

5.0 Management & Monitoring



5.3.5 Vegetation Community/Wildlife Habitat Inventory and Monitoring

An initial task of the Biological Monitoring Program will be to conduct an inventory of the distribution and abundance of Vegetation Communities and wildlife Habitats to create a baseline Vegetation Community GIS layer and map. The existing map of Vegetation Communities relies on 10 year old data (see *Section 2.1.1* of this document) and development conditions have changed since the map was produced. In addition to having value as baseline information, a current GIS vegetation and wildlife Habitat layer and map for the Plan Area will be an important tool used to help develop the sampling locations and strategies for Covered Species because predicted species distributions can be modeled to some extent based on the underlying distribution of Habitats.

Emphases for the Vegetation Community and Wildlife Habitat inventory and monitoring are to:

- a) Collect current and more detailed information on the distribution (*i.e.*, location) and abundance (*i.e.*, acreage) of Vegetation Communities and Wildlife Habitats within Public/Quasi-Public Lands within the MSHCP Conservation Area, and collect coarser resolution information on undisturbed/undeveloped lands outside of the MSHCP Conservation Area but within the Plan Area;
- b) Monitor changes in those Habitats/Vegetation Communities over the long-term to assess whether the vegetation and wildlife Habitat goals and objectives specified in the MSHCP are being met; and
- c) Provide information to assist in deciding which lands should be incorporated into the MSHCP Conservation Area.

➤ Vegetation and Wildlife Community Inventory and Mapping

The Vegetation and Wildlife Community inventory and mapping will be accomplished through a quantitative mapping effort that identifies stands, or polygons, of vegetation using aerial photographs and/or satellite images and then involves collecting the environmental, biological, and vegetative attributes or measures of the stand. The vegetation inventory will use the California Native Plant Society (CNPS) “Vegetation Rapid Assessment Protocol” (CNPS 2002) and “Releve Protocol”

5.0 Management & Monitoring



(CNPS 1998). Rapid assessment plots will be permanently located within the stand polygons using GPS coordinates on Public/Quasi-Public Lands and on additional lands as they are incorporated into the MSHCP Conservation Area over time. Use of this methodology to map vegetation types will enable a broad-based and standardized approach that extends beyond the MSHCP area to all of California and contributes to the desired large-scale and coordinated approach to inventory and monitoring. Environmental information, such as soil type and texture, fire history, flooding, erosion, grazing intensity, and other natural or human-made disturbances will also be collected, mapped, and used to assess condition of Habitat/Vegetation Communities.

With measured vegetation attributes, the stand polygons can be revised as needed to enhance their accuracy. Vegetation associations will be based on “A Manual of California Vegetation” (Sawyer and Keeler-Wolf 1995). These associations will be subject to further refinement and identification of more specific plant associations if they occur. Some representation of the distribution and composition of Vegetation Communities and Habitats throughout the MSHCP Plan Area is important. Hence, a more general interpretation and modeling of Vegetation Communities in areas that are outside of the MSHCP Conservation Area will be necessary. This part of the assessment will be based largely on geographic imagery analyses and without the on-the-ground assessment except in areas where access is permitted. Landsat thematic mapping imagery, other high resolution satellite products, and/or digital orthophoto quad’s (DOQ’s) are additional geographic imagery products that would be used to support the inventory effort.

Wildlife Community Rapid Assessment Protocol Surveys

Concurrent with the vegetation rapid assessment surveys, an analogous wildlife community rapid assessment survey protocol will be developed and implemented. Surveys using this protocol will be used to improve and augment existing information on the presence of Covered Species and help understand wildlife species community associations. Biological information, such as presence of burrows, scat, food resources, nest sites, threats (*e.g.*, bullfrogs, invasive exotic plant species, argentine ants, imported fire ants, etc.), and disturbances will be gathered to assess the suitability and potential use of the Vegetation Community by wildlife species. This coarse resolution information is most amenable to the more common and visible wildlife species so it is considered one of many tools to use in the Biological Monitoring Program.

5.0 Management & Monitoring



Identifying Wildlife Habitat Types

A component part of the vegetation and wildlife community mapping is to refine Habitat/Vegetation Community descriptions and/or delineations and to identify wildlife Habitat for suites of species. The proposed methodology enables aggregation to a more general California Wildlife Habitat Relationships (CWHR) classification of wildlife Habitats (Mayer and Laudenslayer 1988). The CWHR system of Habitat classification by age class and canopy cover class will be used to the extent possible in designating wildlife Habitat types. CWHR makes predictions about a Habitat's value to wildlife in terms of its capacity to fulfill reproduction, foraging, and cover needs of wildlife. The CWHR system then enables wildlife professionals to model and predict Habitat quality and potential distribution for nearly 700 amphibian, reptile, bird, and mammal species in California.

Existing wildlife species Habitat relationship information and the results of the rapid assessment surveys will be used to establish a correlation between wildlife species and Habitats. This correlation of wildlife species with Habitat types will contribute to predicting species distributions in the MSHCP Conservation Area where there is an absence of inventory data. Habitat designations already exist and are referenced in the MSHCP. This analysis is not intended to eliminate or replace the existing definitions, only to consider more potentially meaningful boundaries for stratifying the area for implementation of the long-term sampling protocols.

➤ Long-Term Vegetation Monitoring and Habitat Condition Assessment Monitoring

Upon completion of the basic inventory, changes in the distribution, acreage, and condition of Vegetation Communities (as determined by presence of invasive exotics, disturbance, grazing intensity, fire history, etc.) and wildlife Habitats will be monitored at a minimum of once every 8 years. As additional lands are added to the MSHCP Conservation Area over time, validation of Vegetation and Wildlife Community classification will be conducted in those areas at the 8-year interval (*i.e.*, existing and newly incorporated lands will be surveyed).

The information on Vegetation Community and wildlife Habitat coverage (acreage) and condition will be used to create GIS layers to be used in determining whether Vegetation Community and wildlife Habitat goals and objectives are being met. Changes to the quantity or quality of Habitat types determined through the rapid assessment surveys will provide feedback to managers. This will

5.0 Management & Monitoring



allow managers to evaluate the effectiveness of the MSHCP and to adapt management as appropriate to ensure that the species and vegetation/Habitat objectives are met. The Vegetation Community and wildlife Habitat GIS layer and map will also be provided to the Regional Conservation Authority for use in deciding which additional lands should be incorporated into the MSHCP Conservation Area.

► Adaptive Strategy

Comprehensive repeat inventory of Vegetation Communities and Wildlife Habitats is proposed to occur at 8-year intervals as a reasonable time period to detect broad-scale change. Because the time required to initiate, conduct, and report on such inventories may take two or more years, a more frequent interval might result in a short useful life of any such inventory. On the other hand, a longer interval may miss changes to Vegetation Communities and Wildlife Habitats that occur more frequently. The initial decision to use an 8-year cycle is based on the Riverside County Flood Control District's rainfall data for the years 1880 to 1999 indicating that wet and dry periods in Riverside County occur in 7 to 10 year cycles.

Some subjective flexibility for monitoring is needed in addition to the fixed 8-year interval strategy. Geographic areas considered highest potentially affected (such as areas nearest to the urban influence or Habitats at high risk to fire) may need to be monitored on a more frequent basis (perhaps every 2-3 years) than those areas less anticipated to be affected. The scheduling of vegetation and Habitat monitoring must be flexible enough to adapt to unanticipated events or opportunities. If and when large acreages (5,000 or more acres), rare Habitats (*e.g.*, vernal pools), or key linkage areas are added to the MSHCP Conservation Area, then rapid assessment of these areas would be implemented the following field season. Similarly, events such as wildfire, flood, or rapid species invasions would also prompt re-consideration of the monitoring schedule.

The rate of change in Habitat/Vegetation Communities will vary based on numerous natural and human-induced factors. If, during the initial years of the MSHCP, indications suggest that an 8-year time interval between sampling periods for vegetation and Habitat distribution and abundance may be too long or too short, then a more or less frequent sampling interval will be considered for the entire area, or for the particular Habitat/Vegetation Communities undergoing rapid change. Indicators for this modification include a greater than 10 percent change in acreage or distribution of a Habitat/Vegetation Community.