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## **V. OPERATIONS AND MAINTENANCE SUMMARY**

The purpose of this chapter is to indicate staffing, funding, and other resources to operate and maintain HCWA and accomplish the tasks identified in Section IV. This LMP proposes proactive application of an ecosystem approach to the management of the multiple natural communities and habitats present at HCWA at a more intensive level than in the past. This LMP also identifies tasks for management of public uses, cultural resources, facility maintenance, scientific research and monitoring, fire, and regional coordination that are not currently being conducted. Implementation of many of the tasks will require additional staffing and a commitment of additional budgetary resources if the goals of this LMP are to be achieved. The Department will use this LMP in their budget and work planning efforts. No guarantee of additional staffing or funding can be obligated by this LMP.

In addition to financial resources, this LMP will require periodic revision to ensure that it is kept current and that it appropriately reflects ecosystem response to management and monitoring and state-of-the-art knowledge. It is fully expected that the ongoing, adaptive management of HCWA and advancement of scientific knowledge regarding the area will result in new techniques and opportunities for more effective management of habitat. Suggested procedures to help keep this LMP current and relevant are included in Chapter IV, Subsection H.

### **A. OPERATIONS AND MAINTENANCE TASKS TO IMPLEMENT PLAN**

All of the tasks that were identified in Chapter IV have been summarized, where appropriate, and included in a spreadsheet provided in Appendix F to this LMP. Among all elements, the tasks that have been described herein may be categorized by the type of management that is conducted. The primary management types, and the associated abbreviations used in Appendix F, are listed below:

- Preparation of documents (D)
- Site enhancement (EN)
- Facility maintenance (MA)
- Resource management (MN), including wildlife linkages (LK)
- Resource monitoring (MO)
- Outreach (OU)
- Resource restoration (RE)
- Special projects (SP)

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For each task listed in Appendix F, the type of management and the schedule for conducting the activity (e.g., annually, every 5 years, as-needed, etc.) is noted. Appendix F is intended as a living work document for land managers that can be used in combination with and independent of this LMP. It can be sorted by the above listed primary categories, management tasks, scheduling, etc., and may be updated as needed to make it as useful as possible to the Department staff who will oversee and conduct the various tasks identified. An overview of all tasks, by management type and associated scheduling, is provided in Table 14 at the end of this chapter.

## **B. EXISTING STAFF AND ADDITIONAL PERSONNEL NEEDS**

The 5,189-acre HCWA is currently staffed by a percentage of three permanent employees and two part-time temporary employees. To ensure appropriate support of HCWA and performance of the tasks identified in this LMP, a combination of additional site management, maintenance, and administrative staffing will be required. The Department identified the staffing team that would be necessary to implement the tasks described in Chapter IV; these staff types are identified in Appendix F.

Included in Appendix F is the distribution of the hours associated with each staff type estimated to complete each task. In some cases where a particular task refers to another task [e.g., all biology tasks related to adaptive management refer to the first mention of adaptive management, Bio 1.1.3(j)] the labor hours noted should be added to the referenced task. In other instances, only the referenced task contains the associated hours. Some tasks do not contain hours (e.g., experimental design) because additional information about the task will be needed before costs can be estimated. Many of the tasks that have been designated as “Special Projects” may require special funding or may need to be implemented by consultants or academic researchers; therefore, labor hours may not be included for these tasks in Appendix F.

Based on the staff hours entered in Appendix F, approximately 10 additional Department staff would be needed to implement the tasks identified in this LMP. Because not all tasks are conducted each year, fewer additional staff would actually be necessary. In addition, contracting with consultants, researchers, and utilizing volunteers would reduce the number of Department staff necessary to complete the tasks identified in any given year.

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## **C. ESTIMATED OPERATIONS AND MAINTENANCE COST AND FUNDING SOURCES**

### **1. Estimated Costs**

Based on the proposed staffing of HCWA, as identified in Appendix F and summarized above, an annual operations and maintenance budget will be determined by the Department. Other costs, e.g., materials and administrative labor associated with contracting non-Department specialists, have not been identified in the LMP and will need additional consideration when budgets are itemized.

### **2. Funding Sources**

Current funding sources for operation and maintenance include:

- Federal Aid in Wildlife Restoration Act (Pittman-Robertson Act)
- USFWS State Wildlife Grant Program, Federal Aid in Wildlife Restoration Program
- The Environmental License Plate Fund

On a project basis, funding sources for capital improvements / restoration and enhancement could include:

- California Endangered Species Tax Check-Off Fund
- USFWS support under the Federal ESA Section 6 provisions for cooperation with the states
- Wetlands Conservation Fund
- Upland Game Stamp Program
- U.S. Department of Agriculture Natural Resources Conservation Service Farm Bill Programs
- Neotropical Migratory Bird Conservation Act Grants Program
- Riparian Joint Venture
- The Department's Minor/Major Capital Outlay proposals

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- Other programs authorized under future bond acts
  - Department of Water Resources grants available for water conservation, groundwater management, and studies and activities to enhance local water supply reliability
  - Funding from grant programs administered by U.S. Environmental Protection Agency
  - Funding from grant programs administered by the National Fish and Wildlife Foundation
  - Funding from grant programs administered by U.S. Bureau of Reclamation
  - Funding from the San Diego County NCCP
  - The Department's deferred maintenance fund.
  - Funding from grant programs administered by the Wildlife Conservation Board

**Table 14**  
**Summary and Schedule of Tasks Organized by Management Type**

Tasks	Reference	Every year	Every 3-5 yrs	Every 5 yrs	One Time/ As Needed
<b>DOCUMENTS</b>					
<b>Annual Work Plan</b>	Set annual priorities for: -Wetlands, riparian, and upland habitat management -Habitat restoration -Special status species management -Non-native species removal -Game species management -Cultural resources surveys and management -Public access, educational and outreach tasks -Monitoring (all of the above)	x			
	Set priorities for remediation of threats to/from: -Habitat and restoration areas -Special status species -Game species -Cultural resources -Excessive public use	x			
<b>Miscellaneous Reports/Plans</b>	Prepare various protocols, reports, and plans, as required: -Protocol for data collection and data management -Status reports for incorporation into MSCP annual report -Supplement working bibliography for cultural resources -Treatment plans for new cultural resource sites -Water features "operations manual" -Area-specific restoration plans -Plan for all signage used at HCWA -Wildfire Management Plan -Pursue state and federal permits as needed -Assist with Community Wildfire Protection Plans	x		x	x
<b>Land Management Plan</b>	Update Land Management Plan: -Incorporate boundary changes and new acquisitions -Incorporate current species and habitat data -Incorporate lessons learned from adaptive management -Incorporate current cultural resources data -Incorporate public use monitoring data -Re-evaluate goals and tasks -Update maps and graphics -Prepare appropriate CEQA documentation			x	

**Table 14 (Continued).**

Tasks	Reference	Every year	Every 3-5 yrs	Every 5 yrs	One Time/ As Needed
<b>ENHANCEMENT</b>					
<b>Biological Resources</b>	Conduct the following for site enhancement: -Designate 100-foot buffers adjacent to riparian corridors, where feasible -Control erosion within uplands -Remove individuals of invasive, non-native plants -Install barriers to limit access into areas important to wildlife movement				x
<b>MAINTENANCE</b>					
<b>Miscellaneous</b>	Regularly maintain the following: -Gates, fences, and trail barriers -Trails, roads, and parking lots -Structures and facilities -Signage -Water features (ponds, wildlife drinkers, fire hydrants, wells, etc.)	x			x
<b>MANAGEMENT</b>					
<b>Biological Resources</b>	Protect and enhance the following: -Sensitive habitat -State and federally listed species -Narrow endemic species -MSCP covered species -Game species	x			x
	Manage wildlife movement corridors and habitat linkages: -Maintain contiguous blocks of wetland and upland habitat -Install fencing to direct wildlife away from roads, and toward undercrossings -Remove fencing that may impede native wildlife movement				x
	Implement invasive species control for the following: -Habitat management -Habitat restoration -Special status species management -Post-fire management	x			x

**Table 14 (Continued).**

Tasks	Reference	Every year	Every 3-5 yrs	Every 5 yrs	One Time/ As Needed
<b>MANAGEMENT (Continued)</b>					
<b>Biological Resources (Continued)</b>	Implement remedial measures for threats to: -Habitat and restoration areas -Special status species -Game species -Cultural resources	x			x
	Apply adaptive management strategy to/by: -Habitat management -Habitat restoration -Management of special status species -Fire management methods -Invasive species eradication -Reviewing current literature -Coordinating with other conservation entities in the region -Coordinating with the scientific community -Encouraging research	x			x
<b>Cultural Resources</b>	Manage cultural resources by: -Assessing conditions and preparing treatment plans for new sites -Assessing threats -Avoiding impacts -Implementing treatments, as needed				x
<b>Public Use</b>	Refer to the following: -Biological Resources Management -General Management -Maintenance				
<b>General</b>	Install or remove fencing and gates as needed to: -Protect sensitive habitat -Protect special status species -Protect cultural resources -Direct wildlife towards undercrossings -Direct wildlife away from paved roads -Direct the public towards appropriate trails, interpretive signage, and wildlife viewing areas				x

**Table 14 (Continued).**

Tasks	Reference	Every year	Every 3-5 yrs	Every 5 yrs	One Time/ As Needed
<b>MANAGEMENT (Continued)</b>					
<b>General (Continued)</b>	Incorporate established policies, and guidelines involving: -Habitat management -Habitat restoration -Habitat assessments -Species surveys and monitoring -Wildlife movement monitoring -Adaptive management -Fire management				x
	Evaluate future projects for impacts to biological resources: -Management and monitoring activities -Restoration -Public use facilities -Projects related to cultural resources -Fire management activities	x			
<b>MONITORING</b>					
<b>Baseline Biological Surveys</b>	Supplement baseline biological data, as needed				x
<b>Qualitative Biological Surveys</b>	Asses general condition of: -Wetland, riparian, and upland habitat -Habitat restoration and enhancement areas -Habitat that is suitable for state and federally listed species -Special status species (listed, narrow endemics, MSCP covered, and other) -Game species -Disturbed habitat for potential restoration or enhancement -Sources of water for wildlife	x			
	Identify and prioritize (i.e., high, medium and low) threats to/from: -Natural habitat -The success of habitat restoration projects -Special status species -Game species -Invasive non-native plant species -Problematic non-native wildlife -Erosion and sediment deposits -Wildfires -Excessive public use -Edge effects and other indirect impacts -Any other disturbance	x			



**Table 14 (Continued).**

Tasks	Reference	Every year	Every 3-5 yrs	Every 5 yrs	One Time/ As Needed
<b>MONITORING (Continued)</b>					
<b>Quantitative Biological Surveys</b>	Identify changes and trends in: -Habitat condition -Special status species presence/absence (conduct focused or protocol-level surveys for listed species) -Game species populations -Game species take		X		
<b>Specialized Biological Surveys</b>	Conduct specialized monitoring of: -Wildlife movement -Special status species population density and distribution		X		X
<b>Cultural Resources Monitoring</b>	Compile cultural resources information: -Compile all inventories / investigations on file for HCWA -Conduct records search at SCIC -Formally evaluate cultural resources for CA Register -Identify areas to be surveyed				X
	Conduct qualitative monitoring of: -Condition of cultural resources -Treatment implementation and its effectiveness -Ground disturbance near cultural resources to assess impacts	X			
<b>Public Use Monitoring</b>	Conduct the following monitoring activities: -Quantitative survey to determine use capacity -Review rules, regulations, materials, and public use for consistency with goals of LMP -Monitor for illegal activity (off-road vehicles, dumping, etc). -Monitor for impacts to habitat or species from excessive public use	X	X		
<b>Facilities Monitoring</b>	Monitor condition of the following -Trails, roads                      -Parking lots -Signs                                -Fences and gates -Structures                         -Water features	X			

**Table 14 (Continued).**

Tasks	Reference	Every year	Every 3-5 yrs	Every 5 yrs	One Time/ As Needed
<b>OUTREACH</b>					
<b>Public Use</b>	Educate/inform the public about the following: -Detrimental impacts caused by non-native species -Reserve rules, regulations, goals, and areas of access -Local flora and fauna, ecology, conservation -Hunter safety -Volunteer opportunities	x			x
	Coordinate with: -Management and monitoring at RJER -Local interest groups and community groups -Local schools -Local research and educational institutions -Scientific community (researchers and students) -General public -Local and regional fire safety groups -Wildlife agencies	x			x
<b>Cultural Resources</b>	Conduct cultural resources related outreach activities: -Contact Native Americans for information about resources -Involve community in cultural resources activities -Implement stewardship program -Create educational program for cultural resources				x
<b>RESTORATION</b>					
<b>Biological Resources</b>	Quantify candidate restoration areas and implement the following types: -Disturbed habitat (grassland, coastal sage scrub, riparian) -Areas heavily infested with non-native exotic plants -Areas damaged by fire -Damaged or decommissioned trails and roads -Areas damaged by erosion and/or sediment build up -Habitat that is suitable for special status species -Habitat that is suitable for game species				x

**Table 14 (Continued).**

Tasks	Reference	Every year	Every 3-5 yrs	Every 5 yrs	One Time/ As Needed
<b>SPECIAL PROJECTS</b>					
<b>Biological Resources</b>	Develop the following special projects as feasible: -Actively restore and/or enhance grasslands -Collect seeds and propagate San Diego thornmint -Actively restore habitat for Quino checkerspot butterfly -Actively restore/enhance California gnatcatcher habitat -Conduct intensive invasive species removal -Implement active adaptive management (including pilot studies and hypothesis testing) -Add bluebird nest boxes or bat houses				x
<b>Cultural Resources</b>	Develop the following special use projects as feasible: -Formally evaluate known cultural resources, and develop treatment plan -Identify areas unsurveyed and conduct focused field surveys -Implement treatments to restore and protect cultural resources				x
<b>Public Use</b>	Develop the following special use projects as feasible: -Designate wildlife viewing areas -Develop volunteer program to protect biological and cultural resources				x