

Chapter 6. Management Plan Implementation

Implementation

The CCP will serve as the primary management reference document for Refuge planning, operations, and management for the next 15 years or until it is formally revised or amended within that period. The Service will implement the final CCP with assistance from existing and new partner agencies and organizations and from the public. The timing and achievement of the management strategies proposed in this document is contingent upon a variety of factors, including:

- Funding & Staffing
- Completion of Step-Down Plans
- Compliance Requirements
- Adaptive Management
- Monitoring

Each of these factors is briefly discussed as it applies to the CCP.

CCPs provide long-term guidance for management decisions and set forth goals, objectives, and strategies needed to accomplish refuge purposes and identify the Service's best estimate of future needs. These plans detail program planning levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. Accordingly, the plans do not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land acquisition.

Funding & Staffing

Currently, a large backlog of maintenance needs exist on the Refuge. The needs are recorded in the Maintenance Management System (MMS) for the Refuge System. Maintenance backlog projects include replacement of heavy equipment used for maintenance of Refuge facilities; replacement of an equipment storage building; improvements on parking lots and service roads; and replacement and upgrades for signs, gates, fences, and water control structures. A summary of these needs follows in Table 11.

Table 11. Maintenance Management System Backlog for Sacramento River Refuge.

MMS No.	Goal	Project Description	Project Cost
97007R	Goals 1,4	Replace habitat management equipment storage building	\$120,000
03001M	Goals 1,4	Remove (abandon) 19 deep agricultural wells	\$95,000
02001T	Goal 2	Replace entrance road and visitor parking on Rio Vista	\$270,000
93002M	Goals 1,2,4	Replace 1945 CAT motor road grader	\$167,000
00003M	Goals 1,2,4	Replace worn-out 1981 equipment stake bed truck	\$56,000
00002M	Goals 1,2,4	Replace worn out maintenance utility truck	\$30,000
00005M	Goals 1,2,4	Replace worn 1969 front-end loader	\$105,000
97001R	Goals 2,4	Repost refuge boundaries	\$30,000
00001M	Goal 2	Improve 1-mile fishing access road to Packer Lake	\$110,000
03002M	Goals 1,4	Replace equipment storage building	\$200,000
03005M	Goals 1,4	Remove South Ord barn	\$25,000
93005M	Goals 1,4	Remove shop building on Heron Island Unit	\$41,000
TOTAL			\$1,249,000

We also use another database, the Refuge Operating Needs System (RONS). Table 12 reflects the Refuge's proposed projects, in priority order. Many of these "projects" involve increases to the Refuge's permanent staffing and funding to carry out the increased responsibilities outlined in the CCP. They also represent needs stemming from an increase in acreage and the maintenance of additional facilities. Each year RONS projects are submitted and compete with similar projects throughout the nation for Refuge funds.

Table 12. RONS Project Summary for Sacramento River Refuge, 2004.

RONs No.	Objective	Project Description	First Year Cost	Recurring Annual Cost	FTE¹
00003	2.1, 2.2, 4.1,4.2	Protect Wildlife Resources (law enforcement officer)	\$129,000	\$64,000	1.0
00007	1.1, 1.9, 2.3, 4.2	Implement habitat management program (tractor operator)	\$114,000	\$49,000	1.0
01001	4.1	Purchase law enforcement vehicle	\$35,000		
97007	4.2	Construct habitat management equipment storage building	\$121,000 ²	\$1,000	
03002	2.1-2.7, 3.1,4.2	Visitor Contact Station and Administrative Office	\$332,000	\$20,000	
03001	2.1-2.7, 3.1	Public use specialist	\$197,000	\$64,000	1.0
97010	1.1,1.2	Restore former riparian areas along the Sacramento River	\$982,000	\$8,000	
00005	2.1, 2.2, 2.3, 3.1	Implement habitat management program (office automation clerk)	\$55,000	\$22,000	.5
97012	1.1, 1.9, 4.2	Implement refuge habitat management program (term maintenance worker)	\$118,000	\$10,000	
00004	1.1, 1.9, 4.2	Manage refuge fire program (fire management officer)	\$139,000	\$74,000	1.0
97001	2.1, 2.2, 4.1	Post refuge boundaries	\$35,000	\$5,000	
00904	1.1, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9	Gather and synthesize preplanning information, SRNWR	\$73,000		
00001	3.1	Improve refuge management (De-complexing)	\$185,000	\$30,000	
TOTAL			2,515,000	347,000	4.5

¹ FTE = Full Time Equivalency Position. ² New construction funding.

Access to Sacramento River Refuge is primarily by river via boat or public road via motor vehicle. The Refuge Roads Inventory (RRI) shows the refuge having 0.49 miles of public use roads, one parking lot, and zero bridges. No funding for roads has been allocated in the Refuge Roads Program (RRP) for the Sacramento River Refuge. Additional Maintenance Management System (MMS) projects eligible for RRP funding at the Refuge include #02001T to replace the entrance road and visitor parking on Rio Vista Unit for \$270,000 and #00001M to improve one mile fishing access road on Packer Lake for \$110,000 (Table 12). The Refuge does anticipate the need for additional transportation facilities during the 15 year life of this CCP.

Portions of the Sacramento River Refuge are in a Metropolitan Transportation Planning Organization (MTPO). The two MTPOs with jurisdiction over the Refuge are the Butte County Association of Governments and the Sacramento Area Council of Governments. Future transportation changes will be coordinated with the appropriate government entity. The results of the next RRI for the Refuge will be reported to the relevant MTPO as to the number and condition of the Refuge's transportation facilities.

The Service had a Federal Lands Highway Program created in the Transportation Equity Act for the 21st Century (TEA-21), the RRP. In order to be considered public roads, refuge roads must be opened to the general public during substantial parts of the year. Seasonal closures during nesting periods and inclement weather are permitted. However, roads only opened by permit to specific public interests, such as to hunters for specified hunting periods, are not considered public roads. Funds for refuge public use roads, parking lots, bridges, restrooms, and trails may be sought from the RRP. These funds can also be used for interpretive enhancements associated with these projects, as long as the costs for the interpretive facilities do not exceed 5 percent of the project budget.

RRP funds can be used as the non-Federal match for Federal Highway Administration funds available through state departments of transportation. Refuges can also use appropriated Service funds as the non-Federal match for these funds. This matching ability can be used to further compatible city, county, and state transportation and transit funds that could be spent on roads and transit projects adjacent to,

connecting to, or running through the refuge. Projects and partners will be identified that can take advantage of this funding.

The Refuge is managed as a satellite refuge within the Sacramento Refuge Complex. Complex staff provides administrative and logistical support to the satellite staff.

Table 13 outlines current staff and proposed additional staffing needed to fully implement this plan. If all positions were filled, the Refuge would be able to carry out all aspects of this plan to a reasonable standard. If some positions are not filled, all aspects of the Plan cannot be completed or those projects may be done over a longer period of time. At full staffing, the Refuge could be “de-complexed” from the Complex headquarters and operated as a “stand-alone” station. The Refuge will continue to be operated as a satellite refuge until the full staffing plan is realized. Staffing and funding are expected to be accomplished over the 15-year life of this plan.

Table 13. Staffing Plan.

Current Staffing Level	Post CCP Staffing Level
Refuge Manager GS-12	Refuge Manager GS-12
Wildlife Biologist GS-11	Wildlife Biologist GS-11
Engineering Equipment Operator WG-10	Engineering Equipment Operator WG-10
	Assistant Refuge Manager GS-9/11
	Tractor Operator WG-6/7
	Refuge Officer GS-7/9
	Public Use Specialist GS-7/9
	Administrative Support Assistant GS-7

With the existing staff and support from the Sacramento Refuge Complex, annual maintenance projects for habitat management and infrastructure will continue to degrade into maintenance backlogs. The current staffing of one engineering equipment operator will not be able to maintain high quality habitat or provide annual maintenance on firebreaks, roads, parking lots, signage, fencing, gates and other public use facilities for over 10,000 acres of refuge lands and the proposed public use. Under the current staff (including Complex support), Phase I implementation would include installing and maintaining boundary signing, minor facilities maintenance, and minor habitat management projects. New facilities and expanded law enforcement for public access would not be feasible. With the addition of a tractor operator and law enforcement officer and the continued support from the Complex, Phase II implementation would include maintenance of quality habitat and existing facilities, new construction and maintenance of basic public use facilities (parking lots, trails, and general information signs). A full time law enforcement officer presence would meet the needs for public safety and protect the properties of adjacent landowners. The addition of a public use specialist, administrative assistant and assistant refuge manager would allow Phase III or full implement of the CCP within 15 years. This staffing would make the Sacramento River Refuge self-sufficient, with only minor support from the Complex on Fire Program issues, law enforcement for special events, and larger construction projects. These projections assume that the Refuge will continue to be supported by our nonprofit conservation groups for habitat restoration and land acquisition, and cooperative management agreements through the state agencies' MOU.

Step-Down Management Plan Summaries

Some projects or types of projects require more in-depth planning than the CCP process is designed to provide; for these projects, the Service prepares step-down management plans. In essence, step-down management plans provide the additional planning details necessary to implement management strategies identified in a CCP. Included in this document are seven step down plans.

Hunting Plan

The purpose of the Hunting Plan (Appendix C) is to establish guidelines for hunting on the Sacramento River Refuge that will provide the public with a quality wildlife-dependent recreational experience, an opportunity to use a renewable

resource, and the ability to maintain wildlife populations at levels compatible with Refuge habitat. It was developed to provide safe hunting opportunities, while minimizing conflicts with other priority wildlife-dependent recreational uses. The plan will allow the hunting program to be conducted in a cost-effective manner, coordinated with the State. The hunting program will be reviewed annually by refuge staff during the Habitat Management Plan review conducted each spring. The activities within the Hunt Plan are evaluated within a compatibility determination located in Appendix B.

Fishing Plan

The purpose of the Fishing Plan (Appendix D) is to establish guidelines for sport fishing on the Sacramento River Refuge which will provide the public with a quality wildlife-dependent recreational experience and an opportunity to use a renewable resource. The fishing program will be reviewed annually by Refuge staff during the Habitat Management Plan reviews conducted each spring. The activities within the Fishing Plan are evaluated within a compatibility determination located in Appendix B.

Fire Management Plan

The Department of the Interior (DOI) fire management policy requires that all refuges with vegetation that can sustain fire must have a Fire Management Plan (FMP) (Appendix E) that details fire management guidelines for operational procedures and values to be protected/enhanced. The FMP for the Sacramento River Refuge provides guidance on preparedness, prescribed fire, wildland fire, and prevention. Values to be considered in the FMP include protection of Refuge resources and neighboring private properties, effects of burning on refuge habitats/biota, and firefighter safety. Refuge resources include properties, structures, cultural resources, trust species (including endangered, threatened, and species of special concern), and their associated habitats. The FMP will be reviewed periodically to ensure that the fire program is conducted in accordance with the Service's mission and the Refuge's purposes, goals, and objectives.

This plan is written to provide guidelines for appropriate suppression and prescribed fire programs at Sacramento River Refuge. Prescribed fires may be used to reduce hazard fuels, restore the natural processes and vitality of ecosystems, improve wildlife habitat, remove or reduce non-native species, and/or conduct research.

This plan will help achieve resource management objectives by enabling the Refuge to use prescribed fire, as one of several tools, to control non-native vegetation and reduce fire hazards in grassland and riparian habitats. It will be used in conjunction with other management tools that are currently applied on Refuge properties (i.e., grazing, mowing and herbicide applications) to meet resource objectives.

Draft Integrated Pest Management Plan

Sacramento Refuge Complex has developed a draft Integrated Pest Management (IPM) Plan for Mosquito Control (Appendix P) to address/reduce public nuisance and human health risk from mosquito-transmitted diseases. The purposes of this plan are: to identify mosquito control methods and materials currently approved for use on the Refuge Complex; identify use in an IPM program that is consistent with the goals of the Refuge Complex and minimizes public health risk from refuge-harbored mosquitoes; and provide long-term planning to meet the Service's goal of reducing effects of pesticide use on DOI trust resources to the greatest extent possible. This plan will be reviewed and updated to include new information and policy changes as needed.

A private consultant under contract with TNC has developed a draft IPM plan that specifically addresses walnut orchards as part of the Refuge's Cooperative Land Management Agreement (CLMA) with TNC (Appendix Q). Without immediate funds to restore the orchards to riparian habitat, it is important that the orchards be managed rather than abandoned. While the Service is obligated to both fulfill its primary mission and Refuge goals, failure to manage these orchards would provide a potential for pests, including insects, weeds, diseases, vertebrates, to build up and potentially cause off-site damage to neighboring walnut farmers along the River.

Habitat Management Plan

The Sacramento River Refuge staff have developed an annual Habitat Management Plan which guides the refuge manager in the decision making process. Each unit is visited annually by a team of managers, biologists, recreation planners, and maintenance workers to identify resource issues, develop a prioritized list of projects to address those issues, and monitor outcomes/responses. The database for this planning document is annually updated. The plan is based on an adaptive management philosophy that allows the team to assess habitat condition and wildlife use of the units annually and make

adjustments accordingly in order to meet Refuge goals and objectives.

Cultural Resource Management Plan

A cultural resource overview, and management plan was completed by the California State University Chico/Archaeological Research Program for the Sacramento River Conservation Area (White et al. 2003). Cultural resources on the Refuge will be managed according to the guidelines developed in this plan and under Federal regulations listed in the National Historic Preservation Act, Archeological Resources Protection Act, and Native American Graves Protection and Repatriation Act.

Restoration and Enhancement Plan

Prior to implementation of riparian restoration projects, a site-specific restoration plan is developed using the principles of landscape ecology. An initial site assessment, which focuses on soils, remnant vegetation, wildlife, flood frequency, and distance to ground water, is conducted in order to make informed decisions regarding restoration designs. A team of professionals, including a restoration ecologist, refuge biologist and refuge manager, develops a restoration plan which guides the management of the unit for the duration of the restoration project (two-to-five years). All restoration plans are sent to the State of California Reclamation Board for review and comments regarding impacts to the Sacramento River flood control system prior to project implementation.

Compatibility Determinations

Federal law and policy provide the direction and planning framework to protect the Refuge System from incompatible or harmful human activities and to insure that Americans can enjoy Refuge System lands and waters. The Improvement Act is the key legislation on managing public uses and compatibility.

Before activities or uses are allowed on a refuge, uses must be found to be “compatible” through a written compatibility determination. A compatible use is defined as a proposed or existing wildlife-dependent recreational use or any other use of a national wildlife refuge that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the national wildlife refuge. Sound professional judgment is defined as a decision that is consistent with the principles of the fish and wildlife management and administration, available science and

resources, and adherence to the requirements of the Improvement Act, and other applicable laws. Wildlife-dependent recreational uses may be authorized on a refuge when they are compatible and not inconsistent with public safety.

Compatibility determinations for hunting, fishing, wildlife observation, photography and interpretation, environmental education, camping and recreational boating, farming, grazing, and mosquito and other vector control are included in Appendix B.

Compliance Requirements

This CCP was developed to comply with all Federal laws, executive orders, and legislative acts to the extent possible. Some activities (particularly those that involve a major revision to an existing step-down management plan, or preparing a new one) would need to comply with additional laws or regulations besides NEPA and the Improvement Act.

Monitoring and Evaluation

The CCP is designed to be effective for a 15-year period. The plan will be reviewed and revised as required to ensure that established goals and objectives are still applicable and that the CCP is implemented as scheduled. The monitoring program will focus on issues involving public use activities, habitat management programs, wildlife inventory, and other monitoring and management activities. Monitoring and evaluation will use the adaptive management process. This process includes goal and objective setting, applying management tools and strategies followed by monitoring and analysis to measure achievement of objectives and refine management techniques.

Collection of baseline data on wildlife populations will continue. This data will be used to update existing species lists, wildlife habitat requirements, and seasonal use patterns. Migratory and resident birds, raptors, and species of management concern will be the focus of monitoring efforts.

Where information gaps exist, a concerted effort will be made to obtain information. With new information, goals and objectives may need modification. Public involvement will be encouraged during the evaluation process.

Monitoring of public use programs will involve the continued collection of visitor use statistics. Monitoring will be done to evaluate the effects of public use on Refuge habitat, wildlife populations, and visitor experience.

Adaptive Management

Adaptive management is the process of implementing policy decisions as scientifically-driven experiments that test predictions and assumptions about management plans, using the resulting information to improve the plans. Adaptive management provides the framework within which biological measures and public use can be evaluated by comparing the results of management to results expected from objectives. Management direction is periodically evaluated within a system that applies several options, monitors the objectives, and adapts original strategies to reach desired objectives. Habitat, wildlife, and public use management techniques and specific objectives would be regularly evaluated as results of a monitoring program and other new technology and information become available. These periodic evaluations would be used over time to adapt both the management objectives and strategies to better achieve management goals. Such a system embraces uncertainty, reduces option foreclosure, and provides new information for future decision-making while allowing resource use.

CCP Plan Amendment and Revision

The CCP is intended to evolve as the Refuge changes, and the Improvement Act specifically requires that CCPs be formally revised and updated at least every 15 years. The formal revision process would follow the same steps as the CCP creation process. In the meantime, the Service would be reviewing and updating this CCP periodically based on the results of the adaptive management program. While preparing annual work plans and updating the Refuge database, the refuge staff will also review the CCP. It may also be reviewed during routine inspections or programmatic evaluations. Results of any or all of these reviews may indicate a need to modify the plan. The goals described in this CCP would not change until they are reevaluated as part of the formal CCP revision process. However, the objectives and strategies may be revised to better address changing circumstances or to take advantage of increased knowledge of the resources on the Refuge. It is the intent of the Service to have the CCP apply to any new lands that may be acquired. If changes are required, the refuge

manager would determine the level of public involvement and associated NEPA documentation.

The intent of the CCP is for refuge objectives and strategies to be attained over the next 15 years. Management activities would be phased in over time and implementation is contingent upon and subject to results of monitoring and evaluation, funding through Congressional appropriations and other sources, and staffing.



Great Horned Owl
Photo by Steve Emmons