

5.0 Management & Monitoring



This management area is a designated Wildlife Habitat Management Area, as well as a Special Recreation Management Area that provides for equestrian use, hiking, backpacking, camping, picnicking, nature study, hunting and motorized vehicle use. The Million Dollar Spring has been designated an Area of Critical Environmental Concern. This 5,830-acre area is located within the eastern portion of the Beauty Mountain Wildlife Study Area and within both San Diego and Riverside counties. This area contains three perennial springs, south coast live oak riparian forest and willow riparian forest. In order to maintain the integrity of these water resources, this area has been designated a right-of-way avoidance area and is not available for material sales. All activities, including grazing, public access, hunting, etc., must be in conformance with the BLM-California 208 Water Quality Management Plan.

5.3 BIOLOGICAL MONITORING PROGRAM

5.3.1 Introduction

The purpose of the Biological Monitoring Program is to describe the framework for the approach to monitoring, the preliminary information needed, the steps that will be taken, and how the anticipated results of the initial inventory and assessment phase will direct implementation of the long-term monitoring program. Designing a Biological Monitoring Program that has scientific and biological integrity is a complicated task. It is made more difficult because the MSHCP Conservation Area is comprised of numerous Habitats that will be conserved over a 20 to 30 year period and are influenced by varying human impacts, which further adds to the complexity of the task and confounds interpretation of data. Such efforts at large-scale monitoring represent a new approach to managing ecological systems.

At the outset, it is important that inventory and monitoring activities under the MSHCP occur at sufficient levels of commitment, and that the MSHCP Parties support that the determination of those levels may be estimated, but not completely determined at the beginning of the program. In part, this is because *a priori* predictions of how much sampling effort will be needed to address the biological questions with adequate statistical rigor cannot entirely be made. There is a frequent desire to “front-load” monitoring programs with ambitious levels of monitoring to the extent that they risk collapsing (and at least endure controversy) under the anticipated high commitment and consequent high cost to implement. Some level of preliminary data and understanding of its power to measure (accurately

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as well as precisely) actual status is needed to determine the appropriate level of sampling effort. Data of low variance and environments that are homogeneous may lead to a reduced level of effort while achieving an acceptable level of statistical power. In this Biological Monitoring Program, use of thoughtfully constructed species and Habitat/Vegetation Community objectives, a commitment to use an adaptive approach to monitoring, and a flexible rather than fixed monitoring program is intended to assure that an appropriate level of monitoring will occur.

Monitoring of the MSHCP Conservation Area requires consideration of both spatial and temporal scales. In the MSHCP Conservation Area, the spatial scale is influenced by land ownership patterns that affect access for species and Habitat surveys. Therefore, this Biological Monitoring Program endorses an adaptive approach that allows the flexibility to include new areas as they are incorporated. The MSHCP Parties must recognize that this will result in data that is unique to the areas monitored and may limit inferences about the status of species that occur outside of the MSHCP Conservation Area. The temporal scale in the Biological Monitoring Program is important for emphasizing the long-term approach necessary for detecting and understanding changes to Habitats and species, and for dealing with the time-dependent addition of new, previously unmonitored land to the MSHCP Conservation Area.

This Biological Monitoring Program emphasizes the importance of a framework, an initial inventory and assessment phase, and the adaptive work plan. Inventories of Habitats, species distribution, and relative abundance must be made to identify the most appropriate strata for partitioning sampling and to facilitate the development of appropriate survey, sampling, and monitoring protocols. The initial phase of the Biological Monitoring Program focuses on assembling existing data, mapping Vegetation Communities/wildlife Habitat, and inventorying Covered Species. These steps are critical to understanding the bio-geography of the area and determining the distinctiveness of Habitat types and species distributions. The inventory of Covered Species and consideration of their multi-dimensional relationships to other species as part of a larger ecological system is fundamental to this Biological Monitoring Program.

The initial phase establishes the baseline condition of the area for the next step, which is to establish survey strategies for species and species-groups for long-term monitoring. It is important to consider monitoring as evolutionary, rather than static and to use data to drive the Biological Monitoring Program to maintain a good foundation in science. To optimize costs effectively and reduce redundancies, survey strategies should optimize the number of species monitored and provide the greatest amount of information about both individual species and condition of Habitats. This will

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require creativity and understanding of inter-species relationships and Habitat relationships, so that identification and monitoring of species and Habitat attributes/conditions can be implemented to improve monitoring efficiency.

In establishing the long-term Biological Monitoring Program, careful attention will be given to how sampling protocols can provide feedback to the objectives of the MSHCP that are designed to ensure the long-term survival of Covered Species in the MSHCP Conservation Area. The MSHCP uses Adaptive Management prescriptions that should be treated as working hypotheses. The information collected by the Biological Monitoring Program will assist Reserve Managers in adapting management activities to meet species and Habitat/Vegetation Community objectives and to determine appropriate management actions.

5.3.2 Monitoring Goals and Objectives

The goals of the Biological Monitoring Program are to fulfill the strategically required inventory and monitoring of plant and animal species and Habitat/Vegetation Communities in support of the MSHCP and to provide data upon which management decisions will be made. To meet the goals, the Biological Monitoring Program must provide sufficient, scientifically reliable data for Reserve Managers to assess the MSHCP's effectiveness at meeting resource objectives and achieving or maintaining a healthy MSHCP Conservation Area in perpetuity. The inventory and monitoring aspects of the program will range from simple short-term efforts, such as field verifying existing species occurrence records, to long-term monitoring of population status and trend. The monitoring program will seek to accommodate as many diverse life history strategies of species as possible that could be affected over the long-term by implementation of the MSHCP. Where feasible, the intent is to monitor groups or suites of similar species in a community context that includes gathering data on Habitat attributes, vegetative composition, and structure.

A critical relationship exists among three key sections of the MSHCP: the species objectives, the Biological Monitoring Program, and the Adaptive Management strategy. It is necessary that the commitment to the Biological Monitoring Program be substantial enough from a scientific basis to assess whether species objectives are being met. In turn, the Adaptive Management strategy relies on the presence of an appropriate level of monitoring to drive management decisions if departure from objectives occurs. The MSHCP has developed species-specific objectives (summarized in *Section 9.0* of this document, and detailed in *Section B* of the *Reference Document - Volume II of the MSHCP*), intended to provide for the long-term Conservation of the Covered Species. These