

**WESTERN RIVERSIDE COUNTY MSHCP
BIOLOGICAL MONITORING PROGRAM
FY 2006-07 WORK PLAN AND ESTIMATE OF COST**

1. INTRODUCTION

The overall goal of the Biological Monitoring Program is to collect data on the 146 Covered Species to determine whether the MSHCP species objectives are being met and to provide information to the Adaptive Management Program. The activities described in this work plan for Fiscal Year 2006-07 continue the activities commenced in the previous fiscal year and follow the framework outlined in section 5.3 of the MSHCP (DUDEK 2003). Fiscal Year 2006-07 begins the third year of a 5 to 8 year inventory phase of the Biological Monitoring Program.

2. STRATEGY AND RESPONSIBILITIES

The Biological Monitoring Program is implemented within the MSHCP Conservation Area on lands that are owned and managed by the various MSHCP participants. To ensure consistency in monitoring efforts throughout the Conservation Area, the Biological Monitoring Program is overseen and implemented by a Monitoring Program Administrator selected by the Western Riverside County Regional Conservation Authority (RCA). The duties and responsibilities of the Monitoring Program Administrator are described in Section 6.6.6, volume 1 of the MSHCP (DUDEK 2003). As per the MSHCP, the California Department of Fish and Game (CDFG) is the Monitoring Program Administrator for the first 8 years of the permit.

The RCA has primary responsibility for implementing and funding the Biological Monitoring Program. The RCA works closely with the Monitoring Program Administrator to develop and implement the annual work plan and budget. The CDFG is not contracted by, nor does it receive direct funding from, the RCA. Rather, the CDFG has committed staff and resources to oversee, administer, and implement the Biological Monitoring Program based on the availability of the State's budget. The CDFG functions as a liaison between the RCA and contracted staff provided by the RCA to implement the Biological Monitoring Program.

The Biological Monitoring Program is responsible for monitoring the status and trend of the 146 Covered Species and associated species and habitats over a 500,000 acre Conservation Area. Because there is little existing scientifically-based data for the majority of Covered Species, the first 5 to 8 years of the Biological Monitoring Program are devoted to an inventory phase. The purpose of the inventory phase is to determine where Covered Species occur within the Conservation Area, gather more information on their activity patterns, and develop protocols for detecting them. The development of protocols is necessary to test the reliability of survey methods, to determine whether a

species is present in an area, and if not detected, provide the confidence level that the species is not present.

One of the goals of the Biological Monitoring Program is to develop efficient long-term monitoring protocols that reduce redundancies by collecting information on multiple species where possible. For example, bird species co-occurring in similar habitat (e.g., willow riparian, coastal sage scrub) during the breeding season can be detected using the same survey protocols. There will always be some Covered Species that occur in isolated pockets within the Conservation Area or that are difficult to detect using standard survey protocols; for these species a focused survey efforts will be required.

3. STAFF COMPOSITION

The Biological Monitoring Program is comprised of the following staff positions. These positions work as a team to coordinate, develop, and implement required monitoring activities for the MSHCP:

- Monitoring Program Administrator (1)
- Monitoring Program Coordinator (1)
- Lead Biologists (2)
- Field Crew Leaders (5)
- General Field Crew, bird specialization (8)
- General Field Crew, mammal specialization (6)
- General Field Crew, amphibian & reptile specialization (2)
- General Field Crew, invertebrate specialization (1)
- General Field Crew, plant specialization (2)
- Database Manager (1)
- GIS Analyst (1)
- Clerical Assistant (1)

The majority of staff is funded by the RCA through contracts with the Santa Ana Watershed Association (SAWA), a local non-profit agency. Staff is also hired through the Environmental Careers Organization (ECO). The Monitoring Program Administrator, Monitoring Program Coordinator, and some of the field crew are funded by the Wildlife Agencies (CDFG and U.S. Fish and Wildlife Service).

4. SPECIFIC TASKS OF THE MONITORING PROGRAM

4.1 Administration & Coordination

Administering and coordinating the monitoring program requires a significant amount of effort. Sufficient staff and resources must be ensured, field work must be scheduled, and coordination with reserve managers and other agencies on land access and survey activities must take place. The Monitoring Program Administrator, Monitoring Program Coordinator, and Lead Biologists carry out the following tasks:

- Develop annual work plans and budgets
- Identify contract needs, write scopes of work, manage contracts
- Advertise, interview, and hire monitoring program staff; conduct performance reviews
- Develop training manuals and training programs for staff
- Coordinate staff activity schedules
- Identify field supply and equipment needs; submit orders; maintain inventory, including vehicles
- Identify land access needs and coordinate with agencies on access agreements
- Facilitate monthly reserve management/monitoring coordination meeting
- Attend monthly RCA team meetings and other agency meetings
- Occasional presentations to the RCA Board
- Coordinate with Wildlife Agencies on survey methodology and monitoring activities
- Develop the operations manual

4.2 Biological Surveys

Conducting biological surveys is the most visible part of the Biological Monitoring Program. It is also the component that requires the most staff. Prior to collecting data, all aspects of a project must be developed: the purpose of the survey is identified, the data collection method and sampling locations are chosen, and how the data will be analyzed and what answers the data are expected to provide are determined. The following tasks are carried out by the Monitoring Program Coordinator, Lead Biologists, GIS Analyst, Field Crew Leaders, and Field Crew.

- Develop protocols and sampling designs
- Implement focused species surveys
- Conduct community surveys for multiple species
- Conduct vegetation analyses

4.3 Training

Training is a necessary component of the Monitoring Program. It provides staff with the knowledge and resources needed to collect accurate and reliable data and to handle potentially unsafe situations. The Biological Monitoring Program conducts much of its training using existing staff qualified to handle and identify threatened and endangered species; however, some outside training is needed for species that are difficult to identify and for specialized training (e.g., CPR). The following training is required of monitoring staff:

- Endangered species identification and handling
- Local flora and fauna identification
- Wilderness first aid training & CPR
- Defensive driver training

4.4 Data Management & Reports

All of the data collected by the Monitoring Program must be carefully managed. Prior to field work, data forms are developed and survey locations are mapped. As data returns from the field, it is entered into a database and checked for accuracy. After data collection is completed, the data is analyzed and a report is written describing survey results. The results of each year's monitoring efforts are summarized in the Annual Report submitted to the RCA. All Monitoring Program staff contributes to data management and report writing, but these are specifically the responsibility of the Database Manager, GIS Analyst, Monitoring Program Administrator, Monitoring Program Coordinator, and Lead Biologists. These activities include:

- Field form & protocol development
- GIS mapping to support surveys, analysis, & reports
- Database development
- Data entry and quality control
- Data analysis, statistics
- Survey summary reports
- Annual report
- Maintain computer equipment and database
- Develop web pages to share monitoring activities and data

5. SPECIFIC SPECIES SURVEYS FOR FY 2006-07

The Biological Monitoring Program activities planned for FY 2006-07 are largely based on the requirements of the MSHCP species objectives found in volume 2 of the MSHCP (DUDEK 2003). The species objectives specify time intervals for detecting and reporting on each of the covered species in the Conservation Area. When the species objectives do not specify a time interval, the status of the covered species must be reported on at least once every 8 years as per General Management Measure 7 (DUDEK 2003, volume 1 section 5.0). In addition to the species objectives, survey priorities are influenced by the quantity and quality of information available for each species (i.e. little or poor information means more survey effort sooner), whether another agency is already conducting surveys (i.e. less effort required on our part), relative ease of gathering information (e.g., yellow warbler surveys during least Bell's vireo surveys), and priority of the species to the RCA and wildlife agencies (e.g., burrowing owl). Funding availability is also considered when deciding monitoring activities. Grasshopper sparrow, Lincoln sparrow, and follow-up burrowing owl surveys were originally scheduled for FY 2006-07, but due to funding limitations are not part of the Work Plan. If additional funding becomes available mid-year, these activities can be added to the Work Plan.

The following species surveys are planned for FY 2006-07:

5.1 Invertebrates

5.1.1 Quino Checkerspot Survey

5.1.2 Delhi Fly Survey

5.2 Birds

5.2.1 Riparian Bird Survey

Focal species: least Bell's vireo, willow flycatcher, yellow warbler, yellow-breasted chat, yellow-billed cuckoo

5.2.2 Coastal Sage Scrub Bird Survey

Focal species: California gnatcatcher, sage sparrow, rufous-crowned sparrow, cactus wren

5.2.3 Burrowing Owl Survey (2006 season only)

5.2.4 Raptor Nesting Survey

Focal species: golden eagle, northern harrier, northern goshawk, turkey vulture, white-tailed kite

5.3 Amphibians and Reptiles

5.3.1 Stream Survey

Focal species: arroyo toad, mountain yellow-legged frog, California red-legged frog, coast range newt, western pond turtle

5.4 Mammals

5.4.1 Small Mammals Survey

Focal species: Los Angeles pocket mouse, Stephens' kangaroo rat, Aguanga kangaroo rat, San Diego pocket mouse

5.5 Plants

5.5.1 Historic Record Location Verification

Focal species: Brand's phacelia, California Orcutt grass, Hammitt's clay-cress, Johnston's rockcress, many-stemmed dudleya, Munz's mariposa lily, Munz's onion, San Diego ambrosia, San Jacinto Mountains bedstraw, San Miguel savory, slender-horned spine flower, spreading navarretia, Wright's trichocoronis, Yucaipa onion, Coulter's goldfields, Davidson's saltscare, heart-leaved pitcher sage, little mousetail, mud nama, Nevin's barberry, Parish's brittlescale, prostrate navarretia, round-leaved filaree, San Jacinto Valley crownscale, smooth tarplant, thread-leaved brodiaea, Vail Lake ceanothus

5.5.2 Engelmann Oak Study

5.5.3 Vegetation Surveys

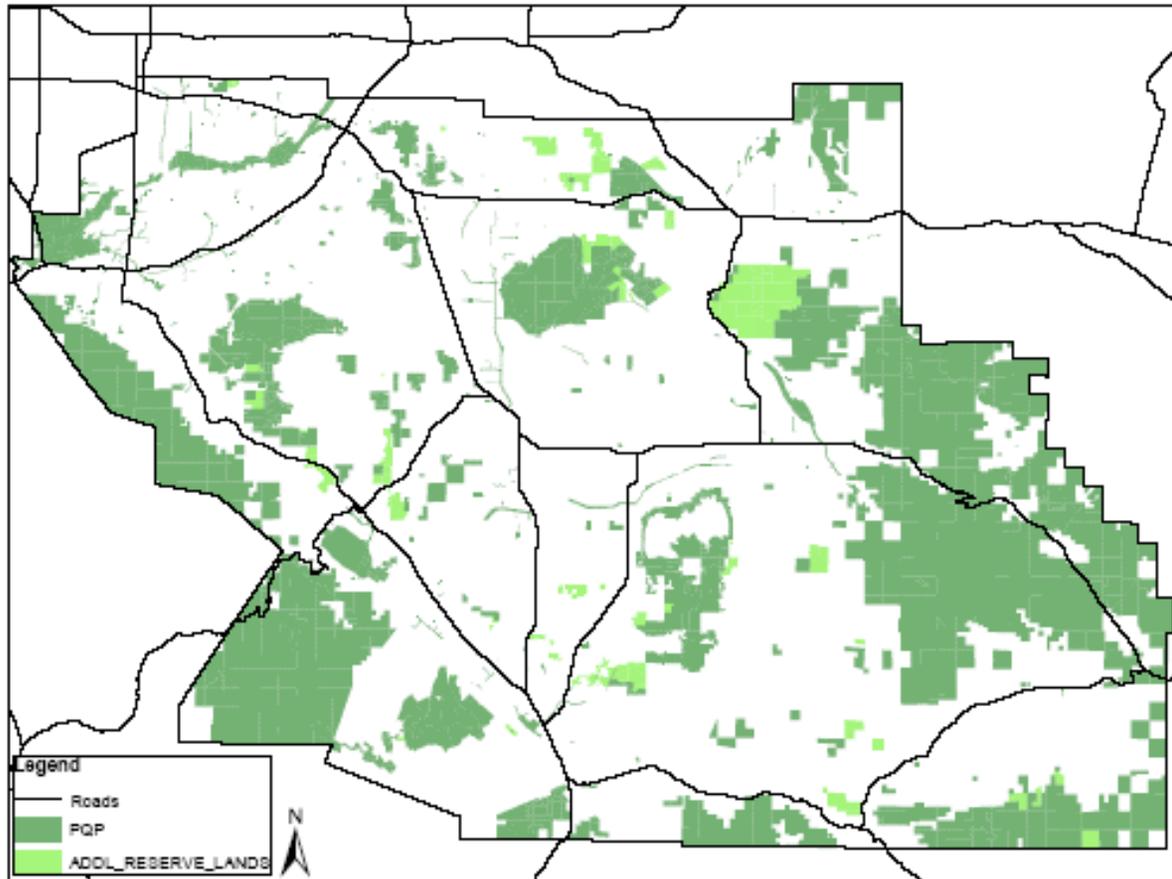
6. SCHEDULE OF SPECIES SURVEYS FOR FY 2006-07

Below is a calendar of when species surveys are planned for FY 2006-07. The “biological year” or “survey season” does not match the fiscal year, thus the calendar represents two different survey seasons. The first half of the calendar continues many of the activities commenced in FY 2005-06 (e.g., Delhi fly surveys begin in June 2006, burrowing owl survey begin in April 2006).

Survey	Jul06	Aug06	Sep06	Oct06	Nov06	Dec06	Jan07	Feb07	Mar07	Apr07	May07	Jun07
Quino Checkerspot							x	x	x	x		
Delhi fly	x	x	x									
Riparian Birds	x	x							x	x	x	x
Sage Scrub Birds								x	x	x	x	x
Burrowing Owl	x	x	x									
Raptor Nesting Survey								x	x	x	x	x
Stream Survey	x	x	x	x				x	x	x	x	x
Small Mammal Survey	x	x	x	x	x	x	x	x	x	x	x	x
Plant Location Verif.	x	x	x	x	x	x	x	x	x	x	x	x
Engelmann Oak Study				x	x	x						
Vegetation Surveys	x	x	x						x	x	x	x

7. SURVEY LOCATIONS

The Biological Monitoring Program only conducts surveys within the existing Conservation Area where access has been granted. The following map shows the existing Conservation Area comprised of Public/Quasi Public Lands (PQP) and Additional Reserve Lands. These are the lands where the Monitoring Program can potentially conduct its activities. The RCA works closely with the Biological Monitoring Program to obtain land access agreements.



8. PROPOSED BIOLOGICAL MONITORING PROGRAM BUDGET FOR FY 2006-07

The FY 2006-07 proposed Biological Monitoring Program Budget is similar to previous budgets submitted to and approved by the Reserve Management Oversight Committee (RMOC) and RCA. The CDFG funds a portion of the Biological Monitoring Program based on the availability of the State's budget. The RCA has primary responsibility for funding the Biological Monitoring Program. The majority of funding is allocated to contracts for monitoring staff. This budget assumes that the Monitoring Program Coordinator position is funded by U.S. Fish and Wildlife Service (USFWS).

ALLOCATION	COST
CDFG Funded Labor & Supplies	
Monitoring Program Administrator	110,000
General Field Crew (Scientific Aides)	148,000
CDFG vehicle usage (fuel & maintenance)	40,000
Field supplies & equipment	16,000
Misc. office supplies (paper, pens, ink, postage)	10,000
Staff travel & expense reimbursements	6,000
Subtotal CDFG Funded Labor & Supplies	\$330,000
USFWS Funded Labor	
Monitoring Program Coordinator	110,000
Subtotal USFWS Funded Labor	\$110,000
RCA Contracted Labor	
Agency Contract – SAWA (staff)	1,270,000
Agency Contract – ECO (staff)	85,000
Agency Contract – USGS (training)	20,000
Agency Contract – RCD (office facility)	80,000
Subtotal RCA Funded Contracts	\$1,455,000
RCA Funded Operating Expenses & Equipment	
Field equipment – non-fixed asset (items under \$5,000)	21,000
Office supplies	20,419
Communications (Phones/DSL)	12,000
Training	12,000
Subtotal RCA Funded O&E	\$65,419
Total Program Cost	\$1,960,419
Minus Total CDFG Funding	\$330,000
Minus Total USFWS Funding	\$110,000
Grand Total RCA Cost	\$1,520,419