1.0 INTRODUCTION

1.1 Setting

The _____ Open Space Preserve (Preserve) is located in the City of _____, _____ County, California. The Preserve is approximately @.@@ acres in size. It is located _____ and corresponds to a portion of Section @, Township @@ North, and Range @ East, of the _____, California 7.5 minute quadrangle (U. S. Department of the Interior, Geological Survey 19@@, Photo Revised 19@@) (Figure @ - *Preserve Site and Vicinity*).

1.1.1 Project History

Describe the history of the project, including project type, components, purpose, list of habitat to be preserved/created.

1.1.2 Surrounding Land Use

Describe surrounding land uses.

1.1.3 Regulatory Background

An individual permit authorization (Permit) for the _____ Project was obtained from the U.S. Army Corps of Engineers, dated, _____ (Regulatory Branch #_____) for the impacts to waters of the United States (including wetlands) anticipated as part of the project (Attachment @). A special condition of the Permit was the establishment of a long-term management plan for the portions of the project that contain preserved or mitigation wetlands or are to be restored, and the recordation of a Conservation Easement (Attachment @) over these areas protecting them from further development and establishing them as wildlife habitat in perpetuity. This document, the _____ *Operations and Management Plan* (Plan), fulfills that requirement.

1.1.4 General Preserve Description

The Preserve consists of a series of corridors dispersed through the greater _____ project site. The overall Preserve is made up of several different units, and each has been given a letter @ through @ (Figure @ – *Preserve Map*):

- Passive Open Space Areas (@ acres): The majority of the Preserve is passive open space. This means that these areas have been set aside to preserve on-site wetland features and will have no active uses.
- Wetland Compensation Area (@ acres): This area, located _____, is where the Corps required @.@@ acres of seasonal emergent marsh habitat to be constructed. The constructed wetlands will be integrated with the preserved wetlands in this area and overall management will be the same as that for the Passive Open Space Areas.

- Elderberry Avoidance Area (@ acres); This area is located _____, and has been set aside to avoid potential habitat for the Valley elderberry longhorn beetle.

Throughout this Plan, all restrictions, uses, monitoring, and management guidelines are assumed to apply to all of these units unless explicitly stated otherwise.

1.2 Topography and Soils

Describe soils and general topographic features.

1.3 Biological Resources

1.3.1 Preserved Habitats

Describe all types of preserved habitats, acreages, and plant animal species found in them.

Attachment @ has a list of plants and animals that were found on the site during baseline surveys.

1.3.2 Created Habitats

Describe all types of created habitats, acreages of plant and animal species found in them.

1.3.3 Special Status Species

During baseline studies conducted at the site, several special status species were found. These were *(add species names)*.

1.3.3.1 Special Status Animals

(For example)

The vernal pool fairy shrimp is an invertebrate listed as threatened. This species is protected under the federal Endangered Species Act (ESA) as administered by the U.S. Fish and Wildlife Service. Only approved biologists with a federal permit can survey for, net, or handle this species. Vernal pool fairy shrimp were found in five vernal pools at the site, which will be preserved. The U.S. Fish and Wildlife Service authorized impacts to this species' habitat through the issuance of a Biological Opinion, dated _____, (Service File # _____), and mitigation for the impacts will occur off-site.

1.3.3.1.1 Species Account

"The vernal pool fairy shrimp (*Branchinecta lynchi*), is a small crustacean in the Branchinectidae family. It ranges in size from ½ to one inch long. Fairy shrimp are aquatic species in the order Anostraca. They have delicate elongate bodies, large stalked compound eyes, no carapaces, and eleven pairs of swimming legs. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike

movement that passes from front to back. Fairy shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus.

The vernal pool fairy shrimp occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Although the species has been collected from large vernal pools, including one exceeding 25 acres, it tends to occur in smaller pools. It is most frequently found in pools measuring less than 0.05 acre. These are most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp have been collected from early December to early May.

Female fairy shrimp carry their eggs in a ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the mother dies and sinks. When the pool dries out, so do the eggs. They remain in the dry pool bed until rains and other environmental stimuli hatch them. Resting fairy shrimp eggs are known as *cysts*. They are capable of withstanding heat, cold and prolonged desiccation. When the pools refill, some, but not all, of the cysts may hatch. The cyst bank in the soil may contain cysts from several years of breeding. Average time to maturity is only forty-one days. In warmer pools, it can be as little as eighteen (Eriksen and Belk 1999).

The vernal pool fairy shrimp is widespread but not abundant. Known populations extend from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County. Along the central coast, they range from northern Solano County to Pinnacles National Monument in San Benito County. Four additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County, one in the mountain grasslands of northern Santa Barbara County, one on the Santa Rosa Plateau in Riverside County, and one near Rancho California in Riverside County.

The vernal pool fairy shrimp was identified relatively recently, in 1990. There is little information on its historical range. However, since it is currently known to occur in a wide range of vernal pool habitats, the historic distribution may have coincided with the historic distribution of Central Valley and Southern California vernal pools." (USFWS 2003a)

1.3.3.2 California Fairy Shrimp

(For example).

Another vernal pool invertebrate, which is a U.S. Fish and Wildlife Service species of concern, but is not protected under ESA, was also located at the site. California linderiella (*Linderiella occidentalis)*, is another invertebrate that lives in vernal pools and seasonal wetlands. Its life cycle and habitat requirements are similar to the vernal pool fairy shrimp. This species was found in several pools that will be preserved by this project.

1.3.3.2.1 Species Account

"The California fairy shrimp (*Linderiella occidentalis*), also known as the California linderiella, is a small (about 0.4 inch long) crustacean in the Linderiellidae family. Fairy shrimp are aquatic species in the order Anostraca. They have delicate elongate bodies, large stalked compound eyes, no carapaces, and eleven pairs of swimming legs. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back. Fairy shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus.

Most fairy shrimp found in California belong to the Branchinectidae family. These include the threatened vernal pool fairy shrimp (see above), which is often found in the same pools. California fairy shrimp are smaller than ones in the Branchinecta family and have distinctive red eyes.

California fairy shrimp tend to live in large, fairly clear vernal pools and lakes. However, they can survive in clear to turbid water with pH from 6.1 to 8.5, and they have been found in very small pools. They are tolerant of water temperatures from 41° to 85° F, making them the most heat tolerant fairy shrimp in California.

Female fairy shrimp carry their eggs in a ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the mother dies and sinks. When the pool dries out, so do the eggs. They remain in the dry pool bed until rains and other environmental stimuli hatch them.

Resting fairy shrimp eggs are known as *cysts*. They are capable of withstanding heat, cold and prolonged desiccation. When the pools refill, some, but not all, of the cysts may hatch. The cyst bank in the soil may contain cysts from several years of breeding.

Average time to maturity is about forty-five days. Thirty-one seems to be the minimum time required, which is the longest minimum for any Central Valley fairy shrimp. (Eriksen and Belk 1999) Adults have been collected from late December to early May.

The California fairy shrimp is the most common fairy shrimp in the Central Valley. It has been documented on most land forms, geologic formations and soil types supporting vernal pools in California, at altitudes as high as 3,800 feet above sea level." (USFWS 2003b)

1.3.3.3 Special Status Plants

Add information on species locations and status.

1.3.3.3.1 Species Account

Describe species habit, flowering, habitat, and other pertinent information.

1.4 Native And Non-Native (Exotic) Plant Species

In several locations throughout this Plan, native and non-native plant species are mentioned. The following definitions of these terms have been included to assist the Preserve Manager in determining the status of plant species found in the Preserve.

1.4.1 Native Plants

For the purposes of this Plan, plants native to the Preserve will be defined as those plants believed by the scientific community to have been present in _____ County prior to the settlement of Europeans. The Jepson Manual can be a reference for determining if a plant is native or non-native. However, this reference only gets as specific as subregions. The (*insert city name*) area falls close to the boundaries of three of these subregions. As a result, this reference is not necessarily specific enough, and therefore the Preserve Manager can consult with the Monitoring Biologist, local botanists, or the local chapter of the California Native Plant Society to determine if a plant should be considered native to the Preserve.

1.4.2 Non-Native (Exotic) Plants

Based on the above definition of plants considered to be native to the Preserve, there are several ways to view what a non-native plant is: there are plants that are not locally native (native to _____), plants that are not regionally native (native to Northern California), and then plants that are not native to California or the U.S.

1.4.3 Exotic Pest Plants

Exotic pest plants are plants that are not native, and additionally are invasive, replacing native vegetation or native habitats. The Monitoring Biologist and the Preserve Manager can refer to the species found on the California Exotic Pest Control Council (CalEPPC) List A, List B, and Red Alert List to assist them in determining if a plant is an exotic plant species of concern. The current lists have been included as Attachment @, however this list may be updated from time to time by CalEPPC. The new list will be appended to this Plan as it is updated. The list can be found at http://www.caleppc.org/.

1.5 Plan Goal

The goal of this Plan is to ensure that the preserved and created wetland and upland habitats within the Preserve are maintained in good condition such that they will continue to support the flora and fauna that the Preserve were established to protect (Conservation Values), in perpetuity, and to define the specific methods necessary to meet this goal. Conservation Values are defined as the physical, biological, and environmental processes needed to maintain the Preserve. Specific management strategies designed to maintain the Conservation Values are discussed in Section 5.0.

In order to realize the Plan Goal, the following biological goals are established:

- Preserve the abundance and diversity of the native plant and animal species within the wetland, riparian, and oak woodland habitats.
- Protect the Preserve from the effects of adjacent land uses that may adversely impact the Preserve.
- Repair or restore any adverse condition within the Preserve that may affect or potentially affect the Preserve.

It should be noted that while it is the intent of this Operation and Management Plan to comply with the project's existing federal permits, if any discrepancies between this Plan and the federal permits exist, the federal permits override the Plan stipulations unless approved by the Corps where the jurisdiction is the Corps', or the Service where the jurisdiction is the Service's.

2.0 PRESERVE PERSONNEL

The Preserve Manager and qualified personal/monitoring biologist are primary personnel that will oversee, monitor and coordinate the maintenance of the Preserve. They are intended to work together as a team to accomplish the management of the Preserve by exchanging information, problem solving and generally having a proactive relationship.

2.1 Preserve Manager

The Preserve will be managed by _____ pursuant to the Declaration of Restrictions (Attachment @), the Conservation Easement (Attachment @), and this Plan. The _____ will manage and maintain the Preserve as outlined in this Plan and will designate a Preserve Manager. Funding for the perpetual management and care of the Preserve will be provided for by _____ as described under Section 10.0.

2.1.1 Preserve Manager Responsibilities

The Preserve Manager's responsibilities and duties shall include but not be limited to:

- Maintaining fencing and signage.
- Coordinating trash removal.
- Conducting thatch/exotic plant management when necessary with qualified personnel.
- Reviewing monitoring data, and recommend and coordinate with the Corps for any remedial action.
- Maintain a Log for the Preserve. This Log will contain a record of all activities, correspondence and determinations regarding the Preserve.
- General Inspections of the Preserve as required by this Plan.
- Coordinating an annual Biological Inspection by a qualified biologist.
- Arrange for any corrective action necessary to ensure the performance of the habitat at the Preserve, as required by this Plan.

2.2 Use of Qualified Personnel / Monitoring Biologist

The Preserve Manager shall retain professional biologists, botanists or other types of specialists (the Qualified Personnel, including the Monitoring Biologist) to conduct specialized tasks. The Monitoring Biologist shall be familiar with California flora and fauna, and shall have knowledge regarding (*for example*) vernal pool species and their ecology.

2.2.1 Qualified Personnel / Monitoring Biologist Potential Responsibilities

Overall, duties of the Qualified Personnel may include but are not limited to:

- Wetland function and erosion monitoring tasks.
- Evaluating the accumulation of dead vegetative matter (thatch) and recommending removal if needed.

- Evaluate the presence of newly introduced non-native (exotic) plant species and recommend management, if needed.
- Conducting the Biological Inspection, collecting data on the Preserve and preparing reports required by this Plan.
- Evaluating site conditions and recommending remedial action to the Preserve Manager.
- Assist in reviewing or planning restoration activities, use of the Preserve for education or other tasks such as grant proposals.

2.3 Changes in Personnel

If the Preserve Manager or the Qualified Personnel are changed, the outgoing and incoming personnel will tour the Preserve together, and the former will advise the latter of trends, problem areas, and any administrative difficulties.

3.0 RECREATION, EDUCATION, AND HABITAT RESTORATION

3.1 Educational Activities in the Preserve

The Preserve represents an opportunity to encourage a sense of ownership and respect for open space and wildlife habitat in local students. Use of the Preserve for education will be limited to students, parents, and faculty of the local school district or persons with the consent of the Preserve Manager. Individuals or groups using the Preserve for educational purposes will coordinate their use with the Preserve Manager. If the educational activities will be passive in nature, such as an occasional walk off the interpretive trail to discuss plants and animals of the wetland habitats, then the consent of the Preserve Manger is sufficient. If active use (other than restoration activities) of the Preserve is proposed, or regular, but passive use of the Preserve is proposed, review and approval of the Corps is required. To avoid repeated inquiries with the Corps, a use plan could be developed by the interested school for a one-time approval. See Section 3.4, below, for review and notification information on restoration activities.

3.2 Recreation

There are portions of the Preserve intended for passive recreational uses including biking, walking, and birding. These uses are allowed on designated trails.

3.3 Community Clean-up Days

Often, communities have open space or creek clean-up days. Teams of residents "adopt" a portion of creek and the adjacent open space area and pick up trash. Individuals or groups participating in a clean-up event will coordinate their use of the Preserve with the Preserve Manager. More extensive use of the Preserve by community groups, such as restoration or educational activities may require notification of the Corps. See Sections 3.1 and 3.4.

3.4 Habitat Restoration/Enhancement

In the future the Preserve Manager or other group/organization may want to conduct additional habitat restoration or enhancement within the Preserve. This could include the removal of non-native (exotic) plant species (see Section 5.3.3), planting native plants (see Section 1.4.1), or other restoration activities. Restoration activities that involve work in wetlands or waters of the U.S. may require a permit under Section 404 of the Clean Water Act, and/or a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG). Nationwide Permit (NWP) 27, *Stream and Wetland Restoration Activities*, is available from the Corps for these type of activities. An example of a restoration activity that does not require a permit, is planting acorns in the Preserve. An example of a restoration activity that would require a Corps permit is the recontouring of a creek bank and planting it with riparian species to stabilize an area of erosion. The Preserve Manager will not need to notify the Corps if restoration activities do not require a permit from the Corps, however, these activities will reviewed by the monitoring Biologist and will be described in the Annual Report. If there is a question regarding whether a restoration activity will require a Corps permit, the Preserve Manager should seek guidance from the Corps.

4.0 CORPS NOTIFICATION

The Corps has expressed a desire to be notified when certain management and maintenance activities are undertaken within the Preserve. It is also recognized that the Preserve Manager needs be able to carry out management and maintenance activities in a timely and responsive manner. Therefore the following notification requirements have been defined:

4.1 No Notification Required

If an activity in this Plan does not have a specific requirement for notification, is not a Prohibited Activity (see Section 7.0), review and approval or a permit is not required, then no notification is required. If an activity was not anticipated by this Plan, and therefore is not mentioned, Corps review and approval is required.

4.2 Notification

For those activities noted in this Plan as requiring Corps notification, the following action will be taken. All efforts will be made to outline the activities for the coming year in the annual letter report, which is submitted by December 31st of each calendar year. If this is not possible, then the Preserve Manager will submit a separate letter to the Corps. Either will include a written description of the activity, including when the activity will take place and what methodology will be used, as well as a map showing what areas will be targeted. The Corps will have 30 days to contact the Preserve Manager to discuss the activity if the Corps does not approve. If the Preserve Manager is not contacted within 30 days, then the activity will be considered approved. Notification will be made either by fax, email, registered mail, or overnight transmittal.

4.3 Review and Approval

For those activities noted in this Plan as requiring review and approval from the Corps, the following action will be taken. All efforts will be made to outline the activities for the coming year in the annual letter report, which is submitted by December 31st of each calendar year. If this is not possible, then the Preserve Manager will submit a separate letter to the Corps. Either will include a written description of the activity, including when the activity will take place and what methodology will be used, as well as a map showing what areas will be targeted. The Corps will have 60 days to review, discuss, and approve the activity. For these activities, the approval from the Corps must be written. Submittal of activities for review and approval as well as written approval back from the Corps will be made either by fax, email, registered mail, or overnight transmittal.

4.4 Activities Requiring a Permit

Some of the activities mentioned in this plan have the potential to "impact" wetlands or waters of the U.S. The term "loss of waters of the U.S.", which is the closest term defined in the Federal Register to "impact", is defined on page 2094 of the Federal Register, Volume 67, No. 10 / Tuesday, January 15, 2002 / Notices, as follows:

> Waters of the U.S. that include the filled area and other waters that are permanently adversely affected by flooding, excavation, or drainage because of

> the regulated activity. Permanent adverse effects include permanent above-grade, at-grade, or below-grade fills that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the U.S. is the threshold measurement of the impact to the existing waters for determining whether a project may qualify for a NWP; it is not a net threshold calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and values. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the U.S. temporarily filled, flooded, excavated, or drained, but restored to preconstruction contours or elevations after construction, are not included in the acreage or linear foot measurements of loss of waters of the U.S. or loss of stream bed, for the purposes of determining compliance with the threshold limits of the NWPs.

The purpose of this section is to clarify, that while this Plan may call out the maintenance activities as allowed in the Preserve, this does not mean that the activity does not require a separate authorization (permit) under Section 404 of the Clean Water Act. Also, if a project will not result in the permanent loss of wetlands or waters of the U.S., only temporary loss or "impact", a permit is still required. There are several Nationwide Permits (Nationwide Permits, are permits for activities resulting in the loss of less than 0.50 acre of wetlands or waters of the U.S.) currently available for maintenance activities. These are NWP 3, *Maintenance*; NWP 7, *Outfall Structures and Maintenance*; NWP 12, *Utility Line Activities*; and NWP 31, *Maintenance of Existing Flood Control Facilities*. Specific maintenance activities may also qualify for the Clean Water Act Section 404(f) exemption for maintenance. If there is a question regarding whether a maintenance activity will require a Corps permit, the Preserve Manager should seek guidance from the Corps.

Some of these activities may also need a Streambed Alteration Agreement from the CDFG. Pursuant to Section 1600- of the California Fish and Game Code, the CDFG requires entities obtain a Streambed Alteration Agreement for activities affecting the bed, bank, or channel of a lake, river, stream, or drainage, as defined by CDFG.

4.5 Emergency Situations

Should an emergency situation arise that requires immediate action in an upland area, and would normally require that the Corps be notified or have review and approval authority, the Corps will be notified verbally within forty-eight (48) hours, with written confirmation of the actions taken within one (1) week. In these situations, "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship.

Should an emergency situation arise that requires immediate action in a wetland or waters of the U.S., but would normally require that a permit be obtained from the Corps, the following applies as stated in the Code of Federal Regulations, Title 33, Chapter II, Part 325, Section 325.2 - Processing of Applications:

> Emergency procedures - Division engineers are authorized to approve special processing procedures in emergency situations. An "emergency" is a situation

> which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures.

California Fish and Game Code Section 1600- also has emergency procedures stipulations that may apply.

5.0 LONG TERM MANAGEMENT OF THE PRESERVE

5.1 Adaptive Management

In preparing a management plan for habitat to be preserved in perpetuity, it must be acknowledged that there will undoubtedly be future developments in habitat and species management that may affect how the Plan Goal is met. This management plan can only provide guidance for adopting new technologies or practices as they are developed. Ultimately, the Preserve Manager in coordination with the Monitoring Biologist, and the Corps, must determine the appropriate management decision for a given situation. The following management strategies, approved uses, and restrictions are intended to provide a framework for the long-term management and operation of the Preserve. Before considering any management action, the Preserve Manager must consider the Plan Goal, which is to ensure that the protected wetland and upland habitats within the Preserve are maintained in good condition such that it will continue to support the flora and fauna of the uplands and wetlands, in perpetuity. Furthermore, this Plan cannot anticipate all possible site conditions. Therefore, if a condition arises which is not specifically addressed by this plan, the Preserve Manager may upon review and approval by the Corps, adopt techniques not described here.

5.2 Preserve Management During Project Construction or Adjacent Construction

In general, when there is any construction within a portion of the Preserve or adjacent to the Preserve, the following protection measures will be implemented:

- The minimum necessary construction area will be used.
- The Preserve Manager will set construction limits that do not encroach on any preserved wetlands.
- The limits of the construction area will be delineated using high visibility construction fencing.
- If appropriate, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared and best management practices will be adopted to control sediment and erosion during construction.
- The Preserve Manager will attend pre-construction meetings and brief contractors on the location of wetland features or other sensitive habitats.
- The Preserve Manager will also conduct a post-construction inspection to determine if those conducting the construction need to do any post-construction remediation.

5.3 Preserve Management Activities and Guidelines

The following outlines management and maintenance activities that are allowed within the Preserve.

5.3.1 Authorized Access

The intent of the Preserve is to maintain the habitats of these areas in perpetuity. Limited off-trail access to the Preserve will further this goal. Access to the Preserve via the constructed trails is encouraged. Off-trail pedestrian access to the Preserve should be discouraged through fencing and signage, outreach activities, and education of residents.

Access to the Preserve for maintenance activities is allowed, but should be restricted to the immediate area where maintenance is occurring. Access to the Preserve in emergency or law enforcement situations, by medical, fire or law enforcement personnel or vehicles is allowed. Supervised access to the Preserve for educational or habitat restoration activities is allowed (See Section 3.0).

5.3.2 Thatch Management

Historically, grassland and oak savannah/woodland habitats burned periodically due to the occasional wildfire. These fires would burn dead plant material or thatch, keeping it from building up. Native ungulates, and later cattle, would have inhabited the grasslands. The grazing and trampling action of these animals would have reduced the amount of dead plant material as well. In preserves such as the _____ Preserve, thatch has an opportunity to build up because of the lack of fires and grazing. This buildup of thatch can be detrimental to the Preserve habitats, especially vernal pools and seasonal wetlands (Barry 1996). During the one of the two biological surveys (as discussed below in the section titled Inspections), the Monitoring Biologist will make a determination as to the extent of thatch accumulation and if it is adversely impacting the Preserve habitats. Three methods for managing thatch are outlined below:

5.3.2.1 Controlled Burns

Controlled burning is an excellent way to eliminate accumulated plant matter and also serves to reduce cover of non-native annual grasses (Pollak and Kan 1996). While prescribed burning is an effective tool in the long-term management of thatch accumulation, this preserve currently has residential buildings in close proximity, making controlled burns a potential public safety hazard and probably an unrealistic management practice. However, controlled burns are not prohibited by this Plan. When carefully planned with the local fire authorities, some controlled burns have been successfully conducted in urban areas. If a controlled burn is planned for the Preserve, the Corps will be notified.

5.3.2.2 Mowing

Another method to remove thatch is the mechanical mowing of the site. In order for mowing to be effective for thatch removal, the cut material would need to be removed from the site. In addition, the mowing regime should to be timed in order to minimize the invasion of non-native weedy upland species, particularly yellow star-thistle. To date, little research has been conducted on mowing for thatch management. However, mowing would be expected to be effective for thatch management and is probably a realistic management practice for portions of this preserve. It is anticipated that such mowing practices would be needed, at the most, once every five years. If mowing is planned for the Preserve, the Corps will be notified.

5.3.2.3 Grazing

Finally, grazing can be used to reduce thatch build-up in both wetland and upland areas. Grazing with cattle requires a large continuous preserve that can realistically support a grazing herd for an amount of time that would make it economically feasible. Goats and sheep have been recently employed in smaller areas to effectively remove unwanted vegetation. These smaller grazers would be surrounded by an electric fence and moved periodically. If it is determined that a grazing program should be implemented, a more detailed grazing plan will be developed for the site and will be submitted to the Corps for review and approval.

5.3.3 Non-native Plant Species Management

Prior to project implementation, the site currently functions with a number of exotic species, some of which have become naturalized. They are predominantly annual species that occur in grasslands. It is unreasonable to require or expect eradication of established exotic species at the site. The required management of non-native plants will therefore be limited to the management of newly introduced exotic pest plants and controlling the spread of existing exotic pest plant populations that are a threat to the Conservation Values. The Monitoring Biologist and the Preserve Manager can refer to the species found on the California Exotic Pest Control Council (CalEPPC) List A, List B, and Red Alert List to assist them in determining if a plant is an exotic plant species of concern, and which species should be given priority for management. The current lists have been included as Attachment @, however this list may be updated from time to time by CalEPPC. The new list will be appended to this Plan as it is updated.

(*For example…*)For this area there are concerns about four non-native species. They are: yellow star thistle (*Centaurea solstitalis*), Himalayan blackberry (*Rubus discolor*), Eurasian watermilfoil (*Myriophyllum spicatum*), and tree of heaven (*Ailanthus altissima*). Currently only the blackberry and yellow star thistle are present at the site. It is possible that restoration efforts during project implementation will reduce the number and extent of these species. Beyond management activities, if the Preserve Manager would like to pursue more extensive removal of non-native species through volunteer efforts or grant funding, that is encouraged.

In addition to the Preserve Manager looking for these four target species and others during the General Inspections, the Monitoring Biologist will also assess the presence of any newly introduced exotic pest plant species during the Biological Inspections and recommend removal as needed. Three methods of removing or controlling these species are outlined below:

5.3.3.1 Hand/Mechanical Removal

Hand removal or use of small hand powered or handheld equipment (such as a Weed Wrench or a chainsaw) should always be the preferred method of removing exotic pest plant species from the Preserve. If hand removal methods are tried and found to be ineffective, or the problem is too widespread for hand removal to be practical, then mechanical methods (use of larger equipment with motors such as mowers) or biological

controls as described below can be implemented. The Preserve Manager does not need to notify the Corps if removal will be done by hand, hand held equipment, or with a mower. The Corps will be notified if large equipment other than a mower is used.

5.3.3.2 Biological Controls

There are several natural enemies of yellow star thistle that have been introduced from Europe to act as biological controls against this invasive species. The insects develop within the seed head of the flower and develop there, feeding on the seeds. County Agricultural Commissioner would be the point of contact for use of these biological controls within the Preserve. The Agricultural Department currently (2002) does have a limited program for providing the hairy weevil for biological control, and should be contacted if it is determined that star thistle control is needed.

Currently, there are studies taking place on the effectiveness of the milfoil weevil in controlling populations of Eurasian milfoil. Care should be taken in identifying milfoil if it becomes problematic, as there are several species of milfoil native to California.

There are no biological controls currently available for Himalayan blackberry or tree of heaven.

If biological control methods are tried and found to be ineffective or if biological control methods are not available for the target species, then herbicides can be used, but only as outlined below. The Corps will be notified if biological controls will be used in the Preserve.

5.3.3.3 Use of Herbicides for Non-Native/Exotic Pest Plant Management

Herbicides can be used only for the management of Yellow star thistle, Himalayan blackberry, tree of heaven, Eurasian watermilfoil. *List chemical to be used.* They must be applied according to the label. This approval does not obviate the need for the Preserve Manager to obtain any other applicable approvals for the use of these chemicals. **None of these chemicals can be used within 25 feet of vernal pool or seasonal wetland habitat (See Figure @ – *Herbicide Restriction Areas*).** Unless the herbicides used to control these species varies from that described in this section, the Preserve Manager will not need to notify the Corps. However, any actions taken will be described in the Annual Report. If the Preserve Manager believes that the use of a new herbicide, or use one of the herbicides listed above on a new species is warranted, Corps approval must be obtained.

5.3.4 Tree Removal

If any of the native trees at the Preserve become diseased and are a threat to other trees or are a danger to public safety or private property, removal will be allowed. This statement does not imply permission to undertake the removal of any tree without obtaining any appropriate tree removal permits, if applicable. Non-native tree removal is allowed, consistent with Section 5.3.3. In addition, removal will be consistent CDFG regulations if the tree is in a riparian area and removal may require a raptor nesting survey consistent with applicable laws. If a tree has died, and is not a threat to other trees, a danger to public safety, or to private property, removal is not required. Dead trees are often important habitat elements for wildlife and should remain in the Preserve. The Corps will be notified regarding the removal of native trees.

5.3.5 Altered Hydrology

In order to the maintain hydrology of the Preserve, the Preserve Manager will take steps to prevent individual landowners or adjacent developments adjoining the Preserve from directing the natural flow of drainage, landscaping, and storm water runoff from their property onto the Preserve unless it was an original design feature of this project. This is especially important in vernal pool landscapes. Biologists in the vernal pool field have observed that altered hydrology, specifically too much water in vernal pools during the summer months when the vernal pool landscape is normally completely dry, can significantly and adversely influence their function. This is especially true in smaller, urban preserves (Clark and others 1998). See Figure @ – *Drainage Restriction Area* for the edges of the Preserve that should not receive any additional drainage from off-site. This does not preclude the use of irrigation for the establishment period for the native plantings.

5.3.6 Mosquitoes

If mosquito control is necessary, the local Mosquito Vector Control District will be consulted to select control mechanisms that are the least damaging to the Preserve's habitats. A plan outlining those mechanisms will be submitted to the Corps for review and approval.

5.3.7 Beaver Management

The Preserve Manager will be responsible for assessing the beaver population within the Preserve. If beaver dams become established, the Preserve Manager should consult with the Monitoring Biologist to determine if it is best to leave the beavers alone as they are a natural part of the ecosystem, install beaver baffling devices and allow the beavers to remain, breach the beaver dam, or if removal of the beavers is appropriate. The use of beaver baffling devices is allowed. If the Preserve Manager determines removal is appropriate, the Preserve Manager will work with the local California Department of Fish and Game to trap and relocate or hunt the beaver population. The Corps will be notified regarding beaver management.

5.3.8 Homeowner Liaison

The Preserve Manager will be responsible for informing residents whose property adjoins the Preserve if they are in violation of any of the stipulations of the Preserve's Conservation Easement.

5.3.9 Trash Removal

The Preserve Manager will remove accumulations of trash and other unwanted debris from the Preserve periodically.

6.0 LONG TERM MAINTENANCE OF STRUCTURES AND IMPROVEMENTS

(Structures in preserve areas are discouraged. In the instances where they have been authorized, include descriptive text outlining their placement and maintenance. The following section outlines some example text for when structures must be placed in the preserve.)

The following paragraphs outline the allowed maintenance of structures and improvements present within the Preserve. Vegetation removal type maintenance (e.g., mowing vegetation along underground sewer line alignments) associated with these structures is not allowed unless explicitly stated below. **If maintenance or replacement activities associated with these structures will impact preserved wetlands or waters of the U.S., the Corps will be notified and any appropriate permits will be obtained (see Section 4.4).** If wetlands or waters of the U.S. will not be impacted by maintenance or replacement of any of these structures or improvements, then the Preserve Manager will review the plans for the activity to be sure that as little disturbance to the Preserve occurs as possible, but the Corps will not have to be notified. These activities will be described in the annual letter report to the Corps. In addition, disturbed areas will be restored (see Section 8.0).

6.1 Fencing, Signage, Bollards, and Gates

6.1.1 Fencing and Signage

A @-foot *(insert type)* fence will be installed along the perimeter of the Preserve to prevent unauthorized motorized vehicles from entering the Preserve. Gates are located _____. Signage will be installed at Preserve to inform the public of the presence of the Preserve. The Preserve manager will be responsible for the maintenance and replacement of the fencing, gates and signage.

6.1.2 Bollards and Gates

Preserve Manager will be responsible for the maintenance of authorized gates into the Preserve, and for keeping them locked to prevent unauthorized motor vehicle access. Authorized gates are used for allowing access to the parking lot, access for maintenance vehicles and emergency access to the Preserve. All other gates, such as gates installed by residents or other entities allowing access into the Preserve are prohibited. The Preserve Manager will be responsible for notifying any party that has installed an unauthorized gate into the Preserve and require its removal and replacement with the appropriate fencing. Bollards will be placed at each point where a bike trail enters the site. The Preserve Manager will be responsible for the maintenance and replacement of the bollards and for keeping them in the upright position when maintenance vehicles are not accessing the Preserve.

6.2 Utility Lines

As depicted in Figure @ – *Utility Line Locations*, there are several areas of the Preserve that will be crossed by utility lines. Within the Preserve, Maintenance and replacement of utility lines required in the future will be restricted to the minimum area needed to accomplish the task.

6.3 Paved Bike Trails and Bridge

As depicted Figure @ – *Structures and Improvements*, a system of paved bike trails is planned, most of which fall within the Preserve. Bollards will be placed at each location where the bike trail enters the project. The trails will consist of twelve feet of paved area with a two-foot shoulder on each side. Routine maintenance activities such as repainting stripes, fixing cracks, and mowing 2' feet on either side of the bike trail are allowed.

6.4 Interpretive Trails and Benches

A system of interpretive trails is also planned for the Preserve. As depicted Figure @, these trails are located throughout the Preserve. The trails will consist of a six foot wide decomposed granite trail. Routine maintenance activities such as adding more decomposed granite and mowing 2' on either side of the interpretive trail are allowed. Chemicals will not be used on the interpretive trail.

6.5 Maintenance Vehicle Access Roads

There are two maintenance vehicle access roads that are 10 feet wide decomposed granite. These allow access to the overhead transmission line towers. Routine maintenance activities such as adding more decomposed granite and mowing 2' on either side of the maintenance vehicle access roads are allowed. Chemicals will not be used on the maintenance vehicle access roads.

6.6 Outfalls

As part of the project development, it is anticipated that outfalls will daylight within the Preserve. The exact location of these outfalls has not yet been determined, but basins can only be constructed such that they don't affect any jurisdictional waters of the U.S. Specifically, no waters of the U.S. can be impacted (filled) and no outfalls can occur along the drainage constraint zones depicted on Figure @. Outfalls will be designed with cobble catch basins to dissipate flows, minimize erosion, and to allow some passive treatment of water before it enters the preserved wetlands/waters of the U.S. Maintenance or repair activities for drainage outfalls may occur as needed but must not alter the surrounding open space. If maintenance or replacement activities will impact preserved wetlands or waters of the U.S., the Corps will be notified and any appropriate permits will be obtained.

6.7 Fire Breaks

(Firebreaks should be located outside of preserve boundaries. If firebreaks are authorized inside the preserve, include descriptive text like the following.)

The Preserve Manager can implement a @@-foot firebreak along the _____ sides of the Preserve, although they are not required by the Corps or this Plan (Figure @ – *Firebreak Location*). The Corps requires that a survey for ground nesting birds be conducted if firebreaks

are to be cut before July 1st to eliminate impacts to these species. Therefore, the Preserve Manager will be responsible for arranging for a ground nesting bird survey to be conducted each year prior to the mowing of firebreaks. Firebreaks may be mowed (not disked) such that vegetation is 2 inches high or less.

7.0 PROHIBITED ACTIVITIES WITHIN THE PRESERVE

This section outlines the restrictions on activities that can take place in the Preserve. **It is understood that the following activities are prohibited, except as needed to accomplish the above-mentioned management and maintenance activities or as described below. Additionally, if any of these activities must be undertaken due to special circumstances, they may be reviewed and approved by the Corps on a case-by-case basis.**

7.1 Access to the Preserve

The intent of the Preserve is to maintain the habitats of the preserved habitats in perpetuity. Limited access to the Preserve will further this goal. Off-trail pedestrian access to the Preserve should be discouraged through fencing and signage. See Section 5.3.1 for a description of authorized access. All other off-trail access to the Preserve is not allowed.

7.2 Vegetation Removal

No killing, removal, or alteration of any existing native vegetation will be allowed in the Preserve except as described in this Plan.

7.3 Burning and Dumping

No burning or dumping of rubbish, garbage or any other wastes or fill materials will be allowed in the Preserve. The foregoing prohibition shall not be interpreted to prohibit controlled burning as a method of thatch management.

7.4 Disking

No disking can occur in the Preserve.

7.5 Additional Roads, Trails, Benches and Utility Lines

Roads, trails, benches and utility lines not called out in this Plan will not be allowed in the Preserve without approval from the Corps.

7.6 Equipment or Fuel Storage

There will be no equipment or fuel storage within the Preserve.

7.7 Topography

(Disturbance of the topography within in the Preserve for toes of slope, etc. is discouraged. In instances where the preserve is wide enough to accommodate these activities and approval is obtained, revegetation is necessary.)

Once adjacent development is complete and areas within the Preserve that have been disturbed (as authorized by the Corps) have been revegetated (see Section 8.1), no alteration may be

made to the existing topography of the Preserve. This includes leveling or grading. No exploration, development, or extraction of oil, gas or minerals may be made from the Preserve.

7.8 Pesticides and Chemical Agents

Except as needed for management of the habitat as outlined in this Plan or as approved by the Corps, there shall be no use of any pesticides, fungicides, insecticides or any other chemical agents used to kill or suppress plants, animals, or fungi in the Preserve.

7.9 Motor Vehicle Use

No motorized vehicles shall be ridden, brought, used, or permitted on any portion of the Preserve with the exception of the following. Motorized vehicular use will be restricted to that required for Preserve maintenance purposes such as authorized mosquito abatement, bike trail repair or replacement, and for emergency or law enforcement situations requiring access by medical, fire or law enforcement vehicles.

7.10 Construction

Once adjacent development is complete and the structures and improvements called out in this Plan are in place, no construction shall be allowed in the Preserve with the exception of the activities mentioned in this Plan.

7.11 Non-native Plants

No non-native plants will be planted in the Preserve.

8.0 REMEDIATION/RESTORATION ACTIVITIES

8.1 Post-Construction Remediation/Restoration

The replacement of the previously mentioned structures or improvements in the Preserve may require post-construction restoration. These structures or improvements were originally permitted as part of the project through the Corps and CDFG. For these cases, post-construction remediation/restoration means, for example, hydroseeding areas of the Preserve that were disturbed by equipment, restoring the original grade where the intent was not to alter it, cleaning up construction debris, and generally reverting the area back to pre-construction conditions.

8.2 Restoration of Conservation Easement Violations/Vandalism

It is difficult to anticipate and provide a mitigation measure for all potential violations of the Preserve Conservation Easement, however, the following table outlines some potential violations and mitigation guidelines. If a particular situation is not listed here, that does not mean that restoration is not required. In these cases, determining an appropriate mitigation measure will be at the discretion of the Preserve Manager in coordination with the Preserve Steward.

Type of Disturbance	Mitigation Guideline
Disturbance of Grassy Upland Areas	Restoration of grassy upland areas due to disturbance resulting in bare ground should include seeding the area with native grass seed and implementing the proper erosion control measures until bare ground becomes vegetated again.
Removal of Native Tree or Shrub Habitat	Restoration for the removal native trees or shrubs should result in the replacement of the habitat. This could be in the form of planting tree/shrub seeds or seedlings in an amount sufficient to ultimately result in the survival to maturity of the same number of trees or shrubs that were removed. Monitoring of the replacement plants should be done for at least one season.
Wetlands/Waters of the U.S.	Restoration for fill/loss of waters of the U.S. should result in the removal of fill from the feature, potentially the minor re-grading and revegetation of the feature (if appropriate) and monitoring for at least two seasons to gauge the feature's recovery. The Preserve Manager will contact the Corps if fill/loss of wetlands or waters of the U.S. has occurred and submit for review and approval what remediation/restoration is proposed (see Section 4.0). While the normal time period for the Corps to review and approve an action is 60 days, the Corps will make every effort to respond in a timely manner to requests regarding wetlands/waters of the U.S. so that restoration can be implemented at the appropriate time of year (e.g. before the rainy season).
Fencing	Restoration for the destruction or modification (e.g., installing an unauthorized gate) of Preserve fencing should include fixing or replacing the section of fencing to its original specifications.
Structures, Landscaping, Other Improvements, etc.	Any unauthorized structure, landscaping, or other improvement should be removed from the Preserve. If any of the above habitats was disturbed, mitigation will be required using the above mitigation measures as guidelines.

8.3 Timing/Process for Corrective Actions

Minor corrective measures not requiring notification or approval of the Corps (e.g., prevention of unexpected runoff, prevention of unauthorized access to the area by placing locks on gates, etc.) will be carried out by the Preserve Manager within sixty (60) days, unless site conditions warrant delay (i.e., if soil is saturated and equipment would damage the upland habitat in the Preserve, it may be necessary to delay work until conditions improve). All other corrective actions will take place when conditions are best suited for restoration to occur, and after the Corps has been notified or the Preserve Manager has received approval.

9.0 PRESERVE INSPECTIONS AND REPORTING

9.1 Schedule

The monitoring/inspections described below are long-term activities to be carried out in perpetuity. Initially, success monitoring will be taking place at the site to monitor the created habitats to be sure that they are functioning properly. Once these created habitats have meet the established success criteria set forth in the Mitigation and Monitoring Plan (the Mitigation and Monitoring Plan document is separate from this Operations and Management Plan) and have been monitored for the number of years required by the Corps and met their success criteria, this success monitoring will end. During this monitoring period for the created habitats, the success monitoring visits and success monitoring report can fulfill the obligation for the Biological Inspections and Annual Report required by this Plan. If there are years during the success monitoring period that no success monitoring takes place, then the Biological Inspections and Annual Report will be required. The General Inspections are required during the success monitoring period.

When required during the success monitoring period, and then in perpetuity, the schedule of inspections for the Preserve is as follows:

- The Monitoring Biologist shall conduct two Biological Inspections each year, one in April or May and one in September or October.
- The Preserve Manager shall conduct (at minimum) two General Inspections each year, one in January and one in July.

Please see Attachment @ for a timeline.

9.2 General Inspections

The Preserve Manager shall arrange for the General Inspections to be made to ensure the integrity of the Preserve. Inspections will concentrate on an evaluation of the following factors: erosion, fire hazard reduction, fencing integrity, condition of signage, trash accumulation, and evidence of unauthorized use by motor vehicles. The entire perimeter of the Preserve should be covered, as well as meandering transects through its interior. A Inspection Sheet (Attachment @) will be utilized in order to evaluate the above criteria during each field visit. Previous inspection sheets should be reviewed before each visit in order to determine that a possible or recurring problem area is not missed. If any problems are identified, more frequent inspections will be done in order to closely track any problems as well as to ensure that remedial actions are effective. Evaluation and corrective actions for each factor are described below:

9.2.1 Erosion

If it is determined during the inspection that adjacent sheet-flow drainage is causing any erosion or other adverse effects upon the Preserve, immediate standard erosion control measures (such as the installation waddles) will be implemented. If any significant erosion problems occur, the Corps will also be notified and a qualified erosion control specialist will be consulted.

9.2.2 Fire Hazard Reduction

If at any time conditions at the Preserve become a fire hazard, the Preserve Manager will work with Corps and the local fire authorities to decide on the best method to reduce the fire risk at the Preserve.

9.2.3 Fencing and Signage

The condition of the fencing and signage at the Preserve should be checked during the General Inspection. The Preserve Manager will be responsible for maintaining the post and cable fencing and signage at the Preserve.

9.2.4 Trash Accumulation

The Preserve Manager will arrange for the removal of trash from the Preserve.

9.2.5 Unauthorized Motor Vehicle Use

The perimeter of the Preserve will be inspected for evidence of unauthorized motor vehicle use/access. If necessary, corrective actions such as repairing locks and gates will be taken.

9.3 Biological Inspections

In managing the Preserve, measures must be taken to ensure that the existing conditions are maintained over the long term. Inspections by a qualified biologist will help ensure the long-term integrity of the wetland and upland habitats.

The Biological Inspection of the Preserve will be conducted by the Monitoring Biologist in order to monitor wetland function, thatch accumulation, newly introduced exotic species, and overall Preserve function. The entire perimeter of the Preserve should be covered, as well as meandering transects through its interior. The goal of these surveys is to ensure that the various habitat types are maintained in perpetuity. The first inspection is intended assess the various wetland habitats during the floristic season. The second will be focused upland habitats, problem areas, and assessing the success of restoration efforts or remediation activities. Although each of these surveys has a focus, all aspects of the Preserve will be reviewed during each visit.

9.3.1 Habitat Function

The purpose of assessing habitat function is to ensure that the created/preserved wetland and upland habitats are continuing have the appropriate hydrologic regime for that habitat type, monitor anthropogenic influences on the different habitats, and to informally document (make a species list as meandering transects are walked) the plant species that are present and animal species that are using the Preserve.

9.3.2 Thatch Accumulation

The Monitoring Biologist will make an annual determination as to the extent of thatch accumulation. If excess thatch is present, the monitoring biologist will work with the Preserve Manager to determine the best removal practice for the site. Several management practices can be used to address this issue including controlled burning, mowing, or grazing as described previously.

9.3.3 Newly Introduced Non-Native Plant Species

The biologist will assess the presence of any newly introduced or increasing populations of non-native plant species and recommend corrective actions as needed. Special attention will be paid to exotic pest plants.

9.3.4 Preserve Function

The overall Preserve function should be assessed, taking into account the above factors and the purpose of the Preserve, which is to support the flora and fauna of the wetlands and uplands in perpetuity.

9.4 Agency Monitoring / Inspection

The Corps (*if applicable the U.S. Fish and Wildlife Service and the California Department of Fish and Game*) may inspect and monitor the condition of the Preserve at any time.

9.5 Annual Reporting Requirements

The Monitoring Biologist will prepare an Annual Report in conjunction with the Preserve Manager, that will be submitted to the Corps by December 31 of each year. That letter report will include at minimum, a map of the Preserve, photos documenting the status of the Preserve, a description of proposed activities and maintenance or management actions as required by this Plan, a description of actions for which Corps notification or approval was not needed, but were carried out during the year, observations from the Biological Inspections, and recommendations for altered management practices as needed. The report will refer to the Corps regulatory branch number for the project, which is _____.

10.0 PRESERVE OWNERSHIP AND FUNDING MECHANISM

10.1 Preserve Owner

The entire Preserve will be owned by the _____.

10.2 Funding Mechanism

10.2.1 Conservation Easement Endowment

The annual cost of holding the Conservation Easement and carrying out the tasks of the Preserve Manager have been determined through consultation with the Preserve Manager and the amount needed yearly was determined by the PAR (Property Analysis Record) (Attachment @). PARs are generated through the use of a computer program written by the Center for Natural Lands Management to allow land trust and preserve management foundations and organizations to better define and understand the financial obligations that come with managing natural areas. The program lists a number of activities, structures, and overhead costs associated with preserve management and allows the user to choose the tasks that apply. These costs are then tabulated and can be printed out for budgeting purposes. The total endowment amount provided is _____.

11.0 REFERENCES

Add references as needed.