

**WESTERN RIVERSIDE COUNTY MSHCP
BIOLOGICAL MONITORING PROGRAM
FY 2008-09 WORK PLAN AND COST ESTIMATE**

1.0 INTRODUCTION

Objective of the Biological Monitoring Program (“Program”) is to collect data on 146 covered species and associated habitats measure the MSHCP effectiveness in meeting conservation objectives and provide information for the Adaptive Management Program. Activities described in this work plan for Fiscal Year 2008-09 continue the activities commenced in previous fiscal years and follow the framework outlined in section 5.3 of the MSHCP. Fiscal Year 2008-09 is the fifth fiscal and the fourth biological year of a five to eight year inventory phase of the Biological Monitoring Program.

2.0 RESPONSIBILITIES

The Program is implemented within the MSHCP Conservation Area on lands owned and managed by various MSHCP participants. To ensure consistency in monitoring efforts throughout the Conservation Area, the Program is overseen and implemented by a Monitoring Program Administrator selected by the Western Riverside County Regional Conservation Authority (RCA). Duties and responsibilities of the Monitoring Program Administrator are described in Section 6.6.6, Volume 1 of the MSHCP, the California Department of Fish and Game (CDFG) serves as Monitoring Program Administrator for the first eight years of the permit.

The RCA works closely with the Monitoring Program Administrator to develop and implement the annual work plan and budget. The RCA has primary responsibility for funding the Program and the Monitoring Program Administrator implements the Program using contracted staff provided by the RCA. 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 and administer the Program based on availability of State funds. The CDFG does not currently have a staff member assigned to the Monitoring Program Administrator position, the position is being filled on an interim basis by a U.S. Fish and Wildlife Service staff person, formerly Monitoring Program Coordinator. The RCA is contributing half of the cost of USFWS position. If CDFG fills the Monitoring Program Administrator Position the Interim Monitoring program Administrator will resume the duties of Monitoring Program Coordinator.

3.0 IMPLEMENTATION STRATEGY

The Program is responsible for monitoring status and trends of 146 Covered Species over a 500,000 acre Conservation Area. The first five to eight years of the Biological Monitoring Program are devoted to an inventory phase. Purpose of inventory is to determine where Covered Species occur, gather information on activity patterns, and

develop detection protocols, test the reliability of survey methods, determine whether a species is present in an area and, if not detected, to provide the confidence level that species are not present.

A goal of the Program is develop efficient long-term monitoring protocols that reduce duplicate efforts by collecting information on multiple species where possible, i.e., bird species co-occurring in similar habitat (e.g., willow riparian) during the breeding season may be detected using the same survey protocols. Some Covered Species occur in isolated pockets may be difficult to detect using standard survey protocols; for these a focused survey effort may be required.

4.0 STAFF COMPOSITION

The Program functions with the following staff positions.

- Monitoring Program Administrator
- Monitoring Program Coordinator
- Lead Biologists
- Taxa Program Leads
- General Field Crew, bird specialization
- General Field Crew, mammal specialization
- General Field Crew, amphibian & reptile specialization
- General Field Crew, invertebrate specialization
- General Field Crew, plant specialization
- Database Manager
- GIS Analyst
- Office Manager
- Clerical Assistant

The Monitoring Program Administrator, Monitoring Program Coordinator and some field crew are funded by the Wildlife Agencies (CDFG and U.S. Fish and Wildlife Service), the remainder, including office and clerical, are provided through a contract between the RCA and Santa Ana Watershed Association.

5.0 SPECIFIC TASKS OF THE MONITORING PROGRAM

5.1 Administration & Coordination

Administering and coordinating the Program requires a significant staff, resources, and support to insure field work is scheduled, land access coordinated, and survey activities take place in a timely manner. The Program Administrator, Program Coordinator, Office Manager, 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
- Direct and schedule staff activities
- 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 and implementation manuals
- Oversee production of annual survey reports
- Distribute Monitoring Program data as appropriate

5.2 Biological Surveys

Conducting biological surveys is the most visible part of the Program and requires the most staff. Prior to collecting data all aspects of a survey project, identifying purpose of survey, choosing data collection methods, sampling locations, selecting data analysis methods, and determining what answers the data are expected to provide must be determined. Example of tasks carried out by the Monitoring Program Coordinator, Lead Biologists, GIS Analyst, Taxa Program Leads, and Field Crew are:

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

5.3 Training

The Program staff is required to have training approved by the Wildlife Agencies to ensure consistent data collection, uniform implementation of protocols, handling procedures, and appropriate experience with covered species (MSHCP Vol. 1, Sec. 7). The types of species training needed in any given year is dependent on the types of survey activities planned; however, safety training (e.g., first aid, CPR) is provided every year. The following training is required of Program field staff:

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

5.4 Data Management & Reports

Data collected by the Monitoring Program must be managed in a format that can be easily accessed and interpreted. 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 complete it is analyzed and a summary report is written describing survey results. Results of each year's monitoring effort are provided in the RCA's Annual Report. . All Program staff contribute to the following tasks:

- Field form & protocol development
- GIS mapping to support surveys, analysis, & reports
- Database development
- Data entry and quality control
- Data analysis, statistics
- Project summary reports
- Annual report
- Maintain computer equipment and database

6.0 MONITORING EFFORTS IN FY 2008-09

The Program activities for FY 2008-09 are based on requirements of the MSHCP species objectives found in Volume 2 of the Plan. Species objectives specify time intervals for detecting and reporting on each of the Covered Species. If species objectives do not specify a time interval the status of the Covered Species must be reported on at least once every eight years as per General Management Measure 7 (vol. 1 sec. 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 on monitoring activities.

An overview of the monitoring efforts planned for FY 2008-09 along with rationale for surveys is provided below. Details of survey methodology can be found in survey protocols available from the RCA or through the Biological Monitoring Program Administrator.

6.1 Invertebrates

6.1.1 Quino Checkerspot Survey

The species objectives for Quino checkerspot require the MSHCP to document its distribution on an annual basis. The Monitoring Program has surveyed for Quino checkerspot in the Conservation Area during the last three biological years. Surveys will be conducted in FY 2006-09.

6.1.2 Delhi Fly Survey

Species objectives for Delhi fly require the Program document successful reproduction of this species at all three Core Areas identified in the MSHCP annually for the first five years of the permit. The Monitoring Program has surveyed for the Delhi fly within accessible Core Areas in the Conservation Area during the last three biological years. Surveys for the Delhi fly will continue in FY 2008-09.

6.2 Birds

6.2.1 Marsh and Lake Birds

Species objectives for the following birds require the MSHCP maintain continued use within Core Areas at least once every eight years by: American bittern, black-crowned night heron, great blue heron, Bald eagle, osprey and cormorant. In FY 2008-09 surveys for these species will be conducted in the winter.

6.2.2 Northern Harrier

Species objectives for the northern harrier require the MSHCP conserve seven Core Areas plus two additional areas, and maintain the continued use of and successful reproduction in 75 percent of the known nesting areas every five years. Transects will be established in appropriate habitat in the Conservation Area and will be used to locate northern harriers early in the breeding season. Observers will return later in the season to confirm the presence of fledged northern harriers.

6.2.3 Lincoln's Sparrow

Species objectives for the Lincoln's Sparrow is to, within the MSHCP Conservation Area, maintain occupancy within 3 large Core Areas (100 percent) in at least 1 year out of any 5 consecutive-year period. Information in the MSHCP and geographic information system (GIS) data layers has been used to identify appropriate Core Areas. In the fall of FY 2008-09 that information will be ground truthed. Point counts will be conducted the following spring. Nest searches will be made where Lincoln's sparrows are detected on point count.

6.2.4 Northern Goshawk

Species objectives for northern goshawk require the MSHCP to maintain the continued use and successful reproduction in high elevation habitat for this species in the San Jacinto Mountains every three years. As a follow up to a pilot survey effort conducted in FY 2007-08 the survey effort for this species in FY

2008-09 will only be conducted if supplemental funding estimated for this project to be \$48,000.00 becomes available to secure student interns or other temporary staff to conduct the work or funds projected for other projects that may not be practical for some reason are used to fund this effort . Note: This cost is not included in the 2008-09 work plan budget as a “project” at this time.

6.3 Amphibians

6.3.1 Amphibian Stream Surveys

Species objectives for the following amphibian species require the MSHCP to maintain breeding populations within the Conservation Area as measured across any consecutive five year period: arroyo toad, mountain yellow-legged frog, California red-legged frog, and coast range newt. Surveys for stream-dependent amphibians in FY 2008-09 will be conducted in accessible habitat within the Conservation Area in conjunction with efforts carried out by the U.S. Forest Service and U.S. Geological Survey. Priority will be given to streams with appropriate habitat for red-legged frog and arroyo toad.

6.4 Mammals

6.4.1 Stephens' Kangaroo Rat Trapping

Species objectives for Stephens' kangaroo rat require the MSHCP to maintain occupation of 3,000 acres of habitat outside of the existing Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) Area, 30 percent of that area is to have a medium or higher population density, as measured across any consecutive 8-year period. Surveys for Stephens' kangaroo rat in FY 2008-09 will be focused estimating SKR density. The distribution portion of the species objective was addressed in FY 2006-07 and FY 2007-08. We will only be estimating SKR density at sites outside of the SKR HCP Plan Area.

6.4.2 Los Angeles Pocket Mouse Trapping

Species objectives for Los Angeles Pocket Mouse require the MSHCP to demonstrate that Los Angeles pocket mouse populations are stable or increasing in seven Core Areas and that at least 4,200 acres are occupied every eight years. This species objective requires distribution and trend information. It will take more than one year's survey effort to meet this objective. The FY 2008-09 efforts will focus on getting distribution information.

6.5 Rare Plants

6.5.1 Rare Plant Surveys

There are 63 covered plant species with species objectives that require the MSHCP to conserve and monitor known populations within the Conservation Area. Surveys for rare plants in FY 2008-09 will continue efforts begun over two years ago to determine the status of each species at known recorded sites on accessible lands within the Conservation Area. The focal species are dependent on weather conditions and accessibility of recorded sites.

6.5.2 Engelmann Oak Study

Species objectives for Engelmann oak require the MSHCP to maintain recruitment of seedling and sapling oaks within conserved populations as measured across any consecutive 5-year period. Surveys for Engelmann oaks in FY 2008-09 will continue efforts begun in FY 2005-06 to measure recruitment within accessible lands in the Conservation Area.

6.5.3 Vegetation Surveys

Vegetation surveys are a part of every project conducted by the Monitoring Program. The purpose of vegetation surveys is to quantify the habitat within survey areas to gain a better understanding of where species do and do not occur.

6.5.3 CSS and Chaparral Surveys

The MSHCP requires the monitoring program to assess the condition of vegetation communities within the Conservation Area (MSHCP Sec. 5.2.3). In FY 2008-09 the Program will expand a pilot project begun in 2008 to sample coastal Sage Scrub and chaparral communities. This study is being done in cooperation with Dr. Deutchman of San Diego State University and the San Diego Multiple Species Conservation Plan and Central Orange County Natural Communities Conservation Plan.

7.0 SCHEDULE OF MONITORING EFFORTS FOR FY 2008-09

Below is the calendar of surveys planned in FY 2008-09. 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 some activities commenced in FY 2006-07 (e.g., Delhi fly surveys begin in June 2007, burrowing owl survey begin in February 2007).

Survey	Jul08	Aug08	Sep08	Oct08	Nov08	Dec08	Jan09	Feb09	Mar09	Apr09	May09	Jun09
Quino Checkerspot Survey												
Delhi Fly Survey												
Northern Goshawk ^a												
Northern Harrier												
Lake and Marsh Bird												
Lincoln's Sparrow												
Amphibian Stream Survey ^b												
Los Angeles Pocket Mouse												
Stephen's Kangaroo Rat												
Rare Plant Surveys												
Engelmann Oak Study												
Vegetation Surveys												
Pilot CSS Monitoring Study ^c												

A = Only conducted if funding is available for interns

B = Conducted in conjunction with the U.S. Geological Survey and U.S. Forest Service

C = Conducted in conjunction with San Diego State University

8.0 BIOLOGICAL MONITORING PROGRAM COST ESTIMATE FOR FY 2008-09

The FY 2008-09 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 half of the Interim Monitoring Program Administrator Position is funded by the U.S. Fish and Wildlife Service (USFWS).

ALLOCATION	COST
CDFG Funded Labor & Supplies	
Monitoring Program Administrator	112,000
Biologist	77,500
General Field Crew (Scientific Aides)	143,580
Vehicle usage (fuel & maintenance)	68,000
Field supplies & equipment	62,000
Subtotal CDFG Funded Labor & Supplies	\$463,080
USFWS Funded Labor	
Interim Monitoring Program Administrator Monitoring Program Coordinator	68,302
Subtotal USFWS Funded Labor	\$68,302
RCA Funded Contracts	
Agency Contract – SAWA (staff)	1,254,850
Monitoring Program Interim Administrator/Coordinator	84,867
Subtotal RCA Funded Contracts	\$1,339,717
RCA Funded Operating Expenses & Equipment	
Rent – Lease Buildings	83,780
Office Equipment & Misc (non-fixed assets)	21,000
Office Supplies	14,000
Communications (Phones/DSL)	3,500
Maintenance - Computer Equipment	1,000
Training – Other	8,500
Subtotal RCA Funded O&E	\$131,780
Total Program Cost	\$2,002,879
Minus Total CDFG Cost	(\$463,080)
Minus Total USFWS Cost	(\$68,302)
Grand Total RCA Cost	\$1,471,497

9.0 Preparation and Contact Info

The FY 2008-09 Work Plan and Cost Estimate was prepared by the Interim Monitoring Program Administrator and submitted to the Regional Conservation Authority for approval. For more information, contact:

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