PART V - FIRE ECOLOGY RESEARCH AND MONITORING

5.0 General

The preceding elements of this Wildland Fire Management Plan (FMP) have proposed a specific approach for implementing a fire management program in the Southern Subregion in four Parts:

- Part I - NCCP/MSAA/HCP Wildland Fire Management Plan,
- Part II – Long-Term Strategic Fire Protection Plan,
- Part III – Short-Term Tactical Fire Suppression Plan, and
- Part IV–Prescribed Fire Program, and

Part V addresses the need for fire ecology research and monitoring to provide the basis for future refinements and adaptive implementation of the proposed FMP. Part V discusses the relationship between the FMP and the AMP and the role of the Science Advisors in adaptively implementing the FMP.

5.1 Relationship of the Wildland Fire Management Plan to a Stressor Based Adaptive Management Program and the Habitat Reserve Management Program

It is important to begin with an understanding that, with the exception of issues relating to the protection of life and property, that the FMP is subordinate to and shall be implemented consistent with ongoing AMP priorities and actions. As explained in *Part I, Chapter 7*, the AMP component of the HRMP will be implemented using the best available science, including assistance provided by the Science Advisors Panel. Accordingly, fire-related issues relating to research and monitoring criteria for species and vegetation community management, will be addressed in an adaptive management context and subject to AMP refinement and iterative approaches and applications.

Having said this, the WFMP is based on the stressor-based AMP described in *Part I*, *Chapter 7*. The underlying principle of the stressor-based Adaptive Management Program is that management and monitoring should be directed primarily towards environmental factors known or thought to be directly or indirectly responsible for ecosystem changes. Fire is a the major stressor on the southern California ecosystem. *Part I*, *Chapter 7* presents conceptual stressor models that depict known and potential relationships between fire and the vegetation community and individual species responses and these models provide the framework for the FMP with regard to maintaining healthy ecosystems within the Habitat Reserve. For example, as described

in Section 2.9.1 of the WFMP (Plant Community Responses to Fire), each vegetation community responds differently to fire depending upon the frequency and intensity. In order to maintain healthy vegetation communities, these differential responses need to be considered in both the tactical and strategic aspects of managing fire, including controlling wildfires and conducting purposeful prescribed burns.

5.2 Monitoring to Test Hypotheses

Through AMP process will evaluate and test hypotheses about how vegetation communities and focal/Covered Species operate within the Habitat Reserve through the use of "stressor-based models' of ecosystem function relating to fire. These models will require adequate "baseline data" and a credible process for monitoring the effects of AMP actions on the biotic community -- comparing stated hypotheses tested in the conceptual model with measured/monitored results. The strategies for monitoring, managing and restoring vegetations communities and their related species are set forth in *Part I, Chapter 7* for each of the 10 Covered Vegetation Communities. The role of fire as a stressor for each community is addressed in these *Part I, Chapter 7* discussions. The RMVLC Reserve Manager and other Reserve Managers will consult with the Science Advisors who, in turn, will seek the assistance of fire management specialists as appropriate to assure that the best science is applied to the task of compiling baseline and effectiveness monitoring data. . A significant amount of inventory data (species, vegetation communities and natural processes) already exists for the Southern Subregion and work to update inventory data continues.

With the significant number of studies underway on similar landscapes, efforts also will include exchanging data compiled in the Southern Subregion with other southern California programs. For instance, The Nature Conservancy (TNC) is carrying out a number of research projects on the Habitat Reserve that TNC manages in the Central and Coastal NCCP/HCP Subregion. Hopefully, there also will be opportunities to share inventory and monitoring data with other NCCP and HCP programs throughout southern California (*e.g.,* the Western Riverside, San Diego and Coachella Valley programs).