 1998

A-18

M&A# 95-000-01

HABITAT

- *Rhynchospora repens* (Willd.) Hubb. Natal Grass
- *Schizanthus barbatus* (L.) Thell. Mediterranean Schizanthus
- *Vulpia myuros* (L.) Cmelin Foxtail Fescue

X  
X.G  
X.G

Typhaceae - Cat-Tail Family

- *Typha latifolia* L. Broad-leaved Cat-tail

W

- Denotes non-native plant taxa

Merkel & Associates, Inc.

May 20, 1998

A-19

## **Appendix B.**

### **Property Analysis Record**

## Section 8 - Initial & Capital Tasks and Costs

Property Title: Kelly Ranch openspace

Dataset: CA003

PAR ID: KELLY4-O

11/16/2001

Budget: PAR

Task list	Specificaton	Unit	Number of Units	Cost / Unit	Annual Cost	Times Years	Total Cost
<b>ACQUISITION</b>							
Inspection	Property inspection	L. Hours	4.00	35.80	143.20	1.0	143.20
Legal Assistance	Prepare/review documents	C. Hours	2.00	120.00	240.00	1.0	240.00
Sub-Total							383.20
<b>BIOTIC SURVEYS</b>							
Plant Ecologist	Sens Plant Surveys	L. Hours	12.00	35.80	429.60	2.0	859.20
Wildlife Biologist	Covered Species Surveys	L. Hours	20.00	35.80	716.00	2.0	1,432.00
Ornithologist	CAGN/Community Surveys	L. Hours	20.00	35.80	716.00	2.0	1,432.00
Other	Adaptive Management	Item	1.00	500.00	500.00	1.0	500.00
Sub-Total							4,223.20
<b>HABITAT MAINTENANCE</b>							
Exotic Plant Control	Hand Removal, Labor	L. Hours	20.00	25.00	500.00	2.0	1,000.00
Sub-Total							1,000.00
<b>PUBLIC SERVICES</b>							
Patrolling	Patrol	L. Hours	40.00	25.00	1,000.00	2.0	2,000.00
Patrolling	Migrant labor eviction	L. Hours	40.00	25.00	1,000.00	2.0	2,000.00
gn	Boundary 8" X 13.5" inc.posts	Item	35.00	10.50	367.50	1.0	367.50
Community Outreach	Meetings	L. Hours	40.00	25.00	1,000.00	2.0	2,000.00
Community Outreach	Meetings with Foundation	L. Hours	12.00	35.80	429.60	2.0	859.20
Sub-Total							7,226.70
<b>REPORTING</b>							
Database Management	Data Input	L. Hours	8.00	35.80	286.40	2.0	572.80
GIS/CAD Management	Data Management	L. Hours	8.00	35.80	286.40	2.0	572.80
Photodocumentation	Field Survey	L. Hours	1.00	35.80	35.80	1.0	35.80
Photo Materials	Film/Process	Roll	1.00	13.00	13.00	1.0	13.00
Aerial Photo, 2 sets color	Infrared 9"x 9"	Flight	1.00	425.00	425.00	1.0	425.00
Annual Work Plan	Plan and PAR Budget	L. Hours	4.00	35.80	143.20	2.0	286.40
Agency Report	Annual Report	L. Hours	16.00	35.80	572.80	2.0	1,145.60
Management Plan	Initial Report	L. Hours	24.00	35.80	859.20	1.0	859.20
Sub-Total							3,910.60

Task list	Specification	Unit	Number of Units	Cost / Unit	Annual Cost	Times Years	Total Cost
<b>OFFICE MAINTENANCE</b>							
Office Supplies, Year	Supplies	Person	0.20	192.00	38.40	1.0	38.40
Computer, PC Color	Laptop, Pentium	Item	0.20	2,200.00	440.00	1.0	440.00
inkjet Printer	HP DeskJet 895	Item	0.20	399.00	79.80	1.0	79.80
USGS 7.5 Topo Maps	Topographic Map	Item	1.00	4.50	4.50	1.0	4.50
Sub-Total							562.70
<b>FIELD EQUIPMENT</b>							
Vehicle	Mileage	Mile	800.00	0.40	320.00	2.0	640.00
Chemical Sprayer	5 Gallon, Classic	Item	1.00	85.00	85.00	1.0	85.00
Sub-Total							725.00
<b>OPERATIONS</b>							
Audit	CPA Audit	Item	56.00	0.30	16.80	1.0	16.80
Contracts	Produce contracts	L. Hours	2.00	30.00	60.00	2.0	120.00
Endowment	Process endowment	L. Hours	2.00	30.00	60.00	2.0	120.00
Network Interview/Contracts	Maintain contracts	L. Hours	2.00	30.00	60.00	2.0	120.00
Insurance	General	Item	56.00	0.55	30.80	1.0	30.80
Legal/Emerg. Fund	Establish fund	1% endow.	1.00	3,790.00	3,790.00	1.0	3,790.00
Budgeting	Budget & reconcile	L. Hours	2.00	30.00	60.00	2.0	120.00
Project Accounting	Setup and maintain	L. Hours	3.00	28.00	84.00	2.0	168.00
Sub-Total							4,485.60
<b>CONTINGENCY &amp; ADMINISTRATION</b>							
Contingency							2,251.70
Administration							5,449.11
Sub-Total							7,700.81
Total							30,217.81

# Section 9 - Ongoing Tasks and Costs

Property Title: Kelly Ranch openspace

Dataset: CA003

PAR ID: KELLY4-O

11/16/2001

Budget: PAR

Task list	Specificaton	Unit	Number of Units	Cost / Unit	Annual Cost	Divide Years	Total Cost
<b>BIOTIC SURVEYS</b>							
Plant Ecologist	Sens Plant Surveys	L. Hours	12.00	35.80	429.60	1	429.60
Wildlife Biologist	Covered Species Surveys	L. Hours	20.00	35.80	716.00	1	716.00
Ornithologist	CAGN/Community Surveys	L. Hours	20.00	35.80	716.00	1	716.00
Other	Adaptive Management	Item	1.00	500.00	500.00	1	500.00
Sub-Total							2,361.60
<b>HABITAT MAINTENANCE</b>							
Exotic Plant Control	Hand Removal, Labor	L. Hours	20.00	25.00	500.00	1	500.00
Sub-Total							500.00
<b>PUBLIC SERVICES</b>							
Patrolling	Patrol	L. Hours	40.00	25.00	1,000.00	1	1,000.00
Patrolling	Migrant labor eviction	L. Hours	40.00	25.00	1,000.00	1	1,000.00
Sign	Boundary 8" X 13.5" inc.posts	Item	35.00	10.50	367.50	5	73.50
Community Outreach	Meetings	L. Hours	40.00	25.00	1,000.00	1	1,000.00
Community Outreach	Meetings with Foundation	L. Hours	12.00	35.80	429.60	1	429.60
Sub-Total							3,503.10
<b>REPORTING</b>							
Database Management	Data Input	L. Hours	8.00	35.80	286.40	1	286.40
GIS/CAD Management	Data Management	L. Hours	8.00	35.80	286.40	1	286.40
Photodocumentation	Field Survey	L. Hours	1.00	35.80	35.80	3	11.93
Photo Materials	Film/Process	Roll	1.00	13.00	13.00	3	4.33
Aerial Photo, 2 sets color	Infrared 9"x 9"	Flight	1.00	425.00	425.00	3	141.67
Annual Work Plan	Plan and PAR Budget	L. Hours	4.00	35.80	143.20	1	143.20
Agency Report	Annual Report	L. Hours	16.00	35.80	572.80	1	572.80
Management Plan	5 year update	L. Hours	20.00	35.80	716.00	5	143.20
Sub-Total							1,589.93
<b>OFFICE MAINTENANCE</b>							
Office Supplies, Year	Supplies	Person	0.20	192.00	38.40	1	38.40
Computer, PC Color	Laptop, Pentium	Item	0.20	2,200.00	440.00	4	110.00
Deskjet Printer	HP DeskJet 895	Item	0.20	399.00	79.80	6	13.30
USGS 7.5 Topo Maps	Topographic Map	Item	1.00	4.50	4.50	5	0.90
Sub-Total							162.60

Task list	Specification	Unit	Number of Units	Cost / Unit	Annual Cost	Divide Years	Total Cost
<b>FIELD EQUIPMENT</b>							
Vehicle	Mileage	Mile	800.00	0.40	320.00	1	320.00
Chemical Sprayer	5 Gallon, Classic	Item	1.00	85.00	85.00	5	17.00
Sub-Total							337.00
<b>OPERATIONS</b>							
Audit	CPA Audit	Item	56.00	0.30	16.80	1	16.80
Contracts	Produce contracts	L. Hours	2.00	30.00	60.00	1	60.00
Endowment	Process endowment	L. Hours	2.00	30.00	60.00	1	60.00
Network Interview/Contracts	Maintain contracts	L. Hours	2.00	30.00	60.00	1	60.00
Insurance	General	Item	56.00	0.55	30.80	1	30.80
Budgeting	Budget & reconcile	L. Hours	2.00	30.00	60.00	1	60.00
Project Accounting	Setup and maintain	L. Hours	3.00	28.00	84.00	1	84.00
Sub-Total							371.60
<b>CONTINGENCY &amp; ADMINISTRATION</b>							
Contingency							882.58
Administration							2,135.85
Sub-Total							3,018.43
Total							11,844.26



PAR	Rate %	Total \$
<b>INITIAL FINANCIAL REQUIREMENTS</b>		
I & C Revenue		0
I & C Management Costs		22,517
I & C Contingency Expense	10.00	2,252
Total I & C Management Costs		24,769
I & C Administrative Costs of Total I & C Management Costs	22.00	5,449
Total I & C Costs		30,218
Net I & C Management and Administrative Costs		30,218
<b>ANNUAL ONGOING FINANCIAL REQUIREMENTS</b>		
Ongoing Costs		8,825
Ongoing Contingency Expense	10.00	883
Total Ongoing Management Costs		9,709
Ongoing Administrative Costs of Total Ongoing Management costs	22.00	2,136
Total Ongoing Costs		11,845
<b>ENDOWMENT REQUIREMENTS FOR ONGOING STEWARDSHIP</b>		
Endowment to Provide Income of \$11,845		296,125
Endowment per Acre is \$ 5,288.		
Ongoing Management Costs Based on 4.00% of Endowment per Year.		
Ongoing Management Funding is \$11,845 per Year Resulting in \$212 per Acre per Year.		
<b>TOTAL CONTRIBUTION</b>		<b>326,343</b>