

**WESTERN RIVERSIDE COUNTY MSHCP
BIOLOGICAL MONITORING PROGRAM
FY 2019-20 WORK PLAN AND COST ESTIMATE**

1 INTRODUCTION

The overall goal of the Biological Monitoring Program (Monitoring Program) is to collect data on the 146 Covered Species and associated habitats for the purpose of assessing the MSHCP's effectiveness at meeting conservation objectives and to provide information for adaptive management. The activities described in this work plan for Fiscal Year 2019-20 continue the activities commenced in the previous fiscal year and follow the framework outlined in Section 5.3 of the MSHCP. Fiscal Year 2019-20 continues a significant transition period for the Monitoring Program as it shifts into the Long-term Monitoring Phase.

2 RESPONSIBILITIES

Monitoring Program activities are implemented within the MSHCP Conservation Area on lands that are owned and managed by the various MSHCP participants. The Western Riverside County Regional Conservation Authority (RCA) has primary responsibility for funding the Biological Monitoring Program. To ensure consistency in monitoring efforts throughout the Conservation Area, the Monitoring Program is overseen and implemented by a Monitoring Program Administrator. The duties and responsibilities of the Monitoring Program Administrator are described in Volume 1, (Part 2) Section 6.6.6 of the MSHCP.

As per the MSHCP, the California Department of Fish and Wildlife (CDFW, formerly Department of Fish and Game) was to be the Monitoring Program Administrator for the first eight years of the permit (June 2004 – June 2012). In 2007 the CDFW received a federal State Wildlife Grant to support its role as the Monitoring Program Administrator and develop a long-term monitoring strategy. The grant expired in June 2012 with the primary deliverable being the long-term monitoring strategy document briefly described below. CDFW continues to provide resources to support the Monitoring Program in the form of one dedicated Monitoring staff member and vehicle. These resources are expected to continue moving forward.

The Monitoring Program Administrator works closely with the RCA to develop and implement the annual work plan and budget. The annual work plan is carried out by the Santa Ana Watershed Association (SAWA) under contract to the RCA and CDFW staff.

3 IMPLEMENTATION STRATEGY

The Monitoring Program is responsible for monitoring the status and trend of the 146 Covered Species and associated vegetation communities and wildlife habitats over a 500,000-acre Conservation Area. Because there was little existing scientifically-based data for the majority of Covered Species, the first eight years of the Monitoring Program were devoted to an Initial Inventory and Assessment Phase. The purpose of the Inventory Phase was to determine where Covered Species occur within the Conservation Area, to

gather more information on their activity patterns, and to develop efficient protocols for detecting them. The development of protocols was necessary to standardize data collection, to test the reliability of survey methods, to determine feasible and useful monitoring metrics, and to provide a confidence level that unobserved species are truly absent at the survey location, rather than overlooked.

The gradual transition from Inventory Phase to Long-term Monitoring Phase has been underway since 2012. For species with short reporting requirements such as Quino checkerspot butterfly (annual) or coastal California gnatcatcher (every three years) long-term monitoring is already in place. Multiple surveys for species with short reporting requirements have been conducted, providing the initial data points for population trend assessment. For species with longer reporting requirements such as Los Angeles pocket mouse (every eight years) and with species-specific monitoring objectives requiring significant development and testing, the transition from Inventory Phase to Long-term Monitoring Phase is ongoing.

The transition into long-term monitoring involves developing monitoring metrics that are efficient to collect and robust measures of species status and population trend. The baseline monitoring objective for all Covered Species requires at least 75 percent of listed Core Areas or known locations to be documented as occupied at least once every eight years. As described in the Long-term Monitoring Strategy document developed by the Monitoring Program, monitoring protocols that provide additional information such as relative abundance of populations at occupied locations, reproductive success, or health of observed individuals will be employed whenever possible, to provide the most useful representations of species status.

One of the explicit goals of the 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., riparian vegetation) 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 effort will be required.

The Long-term Monitoring Strategy describes a two-level design that gives priority to assessing the status of Covered Species as stated in the species-specific conservation objectives of the Plan which emphasize the continued occupancy of MSHCP-defined Core Areas or other areas of known occurrence. For some species, the objectives require that reproduction and/or minimum densities of individuals within species Core Areas be verified. The second level extends sampling for terrestrial vertebrates to the entire Conservation Area in a cost-efficient manner. The Long-term Monitoring Strategy document also includes chapters describing monitoring goals and objectives, sample design considerations, proper protocol development, data and information management strategies, collaboration and communication with other organizations, and describes the organizational framework of the Monitoring Program.

4 STAFF COMPOSITION

Monitoring Program staff work as a team to coordinate, develop, and implement required monitoring activities for the MSHCP. The Monitoring Program is composed of the following staff positions, which are filled based on availability of funding:

- Monitoring Program Administrator
- Biologist Supervisor
- Data Manager
- GIS Analyst
- Office Assistant
- Taxa Leads
- Field Biologists

Currently, the majority of staff are funded by the RCA through a contract with SAWA, a local non-profit agency. One Taxa Lead is currently provided by the CDFW, with endowment funding from Caltrans.

5 SPECIFIC TASKS OF THE MONITORING PROGRAM

5.1 Administration & Coordination

Administering and coordinating the Monitoring Program requires a significant amount of effort. Sufficient staff and resources must be acquired, field work must be scheduled, land access must be coordinated with other agencies, and survey activities must take place. The Monitoring Program Administrator, Biologist Supervisor, and Office Assistant 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 and maintain training manuals and training programs for staff
- Direct and schedule staff activities
- Identify field supply and equipment needs; maintain inventory of RCA owned equipment
- Identify land access needs and coordinate with the RCA or agencies on access agreements
- Facilitate monthly reserve management/monitoring coordination meeting
- Attend monthly RCA team meetings and other agency meetings
- Give requested presentations to the RCA Board
- Coordinate with Wildlife Agencies (CDFW and U.S. Fish and Wildlife Service) on survey methodology and monitoring activities
- Develop and maintain Program operations manual
- Oversee writing of annual survey reports
- Distribute Monitoring Program data as appropriate

5.2 Biological Surveys

Conducting biological surveys is the most visible part of the Monitoring Program. It is also the component that requires the most staff. Prior to collecting data, all aspects of a project must be developed. This includes identifying the purpose of the survey, choosing the data collection methods and sampling locations, selecting data analysis methods, and determining what answers the data are expected to provide. The following tasks are carried out by the Monitoring Program Administrator, Biologist Supervisor, GIS Analyst, Data Manager, Taxa Leads, and Field Biologists:

- Develop field survey protocols and sampling designs
- Conduct field surveys using multi-species protocols when possible, and specific species protocols when necessary
- Conduct vegetation condition analyses

5.3 Training

The Monitoring Program is required to have a training program approved by the Wildlife Agencies to ensure consistent data collection, uniform implementation of protocols, animal handling procedures, plant specimen collection, and appropriate experience with Covered Species (Vol. 1, Sec. 7.0). The type of species training needed in any given year is dependent on the types of survey activities planned. Training is provided both by experienced Monitoring Program staff and by qualified outside entities (e.g., U.S. Geological Survey, U.S. Fish and Wildlife Service). Safety training (e.g., wilderness first aid, CPR) is provided to all incoming staff, and as often as needed to existing staff to keep American Red Cross certifications up-to-date. The following training is required of Monitoring Program field staff:

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

5.4 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. Field data are collected both on paper datasheets and on digital data collection devices. As data return from the field, they are entered into a database, checked for accuracy, and certified by the Data Manager. After data are certified, they are analyzed and interpreted and a report is written describing survey results. The results of each year's monitoring efforts are provided in the Annual Report submitted to the RCA. The Monitoring Program Administrator, Biologist Supervisor, Data Manager, and GIS Analyst support and oversee the Taxa Leads and Monitoring Program staff in the completion of the following tasks:

- Field form and protocol development

- GIS mapping to support surveys, analysis, and reports
- Database development and maintenance
- Data entry and quality control
- Data analysis using statistics
- Annual survey report writing
- Maintaining computer equipment and digital data collection devices

The Monitoring Program has an internal database, developed and managed by the Data Manager. Monitoring Program datasets that have been thoroughly proofed and certified complete by the Data Manager are submitted to CDFW's Biogeographic Information and Observation System (BIOS), as well as to local partnering agencies and Reserve Managers at least once per year.

6 MONITORING EFFORTS IN FY 2019-20

Monitoring Program activities planned for FY 2019-20 are largely based on the requirements of the MSHCP species objectives found in Volume 2 of the MSHCP. Most 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 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 (little or poor information means more survey effort sooner), whether another agency is already conducting surveys (less effort required by the Monitoring Program), 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 is a high priority species). Funding availability and extent of effort required is also considered when determining monitoring activity priorities. Monitoring Program biologists help with ongoing MSHCP Management Program activities that benefit Covered Species (e.g., aquatic invasive species removal/control) to the fullest extent possible.

An overview of the monitoring efforts planned for FY 2019-20, along with a brief rationale for surveys, is provided below. Detailed survey methods can be found in the survey protocols available at the Biological Monitoring Program office in Riverside, CA. The Monitoring Program's ability to complete these tasks will be dependent upon continued funding from the RCA and the amount of support provided by the CDFW.

6.1 Invertebrates

6.1.1 Quino Checkerspot Butterfly Survey

The species objectives for Quino checkerspot butterfly require annual documentation of its distribution. The Monitoring Program has surveyed for Quino checkerspot butterfly in the Conservation Area during the last 15 biological years. In FY 2019-20 survey efforts will focus on monitoring locations in designated Core Areas and satellite Core Areas throughout the Conservation Area. Monitoring

Program biologists will coordinate with Reserve Managers conducting surveys for Quino checkerspot butterfly to avoid duplication of effort.

6.1.2 Delhi Sands Flower-Loving Fly (Delhi Fly) Survey

The species objectives for Delhi fly require documenting successful reproduction at all three Core Areas identified in the MSHCP annually for the first five years of the permit and then as determined to be appropriate. There is currently just one Core Area with conserved land within the Plan Area containing suitable habitat for the species. Because Delhi fly is an endangered species with an extremely limited distribution within the Plan Area, Monitoring Program biologists have surveyed for Delhi fly within the lone accessible Core Area during the last 14 biological years.

Surveys designed to collect data that could be used to calculate density estimates of Delhi fly were conducted from 2005-2010. In 2011 these efforts were reduced to simply documenting successful reproduction, greatly reducing necessary resources. However, the Management Program has been conducting ongoing management actions to control the spread of non-native vegetation within occupied habitat and to create suitable habitat at the edges of the recently occupied area. In order to properly assess the effectiveness of these actions, the more intensive study design allowing a density estimate of Delhi fly to be calculated was reestablished in FY 2014-15 and will continue in FY 2019-2020.

6.1.3 Fairy Shrimp Survey

The species objectives for the three species of fairy shrimp (i.e., Santa Rosa Plateau, Riverside, and vernal pool) require the continued use of listed Core Areas at least once every eight years. Surveys on accessible lands within listed Core Areas for covered fairy shrimp were conducted by Monitoring Program biologists in several years during the Inventory Phase when precipitation was adequate to fill pools with water. The species-specific monitoring objective has been met for Santa Rosa Plateau fairy shrimp but Riverside fairy shrimp and vernal pool fairy shrimp need to be found in additional Core Areas in order for their respective species objectives to be met. Ongoing fairy shrimp surveys may be conducted in vernal pools within necessary Core Areas if there is adequate rainfall in FY 2019-20 to create new pools in areas already surveyed, or if additional lands are acquired.

6.2 Birds

6.2.1 American Bittern Survey

The species objective for American bittern requires the continued use of listed Core Areas at least once every eight years. Targeted surveys for American bittern were last conducted in FY 2011-12 and the species was detected in two (66.7 percent) of its Core Areas. In the winter of FY 2019-20, point count surveys incorporating recorded bittern vocalizations will be conducted in marsh habitats within appropriate Core Areas. These surveys will likely result in detections of other co-occurring Covered Species, such as black-crowned night heron and great blue heron.

6.2.2 Wintering Raptor Survey

Eight MSHCP-covered diurnal raptor species rarely or never breed within the Plan Area and generally occur only during overwintering or migration periods. These include: bald eagle, ferruginous hawk, merlin, osprey, peregrine falcon, prairie falcon, sharp-shinned hawk, and Swainson's hawk. There are no species-specific monitoring objectives for overwintering raptor species; therefore the general minimum monitoring requirement becomes the default objective (document species presence in at least 75 percent of listed Core Areas at least every 8 years). Surveys for overwintering raptors were last conducted in FY-2008-09. In FY 2019-20 we will target ferruginous hawk, merlin, and prairie falcon via repeat-visit line transect surveys in appropriate habitat.

6.2.3 Mountain Plover

The species objectives for mountain plover require continued use of four Core Areas at least once every eight years. Targeted surveys for mountain plover were last conducted in FY 2011-12 and they were detected in one Core Area. Monitoring Program biologists will conduct driving surveys for mountain plover in Core Areas to determine occupancy in FY 2019-20.

6.2.4 Riparian Bird Survey and Nest Searching

The species objectives for least bell's vireo and yellow warbler require continued use and successful reproduction within Core Areas once every three years and five years, respectively. Surveys in FY 2019-20 will target the above species in accessible riparian habitat within designated Core Areas. Targeted surveys for least bell's vireo were last conducted in the spring of 2017. Surveys for yellow warbler will take place in Core Areas that were inaccessible due to major road closures during the spring 2019 survey season. Nest searching to demonstrate successful reproduction will occur in conjunction with the detection survey. Distribution and reproduction data for all other covered riparian bird species with longer reporting requirement intervals will also be recorded.

6.2.5 Burrowing Owl Monitoring

The species objectives for burrowing owl require the conservation of five Core Areas plus interconnecting linkages, containing a total breeding population of at least 120 owls with no fewer than five pairs in any one Core Area. Several land managers within the Conservation Area have installed artificial burrows and are managing vegetation for burrowing owl. Monitoring Program biologists will coordinate with Reserve Managers to ensure that breeding pair counts are conducted at locations known to recently support owls, or where owls have been recently actively translocated.

In FY 2019-20 continued monitoring of artificial burrows installed across the Conservation Area will be conducted three times per year as according to the Western Riverside County MSHCP Burrowing Owl Management Plan. Additional surveys to obtain an accurate count of breeding pairs of burrowing owls within Core Areas will be conducted as needed by Monitoring Program biologists and with the

use of trail cameras in FY 2019-20 to document distribution and reproduction of burrowing owl at artificial or natural burrow locations. Monitoring Program biologists will coordinate with Reserve Managers to avoid duplication of effort. Program biologists may also continue a Burrowing Owl habitat assessment project to collect habitat data at burrows used by breeding Burrowing Owls.

6.2.6 Tricolored Blackbird Survey

The species objectives for Tricolored Blackbird require documenting the continued use and successful reproduction in at least one of five Core Areas every five years. Targeted surveys in 2017 confirmed that the objective as written is currently minimally achieved. However, regional and state-wide populations remain near historic lows. Tricolored Blackbirds concentrate their breeding effort at only a few sites in any given year, making each colony critical and relatively easy to monitor. Surveys to document population and reproduction status at sites with Tricolored Blackbird in FY 2019-20 will be conducted pending staff availability in order to continue providing updated information for adaptive management.

6.2.7 California Gnatcatcher Survey

The species objectives for California gnatcatcher require continued use and successful reproduction within Core Areas at least once every three years. The U.S. Geological Survey (USGS) organized a regional monitoring survey effort for California gnatcatcher in FY 2015-16 with the goals of conducting status and trend monitoring with habitat and species threat covariates, understanding post-fire population effects, and population responses to climate change. Participation in this larger-scope monitoring effort allowed the Monitoring Program to collect data needed to meet stated MSHCP objectives. The next regional survey is tentatively planned for FY2019-20.

6.2.8 Northern Harrier Survey and Nest Monitoring

The species objectives for northern harrier require the MSHCP to 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. Targeted surveys for northern harrier were last conducted in FY 2014-15. Because the species nests on the ground in dense, shrubby vegetation, nests are unlikely to be incidentally observed. Additionally, because of the relatively high number of listed Core Areas, northern harrier is ill-suited to opportunistic monitoring in conjunction with surveys for other Covered Species, thus making a targeted survey necessary. Pending staff availability, surveys will be conducted along line transects within appropriate habitat in the Conservation early in the breeding season. Observers will return later in the season to confirm the presence of fledged northern harriers.

6.2.9 Golden Eagle Survey and Nest Monitoring

The species objective for golden eagle requires the continued use of and successful reproduction at known nesting locations every eight years. Monitoring Program biologists conducted Golden Eagle surveys in 2017 as part of a regional USGS

Golden Eagle survey effort in southern California. In FY 2019-20, biologists will regularly visit known nest locations during the nesting season pending staff availability, or if funding is secured to hire a contracted biologist or seasonal staff.

6.2.10 Turkey Vulture Survey and Nest Monitoring

The species objective for turkey vulture requires the continued use of and successful reproduction at two known nesting locations, and any subsequently documented nesting locations, every three years. Targeted surveys for turkey vulture were last conducted in 2008. Biologists will regularly visit known nest locations during the nesting season during FY 2019-20 pending staff availability, or if funding is secured to hire a contracted biologist or seasonal staff.

6.2.11 White-tailed Kite Survey and Nest Monitoring

The species objectives for White-tailed Kite require surveys every three years to demonstrate continued use and successful reproduction within 75 percent of designated Core Areas. White-tailed kite were last surveyed in 2017 and surveyors detected kites in four (40 percent) of their Core Areas. Monitoring Program biologists will conduct repeat-visit line-transect surveys in suitable Core Area habitat in FY 2019-20 and monitor any detected nests to confirm successful fledging.

6.2.12 Northern Goshawk Survey and Nest Searching

The 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. This species was last surveyed in FY 2012-13. Surveys were planned for FY 18-19 but were postponed due to mountain road closures. The survey effort for northern goshawk is physically challenging, but not biologically complex or difficult. These surveys will only be conducted if funding is available to hire a contracted biologist or seasonal staff. Using regular Monitoring Program Staff would preclude other bird work that is planned for FY 2019-20.

6.3 Amphibians and Reptiles

6.3.1 Terrestrial Herpetofauna Survey

San Bernardino mountain kingsnake, San Diego mountain kingsnake, southern rubber boa, and San Diego banded gecko have proven difficult to detect with current survey methods. The species objectives for all four reptiles require documentation of the continued use of Core Areas at least once every eight years. Survey efforts for covered species in FY 2019-20 will include employing arrays of snake traps coupled with drift fencing for these target species.

Ultimately, there may be no truly efficient means to reliably detect these species as they are highly secretive and not typically found in high numbers. Collection of incidental observations from Monitoring Program biologists and partnering agencies will continue to be essential. Because surveys conducted to date are

insufficient to determine that target species are truly absent from Core Areas where they have not been documented to occur, Monitoring Program biologists will also opportunistically search suitable habitat within Core Areas for these species when personnel are available. These targeted area searches will be significantly less labor-intensive than previous survey methods, and may also result in detections of the following Covered Species: Belding's orange-throated whiptail, coastal western whiptail, granite spiny lizard, northern red-diamond rattlesnake, San Diego horned lizard and southern sagebrush lizard.

6.3.2 Coast Range Newt Survey

The species objectives for coast range newt requires the MSHCP to maintain occupancy of at least 75 percent of occupied habitat and determine if successful reproduction is occurring within the MSHCP Conservation Area once a year as measured across any consecutive five-year period. Surveys for coast range newt were last conducted in FY 2008-09, concurrent with efforts for other stream-dependent amphibians. Subsequent focused surveys have not taken place during the reporting interval due to multi-year drought and relative inaccessibility of sites in the Santa Ana Mountains. Because these surveys are physically rigorous to access and require a large field crew to conduct, efforts in FY 2019-20 will be dependent upon staff availability.

6.4 Mammals

6.4.1 Carnivore Survey

Species objectives for bobcat, coyote, long-tailed weasel, and mountain lion require the conservation of contiguous habitat blocks and the maintenance of corridors that provide an effective means for dispersal. Surveys to detect the above-listed mammals in contiguous habitat blocks, linkages, and movement corridors identified by the MSHCP have been ongoing since 2007. In FY 2019-20, surveys using motion-triggered cameras will be conducted in Proposed Core 2 at the wildlife bridge and adjacent underpass that spans Clinton Keith Road as part of a five-year monitoring effort.

6.4.2 Long-tailed Weasel Survey

Long-tailed weasel is a species with typically low densities, a broad geographic distribution, and a life history pattern that makes it difficult for biologists to detect. The MSHCP requires 75 percent occupancy in 18 Core Areas designated for long-tailed weasel as measured every eight years. Long-tailed weasel have been recently observed in seven Core Areas. To determine occupancy within the remaining 11 Core Areas, surveys began in FY 2018-19 and will continue until 75 percent occupancy has been confirmed or all Core Areas have been surveyed. Monitoring Program biologists will conduct surveys using baited, semi-enclosed track-plate boxes in habitat blocks and corridors in FY 2019-20. These surveys could result in significant detections of other carnivore species.

6.4.3 Los Angeles Pocket Mouse Survey

The species objectives for Los Angeles pocket mouse require demonstrating that populations are stable or increasing in seven Core Areas and at least 4,200 acres are occupied every eight years. Because this species objective requires both distribution and population trend information it will take more than one year's survey effort to determine whether or not the objective is being met. The FY 2019-20 efforts will focus on documenting distribution. Monitoring Program biologists will conduct surveys using baited Sherman live-capture traps, which could result in significant detections of other co-occurring small mammal species.

6.5 Fish

6.5.1 Arroyo Chub Survey

The species objectives for arroyo chub require documenting the presence of this fish in 75 percent of its identified Core Areas in the Santa Ana and Santa Margarita watersheds. The frequency of arroyo chub surveys to document presence are not defined in the monitoring objectives, thus the Program defaults to conducting surveys every 8 years. In FY 2019-20 the Monitoring Program will continue survey efforts that began in the previous fiscal year, as surveys were postponed due to high water levels. The monitoring objective for arroyo chub is not currently met, so the Monitoring Program will survey tributaries in both watersheds to assess species status. The Monitoring Program will determine if surveys are being conducted by CDFW in the Santa Margarita River and will continue to coordinate with other organizations conducting native fish surveys in the Santa Ana watershed.

6.6 Plants

6.6.1 Rare Plant Survey

There are 63 covered plant species with species objectives that require conserving and monitoring known populations within the Conservation Area. Surveys for rare plants in FY 2019-20 will continue efforts to update the current status of Covered Species on conserved lands. The focal species in any given year are dependent on weather conditions and accessibility of survey sites. Nearly all historic locations of covered plant species within the Conservation Area have been visited in previous years. Thus, rare plant monitoring efforts in FY 2019-20 will focus on conducting surveys for covered plant species at recently acquired properties, documenting required localities for species not adequately conserved, and revisiting locations previously determined to be occupied by covered plant species in a long-term monitoring context.

6.6.1.1 Brand's Phacelia Study

A habitat management study of Brand's phacelia (*Phacelia stellaris*), a narrowly endemic Covered Species, will continue in FY 2019-20 in an area along the Santa Ana River near Rancho Jurupa. Monitoring Program biologists will coordinate with

County Parks and Open Space District staff to develop a management plan for the site based on information obtained from this multi-year effort.

6.6.2 Vegetation Community Monitoring

In addition to monitoring-focused conservation objectives for each Covered Species, the MSCHP requires the Monitoring Program to assess the condition of vegetation communities within the Conservation Area (Vol. 1, Sec. 5.3.2). A CDFW grant-funded update to the existing GIS-based vegetation community map was delivered in March 2015. This product will be extremely useful in comparing acreage, distribution and broad-scale vegetation condition changes in communities throughout the Plan Area.

On-the-ground vegetation community monitoring efforts targeted coastal sage scrub (CSS) and CSS-grassland and CSS-chaparral transition areas from 2008 – 2012. Pending staff availability, FY 2019-20 vegetation community monitoring efforts will focus on the Playas and Vernal Pools vegetation community (MSHCP Volume I, Section 3.0, Table 3-1). Specifically, we will begin collecting baseline vegetation data for the alkali playas in the Hemet and San Jacinto Valley areas.

6.6.3 Habitat Surveys

Habitat surveys for targeted species are conducted by trained botanists in conjunction with wildlife survey efforts as practicable and appropriate. The purpose of these surveys is to describe the wildlife habitat within survey areas to gain a better understanding of potential drivers for observed species distributions.

7 SCHEDULE OF MONITORING EFFORTS FOR FY 2019-20

Below is a tentative calendar of when surveys are planned for FY 2019-20. 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 2018-19.

Survey	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	Feb20	Mar20	Apr20	May20	Jun20
Quino Checkerspot Butterfly												
Delhi Sands Fly												
Fairy Shrimp												
American Bittern												
Wintering Raptors												
Mountain Plover												
Riparian Birds												
Burrowing Owl												
Tricolored Blackbird												
California Gnatcatcher												
Northern Harrier												
Golden Eagle												
Turkey Vulture												
White-tailed Kite												
Northern Goshawk												
Grasshopper Sparrow												
Terrestrial Herpetofauna												
Coast Range Newt												
Carnivore Survey (Wildlife Bridge Monitoring)												
Long-tailed Weasel												
Los Angeles Pocket Mouse												
Arroyo Chub												
Rare Plant												
Vegetation Community Monitoring												

8 BIOLOGICAL MONITORING PROGRAM COST ESTIMATE FOR FY 2019-20

The RCA has primary responsibility for funding the MSHCP Monitoring Program. However, the CDFW funds a small portion of the MSHCP Monitoring Program based on the availability of the State's budget. The proposed FY 2019-20 Biological Monitoring Program budget is similar to previous budgets submitted to and approved by the RCA Board of Directors. The majority of funding is allocated to a contract with the Santa Ana Watershed Association for staff.

ALLOCATION	COST
CDFW Funded Labor & Supplies	
Biologist	\$134,451
Vehicle Usage (Fuel & Maintenance)	\$3,000
Subtotal CDFW Funded Labor & Vehicles	\$137,451
SAWA Labor & Supplies	\$1,266,720
Total Program Cost	\$1,404,171
Minus Total CDFW Cost	- \$137,451
Grand Total RCA Cost	\$1,266,720

9 CONTACT INFO

The FY 2019-20 Work Plan and Cost Estimate was prepared by the interim Monitoring Program Administrator and was submitted to the Regional Conservation Authority for approval. For more information, contact:

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