

Santa Monica Mountains National Recreation Area Land Protection Plan

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Executive Summary

The Santa Monica Mountains National Recreation Area is composed of a mosaic of varying land ownerships and land uses spread over 150,050 acres in the Santa Monica Mountains. While many of the important resources in the Santa Monica Mountains are protected on park land or in other forms of protection, many critical resources have yet to be protected. As development activities continue in and around the mountains, it is crucial to identify and protect the most significant natural, cultural, and recreational resource values. In this way, we can ensure that the nationally and globally significant resource treasures found here will be available for future generations to enjoy. To accomplish this, a new approach to resource protection is necessary that prioritizes land protection efforts toward the most critical resource needs. It is this approach that is taken in this Land Protection Plan.

The focus of the plan is on the execution and implementation of land protection strategies, and not on which parcels should be acquired. The question of which tracts should be protected as fee or less-than-fee park lands has been previously answered in earlier Land Protection Plans (1984-1991), based on extensive planning and public meetings. This new plan reflects the desire of the Santa Monica Mountains National Recreation Area to ensure that all funds and energies applied to the protection of lands are used as effectively as possible, based on an objective and dynamic analysis of resource significance and threats. The availability of new, sophisticated geographic information system (GIS) technology for organizing and analyzing spatial data, permits the National Park Service to maintain an up-to-date plan—one that can absorb a dynamic and continuously expanding understanding and knowledge of resources and reflect a dynamic and continuously changing pattern of land use in the mountains. The plan applies objective methods for assessing natural resource values and threats as defined by the most current scientific understanding of ecosystem processes and resources. It permits the use of accepted criteria for evaluating cultural resources. In similar fashion, recreational and scenic values can be tied to specific criteria based in public policy and planning processes.

To ensure that resource values were the driving forces in the land protection planning process, it was crucial to identify conservation criteria based on scientifically accurate information about the factors affecting resource distribution, status and condition. Scientists and park managers across the mountains worked together to develop the following ten resource criteria:

Natural Resource Criteria for Conservation Value

- 1) The site increases the effective size of a protected core habitat area.
- 2) The site contributes to the connection of existing protected core areas by serving as a habitat linkage or movement corridor for wildlife.
- 3) The site is of high ecological value for a variety of species.

- 4) The site is known to contain sensitive species and/or communities or contains critical habitat for sensitive species.
- 5) The site contributes to the persistence of important ecosystem processes which may pose a hazard to life and property if the site were to be developed.

Cultural Resource Criteria for Conservation Value

- 6) The site contains, or is likely to contain, significant cultural resources (including archeological, historical, or ethnographic resources).
- 7) The site contains cultural resources representing one or more of the cultural resource themes identified for the Santa Monica Mountains.

Recreational Resource Criteria for Conservation Value

- 8) The site has a high potential for resource-based recreation.
- 9) The site serves as an important area to link or complete regional trails.
- 10) The site contributes to protection of important regional scenic values.

These criteria form the foundation of this plan. The plan also describes methods for identifying significant resources based upon these criteria. GIS was employed to compile and store the information needed to address the criteria and, more important, provided the tools to integrate large amounts of resource data. And, as new data are developed and existing data enhanced, they can be immediately utilized to revise or refine land protection priorities.

Improved decision making represents little if it is not followed by effective implementation. The new Land Protection Plan, therefore, also examines a broader range of protection strategies than simple fee acquisition. Better understanding of resource and recreation values at risk will enable the National Park Service to better assess possible uses of alternative approaches such as conservation easements, land exchanges and habitat conservation banking. Quicker and more extensive resource information will allow for effective dissemination of the park's analyses, conclusions and recommendations to other agencies, communities and landowners, including eventual access to park databases. Indeed, this expanding knowledge has combined with limiting circumstances to provide the impetus for a new Land Protection Plan for the Santa Monica Mountains National Recreation Area with an unprecedented emphasis on resource protection.

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Chapter 1: Introduction

This document constitutes a revised Land Protection Plan for the Santa Monica Mountains National Recreation Area, a unit of the National Park System, comprising 150,050 acres located in Los Angeles and Ventura Counties in southern California. The focus of this plan is upon the execution and implementation of land protection strategies, and not on which parcels should be acquired. The question of which tracts should be protected as fee or less-than-fee park lands has been previously answered in earlier land protection plans, based on extensive planning and public meetings.

Why a Land Protection Plan Is Prepared

In April 1982, the U.S. Department of the Interior issued a policy governing use of the federal portion of the Land and Water Conservation Fund. Briefly, the policy requires each federal agency using the fund to:

- Identify what lands or interests in lands need to be in federal ownership to achieve management unit purposes consistent with public objectives of the unit.
- Use, to the maximum extent practical, cost-effective alternatives to direct federal purchase of private lands and, when acquisition is necessary, acquire or retain only the minimum interests necessary to meet management objectives.
- Cooperate with landowners, other federal agencies, state and local governments, and the private sector to manage land for public use or protect it for resource conservation.
- Formulate, or revise as necessary, plans for land acquisition, resource use, and protection to assure that socio-cultural impacts are considered and the most outstanding areas are adequately managed.

In response to this policy, the National Park Service prepared a Land Protection Plan and Environmental Assessment in 1984, and subsequently amended the 1984 plan in 1987, 1989 and 1991. The policy further requires land protection plans to be updated every ten years, or as changing circumstances and new knowledge might require. Thus, the current Land Protection Plan has been prepared.

Why Protect the Santa Monica Mountains National Recreation Area

The Santa Monica Mountains National Recreation Area was established by Congress on November 10, 1978, pursuant to Public Law 95-625 (see Appendix A). Congress did so with the following direction:

The Secretary (of the Interior) shall manage the recreation area in a manner which will preserve and enhance its scenic, natural, and historical setting and its public health value as an airshed for the Southern California metropolitan area while providing for the recreational and educational need of the visiting public.

Pursuant to the Government Performance and Results Act of 1993, the National Park Service adopted a mission statement for the recreation area in June 1997 that echoes the intention of Congress, stating that:

The Santa Monica Mountains National Recreation Area exists to conserve for the Nation its best remaining example of an ever-rarer Mediterranean ecosystem, as well as its associated natural, cultural, scenic and historic resources, and to provide a quality National Park experience for the diverse peoples of Southern California. The park is a cooperative experiment in resource protection and environmental education with non-federal partners, whose successes shall enhance the region's quality of life and provide lessons learned to other national park units increasingly challenged by the forces of urbanization.

By its very proximity to some 14.5 million people in the Los Angeles area, the Santa Monica Mountains represent a national park treasure as a recreational resource. However, from both a natural and cultural resource standpoint, the recreation area is equally significant.

Resource Overview of the Santa Monica Mountains

The Santa Monica Mountains National Recreation Area is composed of a mosaic of varying land ownerships and land uses spread over 150,050 acres (61,000 hectares) in the Santa Monica Mountains (Figure 1.1). The park is adjacent to Los Angeles, and literally bisects Los Angeles at the eastern end of the mountains.

Within this east-west trending mountain range there are tremendous natural, cultural and recreational resources. The mountains are geologically complex and characterized by steep, rugged terrain of mountain slopes and canyons, with elevations ranging from sea level to over 3,000 feet (950 meters). This topographic and geologic complexity has contributed to tremendous ecological diversity.

A variety of vegetation types occur within the mountains including oak woodlands, riparian woodlands, valley oak savannas, grasslands, coastal sage scrub, several types of chaparral, wetlands, coastal marshes, and suburban and agricultural areas. This vegetation diversity provides habitat for abundant wildlife. Fifty species of mammals are found in the mountains, including bobcats, mountain lions, mule deer, badgers and other smaller mammals. In addition, nearly 400 species of birds are recorded from the area and over 35 species of reptiles and amphibians are known to occur. Overall, these vegetation types and wildlife species are part of a diverse and increasingly rare complex of natural ecosystems adapted to the southern California Mediterranean-type climate of wet winters and warm, dry summers.

The global significance of Mediterranean-type ecosystems is becoming increasingly recognized (Hannah et al. 1995). For example, recent mapping of global environments show that Mediterranean-type ecosystems are among the smallest and rarest on earth. Five such locations occur on the planet, and each has experienced intensive human occupation due to comfortable climactic conditions. As a result, only 18 percent of this ecosystem remains undisturbed, making it the world's least undisturbed and potentially rarest ecosystem type.

A favorable and productive climate combined with relative geographic isolation have also served to make this ecosystem one of the world's "hot spots" in terms of threats to biodiversity, that collection of plants and animals that represent the world's living heritage. Fifty percent of the planet's biodiversity (i.e., the variety of living things) is found on two percent of its surface. Only one of these global biodiversity "hot spots"—places where a disproportionately large amount of biodiversity occurs in a relatively small area—is identified in the United States: southern California (Conservation International 1997). Thus, it is not surprising that the Santa Monica Mountains have 25 plants and animals classified as rare, threatened or endangered. Another 50 are "candidate species," meaning they are under study or consideration for similar classification. Because of this large number of rare, threatened and endangered species, southern California is also recognized as one of four "hot spots" for endangered species in the United States (Dobson et al. 1997).

For all of these reasons, undisturbed examples of Mediterranean-type ecosystems are very significant and very rare. The Santa Monica Mountains National Recreation Area protects one of the largest examples of this type of ecosystem left anywhere.

The Santa Monica Mountains National Recreation Area is equally rich in cultural resources, which range from the prehistoric to the 20th Century. For 10,000 years, the Santa Monica Mountains have been at the center of complex human interactions that have shaped the environment and impacted cultural processes in wider contexts. The richness and diversity of the cultural resources are not surprising considering the relative density of human population in the mountains over time.

The Santa Monica Mountains were, and still remain, home to two of the largest Native American Indian groups in California, the Chumash and Gabrielino/Tongva. Within park boundaries there are over 1,000 archeological sites, the earliest dating from 5,000 BC. Over time, these cultures developed large villages, an extensive maritime and inland trade, a monetary system, extensive astronomical knowledge, exquisite basketry, stone and wood carvings, and a legacy of sacred pictographs. Additionally, as an interface between these two complex societies, the Santa Monica Mountains possess great scientific value for hypothesis testing about cultural development, interaction and change.

During the Hispanic period, the mountains were an important source of grazing lands and water and seventeen ranchos were established in the mountains. Such clear expressions of resources from the period of Mexico's administration of California are rare in the National Park Service. During the subsequent American period, the interior of the Santa Monica

Mountains was opened to homesteading and 1,284 homestead claims were filed. Although we currently know comparatively little about these historic periods, they have had obvious impacts on the Santa Monica Mountains.

The emergence of the movie industry in Los Angeles was dependent upon the easily accessible and varied locations represented in the Santa Monica Mountains. Many studios and movie ranches were located in the Santa Monica Mountains as the industry began to export the Hollywood version of American culture to the world. Hundreds of movies were filmed within the park boundary. The Paramount Ranch likely constitutes the world's best remaining cultural site associated with the Golden Age of Motion Pictures.

The cultural history of the 20th Century is also illustrated by many significant architectural sites, including work by Wright, Neutra and Schindler, and the major contributions to world literature by mountain residents such as Mann, Huxley, Isherwood and Faulkner.

Perhaps most significantly, both in terms of their value and access to the public and their proximity to potential threats, all of these resources occur immediately adjacent to the Los Angeles Metropolitan Area. To protect these extensive and valuable resources, the National Park Service works with numerous other agencies, organizations and private landowners in a cooperative effort to protect land and resources. Clearly, to succeed, resource protection must be a cooperative effort.

While many of the important resources in the Santa Monica Mountains are protected on park land or in other forms of protection, many critical resources have yet to be protected. As development activities continue in and around the mountains, it is crucial to identify and protect the most significant natural, cultural and recreational resource values. In this way, we can ensure that the nationally and globally significant resource treasures found here will be available for future generations to enjoy. To accomplish this, a new approach to resource protection—one that prioritizes land protection efforts toward the most critical resource needs—is necessary. It is this approach that is taken in this Land Protection Plan.

Why a New Land Protection Plan Is Being Prepared for the Santa Monica Mountains National Recreation Area

Among the conditions under which Interior Department policy directs the preparation of a new Land Protection Plan are changing circumstances and new knowledge. Both apply in the case of the Santa Monica Mountains National Recreation Area.

Notable among the changing circumstances is the dramatic drop in federal funds for land acquisition. In Fiscal Year 1996, the total amount of federal funds appropriated for the park was \$1.5 million. In Fiscal Year 1997, the amount was \$0, and Fiscal Year 1998 currently guarantees only \$1 million. State funds used by partner agencies in the Santa Monica Mountains, the California State Parks and the Santa Monica Mountains Conservancy, have

similarly been nonexistent for several years. The principal source of land acquisition dollars has been through bond measures passed by voters in Los Angeles County.

Federal funds have diminished, not only because of general efforts to bring the federal budget into balance, but because of Congressional concerns about the use of land acquisition dollars in the Santa Monica Mountains. The House Interior Appropriations Committee report (HR 95-163), to accompany H.R. 2107, the 1998 Interior Appropriations Bill, expressed it this way:

The Committee has provided \$1,000,000 for the Santa Monica Mountains National Recreation Area to help complete the Backbone Trail. To date, the Committee has appropriated over \$150,000,000 for land acquisition at this area. In recent years, the Committee has expressed concern that there was no apparent priority setting process for this acquisition. At times, lands have been purchased in random order, and support groups are oftentimes at odds over which properties are more significant.

Fewer land protection dollars in the mid-1990's have had the inevitable result of intense competition among local communities, and sometimes landowners anxious to sell, to pressure agencies to spend the limited remaining funds on favored projects at the expense of others and without regard to overall park needs.

Improving economic conditions in southern California have strongly suggested growing development pressure on the open lands that remain in the mountains. At the same time, limited staffing and park funds restricts the ability of the National Park Service to participate effectively in planning processes and provide timely notice to planning agencies of the resource threats that some projects might pose.

Finally, the National Park Service has gained considerable added knowledge about park resource values and ecosystem processes since the 1991 Land Protection Plan was issued. Of equal importance is the ability to recombine that knowledge with the aid of computers and perform complex analyses of potential resource values and issues in the context of land planning.

What the New Plan Does

In a sense, this is not a new Land Protection Plan because, as stated previously, it makes no new recommendations beyond the 1991 plan with respect to what lands should ultimately become park lands within the Santa Monica Mountains, or whether the preferred method of protection is fee acquisition, easements or cooperative planning (see Appendix B). Rather, this plan responds to the recent trend of limited funding for acquisition, as well as an anticipated increase in development pressure.

The new Land Protection Plan is based on greater understanding of ecosystem processes and resource values, and sustained by the power of modern computing to apply that understanding to the issues of land protection. Using that information, the new plan can

establish a rational basis for decision-making that rises above the clash of local interests over favored projects, and re-establish Congressional confidence in the use of appropriated federal funds for land acquisition.

In short, the plan reflects the desire of Santa Monica Mountains National Recreation Area to ensure that all funds and energies applied to the protection of lands are used as effectively as possible, based on an objective and dynamic analysis of resource significance and threats.

The new Land Protection Plan is an innovative approach to these issues. The availability of new, sophisticated technology for organizing and analyzing spatial data, permits the National Park Service to maintain an up-to-date plan, one that can absorb a dynamic and continuously expanding understanding and knowledge of resources, and reflect dynamic and continuously changing patterns of land use in the mountains and their effect on resource values. It applies objective methods for assessing natural resource values and threats as defined by the most current scientific understanding of ecosystem processes and resources. It permits the use of accepted criteria for evaluating cultural resources. In similar fashion, recreational and scenic values can be tied to specific criteria based in public policy and planning processes.

Improved decision making represents little if it is not followed by effective implementation. The new Land Protection Plan, therefore, also examines a broader range of protection strategies than simple fee acquisition. Better understanding of resource and recreation values at risk will enable the NPS to better assess possible uses of easements. Quicker and more extensive resource information will allow for effective dissemination of the park's analyses, conclusions and recommendations to other agencies, communities and landowners, including eventual access to park databases. This broader access and utilization of complex information may also better support alternative land protection strategies, such as conservation banking. Indeed, this expanding knowledge has combined with limiting circumstances to provide the impetus for a new Land Protection Plan for the Santa Monica Mountains National Recreation Area with an unprecedented emphasis on resource protection.

The remaining chapters of the Land Protection Plan describe the procedures and processes by which this update are being implemented. Chapter 2 introduces the criteria for conservation value which are used to prioritize resource protection needs and, hence, land protection priorities. Chapter 3 describes how information on resource distribution, status and trends were analyzed based on the conservation criteria to actually identify land protection priorities. Chapter 4 presents implementation strategies which can be used to protect land and resources on the ground. Overall, it is the process of this Land Protection Plan, where resource values reflecting the best available data drive land protection priorities, that make this update unique and critical for long-term resource preservation in the Santa Monica Mountains National Recreation Area.

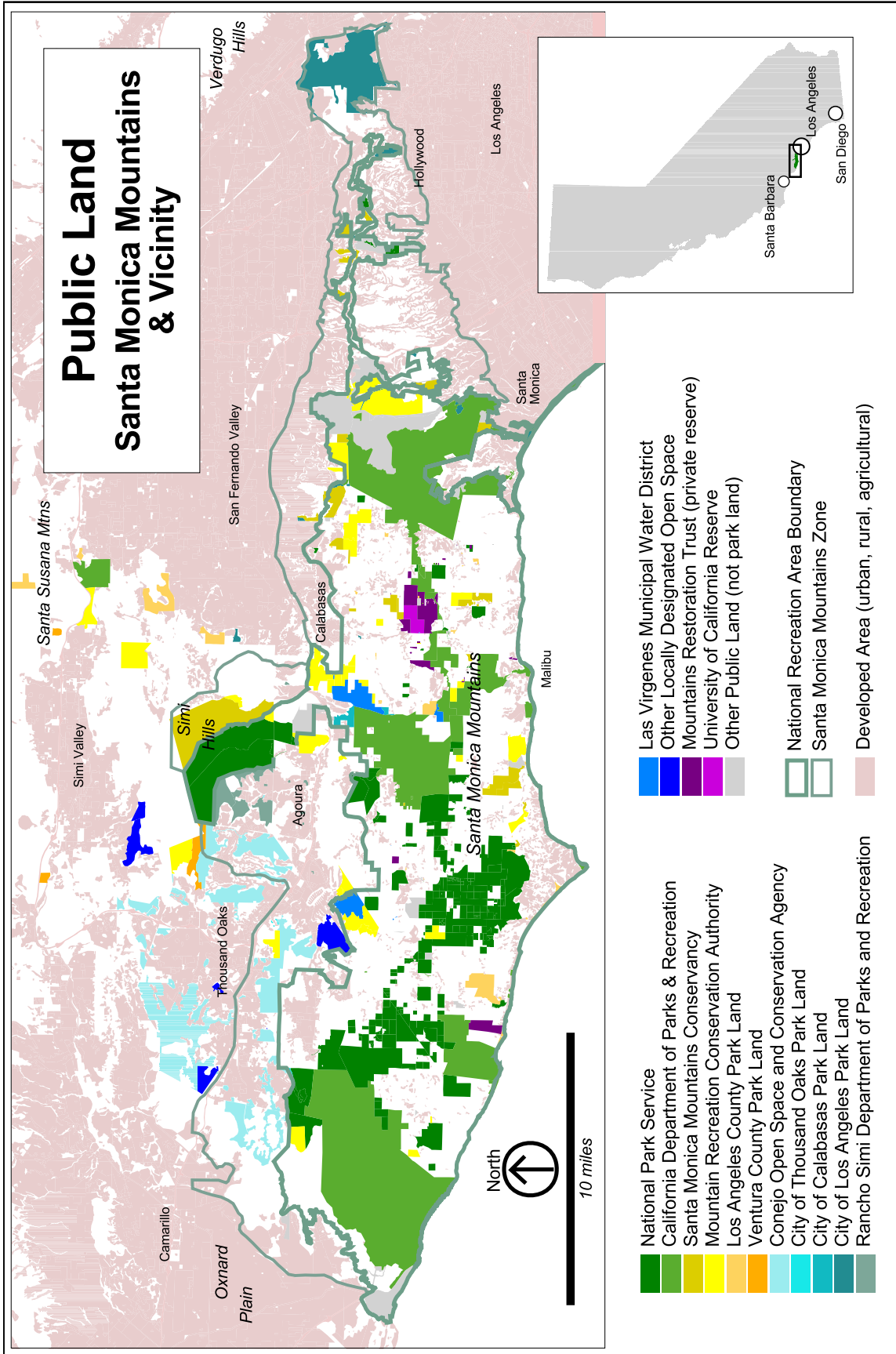


Figure 1.1 Santa Monica Mountains and Vicinity

Chapter 2: Conservation Criteria

Why Conservation Criteria are Needed

The wealth of natural and cultural resources in the Santa Monica Mountains National Recreation Area exists amid an extremely complex mosaic of land ownership and jurisdictional authorities. Although most agencies recognize the resource values of the region, varying agency mandates, priorities and information availability can complicate regional, ecosystem-wide efforts to protect resources. In addition, funds for resource protection and park land acquisition are limited, so efforts to protect one area may come at the expense of protecting another. Ongoing development pressures threaten resources in the mountains through direct impacts or indirect effects on resource viability and persistence. As a result, there is an urgent need to identify and protect resources in the mountains, coordinate these efforts among the different agencies and organizations, and ensure that limited funds are used efficiently to protect the most important natural, cultural, and recreational resources.

To achieve this goal, it is necessary to identify the most significant resource values (and values at risk) in the Santa Monica Mountains and link these to an evaluation of remaining unprotected lands. Resource values must reflect the most important conservation and preservation priorities of the region, based on technical analysis and evaluation of resource threats, and on consensus opinion arrived at by interagency participation and public involvement. These values can then be translated into a series of criteria for assigning conservation or preservation priorities for park land protection efforts. Scientific information about resource distribution and status are collected consistent with the conservation criteria to ensure that accurate data are available for identifying resource values. In the final step, these data are integrated using geographic information system (GIS) technology into a series of resource value overlays to establish land protection priorities. This multistep process based on applying specific criteria for conservation value has been the approach used to develop this Land Protection Plan.

To ensure that resource values were the driving forces in the land protection planning process, conservation criteria were identified based on scientifically accurate information about the factors affecting resource distribution, status and condition. In addition, the criteria represented a consensus view among resource protection agencies, organizations and the public about which resource values are important in the Santa Monica Mountains. The criteria selected were also consistent with the legislative mandate of the Santa Monica Mountains National Recreation Area to protect the “significant scenic, recreational, educational, scientific, natural, archeological, and public health benefits” of the Santa Monica Mountains. When such criteria are applied to lands throughout the mountains (see

Chapter 3), they allow identification of those areas with the highest priority resources in greatest need of protection.

Such a system of conservation criteria driving land protection priorities is advantageous for the following reasons: 1) The criteria reflect scientifically-based information on resources and their distribution, priorities are objective and based only on resource considerations. This reduces potential conflicts between local communities, landowners and agencies for spending limited land protection funds on favored projects that may not reflect higher priority resource protection needs of the entire park. Thus, purely local and piecemeal attempts to protect park lands can be avoided in favor of a broader approach focused on top priority natural, cultural and recreational resources. 2) Land acquisition and protection funds are limited and development threats will continue; hence, not all resources can be protected. Conservation criteria are necessary to focus protection efforts on those lands where resource values are the greatest. 3) Criteria reflect up-to-date information on resource distribution and threats; land protection efforts are focused in those areas with the greatest resource protection benefit relative to land protection cost. 4) Because the land protection prioritization process using conservation criteria is dynamic, as additional resource data become available, analyses can be re-run and priorities adjusted to ensure the highest and best use of funds.

Finally, conservation criteria are advantageous because, through interagency participation and public involvement, a unified approach to land protection in the mountains can be achieved. This ensures that protection efforts reflect broader ecosystem values and historic or cultural themes, and that a variety of local, state, private and federal strategies can potentially be aligned into a cohesive land protection program with common interagency objectives. Such innovative approaches to land protection are necessary when acquisition funds are scarce and other strategies are needed to protect critical resource values (see Chapter 4).

What are Conservation Criteria

Conservation criteria are rules or standards for the measure of the conservation value of a given land area. Conservation criteria can be applied to any parcel in any area, but specific parcels will not necessarily satisfy conditions of the criteria. A corollary of defining conservation criteria is that the rules or standards that define the criteria must themselves be measurable and objective.

By identifying conservation criteria applicable to the Santa Monica Mountains, a set of scientifically defensible, objective standards for evaluating land protection priorities can be established. The criteria reflect important resource concerns in the Santa Monica Mountains, including natural, cultural and recreational values. Specific values have been determined through consultation with resource experts, interagency review and public input. By applying the criteria to lands in the mountains, top priority areas in need of protection can be identified based on their inherent resource values.

How Conservation Criteria Were Developed

To develop a set of conservation criteria for use in updating the park's Land Protection Plan, four steps were taken. First, technical experts and resource literature were consulted to develop criteria appropriate to protecting the unique natural, cultural and recreational resources of the Santa Monica Mountains, as defined by Congress that established the national recreation area. This step was accomplished primarily by National Park Service technical staff in cooperation with resource experts from other agencies, organizations and universities. For natural and cultural resources, much of this work occurred from 1992 to 1994 when interagency meetings, research and analysis to update the park's *Resource Management Plan* (NPS 1994) were conducted. Additional research and consultation occurred more recently to develop recreational criteria and to refine the initial set of natural and cultural resource criteria.

The second step in the process included completing a comprehensive survey of criteria for conservation value by querying 30 agencies in California involved in similar land conservation efforts (Yelin 1995; Yelin 1996). The focus of this survey was on agencies and organizations in the Southwestern Ecoregion of southern California. The survey was conducted to ensure that all approaches and criteria being developed by other organizations were assessed and considered, and that state-of-the-art knowledge of criteria-based land protection efforts was reviewed. Through this process, the park hoped to avoid any duplication of effort as criteria were developed for the Santa Monica Mountains and to learn from the experiences of others. In addition, through the survey, a comprehensive list of commonly utilized conservation criteria was developed and categorized from which appropriate criteria for the Santa Monica Mountains could be selected.

The third step in the process was obtaining additional interagency review and consensus by conducting meetings, administering surveys and obtaining expert input to select final criteria from among those compiled in steps one and two. Input was obtained from resource professionals working in the Santa Monica Mountains, from subject matter experts at universities and other institutions, and from National Park Service staff and managers. This step focused primarily on selecting criteria most applicable to resource concerns in the Santa Monica Mountains, ensuring that the rules or standards defining the criteria were measurable and objective, and further clarifying the precise definitions of criteria for application in the mountains. Final refinement of conservation criteria was completed by National Park Service science, resources and planning staff, with comment from experts representing several local agencies.

The fourth and final step in the criteria selection process included informational meetings, presentations and other outreach efforts to solicit comments and suggestions from interested agencies, organizations and the general public about the final set of criteria. Goals of this step included obtaining comments from agencies and the public about the set of criteria identified in step three and developing a consensus among various jurisdictions about common resource protection values in the Santa Monica Mountains. From these efforts, the

final set of conservation criteria were developed by which land protection priorities can be identified.

What are the Criteria

Ten conservation criteria applicable to the Santa Monica Mountains were identified for use in updating the Land Protection Plan (Table 2.1). Criteria have been divided into three broad categories of natural, cultural and recreational resources. In this section, a brief description of the applicability of each criterion in the Santa Monica Mountains is provided, including a discussion of the scientific justification for its inclusion on the list (i.e., why the criterion defines priority resource values at risk). This overview includes information about the situation facing the Santa Monica Mountains and a review of how the criterion is applicable to addressing this situation in the park. Detailed discussion of how specific resource data are used to operationalize each criterion for GIS analysis and application to land protection prioritization is provided in Chapter 3.

Natural Resource Criteria for Conservation Value

- 1) The site increases the effective size of a protected core habitat area.

Core habitats are defined as relatively large habitat blocks already protected as park land in the Santa Monica Mountains and surrounding area. Specific core habitat areas were selected by considering all contiguous open space patches in the Santa Monica Mountains and surrounding region, identifying protected park land within these patches, and defining the largest of these patches as core habitat areas. Using this process, seven core habitat areas were identified, all of which exceeded 2,500 acres (1,000 hectares) in areal extent (see Chapter 3).

This criterion is critical for natural resource preservation in the Santa Monica Mountains because habitat loss and fragmentation are among the greatest threats to ecosystem integrity and the maintenance of viable wildlife populations in the region. Larger mammals, in particular, are adversely affected by the loss and isolation of habitat, as local populations are reduced and become vulnerable to extinction by chance demographic, environmental and genetic events. Current research in conservation biology indicates that protecting large core areas is one of the most effective ways to protect biological diversity (Noss 1983; Shaffer 1987; Soulé 1980; Soulé and Simberloff 1986; Wilcove et al. 1986; Wilcox 1980). As such, this criterion was identified as a top priority concern by all consultants, including the general public. It is recognized that one of the greatest ecological assets of the Santa Monica Mountains is the existing expanses of protected core habitat (e.g. Zuma/Trancas Canyons, Point Mugu State Park, Malibu Creek State Park, Topanga State Park, etc.). Much of the intervening lands in the Santa Monica Mountains remain undeveloped and the opportunity exists to expand these core areas.

- 2) The site contributes to the connection of existing protected core areas by serving as a habitat linkage or movement corridor for wildlife.

Habitat linkages are defined here as areas which serve to connect two or more core areas and are of sufficient habitat value such that they provide substantial native vegetation cover or, optimally, serve as foraging or breeding grounds for wildlife. Movement corridors, on the other hand, serve to connect two or more core areas (or are located within corridor zones or “choke points”) but do not contain habitat of sufficient quality to sustain wildlife. Movement corridors simply serve to facilitate movement of animals from one point to another (e.g. a freeway crossing point). The value of a site as a habitat linkage or movement corridor is based on its established or expected use by wildlife. In other words, a site can only contribute to connectivity if there is a reasonable expectation that animal species requiring movement through an area will actually use that site.

Habitat fragmentation from development is one of the greatest threats to ecosystem integrity in the mountains and maintaining or re-establishing connectivity was identified as a top conservation criterion by resource professionals and the general public. Without connections allowing movement between the larger areas of natural habitat, several animal species in the region are at risk of extinction. There is a large body of literature examining the value of wildlife corridors in mitigating fragmentation effects (Fahrig and Merriam 1985; Hudson 1991; Noss 1987; Soulé and Simberloff 1986). In general, maintaining existing connections (versus creating connectivity) is regarded as an important conservation strategy and will receive priority. The use of linkages and corridors to protect biodiversity is being implemented throughout southern California and other increasingly fragmented ecosystems. Corridor design and conservation will be based on analysis of these efforts, as well as local research such as that currently underway addressing habitat connectivity issues for carnivores in the greater Santa Monica Mountains area.

- 3) The site is of high ecological value for a variety of species.

A site has high ecological value when it includes a diverse or unique assemblage of habitat attributes which have not been substantially impacted by human activity, or the site has a high potential for restoration to such ecological condition. Habitat attributes contributing to ecological value in the Santa Monica Mountains area include diverse vegetation assemblages, vegetation ecotones, riparian habitats, perennial streams, springs or seeps, rocky outcrops, high structural diversity, and abundant food or shelter availability. The purpose of this criterion is to identify components of general ecological value, not unique or sensitive resources, which are considered in Criterion 4 below.

This criterion attempts to systematically identify and give priority to areas of greater ecological importance, based on knowledge of the habitat attributes that are of high value in maintaining ecosystem integrity and biological diversity in the Santa Monica Mountains. All consulted parties expressed strong sentiment for protecting such areas. To accomplish this end, an index of ecological value was created based on the presence of specific attributes of

ecological value, biological diversity and habitat condition. Other habitat attributes will be added as those of known importance are completely mapped and research demonstrates the importance of others not yet recognized.

- 4) The site is known to contain sensitive species and/or communities or contains critical habitat for sensitive species.

Sensitive species include state or federally listed threatened or endangered species, California Native Plant Society (CNPS) plant species of special concern and animal species of special concern (Table 2.2). Sensitive communities include vegetation types found in the Santa Monica Mountains which are tracked by the California Natural Diversity Database (Table 2.3). In addition to species and communities that have legal protection status and those identified to be of statewide concern, locally or regionally significant species and communities are also considered. Lists of species and communities considered for the Land Protection Plan were developed by National Park Service planning, science and resource staff in cooperation with experts from other agencies, organizations and institutions. As additional data are collected for listed species and communities, and their distribution, updated analyses will be conducted with respect to this criterion.

Sensitive species and communities are important to protect because they represent evolutionarily unique components of the ecosystem (Rabinowitz et al. 1986). Their rarity is often indicative of broad environmental problems and, conversely, protection afforded to sensitive species and communities will often help mitigate larger environmental problems and protect other species. In addition, environmental laws and regulations often require the protection of these species and communities—laws passed with strong public support at both state and national levels. Protecting species and communities is one of the most commonly identified conservation criteria for land protection in southern California, but was less often mentioned for the Santa Monica Mountains (Yelin 1996). This reflects a strong sentiment among local consultants that ecosystem approaches are preferable to single-species management. However, because of the NPS mandate to protect sensitive species—and the public support protection of these species enjoys—it is important to include this criterion. By considering sensitive species and communities in combination with the other natural resources conservation criteria, an ecosystem approach to protecting all components of biological diversity in the Santa Monica Mountains will be realized.

- 5) The site contributes to the persistence of important ecosystem processes which may pose a hazard to life and property if the site were to be developed.

The Santa Monica Mountains contain a number of natural conditions that are inconsistent with development but are simultaneously important as ecosystem processes. Such conditions may include floods, geologic instability and fires. In order to maintain these factors important to ecosystem dynamics and direct development away from inappropriate areas, hazard zones must be identified and incorporated into land protection planning. This is important not only to protect ecological processes, but to save taxpayers money. For

example, between 1992 and 1996 there were four major fire and flood events in the Santa Monica Mountains (not counting the Northridge Earthquake) for which the federal government has paid out \$78 million. This criterion serves to identify those sites that may most appropriately be retained as park land both to protect ecosystem processes and reduce hazardous conditions.

Cultural Resource Criteria for Conservation Value

- 6) The site contains, or is likely to contain, significant cultural resources (including archeological, historical or ethnographic resources).

Culturally significant archeological, historical or ethnographic resources can be landscapes, districts, sites, structures or objects. The presence or potential presence of cultural resources will be determined based on national, state, county and city lists, archeological site lists, and cultural resource baseline maps. The level of significance (e.g. world, national, state, local or not significant) and integrity of these resources will be determined using the evaluation criteria of the National Register of Historic Places and the National Historic Landmarks programs (Table 2.4).

The National Register criteria are well established, with extensive literature explaining their implementation (NPS 1991). Applying these criteria allows objective assessment and development of consensus opinion for cultural resource protection and serves as the basis for prioritization in the park's land protection planning. Within the recreation area there are many cultural resources not listed in the National Register. This does not necessarily mean they are unimportant, but may mean that not enough is known about the resource or that the level of threat to it did not justify the effort of nomination. In general, cultural resources will be considered eligible for the National Register until a formal determination of eligibility is made.

- 7) The site contains cultural resources representing one or more of the cultural resource themes identified for the Santa Monica Mountains.

The cultural resources of the Santa Monica Mountains National Recreation Area can be categorized by themes which range in time from early hunters to relatively recent technological and artistic contributions to the cultural life of the nation. Such themes are catalogued within the thematic outline contained in *History and Prehistory in the National Park System* (NPS 1987) and the National Historic Landmarks Program. Because of the richness and complexity of the history of the Santa Monica Mountains, a complete inventory would include most of the themes within this outline. Thus, themes with particular importance in the mountains were identified in the park's *Resource Management Plan* (NPS 1994) based on their worldwide significance or specific relevance to the park. These broad themes are listed in Table 2.5.

Under this criterion, representation of more than one of the themes at a site imparts a higher priority. Higher priority is also assigned if the cultural themes represented by a resource are not yet protected in public park lands and/or if the resource is unique within its context and loss of this particular resource would threaten the integrity of the entire cultural theme in the park. It is important that each of the major themes be represented on public park land and that each theme has sufficient resources to convey the character and complexity of the theme. Thus, the same analysis of integrity applied to sites must be applied to theme integrity (i.e., are there sufficient cultural resources to adequately convey the meaning and value of the theme?).

Recreational Resource Criteria for Conservation Value

- 8) The site has a high potential for resource-based recreation.

The Santa Monica Mountains National Recreation Area received over 30 million recreation visits in 1996, making this park the most heavily visited unit of the National Park System. (Many of these visits included beach visitors during the summer months.) As more and more people “discover” the Santa Monica Mountains, the number of park visitors and the need to facilitate visitor access will increase. To meet this need, the land protection process must ensure that park visitors have ample access to recreational opportunities through appropriately chosen locations that do not compromise resource preservation. These sentiments were strongly expressed in the park’s surveys of park professionals and the public.

Resource-based recreation facilities may include trailheads, parking facilities and existing facilities suitable for education. Sites for these features are identified in a variety of agency plans: most notably the General Management Plan (GMP) for the Santa Monica Mountains National Recreation Area (NPS 1982) and General Plans for the individual California State Parks. Additionally, the NPS, California Department of Parks and Recreation and the Santa Monica Mountains Conservancy have begun work on a new multi-jurisdictional GMP for the recreation area. The new GMP will provide important input on the need for recreational facilities and will identify suitable locations for such facilities.

- 9) The site serves as an important area to link or complete regional trails.

One of the most important and popular recreational pursuits in the Santa Monica Mountains is exploring open space and natural resources via the various trail networks. Unfortunately, important regional trails have yet to be completed due to the patchwork nature of land ownership in the recreation area. This criterion identifies completion of regional trail networks as an important priority in the land protection planning process.

Regional trails are defined as those providing extensive trail connectivity within, and around, the Santa Monica Mountains National Recreation Area. Specific regional trails were identified based on consultation with local agencies and coordination with the Santa Monica

Mountains Area Recreational Trails Coordination Project (SMMART). Missing links in these trails were identified after consultation other agencies and the “Missing Links” Subcommittee of SMMART (see Chapter 3).

10) The site contributes to protection of important regional scenic values.

Scenic resources abound in the Santa Monica Mountains and the desire to preserve them was one of the reasons the national recreation area was established. The scenic values inherent in the rugged chaparral-covered mountains and oak-dotted hillsides are a critical component of the southern California experience, attracting the eye of both visitors and area residents alike. This criterion serves to identify those areas with acknowledged scenic importance and to include them in the land protection planning process. Scenic resources can be identified from existing local and regional planning documents, including the scenic elements of city, county and other agency general plans, and from scenic areas specified in other regional studies. A more thorough survey would systematically identify significant vistas and viewpoints using accepted scientific methods.

Table 2.1 Ten conservation criteria selected for the Santa Monica Mountains

Natural Resource Criteria for Conservation Value

- 1) The site increases the effective size of a protected core habitat area.
- 2) The site contributes to the connection of existing protected core areas by serving as a habitat linkage or movement corridor for wildlife.
- 3) The site is of high ecological value for a variety of species.
- 4) The site is known to contain sensitive species and/or communities or contains critical habitat for sensitive species.
- 5) The site contributes to the persistence of important ecosystem processes which may pose a hazard to life and property if the site were to be developed.

Cultural Resource Criteria for Conservation Value

- 6) The site contains, or is likely to contain, significant cultural resources (including archeological, historical, or ethnographic resources).
- 7) The site contains cultural resources representing one or more of the cultural resource themes identified for the Santa Monica Mountains.

Recreational Resource Criteria for Conservation Value

- 8) The site has a high potential for resource-based recreation.
- 9) The site serves as an important area to link or complete regional trails.
- 10) The site contributes to protection of important regional scenic values.

Table 2.2 Sensitive species known to occur or potentially occurring in the Santa Monica Mountains National Recreation Area

PLANTS		
Species Name	Federal*	State**
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> salt marsh bird's-beak	FE	SE
<i>Pentachaeta lyonii</i> Lyon's pentacheata	FE	SE
<i>Astragalus brauntonii</i> Braunton's milk-vetch	FE	-
<i>Dudleya cymosa</i> ssp. <i>marcescens</i> marcescent dudleya	FT	SR
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i> Santa Monica Mtns. dudleya	FT	-
<i>Dudleya abramsii</i> ssp. <i>parva</i> Conejo dudleya	FT	-
<i>Dudleya verityi</i> Verity's dudleya	FT	-
<i>Eriogonum crocatum</i> Conejo buckwheat	FSC	SR
<i>Hemizonia minthornii</i> Santa Susana tarplant	FSC	SR
<i>Calochortus plummerae</i> Plummer's mariposa lily	FSC	-
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i> dune larkspur	FSC	-
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	FSC	-
<i>Dudleya multicaulis</i> many-stemmed dudleya	FSC	-
<i>Lasthenia glabrata</i> var. <i>coulteri</i> Coulter's goldfields	FSC	-
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's Spineflower	FSC	-
<i>Nolina cismontana</i> California beargrass	FSC	-
<i>Atriplex coulteri</i> Coulter's saltbush	-	SS
<i>Nama stenocarpum</i> mud nama	-	SS
<i>Senecio aphanactis</i> rayless ragwort	-	SS
<i>Thelypteris puberula</i> var. <i>sonorensis</i> Sonoran maiden fern	-	SS
<i>Camissonia lewisii</i> Lewis's evening-primrose	-	SS
<i>Hordeum intercedens</i> vernal barley	-	SS

Table 2.2 Sensitive species known to occur or potentially occurring in the Santa Monica Mountains National Recreation Area (continued)

Species Name	Federal	State
<i>Abronia maritima</i> red sand-verbena	-	SS
<i>Baccharis plummerae</i> ssp. <i>plummerae</i> Plummer's baccharis	-	SS
<i>Boykinia rotundifolia</i> round-leaved boykinia	-	SS
<i>Calandrinia maritima</i> Seaside calandrinia	-	SS
<i>Cercocarpus betuloides</i> var. <i>blancheae</i> island mountain-mahogany	-	SS
<i>Chamaebatia australis</i> southern mountain misery	-	SS
<i>Dichondra occidentalis</i> western dichondra	-	SS
<i>Erysimum insulare</i> ssp. <i>suffrutescens</i> suffretescent wallflower	-	SS
<i>Galium cliftonsmithii</i> Santa Barbara bedstraw	-	SS
<i>Juncus acutus</i> ssp. <i>leopoldii</i> southwestern spiny rush	-	SS
<i>Lepechinia fragrans</i> fragrant pitcher sage	-	SS
<i>Polygala cornuta</i> var. <i>fishiae</i> Fish's milkwort	-	SS
<i>Suaeda esteroa</i> estuary seablite	-	SS
<i>Baccharis malibuensis</i> Malibu baccharis	-	SS
ANIMALS		
Mammals:		
<i>Euderma maculatum</i> Spotted Bat	FSC	SS
<i>Eumops perotis californicus</i> Greater Western Mastiff Bat	FSC	SS
<i>Macrotus californicus</i> California Leaf-nosed Bat	FSC	SS
<i>Myotis lucifugus occultus</i> Occult Little Brown Bat	FSC	SS
<i>Plecotus townsendii townsendii</i> Pacific Western Big-eared Bat	FSC	SS
<i>Sorex ornatus salicornicus</i> Salt Marsh Ornate Shrew	FSC	SS
<i>Taxidea taxus</i> American Badger	-	SS

Table 2.2 Sensitive species known to occur or potentially occurring in the Santa Monica Mountains National Recreation Area (continued)

Species Name	Federal	State
Birds:		
<i>Pelecanus occidentalis californicus</i> Brown Pelican	FE	SE
<i>Gymnogyps californianus</i> California Condor	FE	SE
<i>Haliaeetus leucocephalus</i> Bald Eagle	FT	SE
<i>Buteo swainsoni</i> Swainson's Hawk	-	ST
<i>Falco peregrinus anatum</i> Peregrine Falcon	FE	SE
<i>Rallus longirostris levipes</i> Light-footed Clapper Rail	FE	SE
<i>Charadrius alexandrinus nivosus</i> Western Snowy Plover	FT	SS
<i>Sterna antillarum browni</i> California Least Tern	FE	SE
<i>Brachyramphus marmoratus</i> Marbled Murrelet	FT	SE
<i>Empidonax traillii extimus</i> Southwestern Willow Flycatcher	FE	SE
<i>Riparia riparia</i> Bank Swallow	-	ST
<i>Polioptila californica</i> California Gnatcatcher	FT	SS
<i>Vireo belli pusillus</i> Least Bell's Vireo	FE	SE
<i>Passerculus sandwichensis beldingi</i> Belding's Savannah Sparrow	FSC	SE
<i>Ixobrychus exilis hesperis</i> Western Least Bittern	FSC	SS
<i>Pelecanus erythrohynchos</i> American White Pelican	-	SS
<i>Histrionicus histrionicus</i> Harlequin Duck	FSC	SS
<i>Aquila chrysaetos</i> Golden Eagle	-	SS
<i>Accipiter cooperii</i> Cooper's Hawk	-	SS
<i>Circus cyaneus</i> Northern Harrier	-	SS
<i>Pandion haliaetus</i> Osprey	-	SS
<i>Falco columbarius</i> Merlin	-	SS
<i>Falco mexicanus</i> Prairie Falcon	-	SS

Table 2.2 Sensitive species known to occur or potentially occurring in the Santa Monica Mountains National Recreation Area (continued)

Species Name	Federal	State
<i>Oreortyx pictus</i> Mountain Quail	FSC	-
<i>Numenius americanus</i> Long-billed Curlew	FSC	-
<i>Sterna elegans</i> Elegant Tern	FSC	SS
<i>Asio otus</i> Long-eared Owl	-	SS
<i>Athene cunicularia</i> Burrowing Owl	-	SS
<i>Eremophila alpestris actia</i> California Horned Lark	FSC	SS
<i>Campylorhynchus brunneicapillus couesi</i> San Diego (Coastal) Cactus Wren	FSC	SS
<i>Lanius ludovicianus</i> Loggerhead Shrike	FSC	SS
<i>Agelaius tricolor</i> Tri-colored Blackbird	FSC	SS
<i>Aimophial ruficeps canescens</i> Southern California Rufous-crowned Sparrow	FSC	SS
<i>Dendroica petechia</i> Yellow Warbler	-	SS
Reptiles:		
<i>Clemmys marmorata pallida</i> Southwestern Pond Turtle	FSC	SS
<i>Phrynosoma coronatum blainvillei</i> San Diego Horned Lizard	FSC	SS
<i>Phrynosoma coronatum frontale</i> California Horned Lizard	-	SS
<i>Cnemidophorus tigris multiscutatus</i> Coastal Western Whiptail	FSC	-
<i>Anniella pulchra pulchra</i> Silvery Legless Lizard	-	SS
<i>Diadophis punctatus modestus</i> San Bernardino Ringneck Snake	FSC	-
<i>Lampropeltus zonata pulchra</i> San Diego Mountain King Snake	FSC	SS
<i>Lichanura trivirgata roseofusca</i> Coastal Rosy Boa	FSC	-
<i>Salvadora hexalepis virgultea</i> Coast Patch-nosed Snake	FSC	SS
<i>Thamnophis hammondi</i> Two-striped Garter Snake	FSC	-

Table 2.2 Sensitive species known to occur or potentially occurring in the Santa Monica Mountains National Recreation Area (continued)

Species Name	Federal	State
Amphibians:		
<i>Bufo microscaphus californicus</i> Arroyo Southwestern Toad	FE	SS
<i>Rana aurora draytoni</i> California Red-legged Frog	FT	SS
<i>Taricha torosa torosa</i> Coast Range Newt	-	SS
Fishes:		
<i>Eucyclogobius newberryi</i> Tidewater Goby	FE	SCT
<i>Oncorhynchus mykiss</i> S. California Steelhead Trout	FE	-
Invertebrates:		
<i>Euphydryas editha quino</i> Wright's Checkerspot Butterfly	FE	-
<i>Speyeria callippe callippe</i> Callippe Silverspot Butterfly	FPE	-
<i>Lycaena arota nubila</i> Clouded Tailed Copper Butterfly	FSC	-
<i>Panoquina errans</i> Salt Marsh Skipper	FSC	-
<i>Satyrium auretteorum fumosum</i> Santa Monica Mountains Hairstreak	FSC	-
<i>Brennania belkini</i> Belkins Dune Tabanid Fly	FSC	-
<i>Neduba longipennis</i> Santa Monica Shieldback Katydid	FSC	-
<i>Proceratium californicum</i> Valley Oak Ant	FSC	-

* FE = Federal endangered; FT = Federal threatened; FPE = Federal proposed endangered; FPT = Federal proposed threatened; FSC = Federal species of concern (former C1 and C2)

** SE = State endangered; ST = State threatened; SCE = State candidate endangered; SCT = State candidate threatened; SR = State rare species; SS = State sensitive species (includes NDDDB Special Plants, California Species of Special Concern, etc.)

Table 2.3 Sensitive vegetation communities* known to occur or potentially occurring in the Santa Monica Mountains National Recreation Area

Community Name (Holland 1986)

California walnut woodland
Cismontane alkali marsh
Southern coast live oak riparian forest
Southern coastal salt marsh
Southern cottonwood willow riparian forest
Southern mixed riparian forest
Southern riparian forest
Southern riparian scrub
Southern sycamore alder riparian woodland
Southern willow scrub
Valley needlegrass grassland
Valley oak woodland

* Terrestrial vegetation community types tracked by the California Natural Diversity Data Base (California Department of Fish and Game 1996)

Table 2.4 National Register of Historic Places criteria*

<p style="text-align: center;">Significance</p> <p>Determine Type of Resource Building, structure, object, site, district, landscape, or traditional cultural property.</p> <p>Determine Historic Context History, architecture, archaeology, engineering, or culture. Use themes, subthemes, facets, from Resource Management Plan. Determine level of significance. Determine degree of rarity.</p> <p>Determine Type of Significance Criterion A. Association with Significant Event Criterion B. Association with Historically Significant Person Criterion C. Significant Design/Construction Criterion D. Information Potential for History</p> <p>Test National Register Exclusion Considerations A. Religious properties with exceptions B. Moved Properties with exceptions C. Birthplaces or Graves with exceptions D. Cemeteries with exceptions E. Reconstructed Properties with exceptions F. Commemorative Properties with exceptions G. Less than 50 years with exceptions</p> <p style="text-align: center;">Integrity</p> <p>Does the property retain aspects of location, design, setting, workmanship, materials, feelings and/or associations sufficient to convey its historic significance?</p>

* abstracted from Bulletin 15, *How to Apply National Register Criteria* (NPS 1991)

Table 2.5 Cultural resource themes of the Santa Monica Mountains National Recreation Area

Indigenous American Populations:

From the Earliest Inhabitants to Contemporary Adaptations
Technology/Trade/Transportation
Settlements
Trade/Economics
Religion/Science
Technology/Art/Handicrafts
The Myth of the Vanishing Native

European Colonial Exploration and Settlement

Architecture

Landscape Architecture

Technology

Water Delivery
Oil Exploration and Development
Automobile Development

Literature

Motion Pictures

American Ways of Life

Conservation of Natural Resources

Historic Preservation

Recreation

Chapter 3: Applying Conservation Criteria

The Santa Monica Mountains landscape is constantly changing due to the area's growing population and increasing urbanization. Effective conservation planning must take this continual change into account. Additionally, with the high visibility of the mountains—the large populations, high property values, many interested landowners, jurisdictions and user groups—any regional planning effort can be highly controversial. As a result, analysis methods for the Land Protection Plan must address conservation criteria in an objective and dynamic manner using the best information available. A geographic information system (GIS) is integral to achieving this goal.

A GIS is a collection of computer hardware and software designed for the integration, storage, display and manipulation of geographic data. Data are stored in a GIS as a collection of layers, such as soil types, vegetation communities or historic structures. These layers are referenced to a common geographic base so that they may be combined for custom maps or analyses. For example, the locations of historic structures in a GIS database might be overlaid on a geology layer to determine which structures may be vulnerable to damage from unstable slopes or seismic activity.

Over the last seven years, the National Park Service (NPS) has devoted significant time, effort and funding to the development of a park-wide GIS to serve the needs of all those concerned with conservation in the Santa Monica Mountains. The system currently stores over 50 individual resource and base data layers and information is added and updated regularly. Resource data include archeological sites, sensitive species locations, vegetation cover, soil types, while base data include digital map bases such as roads, land use, topography and satellite imagery. As the database has grown, the GIS has become an indispensable tool for resource management and is used in almost every project the park undertakes. Major applications include trail inventory, analysis of wildlife habitat, inventory and analysis of plant communities and park planning.

There are several significant advantages in using a GIS to store and analyze resource data for planning purposes:

- 1) A GIS provides a practical mechanism for integrating vast amounts of data.

It might be simple enough to overlay two map sources (e.g. historic structures and geology) manually on a light table. However, complexity quickly increases as additional data layers are considered or if the source data are not mapped at exactly the same scale or projection. The use of computer technology to automate these tasks greatly increases one's ability to make use of multiple data sets and otherwise incompatible data sources.

- 2) A GIS can provide a dynamic view of the world.

The park's understanding of the social and physical environment is continually growing. As data in a GIS is refined, updated or expanded, analyses can be redone to accommodate changed conditions or increased knowledge. In a rapidly urbanizing area such as southern California, this capability is particularly important. The effects of changes such as the loss of natural open space or the addition of a large tract of park land can be quickly visualized and new priorities easily developed once the GIS analysis methods have been developed.

- 3) GIS methods can be applied evenly and objectively.

Development, land use and conservation issues in southern California can be very controversial. It is critical for the protection of park resources in an often volatile political and economic climate that priorities are set in the most objective manner possible. For this plan, scientifically credible conservation criteria appropriate to the NPS mission in the Santa Monica Mountains have been developed with input from professionals throughout the state. Based on the criteria, and with clearly stated assumptions, GIS analyses can identify the most culturally and ecologically important lands in the Santa Monica Mountains region. Thus, land protection priorities will be driven by resource values, rather than political expediency or other considerations.

- 4) A GIS provides a good mechanism for examining resources in both a local and regional context.

A GIS analysis will only be as accurate or as detailed as its least accurate or smallest scale data set. But GIS data may be generalized, or "scaled down" to examine patterns and features at a smaller, more regional scale, as well as at the larger source scale of the data. This capability is very important for addressing regional planning issues and placing research and local land use decisions within a broader geographic context.

- 5) One of the most compelling aspects of a GIS is the ability to depict analyses results in the form of maps.

A map is the ideal tool to illuminate complex geographic relationships and landscape-level patterns. The capacity to quickly and clearly present complex resource issues in both a local and regional context is critical to the success of any conservation plan.

- 6) The GIS also provides a tool for more advanced analyses.

The results of different planning alternatives can be compared, potential cumulative impacts assessed, and other "what if" questions explored. For example, potential distributions of sensitive plants and animals can be modeled, identifying appropriate habitat and locations that provide necessary ecological requirements.

The value of GIS for conservation planning is evident. The GIS, however, is only a set of tools—in this sense analogous to statistical tests. GIS products are only as good as the questions asked. As detailed in the previous chapter, extensive time and effort was devoted to developing conservation criteria. These criteria are the real substance of this Land Protection Plan for they define how priorities are set. The criteria will not substantially

change as long as the NPS mission in the Santa Monica Mountains does not change. However, the information used to consider the criteria will certainly change: agencies will continue to gather better, more complete data, land will continue to be developed in the mountains, additional park land will be set aside, new environmental impacts will occur or be discovered, the environment will continue to change.

The remainder of this chapter will review the conservation criteria identified in Chapter 2 and describe how existing data are incorporated into a GIS model to identify significant resources and land protection priorities in the mountains. The data sources used to address each criterion will be described along with the methods used to produce the data layers. In some cases, particularly where little or none of the information necessary to address a criterion currently exists, plans for future development or augmentation of data will be described.

How Resource Conservation Criteria Are Applied

Data layers were developed for each of the criteria. Over the last decade, the park has compiled and mapped a significant amount of resource information. As information is collected it is entered into the GIS. In some cases, particularly with natural resources, the GIS was used to derive the data from other resource or base data layers. This process is used when the actual data would be extremely difficult or impossible to collect “on the ground” and when the data can be reasonably modeled by a computer using existing or potential data. For example, using a base layer of roads, maps of remoteness from roads or road density by unit area could be produced. Analyses for some of the natural resource criteria incorporated similar derived data layers. Table 3.1 identifies the data themes and data sources used in the current analysis.

The planning area for analysis and data development (Figure 3.1) is roughly defined by the Pacific Ocean on the south, the dense urban/suburban development of the Los Angeles Basin and the San Fernando and Simi Valleys on the east and north and the agricultural lands of the Santa Clara Valley and Oxnard Plain on the west. These boundaries encompass a region of somewhat distinct topographic and ecological character which could be logically extended to include the Santa Susana Mountains north of the Simi and San Fernando Valleys. However, as a matter of practicality, few data exist for the Santa Susanas and the area is relatively remote from any NPS influence. However, because natural and cultural resources exist without regard to park boundaries, the planning area does extend beyond both the National Recreation Area and the Santa Monica Mountains Zone boundaries, incorporating the Conejo Valley and Simi Hills. The NPS has no jurisdiction or authority outside legislated boundaries, but land uses and resources adjacent to the National Recreation Area will affect resources within its boundary. Therefore, analysis results will be shown for the entire planning area.

All computer analysis was performed using Arc/Info GRID, Rev. 7.0.3 (Environmental Systems Research Institute 1995), which is a raster or cell-based GIS software package. The raster GIS model partitions the landscape into a grid of cells. Each data layer is partitioned by the same grid and a particular cell could be categorized, for example, by its land use, slope, geologic formation, soil characteristics, and/or vegetation cover, etc., depending on which layers are examined. For these analyses, unless noted, the planning area was divided into a raster of 30 meter (98 feet) by 30 meter square cells, each cell 900 square meters (9,684 square feet) in area. As the data in the GIS are stored in meters, all figures for this chapter will be reported in hectares (ha) or meters (m) and converted to English units for convenience.

The data layers and analytical procedures described in this plan are subject to change as the park's scientific understanding and technological sophistication increase. This Land Protection Plan is meant to describe an iterative process that will incorporate new data and methods as they evolve. Although these analyses are not preliminary, they do represent a "first stage" that will continue to be refined and augmented. The basis for the analyses—the criteria—will continue to provide the framework for protection priorities.

Natural Resource Criteria

Core Habitat Many wildlife species, particularly carnivores such as bobcats, coyotes and mountain lions require large areas of suitable habitat for genetically and demographically viable populations. In addition, large contiguous blocks of habitat are more likely to encompass diverse habitat types and are more easily buffered from potential impacts from surrounding developed lands. There are several existing large patches of protected open space in the mountains. Protecting natural open space (i.e., undeveloped land) adjacent to or near these large patches will increase valuable protected core habitat area, which in turn can protect larger wildlife populations and potentially a greater diversity of species and communities.

A computer algorithm was used to identify patches of contiguous protected open space based on the NPS property ownership database. Land was considered "protected" if it was owned and managed for resource conservation by either a public agency (e.g. NPS, California Department of Parks and Recreation, The Santa Monica Mountains Conservancy) or private land trust (i.e., Mountains Restoration Trust). For the purposes of this analysis, protected habitat must not be divided by unprotected land or any of a set of assumed barriers to wildlife (i.e., high density rural development, medium to high density suburban land use, urban land use, freeways, large agricultural areas) to be considered a contiguous patch. Based on this analysis, the contiguous protected patches range in size from less than half a hectare (1.2 acres) to 9,017 ha (22,272 acres). The great majority of the 184 separate patches were less than 500 ha (1,235 acres) in size, while only seven of the protected patches were larger than 1,000 ha (2,470 acres). These large (> 1,000 ha) protected patches, representing

significant blocks of existing protected habitat were identified as “core” patches for the purposes of this plan (Figure 3.2).

It should be noted that the core habitat patches were defined based on existing protected habitat and do not necessarily represent minimum habitat requirements for viable populations of any wildlife species. For example, 1,000 ha will only provide habitat for about 14 bobcats. However, by focusing conservation efforts on expanding and linking these already sizable protected areas, the habitat needs of medium to large mammals are more likely to be met and the ecological advantages of large habitat blocks can be realized, future development notwithstanding.

Subsequently, unprotected open space in the planning area was scored by proximity to the seven protected core habitat patches using land use and land ownership data (see Table 3.1). First, grid cells were weighted according to the cell’s current protection status and an arbitrarily defined index of habitat quality (Table 3.2). Then a least-cost path algorithm identified lowest “cost” paths on the weighted grid between each cell of unprotected open-space to the nearest core. “Cost” in this sense does not refer to monetary cost, but to a presumed “cost” to wildlife moving from each cell to the nearest core habitat cell. The “cost” of each path, determined by the number of cells in the path (distance to core) and the cell weights (protection/development status), was then transferred to the source cell. As a result, each cell received a score dependent on its effective distance from core habitat (Figure 3.3). This “effective” distance incorporates geographical distance, potential wildlife barriers, land use and protection status between the cell of interest and the closest core patch. Cells adjacent to or very near core patches and relatively remote from existing development received the lowest effective distance scores and therefore identify areas of highest value and lowest cost for expanding core habitat patches.

As additional land is protected in the mountains and as development continues, the land use and land ownership data layers will be updated. This proximity to core analysis will be periodically repeated to accommodate changes in either of these databases. In addition, the park actively undertakes and fosters research into the effects of land use and habitat loss on wildlife populations. Current research may provide significant insights into problems such as: what constitutes a wildlife barrier, how habitat use is influenced by different land uses, how roads affect wildlife populations and the effects of urban edge on specific species. This information will, in turn, be incorporated into revised analytical methods and new data layers.

Connectivity Habitat linking core areas together can mitigate the detrimental effects of shrinking habitat availability and wildlife population isolation. Presently, habitat in the planning area consists of several large contiguous regions separated by heavily traveled freeways and suburban development. One possible goal in addressing this criterion is to link these existing regions by viable freeway crossings. Another goal (potentially more important) is to maintain high levels of habitat connectivity within these existing regions. An examination of the map of core protected patches (see Figure 3.2) can illustrate the

potential situation if all currently unprotected land were to be developed. Actual habitat area would be reduced to 184 separate patches and even the very largest of these patches would only be 9,017 ha (22,272 acres). Such levels of habitat loss and fragmentation would threaten the persistence of wildlife species that require large blocks of open space (e.g. bobcats, badgers, mountain lions), and expose the small patches in particular to potential impacts from surrounding developed areas. To limit the effects of habitat fragmentation, the main core protected patches could be linked together to increase the “effective size” of the protected habitat. Although such a network of linked patches would likely still be exposed to surrounding urban impacts, it would generally be preferable to separate patches and more likely support larger populations of large mammals and other wildlife species.

Potential habitat connections or “linkage areas” were defined using a procedure that employs a least-cost path algorithm to identify preferred linkages between the major protected core patches. Again, “cost” as used here does not refer to monetary price, but rather a combination of cost to wildlife and cost of protecting the linkage (i.e. how much already protected land is incorporated in the linkage areas). So, the “cost” of the linkages is based on the protection status of the land (i.e., unprotected land has a higher “cost”), the amount and nature of development in each cell and the distance or number of unprotected grid cells necessary to connect two or more cores via a specific path (i.e., more unprotected land equates to higher cost). Thus the resulting linkage areas were classified according to the practical cost of completing the connection (shortest unprotected distance) as well as an arbitrarily determined cost for wildlife dispersing through these areas (the less developed, the better). This analysis is similar to that previously described under the core habitat criterion and employs the same weights for land use and protection status (see Table 3.2). The lowest-cost paths connecting adjacent core patches are subsequently grouped into bands of cells or “linkage areas” (see Figure 3.3).

This analysis does not identify wildlife movement corridors, rather it identifies areas where high quality habitat connections can be most economically *maintained*. Protecting land within these linkage areas will more likely preserve connectivity. Thus, no linkage area can be identified between Core 2 and Core 6 (see Figure 3.2), as Core 6 is already isolated by surrounding development. Additionally, the analysis highlights areas which should be monitored and analyzed for habitat quality and wildlife usage. Linkage areas crossed by freeways (i.e., those linking Core 1 to Core 6 and Core 3 to Core 4) should be examined in the field for any realistic potential wildlife crossing points. Future analyses could then rely more on habitat attributes and actual wildlife habitat use and less on simple landscape configuration. Again, as additional land is developed or protected, the analysis can be repeated to revise priorities.

High Ecological Value The criterion for “ecological value” incorporates three separate layers of information: specific habitat features, biological diversity, and recent human disturbance (habitat quality). Layers for these three measures of ecological value are combined into an ecological value index (see Figure 3.3).

The first of these layers delineates specific habitat features or those landscape features which may serve critical needs of many plant and wildlife species. Potentially, many features could be considered in this analysis, however, complete information is currently maintained only on locations of two of these: riparian areas and rocky outcroppings. Streams provide a critical source of water in the semi-arid mountains and support a diverse collection of riparian plant and animal species. While the park has geographic data on location of streams in the mountains, this data layer is not classified or categorized in any way. In other words, the park has no information on the characteristics of the mapped streams that might make them valuable habitat features (i.e., does a stream contain water only after major storms or is it a perennial water source, for example). Thus, a database of riparian vegetation was used instead to identify locations of potential water availability. These data were acquired by the NPS through photo interpretation of 1982 true color aerial photography and updated by extensive field surveys conducted by the NPS between 1995 and 1997.

Rock outcroppings also provide important habitat for many species. Within the planning area, all rock outcroppings or rocky areas larger than one hectare were mapped from 1994 1:12,000 aerial photography. Where rocks were less than 200 meters (656 feet) apart, they were grouped together as one contiguous area in the database.

There are other potentially significant habitat features (springs, raptor nest sites, etc.), but current information about these features is limited and has not been collected systematically across the mountains. Other habitat features may be determined to be significant more is learned about individual species' ecological requirements. These gaps in the current database identify potential research and inventory priorities.

The second component of the ecological value criterion, biological diversity, may be addressed by examining the diversity of vegetation communities in an area. Areas with high diversity of vegetation species and structure generally support a greater range of species. Biological diversity can be measured directly, but would be cost-prohibitive to map throughout the mountains. However as an indirect measure of biodiversity, an index was calculated using proximity to vegetation community boundaries (see Figure 3.3). For instance, locations near multiple vegetation communities would score higher than those located in the middle of a large patch of a single vegetation type. Vegetation was mapped using a combination of 1993 Thematic Mapper satellite imagery, 1994 1:24000 and 1:12000 aerial photography and field inventory.

Habitat condition, or degree of disturbance, is the final measure of ecological value considered for this plan. In southern California, the major disturbance factor is human activity, which is more intense near roads, trails and other developments (Sauvajot 1997). The park's index of habitat condition was developed by classifying cells based on their remoteness from human disturbance (i.e., roads and rural, urban and agricultural development), taking into consideration the amount of development within a 750 m (2460 feet) radius around each cell. Additionally, disturbance in the inner 300 m (980 feet) radius area was weighted more heavily. Cells greater than 750 m from any development are

assumed to be undisturbed. In the resulting map, more remote areas receive higher habitat condition "scores" (see Figure 3.3). Future work in this area should include high resolution mapping of actual disturbances, such as fire breaks, unofficial trails, off-road vehicle damage and grading.

Sensitive species and communities The NPS is mandated to protect sensitive plant and animal species and rare vegetation communities. The species and communities of interest are identified in Chapter 2 (see Table 2.2) and include state or federally listed threatened or endangered species and California Native Plant Society (CNPS) species of special concern as well as vegetation communities classified as rare by the California Natural Diversity Data Base (California Department of Fish and Game 1986). While few systematic surveys for these species and communities have been undertaken, much reliable location/distribution information exists, particularly for plant species. Known locations of sensitive plant species and vegetation communities were mapped after consultation with local experts. Table 3.3 lists those sensitive species and communities which were considered for this plan. As the park compiles information on additional species and communities of interest, they will also be considered.

To define high priority areas for preservation of sensitive plant species and communities, each cell was encoded with the number of different species or communities found in a 225 m (740 feet) radius around that cell. Cells, whose neighborhoods contain federally listed (i.e., threatened or endangered) plant species automatically received the highest score.

There is less existing information about animal species distributions. The information that does exist is largely anecdotal. However, potential habitat can be identified based on existing locational data and knowledge of each species' ecological requirements. This kind of predictive modeling represents the next step in increasing park knowledge of both plant and animal species. Research is currently underway to collect information on habitat use of carnivores in the mountains. Funding is being sought for modeling potential distributions of threatened and endangered plant species based on their habitat requirements. Studies of other target species will be instituted as opportunities arise. New information will be added to the database as it is collected and analyses will be periodically repeated.

Natural system constraints The final natural resource criterion is not implemented at the current time, due to lack of data. However, efforts are underway to compile information on fire history, slope stability, soils, flood zones and geologic hazards (including faults and historic landslides). These data layers, which represent natural processes in the mountains, will be combined to produce a natural hazard index that would indicate threats to public safety. Ideally, this analysis will highlight areas where protection as public park land is not only ecologically desirable, but may be a more economical alternative to development.

Cultural Resource Criteria

Cultural resource criteria are being addressed differently than natural resource criteria. In most instances, the data layers to address the criteria have been or will be developed by experts and subsequently input into a digital database. Many of the defining characteristics of cultural resource significance depend upon expert knowledge. With some exceptions, the GIS will be used largely to store and integrate the cultural resource data rather than to actually model or derive it from existing base layers. The park is just beginning to compile information on archeological, ethnographic and historic resources into a usable digital format. To begin developing cultural protection priorities, the park has developed an interim base layer of the most significant sites and landscapes. This layer will continue to be expanded by adding additional known or newly-discovered sites or landscapes determined to be significant and descriptive information such as site themes, threats, uniqueness or rarity and National Register significance. As information is added to the NPS database, it will be considered in developing park protection priorities as described below.

Presence or potential presence and National Register significance of cultural resources. For this plan, an interim data layer of the most important cultural sites was developed by a focus group including Chumash and Gabrielino representatives, archeologists, historians and anthropologists. This layer represents largely archeological village sites, important pictographs and highly valued ethnographic resources. This was combined with a layer of all known archeological sites in the mountains. To identify culturally significant areas, the number of sites within a 225 m (740 feet) radius neighborhood was tabulated and each cell was scored with this figure. The values ranged from zero to 18. Cell neighborhoods that contained one of the most significant sites (see above) automatically received a high score of 19. This layer was subsequently rescaled to range from zero to ten, with ten marking the most culturally significant areas (as identified by the focus group) and lower values representing the relative number of known archeological sites in the cell neighborhood (Figure 3.4).

As mentioned above, the NPS is in the process of systematically compiling GIS data layers for archeological, ethnographic and/or historic resources in the mountains and vicinity. The information comes from a variety of sources, including local, state and national lists, local experts, local Native American representatives, scientific literature and field survey. Cultural significance of these resources will be systematically defined by resource experts, scientists and Native Americans based upon National Register Criteria (see Chapter 2). These criteria are used to identify historic context, type and level of significance and the integrity of resources. Although many cultural sites and landscapes have not been nominated to the National Register, the park will treat all cultural resources as potentially eligible until otherwise demonstrated. In the future, predictive modeling will also be used to identify areas of likely archeological significance—analogueous to modeling potential sensitive species locations.

Representation of cultural resource themes As the cultural resource database grows, each specific site or landscape record will be attributed with the cultural theme(s) portrayed by the resource. These themes have been identified in the *Resource Management Plan* (NPS 1994) and are listed in Table 2.5 (see Chapter 2). Under this criteria, sites representing multiple themes have higher priority. Additionally, the themes themselves will be assessed on a nationwide basis as well as throughout the planning area to determine whether sufficient examples have been protected for each theme. Cultural themes consisting of largely unprotected resources or themes of national interest not preserved elsewhere in the National Park System will impart a higher priority than those with good representation and high protection status.

Recreational Resource Conservation Criteria

Extensive public and private recreational opportunities already exist throughout the recreation area, including campgrounds, picnic areas, interpretive sites, equestrian facilities, public beaches and over 400 miles of publicly-owned trail. As additional land is protected, these opportunities will continue to expand. A functioning natural system of native plants and wildlife is critical to the recreational experience in the Santa Monica Mountains, as are the presence of cultural sites and landscapes. Consequently, this plan emphasizes protection of resource values as a means of enhancing recreational values. However, there are still significant holes in several of the major recreational networks identified in local, regional and park planning documents. Filling these remaining gaps is a park priority. Initial analyses will consider only the second of the three recreational criteria (i.e., regional trail networks). The remaining two will be addressed as existing data are compiled in digital form and as future planning efforts identify additional high priority examples.

Resource-based recreation It is likely that future analyses will incorporate additional recreational resources. This will depend, in part, on gaps in the recreational opportunities available in the mountains identified in the park's upcoming *General Management Plan*. Initial emphasis will be on major recreational and educational staging areas identified by considering public access, proximity to population centers, proximity to existing major park sites, existing facilities, site suitability (slope and other development constraints), educational value and level of potential resource impact.

Regional trail networks The recently completed Santa Monica Mountains Area Recreational Trails Coordination Project (SMMART) has identified missing links in major trail networks throughout the Santa Monica Mountains and Simi Hills (Figure 3.5). These data are described in the *SMMART: Final Summary Report* (1997). In some cases the "missing" trail actually exists, but is not open to the public. In other cases unprotected trail corridors have been defined, but are not limited to existing trails. Both types of "missing" trail linkages are incorporated in this plan. Trail corridors (where no trail actually exists) were identified by 500 m (1640 feet) buffers on either side of the potential trail location as defined by SMMART. Existing trails were not buffered. Highest priority under this

criterion is given to completing two major regional trails: the Backbone Trail and the Simi-to-the-Sea Trail. Future trail assessment and planning efforts will add to and refine this information for later analyses.

Regional scenic value The Santa Monica Mountains also provide spectacular scenic overlooks and views of rugged ridgelines and chaparral covered hillsides to nearby residents as well as the visiting public. Although the entire area could be described as scenic, some viewsheds are particularly important to the character of the park and the entire region. These have been documented and mapped by various planning efforts ranging from local jurisdiction general plans to regional plans. Such documented scenic resources will contribute to priority rankings as they are added to park databases. Additionally, efforts are also underway to initiate a more systematic survey of significant scenic value throughout the mountains using accepted methods for identifying these resources.

How Protection Priorities Are Developed

Once layers are developed for each criterion, they are integrated to identify areas of exceptional resource value. The general process is illustrated in Figure 3.6. First, the value scale for each layer is standardized between zero and ten, the latter being the most valuable or highest priority. A score of zero means that a cell has little or no value under that specific criterion. The individual criterion layers are added together to form separate natural, cultural and recreational resource layers. Again, the scores for these three layers are reclassified between zero and ten. In addition, the individual criterion layers are added together to form a single integrated resource layer.

These integrated map layers (Figure 3.7) will show where significant resources coincide in the mountains, identifying areas where the highest cumulative resource values can be protected. In order to develop priorities, however, it is also necessary to address resource criteria separately. High scoring areas for each of the criteria as well as for each of the natural, cultural and recreational resource layers will need to be considered. This will ensure that highly significant resources—endangered species locations, important cultural sites or unprotected stretches of the Backbone Trail, for example—will be considered even though the areas they occupy may not rank highly under other criteria. Evaluating layers separately also allows park managers to effectively define priorities within the parameters set by specific projects or targeted funding areas, such as completion of the Backbone Trail.

The methods described in the previous pages were developed to address the conservation criteria to the best of the park's ability—evenly and consistently and making use of the best available data. Both analysis methods and results will change with new data and scientific knowledge. For each criterion, future steps were identified after which data will be updated, analyses repeated and methods revised to make better use of new information. As these steps are taken, new priorities for research and monitoring will be identified and new projects

developed. Thus, the analysis methods described in this Land Protection Plan will not only identify land protection priorities, but will define critical information and research needs.

Clearly, park knowledge and available technology will continue to expand. Next year it will be possible to make more informed decisions than this year. However, while the park's base of data and scientific understanding is still incomplete and will always remain imperfect, information has never been as accessible to resource managers as it is now and the basis for making decisions is better than ever. The sooner this new understanding of the Santa Monica Mountains is applied, the more likely the natural and cultural resources are to be protected.

Table 3.1. Base data and resource data used in Land Protection Plan analysis

Data Layer	Date	Data Collection Methods & Sources	Scale/Resolution
Archeological Sites	1995	Mapped on 1:24,000 USGS topographic base. Some locations mapped using differentially corrected GPS.	1:24,000
Ethnographic Areas	1997	Mapped on 1:24,000 USGS topographic base. Data developed by NPS	1:60,000
Historic Sites	1998	Mapped on 1:24,000 USGS topographic base. Data developed by NPS.	1:24,000
Land Use	1993	Mapped through interpretation of 1:24,000 true color aerial photography. Transferred to 1:24,000 USGS topographic base. Data developed by Southern California Association of Governments (SCAG).	1:24,000; 5 acre minimum mapping unit (MMU), 2.5 MMU for sensitive uses
Missing Trail Linkages	1996	Mapped using NPS trail data and 1:24,000 USGS topographic base. Data developed by NPS (Santa Monica Mountains Area Recreational Trails Coordination Project [SMMART]).	1:24,000
Native Grass Communities	1996	Centerpoints mapped in field using differentially corrected GPS. Data developed by NPS	3-10 m accuracy
Property Ownership	1998	Mapped on USGS 1:24,000 scale topographic base by NPS.	1:24,000
Public Trails	1994-1997	Trails mapped in field using Global Positioning System (GPS). GPS data differentially corrected. Data developed by NPS.	3-10 m accuracy
Riparian Vegetation	1994-1998	Boundaries mapped from 1:12,000 1983 true color aerial photography. Polygons verified and dominant species mapped in field. Data developed by NPS.	1:24,000
Rock Outcroppings	1994	Mapped from 1994 aerial photography. Digitized on Spot Image base (1:50,000). Data developed by NPS.	4 ha MMU; 1:50,000 scale image base
Sensitive Plant Species	1997	Locations taken from California Natural Diversity Data Base (CNNDDB) and verified by local botanists. Additional locations mapped by local botanists on 1:24,000 USGS base or by differentially corrected GPS locations. Data developed by NPS.	1:24,000; 3-10 m accuracy for GPS locations

Table 3.1. Base data and resource data used in Land Protection Plan analysis (continued)

Data Layer	Date	Data Collection Methods & Sources	Scale/Resolution
Los Angeles County Transportation Features	1990	Mapped on 1:12,000 aerial photography and transferred to 1:24,000 USGS topographic base. Data developed by Thomas Bros. Maps, Inc.	1:24,000
Ventura County Transportation Features	1995	Mapped on 1:12,000 aerial photography and transferred to 1:24,000 USGS topographic base. Data developed by Thomas Bros. Maps, Inc.	1:24,000
Vegetation Cover	1993-1995	Mapped by classification of 1993 Landsat Thematic Mapper imagery. Some vegetation communities mapped in the field on 1:24,000 orthophotos. Data developed by NPS.	30 m resolution; 5 acre MMU

Table 3.2 Weights Used in effective distance-to-core and disturbance models (These weights were used in analysis to address the core, connectivity and ecological value [habitat quality] criteria.)

Land Use/Protection Status	Cell “Cost”
Protected open space	1
Unprotected open space	3
Rural	10
Low density residential	10
Agriculture	10
Other development	50
Water	no data

Table 3.3 Sensitive plant species and vegetation communities incorporated in current analysis

PLANTS		
Species Name	Federal*	State**
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> salt marsh bird's-beak	FE	SE
<i>Pentachaeta lyonii</i> Lyon's pentacheata	FE	SE
<i>Astragalus brautonii</i> Braunton's milk-vetch	FE	-
<i>Dudleya cymosa</i> ssp. <i>marcescens</i> marcescent dudleya	FT	SR
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i> Santa Monica Mtns. dudleya	FT	-
<i>Dudleya abramsii</i> ssp. <i>parva</i> Conejo dudleya	FT	-
<i>Dudleya verityi</i> Verity's dudleya	FT	-
<i>Eriogonum crocatum</i> Conejo buckwheat	FSC	SR
<i>Hemizonia minthornii</i> Santa Susana tarplant	FSC	SR
<i>Calochortus plummerae</i> Plummer's mariposa lily	FSC	-
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i> dune larkspur	FSC	-
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	FSC	-
<i>Dudleya multicaulis</i> many-stemmed dudleya	FSC	-
<i>Lasthenia glabrata</i> var. <i>coulteri</i> Coulter's goldfields	FSC	-
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's Spineflower	FSC	-
<i>Atriplex coulteri</i> Coulter's saltbush	-	SS
<i>Nama stenocarpum</i> mud nama	-	SS
<i>Senecio aphanactis</i> rayless ragwort	-	SS
<i>Thelypteris puberula</i> var. <i>sonorensis</i> Sonoran maiden fern	-	SS
<i>Boykinia rotundifolia</i> round-leaved boykinia	-	SS
<i>Calandrinia maritima</i> Seaside calandrinia	-	SS
<i>Cercocarpus betuloides</i> var. <i>blancheae</i> island mountain-mahogany	-	SS

Table 3.3 Sensitive plant species and vegetation communities incorporated in current analysis (continued)

Species Name	Federal	State
<i>Juncus acutus</i> ssp. <i>leopoldii</i> southwestern spiny rush	-	SS
<i>Lepechinia fragrans</i> fragrant pitcher sage	-	SS
<i>Polygala cornuta</i> var. <i>fishiae</i> Fish's milkwort	-	SS
<i>Baccharis malibuensis</i>	-	SS
VEGETATION COMMUNITIES***		
Community Name (Holland 1986)		
California walnut woodland		
Southern coast live oak riparian forest		
Southern cottonwood willow riparian forest		
Southern mixed riparian forest		
Southern riparian forest		
Southern riparian scrub		
Southern sycamore alder riparian woodland		
Southern willow scrub		
Valley needlegrass grassland		
Valley oak woodland		

* FE = Federal endangered; FT = Federal threatened; FPE = Federal proposed endangered; FPT = Federal proposed threatened; FSC = Federal species of concern (former C1 and C2)

** SE = State endangered; ST = State threatened; SCE = State candidate endangered; SCT = State candidate threatened; SR = State rare species; SS = State sensitive species (includes NDDB Special Plants, California Species of Special Concern, etc.)

*** Terrestrial vegetation community types tracked by the California Natural Diversity Data Base (California Department of Fish and Game 1996)

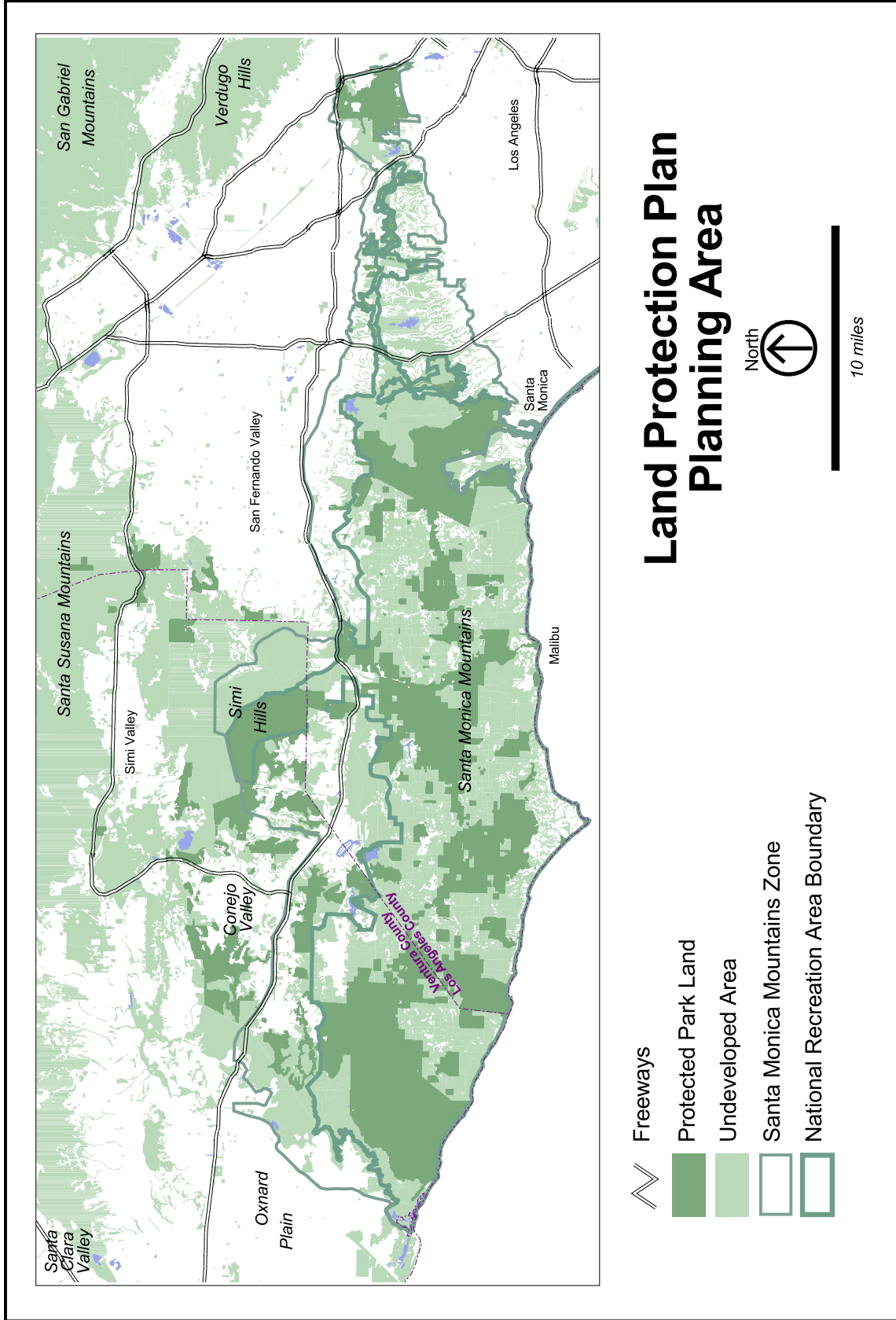


Figure 3.1 Planning Area

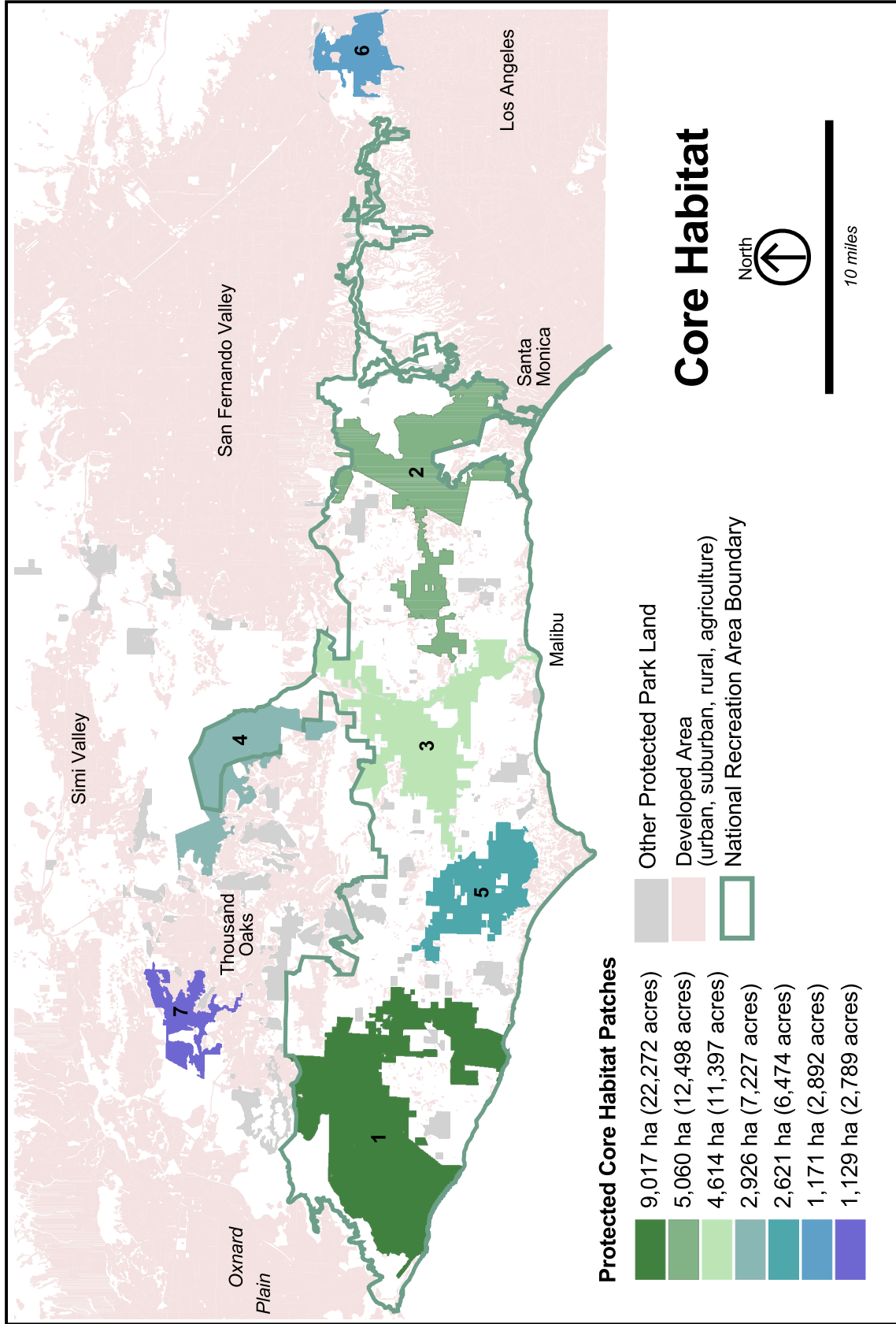
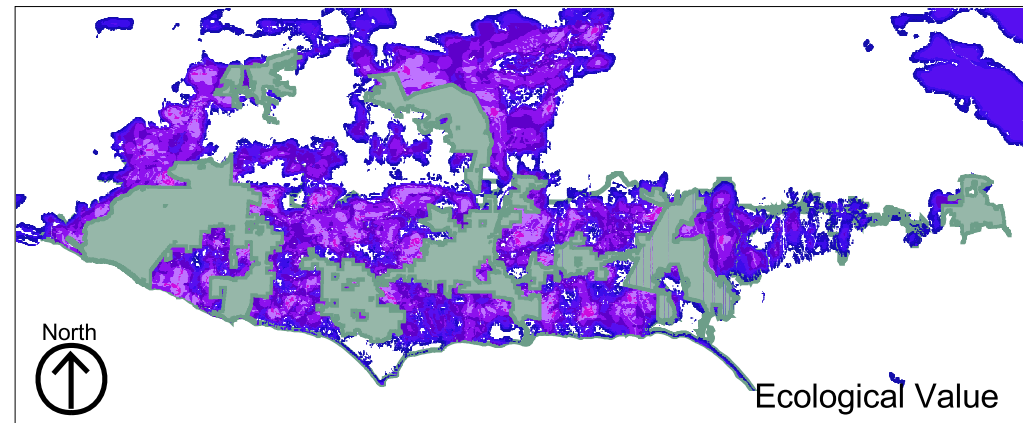
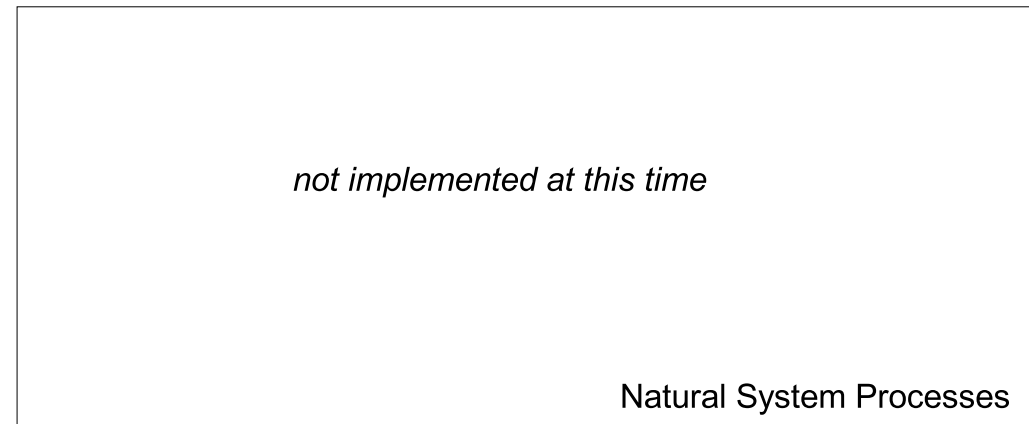
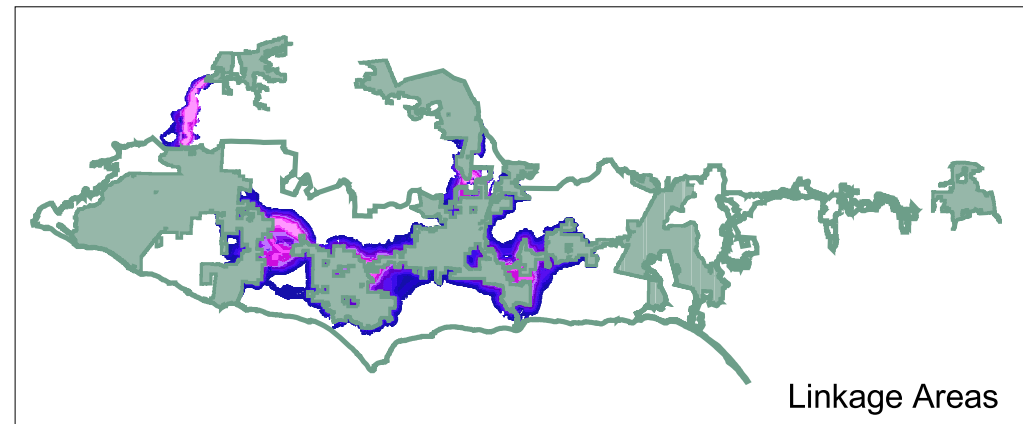
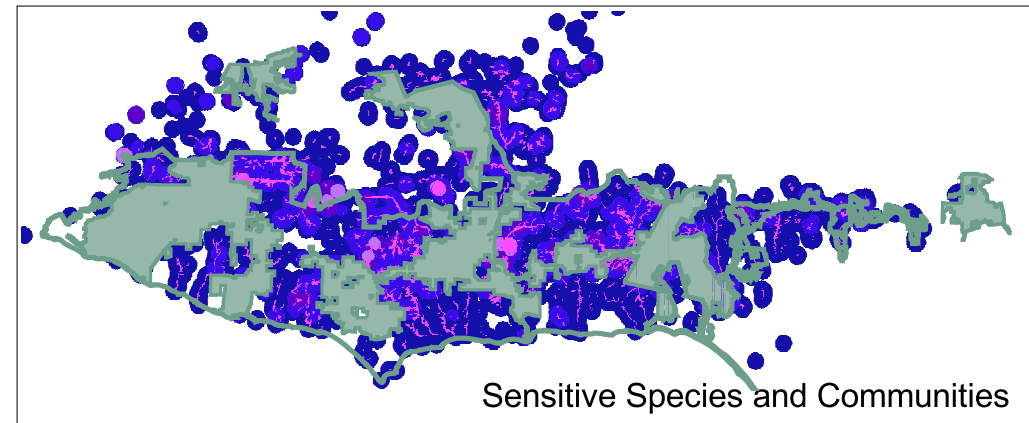
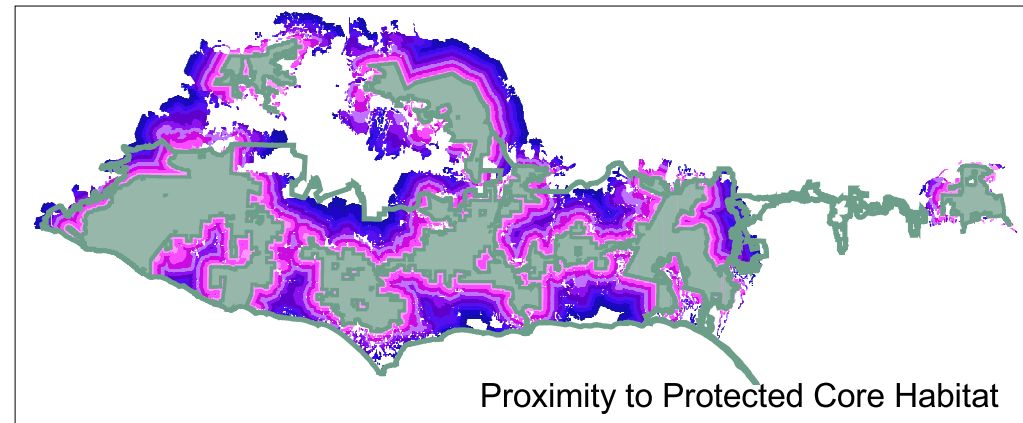


Figure 3.2 Core Protected Habitat in the Santa Monica Mountains and Vicinity



Natural Resource Criteria



Figure 3.3 Natural Resource Criteria Layers

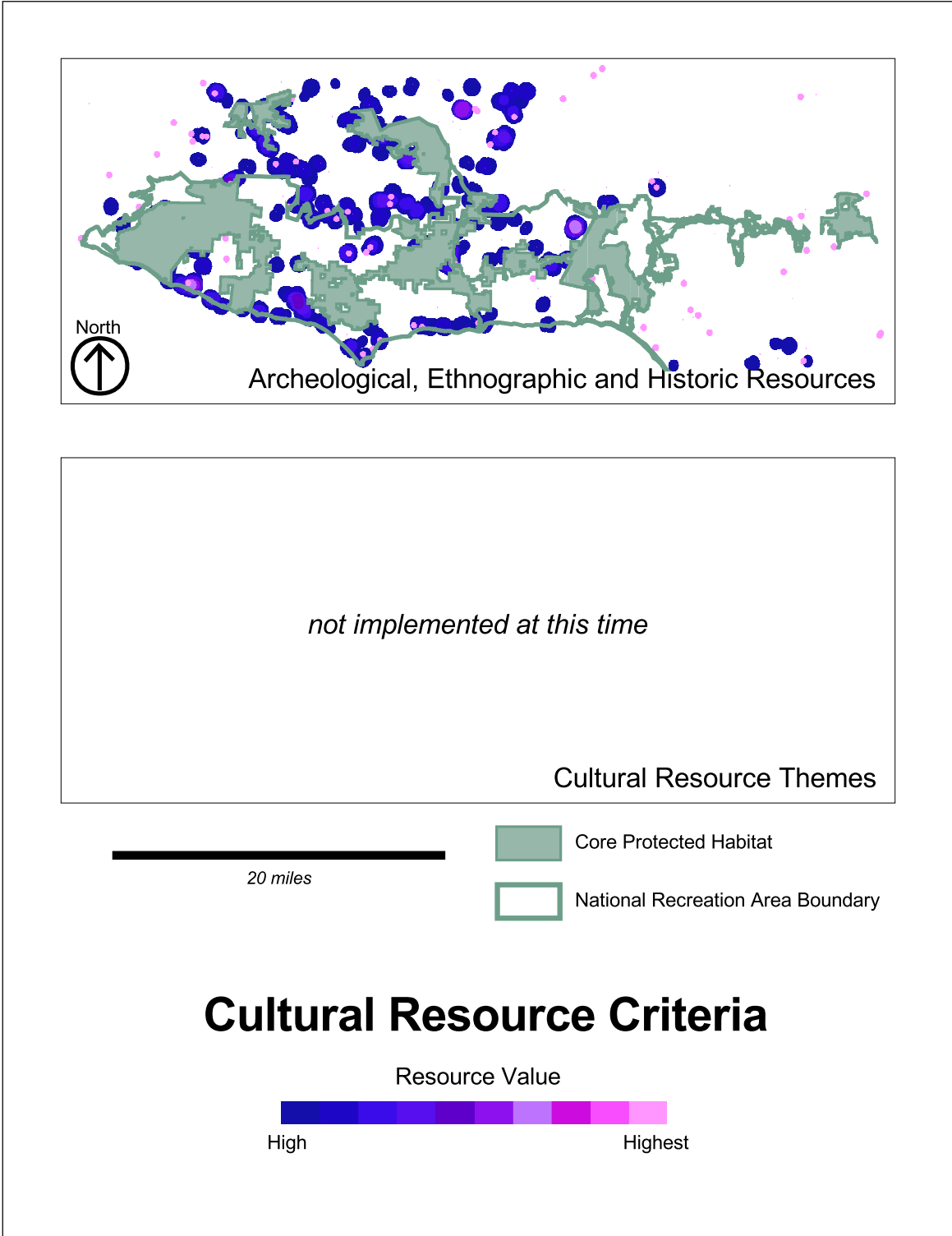
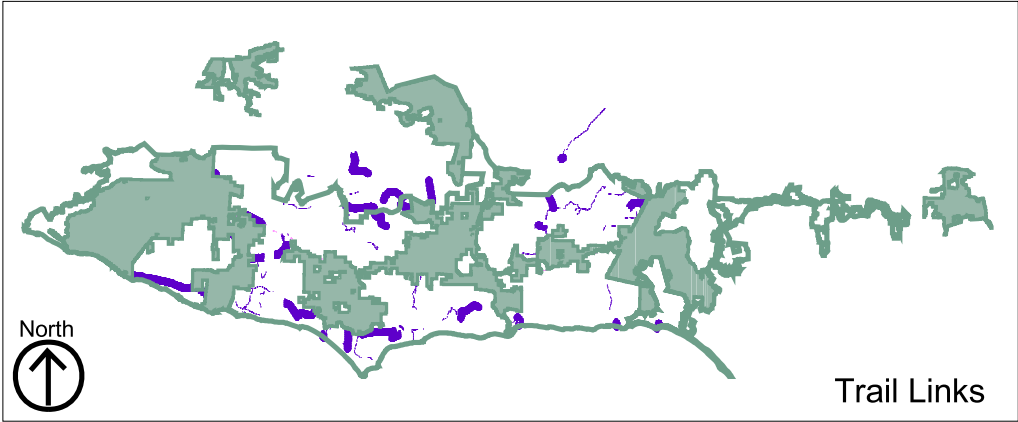


Figure 3.4 Cultural Resource Criteria Layers

not implemented at this time

Resource-based Recreation



not implemented at this time

Scenic Resources

Recreational Resource Criteria

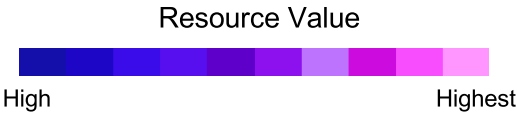


Figure 3.5 Recreational Resource Criteria Layers

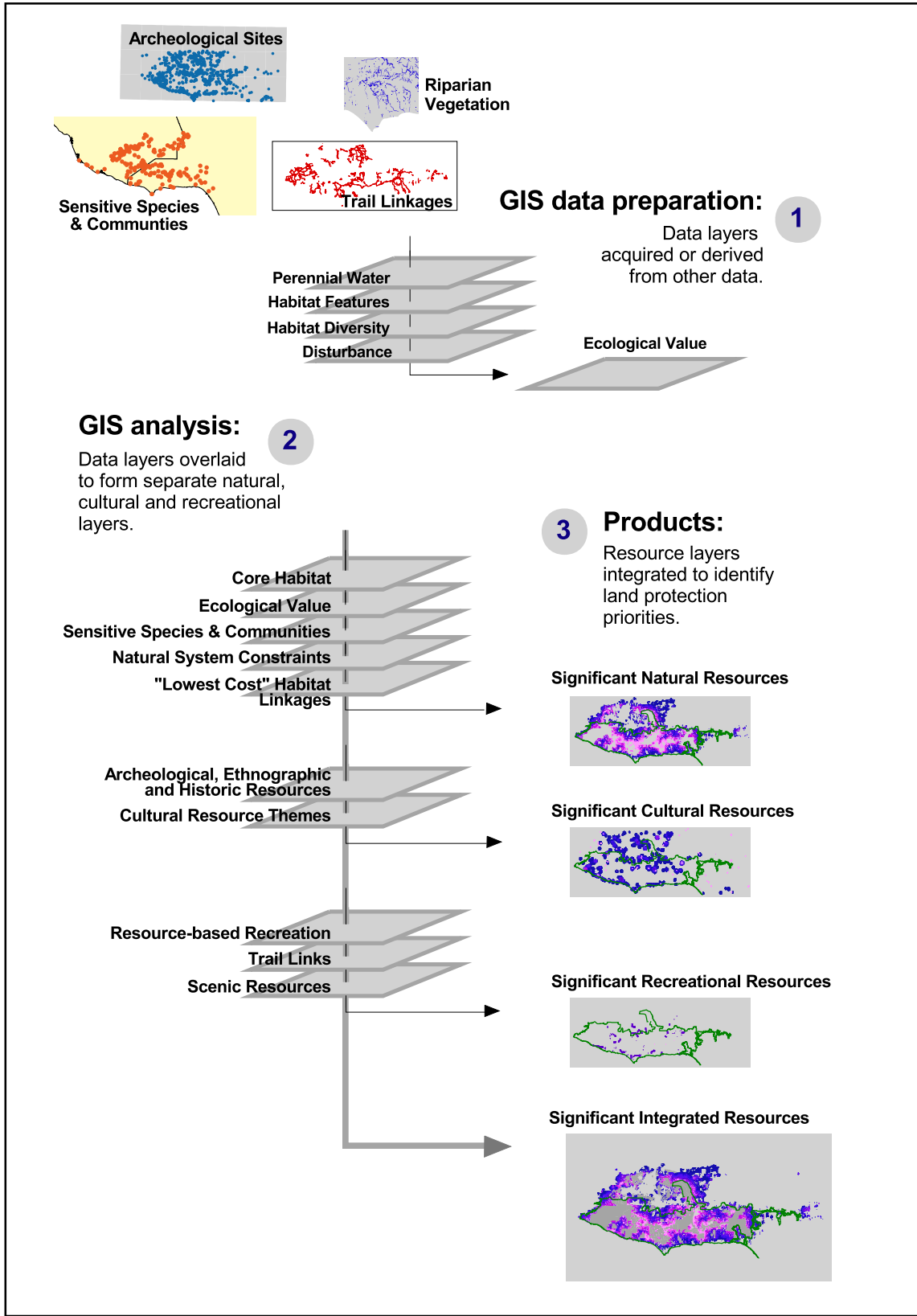
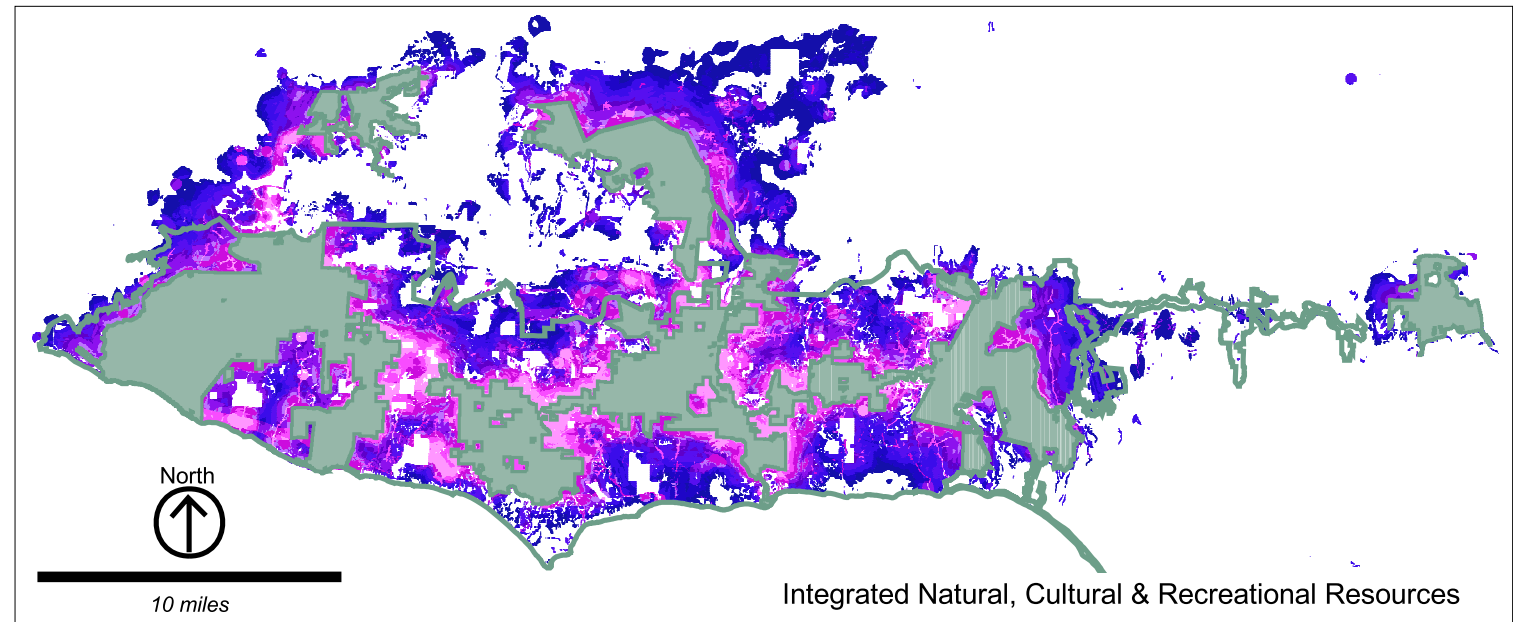
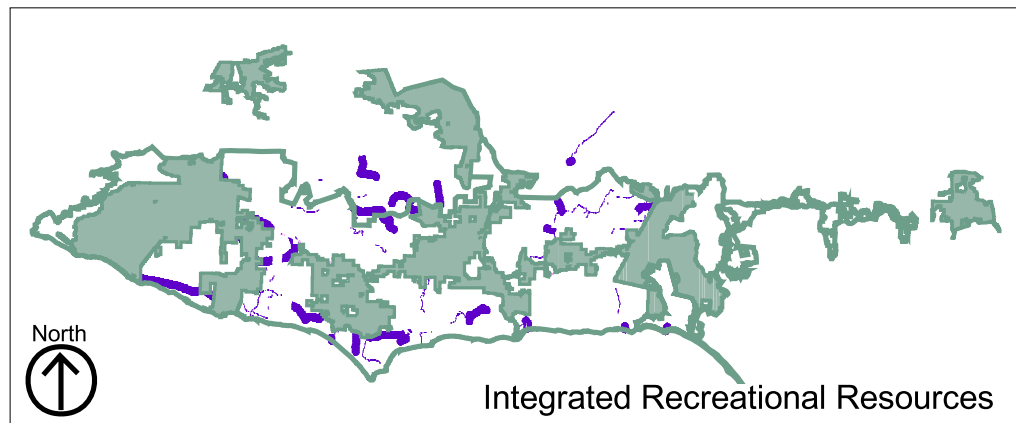
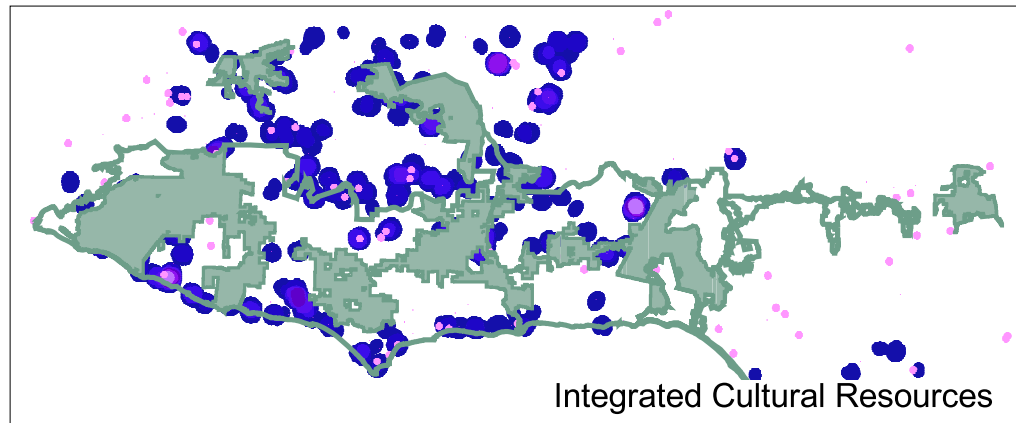
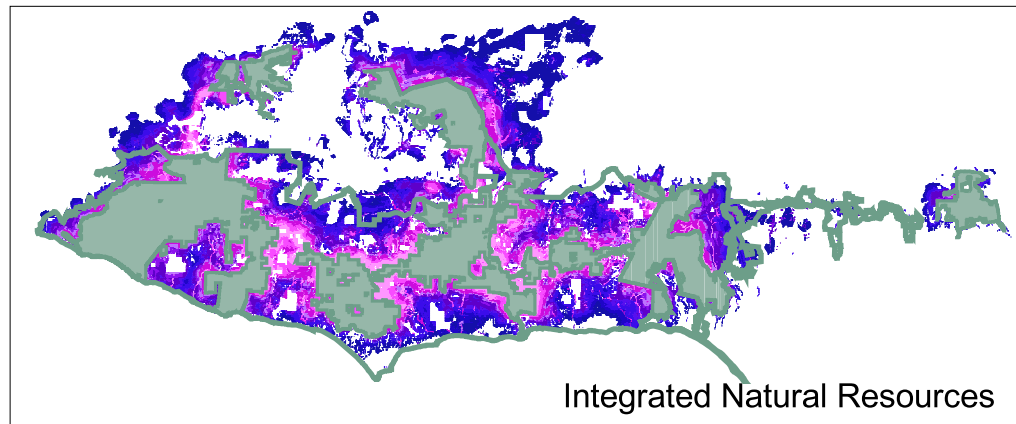


Figure 3.6 Overview of Analysis Process



Integrated Resource Layers

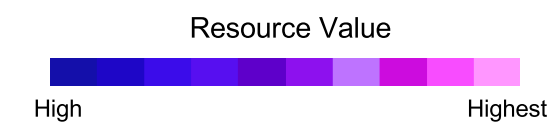


Figure 3.7 Integrated Resource Layers.

Chapter 4: Implementing the Plan

This chapter presents implementation strategies to protect land and resources on the ground. Overall, it is the process of this Land Protection Plan, where resource values reflecting the best available data drive land protection priorities, that make this update unique and critical for long-term resource preservation in the Santa Monica Mountains National Recreation Area. Effective land protection for the Santa Monica Mountains during the forthcoming decade will require cooperation, flexibility and innovation. Because of the anticipated limitations in federal and state funding, any available government funds should be leveraged wherever possible and applied to the very highest priority needs. Most land protection will result not from land purchases by the federal government, but rather from cooperative actions arising from a convergence of interests among the park, state and local agencies, communities, property owners and developers.

Many of the protection and acquisition alternatives discussed in this section are based on recognition of a common interest between the property owner and the recreation area. In order for this convergence to be effective, property owners must understand the values, purposes and goals of the park and of the particular resource values of their private tracts. Where development is being considered, this information must be conveyed early and effectively to landowners, before funds are committed to planning and design.

Land Protection History

The legislated boundary of the national recreation area encompasses 150,050 acres. To date over 60,000 acres have been protected as park land. Establishing legislation for the park envisioned a cooperative effort among local and state entities and the National Park Service (NPS) to preserve the “significant scenic, recreational, educational, scientific, natural, archeological, and public health benefits provided by the Santa Monica Mountains and the adjacent coastline.” The current mix of park land ownership demonstrates the local, state and federal commitment toward a cooperative protection effort (Table 4.1).

The 1982 Land Protection Plan provided a framework and priority structure to guide land acquisition in fee or easement in order to meet the enabling legislation protection goal. In addition, the plan recognized a cooperative planning zone which encompassed activities that were consistent with the values defined by the park’s establishing legislation.

Since 1978, when the recreation area was created, \$152 million of federal Land and Water Conservation Fund (LWCF) moneys have been spent to acquire 21,650 acres. The LWCF appropriation has fluctuated throughout the park’s history and in recent years has declined due to efforts to balance the national budget. The Santa Monica Mountains Conservancy (SMMC), a state agency, has spent \$98 million since 1979 to purchase 6,750 acres of park

land. Los Angeles County passed park bond acts in 1992 and 1996, with the latter providing \$15.5 million for park lands acquisition (administered by the SMMC). The balance of park lands to be acquired, just over 34,000 acres, presents a significant challenge that can only be met with a broader mix of willing-owner market-based approaches, continued fee acquisition approaches and federal land exchanges.

What Land Protection Methods are Available

Improved decision-making represents little if it is not followed by effective implementation. The new Land Protection Plan, therefore, also examines a broader range of protection strategies than simple fee acquisition. Better understanding of resource and recreational values at risk will enable the NPS to better assess possible uses of easements. Quicker and more extensive resource information will allow for effective dissemination of the park's analyses, conclusions and recommendations to other agencies, communities and landowners, including eventual public access to park databases. This broader access and utilization of complex information may also better support alternative land protection strategies, such as habitat conservation banking.

In some cases management objectives clearly dictate the land protection method. For example, a tract of land identified to be preserved as critical habitat, that cannot be developed or otherwise used for economic purposes without compromising habitat quality, must be acquired in fee either by the NPS or by another agency or organization capable of making a permanent commitment to preserving habitat values. Similarly, a tract identified for use as a developed recreation site or an administrative site, where private economic uses are impractical, also needs to be acquired in fee.

There may be more flexibility in the choice of methods for properties with different management objectives. For example, a tract whose management objective is preservation of scenic values or preservation of the cultural landscape may be protected by easement acquisition (by the NPS or others), local land use regulation, or agreements. Using these alternatives, land protection and compatible private objectives can both be realized.

It is important to understand the difference between *protection* methods, which are determined in large part by management objectives, and *acquisition* methods, which are a means of acquiring interests in land. It is important to recognize that the preferred protection method may not be practical in the rapidly evolving real estate market with private owners and developers moving to develop properties that are currently wildland habitat.

Land Protection Alternatives

Land Acquisition

Fee Acquisition This is the traditional acquisition method, whereby the NPS acquires a parcel of land from a private landowner based on an approved independent appraisal (done to federal standards) that reflects the appraised fair market value of the parcel to be acquired. Historically, the majority of land obtained by the NPS has been by fee acquisition at appraised market value, and it is reasonable to expect that NPS fee acquisitions will continue to occur.

Exchanges The federal government holds a considerable amount of land in California, and not all of the tracts will be retained permanently. However, such possibilities are extremely limited over the foreseeable future given the need to exchange non-federal lands at Death Valley, Joshua Tree and East Mojave pursuant to the California Desert Protection Act. As land becomes surplus to government needs, it may in some cases be exchanged for property held by private individuals and local government agencies. Exchanges that involve federal lands in other states require the concurrence of Congress. Land owners wanting to pursue exchanges for federal lands can work with the NPS Pacific Land Resources Program Center office in San Francisco. Public agencies holding land are the most probable participants for land exchanges—the Los Angeles County Sanitation District and the Los Angeles Department of Water and Power are two significant land owners which may be willing to pursue land exchanges.

Interagency Transfers These are transfers of land between one federal government agency and another. In some cases these transfers can be made on an administrative basis, while in other cases legislation is required. A total of 559 acres of land within the recreation area has been transferred to the NPS from the Bureau of Land Management and the U.S. Army.

Private Land Donations Land donations can be a valuable land acquisition method with a convergence of interests between the park and the landowner. The donor obtains the satisfaction of contributing to a larger social goal or ensuring preservation of a valued family heritage and receives tax benefits that, in many cases, can significantly reduce the real cost of the donation for the donor. A partial donation is referred to as a “bargain sale” and holds a tax benefit opportunity for private landowners. Partial donations may be a useful approach to stretching limited federal land acquisition funding in cooperation with landowners, who are not in a position to provide a full donation.

Developer Dedications Such dedications can be an important source of park land in the Santa Monica Mountains area, where urban/suburban development is proceeding. Land use regulation processes may identify portions of land blocks which are appropriate for preservation or recreation use through dedication to the national recreation area or another public agency. The weakness of this approach is that dedications or open space set asides associated with development activity are often not deed restricted and further development

can take place at a future date. This problem was identified in the draft *Los Angeles County Ventura Corridor Area Wide Plan* (LSA Associates, Inc. 1996) and will require intergovernmental cooperation to ensure that dedications are deed restricted as irrevocable conservation easements.

Reservations of Use and Occupancy The enabling legislation (see Appendix A) provides for continuation of single family residential and agricultural uses through reservations of use and occupancy. Properties which were improved with dwellings and/or which had agricultural operations in effect prior to January 1, 1978, are guaranteed the right of reserved use if the landowner desires. The cost of the single family residential use is based upon a charge of one percent per year times the value of property reserved for private use. The cost of the agricultural reservation is based on the present worth of the net income that the particular agricultural use is expected to generate over the reserved period.

Two types of reservations may be used in the Santa Monica Mountains:

1) Term Reservation of Use and Occupancy. Specified term reservations are available for a period up to 25 years. Reservations would include restrictions to assure protection of unit resources. In case of death, the remaining term of occupancy right passes to the heirs or assigns.

2) Life Estate. The cost of this right is based on one percent per year times the value of the property reserved for private use for each year of expected life, determined on life expectancy tables. In the case of co-owners, the term or period of the estate is set by the longest life expectancy. When the last of the co-owners dies, the reserved right terminates.

A life or term estate allows an owner to retain possession of a property for the rest of his or her life, or a specified term up to 25 years, with the property ultimately being transferred to the park. The value of the reserved estate is deducted from the purchase price of the property, reducing the cost of land acquisition. This approach often works with parks because there is a convergence of interest with the short-term life of individuals and the long-term life of parks.

Condemnation (eminent domain) The federal government has the authority to acquire private property through the federal court system when needed for public uses. A judicial process assures the landowners just compensation when private land is acquired through condemnation action. Condemnation has been used infrequently by the NPS to prevent significant adverse impacts to critical resources, or to engage judicial resolution over questions of land values or rights. This option has never been exercised in the Santa Monica Mountains by the NPS.

There are two types of condemnation actions—complaint and declaration of taking:

1) Complaint. Title to the land does not pass to the government until the court or jury has determined the amount of just compensation and this amount has been paid to the owner. In the meantime, the owner retains full legal rights of ownership, including the right to manage

and dispose of the property. If the government believes the award is too high, it may refuse to pay and will dismiss the case from condemnation. In the latter event, the government must pay the owner's attorney fees and other litigation costs. The complaint process is used if: a) the government and the landowner are unable to arrive at an agreement as to the value of the property, b) the landowner refuses to sell his or her property and it is considered essential for the purposes of the national recreation area, or c) there is a question about the title that needs to be cleared in the courts.

2) Declaration of Taking. This type of condemnation involves the filing of a declaration of taking along with the complaint. The government deposits the amount at which it estimates just compensation with the court at the time of filing, and title to the land passes to the government at that time. The court will usually allow the deposit to be withdrawn by the landowner soon after the deposit is made. If the trial determines a different amount as the actual award of just compensation, the difference must be paid, as appropriate, to the government or the owner with interest. The government may not dismiss the case unless the owner agrees, but must pay whatever amount is awarded by the court or jury. The government obtains immediate title, control, and possession of the land in a declaration of taking. A declaration of taking is used a) when a land use change is imminent on a parcel on which the NPS has begun an appraisal and the owner is unwilling to delay the adverse action until negotiations have been completed, b) when impacts of an imminent land use change on a parcel of property within the fee or easement areas are great enough to cause a substantial adverse impact on the national recreation area and negotiations to acquire the land are unsuccessful, or c) when there is a cloud on the title that must be cleared by the courts in a transaction involving a willing seller.

Less-than-fee Acquisition Less-than-fee acquisition, including easements and purchase of development rights, provides a method for ensuring that the park management objectives are realized while compatible private uses of the land continue. Less-than-fee interests are generally acquired, either by purchase or as an easement dedication for trail or access purposes required by local governments, as a condition for issuing a development permit.

Other Land Protection Approaches

Agreements Agreements are legal instruments defining administrative arrangements between two or more parties. They can provide for an exchange of services or other benefits. Within park unit boundaries, agreements are most likely to be useful for land owned by other government agencies, non-profit organizations, and individuals and corporations supportive of park objectives. The terms of an agreement might include provision for the following:

- Allowable land uses/unacceptable land uses.
- Limited NPS access to manage natural or cultural resources.
- Shared responsibility for maintenance of structures or facilities.
- Public access for recreation or education.
- Conditions for management of wildlife or other resources.

Agreements may be useful interim land protection tools when more permanent methods such as fee or less-than-fee acquisition cannot be immediately implemented.

Habitat Conservation Banks Agencies charged with preserving biological diversity are increasingly looking beyond mitigating development impacts on individual tracts toward preservation of viable ecosystems. This approach often leads to re-locating mitigation of development impacts off-site to blocks of land where maintaining ecosystem integrity may be more achievable. Hence, a developer inside or outside the Santa Monica Mountains boundary could be offered the opportunity to mitigate the adverse impacts of development through purchase of equivalent habitat credits from a land bank within the recreation area. When fully vested through mitigation credits (i.e., the fronted purchase cost of the land is paid off by developers) the lands are transferred to a public park agency. This approach would require that the counties and cities within the Santa Monica Mountains Zone support the creation and use of land banks managed by private entities.

Transfer Development Rights Development rights transfers, variation on local zoning, offer a market-based means of encouraging more clustered development in areas best suited for such use and the preservation of land with environmental amenities and factors such as steep slopes and floodplains which are counter to efficient development. The California Coastal Commission has pursued a program to retire small lots in the coastal zone by requiring purchase of transfer development credits by developers doing a property split to prevent a net gain of lots in the coastal zone. The Mountains Restoration Trust and the California Coastal Conservancy have also been active agents in this program.

Land Use Regulations Land use regulations originate from the federal, state, or local level and may take a variety of forms. One of the most familiar and extensive forms of such regulation is zoning, which serves to control the density, type, location and character of private development. Zoning may in some cases provide for a type of land use which is fully consistent with recreation area objectives and thereby provide for adequate protection. One well-recognized problem with zoning is the relatively short time horizon during which zoning schemes can collapse given political, demographic and market force changes.

Los Angeles and Ventura County land development regulations provide controls over grading, building design, provision of water and sewage and other aspects of site development, with a view toward protecting visual, ecological and other environmental factors. The effectiveness of these regulations have been mixed.

Other regulations also control land use and serve the purpose of land protection. Land division regulations, for example, provide guidelines for subdivisions and require review of the environmental consequences of such subdivisions. Regulations related to control of air and water pollution, protection of fish and game, flood control, wetlands protection, coastal zone management, etc., may also have relevance to land protection. Some of the laws relevant to land protection include:

- Clean Air Act (1963)

- National Historic Preservation Act (1966)
- National Environmental Policy Act (1969)
- California Environmental Quality Act (1970)
- Porter-Cologne Water Quality Control Act (1970)
- Coastal Zone Act (1972)
- Federal Water Pollution Control Act (Clean Water Act) (1972)
- Endangered Species Act (1973)
- California Coastal Act (1976)

Technical Assistance The provision of technical assistance can sometimes be an effective land protection technique. Those who seek out homesites or work sites in the Santa Monica Mountains often want to help preserve the environmental features that make the area attractive. In many cases, timely advice to developers on location and design can protect important resource values. Such advice is particularly valuable if it results in cost savings or additional site amenities.

Community Stewardship Organizations A community stewardship organization (CSO) may be formed when a large block of land containing important environmental values is proposed to be developed. CSOs are a growing nationwide phenomenon. An example in the Santa Monica Mountains area is the Las Virgenes Institute, which was created to oversee the protection of environmental values at the Ahmanson Ranch development. The Institute is projected to manage and conserve a substantial block of land and to provide environmental education programs to builders, residents and visitors.

Additional CSOs might be formed as proposals emerge for development of remaining large blocks of lands in the mountains. Alternately, existing neighborhood associations could establish a CSO, although funding would be more problematic.

Landowner/Developer Recognition As discussed above, most prospective residents, and consequently the developers, are best served if the park environment is preserved. Public recognition of environmentally sensitive development, in particular, is a means of achieving convergence between landowners and park goals. In essence, recognition is a form of advertising which a developer might use to market his/her offerings.

Conclusion

In the twenty-year history of the recreation area, NPS land protection efforts in the Santa Monica Mountains have yielded positive results, yet the park is still far from accomplishing its ultimate goal of protecting an additional 34,000 acres of wildland within the recreation area boundary. Fee acquisition has historically been, and will continue to be, the most successful tool to protect the natural and cultural resources of the Santa Monica Mountains. However, funds are extremely limited, real estate values are high and the political climate is unpredictable. Clearly, fee acquisition of park land, whether by the NPS or other agencies, will not alone be sufficient to meet park goals. A range of options is necessary if the park is

to fully accomplish its land protection program . Alternative strategies considered in this plan include market- and regulatory-based approaches as well as private stewardship of natural and cultural resources. These approaches may involve land acquisition or they may be regulatory, advisory or simply educational in nature.

However, for any protection strategy to be effective it must provide for long-term protection. It must be funded by reliable sources and simultaneously satisfy the interests of park agencies, local governments and the public. Approaches such as conservation banking and multispecies conservation planning, which promote resource protection in the Santa Monica Mountains on an ecosystem scale, require the participation of multiple parties, but will also reward multiple parties. Other protection tools will be utilized by agencies or jurisdictions on an individual basis. However, those efforts coordinated among all with an interest in resource protection will be most successful.

The ultimate goal of the Land Protection Plan is to identify land necessary to comprise a naturally functioning system that will provide for the persistence of native wildlife and vegetation, protect archeological and ethnographic sites, preserve examples of the mountains' historical fabric and maintain and improve recreational opportunities for both area residents and visitors. The criteria and analysis methods presented in this plan facilitate the protection of these resources on an ecosystem scale. The criteria reflect agency and public consensus on important resource values in the mountains. The flexibility of the analysis methods will provide a basis for implementation of any of a range of protection strategies as well as a mechanism for updating priorities on a regular basis. It is hoped that this Land Protection Plan will foster the cooperation and coordination necessary to ensure the protection of natural, cultural and recreational resources in the Santa Monica Mountains.

Table 4.1 Public park land ownership within the Santa Monica Mountains National Recreation Area (acres)*

California Department of Parks and Recreation	33,395
City of Los Angeles	478
City of Thousand Oaks	27
Conejo Open Space and Conservation Agency	93
County of Los Angeles	1,017
Mountains Recreation Conservation Authority	2,724
National Park Service	21,494
Santa Monica Mountains Conservancy	2,321
Total	61,449

* Figures listed are approximate and do not represent legal acreages.

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Appendix A: Establishing Legislation

LEGISLATION

This is the authorizing language for the Santa Monica Mountains National Recreation Area, as codified in Title 16 of the United States Code. The legislation was originally enacted as section 507 of the Act of November 10, 1978 (P.L. 95-625: 92 Stat. 3501), and subsequently amended by sec. 401(j) of the Act of October 12, 1979 (P.L. 96-87: 93 Stat. 666) and sec. 118 of the Act of March 5, 1980 (P.L. 96-199: 94 Stat. 71).

SUBCHAPTER XCV—SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

§ 460kk. Recreation area

(a) Congressional findings

The Congress finds that—

(1) there are significant scenic, recreational, educational, scientific, natural, archeological, and public health benefits provided by the Santa Monica Mountains and adjacent coastline area;

(2) there is a national interest in protecting and preserving these benefits for the residents of and visitors to the area; and

(3) the State of California and its local units of government have authority to prevent or minimize adverse uses of the Santa Monica Mountains and adjacent coastline area and can, to a great extent, protect the health, safety, and general welfare by the use of such authority.

(b) Establishment; management

There is hereby established the Santa Monica Mountains National Recreation Area (hereinafter referred to as the "recreation area"). The Secretary shall manage the recreation area in a manner which will preserve and enhance its scenic, natural, and historical setting and its public health value as an airshed for the Southern California metropolitan area while providing for the recreational and educational need of the visiting public.

(c) Description; boundary revisions; notice to Congressional committees; publication in Federal Register; acquisition of property; manner, transfer from Federal agency to administrative jurisdiction of Secretary, Nike Site transfer to Secretary

(1) The recreation area shall consist of the lands and waters and interests generally depict-

ed as the recreation area on the map entitled "Boundary Map, Santa Monica Mountains National Recreation Area, California, and Santa Monica Mountains Zone", numbered SMM-NRA 80,000, and dated May 1978, which shall be on file and available for inspection in the offices of the National Park Service, Department of the Interior, Washington, District of Columbia, and in the offices of the General Services Administration in the Federal Office Building in West Los Angeles, California, and in the main public library in Ventura, California. After advising the Committee on Interior and Insular Affairs of the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate, in writing, the Secretary may make minor revisions of the boundaries of the recreation area when necessary by publication of a revised drawing or other boundary description in the Federal Register.

(2) Not later than ninety days after November 10, 1978, the Secretary, after consultation with the Governor of the State of California, the California Coastal Commission, and the Santa Monica Mountains Comprehensive Planning Commission, shall commence acquisition of lands, improvements, waters, or interests therein within the recreation area. Such acquisition may be by donation, purchase with donated or appropriated funds, transfer from any Federal agency, exchange, or otherwise. Any lands or interests therein owned by the State of California or any political subdivision thereof (including any park district or other public entity) may be acquired only by donation, except that such lands acquired after November 10, 1978, by the State of California or its political subdivisions may be acquired by purchase or exchange if the Secretary determines that the lands were acquired for purposes which further the national interest in protect-

ing the area and that the purchase price or value on exchange does not exceed fair market value on the date that the State acquired the land or interest: *Provided, however,* That the value of any lands acquired by the Secretary under the exception in this sentence shall be deducted from the amount of moneys available for grants to the State under subsection (n) of this section. Notwithstanding any other provision of law, any Federal property located within the boundaries of the recreation area shall, with the concurrence of the head of the agency having custody thereof, be transferred without cost, to the administrative jurisdiction of the Secretary for the purposes of the recreation area.

(3) The Administrator of the General Services Administration is hereby authorized and directed to transfer the site generally known as Nike Site 78 to the Secretary for inclusion in the recreation area: *Provided,* That the county of Los Angeles shall be permitted to continue to use without charge the facilities together with sufficient land as in the determination of the Secretary shall be necessary to continue to maintain and operate a fire suppression and training facility and shall be excused from payment for any use of the land and facilities on the site prior to November 10, 1978. At such time as the county of Los Angeles, California, relinquishes control of such facilities and adjacent land or ceases the operation of the fire suppression and training facility, the land and facilities shall be managed by the Secretary as a part of the recreation area.

(d) Identification and revision of areas: public ownership for critical purposes; land and area plan; submission to Congressional committees

(1) Within six months after November 10, 1978, the Secretary shall identify the lands, waters, and interests within the recreation area which must be acquired and held in public ownership for the following critical purposes: preservation of beaches and coastal uplands; protection of undeveloped inland stream drainage basins; connection of existing State and local government parks and other publicly owned lands to enhance their potential for public recreation use; protection of existing park roads and scenic corridors, including such right-of-way as is necessary for the protection of the Mulholland Scenic Parkway Corridor; protection of the public health and welfare; and development and interpretation of historic sites and recreation areas in connection therewith, to include, but not be limited to, parks, picnic areas, scenic overlooks, hiking trails, bicycle trails, and equestrian trails. The Secretary may from time to time revise the identification of such areas, and any such revisions shall become effective in the same manner as herein provided for revisions in the boundaries of the recreation area.

(2) By January 1, 1980, the Secretary shall submit, in writing, to the committees referred to in subsection (c) of this section and to the Committees on Appropriations of the United States Congress a detailed plan which shall indicate—

(A) the lands and areas identified in paragraph (1),

(B) the lands which he has previously acquired by purchase, donation, exchange, or transfer for the purpose of this recreation area,

(C) the annual acquisition program (including the level of funding) recommended for the ensuing five fiscal years, and

(D) the final boundary map for the recreation area.

(e) Improved property and scenic easement acquisitions

With respect to improved properties, as defined in this section, fee title shall not be acquired unless the Secretary finds that such lands are being used, or are threatened with uses, which are detrimental to the purposes of the recreation area, or unless each acquisition is necessary to fulfill the purposes of this section. The Secretary may acquire scenic easements to such improved property or such other interests as, in his judgment are necessary for the purposes of the recreation area.

(f) "Improved property" defined

For the purposes of this section, the term "Improved property" means—

(1) a detached single-family dwelling, the construction of which was begun before January 1, 1978 (hereafter referred to as "dwelling"), together with so much of the land on which the dwelling is situated as is in the same ownership as the dwelling and as the Secretary designates to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures necessary to the dwelling which are situated on the land so designated, and

(2) property developed for agricultural uses, together with any structures accessory thereto as were used for agricultural purposes on or before January 1, 1978.

In determining when and to what extent a property is to be treated as "Improved property" for purposes of this section, the Secretary shall take into consideration the manner of use of such buildings and lands prior to January 1, 1978, and shall designate such lands as are reasonably necessary for the continued enjoyment of the property in the same manner and to the same extent as existed prior to such date.

(g) Owner's reservation of right of use and occupancy for fixed term of years or life; election of term; fair market value; termination; notification

The owner of an improved property, as defined in this section, on the date of its acquisition, as a condition of such acquisition, may retain for herself or himself, her or his heirs and assigns, a right of use and occupancy of the improved property for noncommercial residential or agriculture purposes, as the case may be, for a definite term of not more than twenty-five years, or, in lieu thereof, for a term ending at the death of the owner or the death of her or his spouse, whichever is later. The owner shall elect the term to be reserved. Unless the property is wholly or partially donated, the Secretary shall pay to the owner the fair market value of the property on the date of its acquisition, less the fair market value on that

date of the right retained by the owner. A right retained by the owner pursuant to this section shall be subject to termination by the Secretary upon his determination that it is being exercised in a manner inconsistent with the purposes of this section, and it shall terminate by operation of law upon notification by the Secretary to the holder of the right of such determination and tendering to him the amount equal to the fair market value of that portion which remains unexpired.

(h) Hardship sale offers

In exercising the authority to acquire property under this section, the Secretary shall give prompt and careful consideration to any offer made by an individual owning property within the recreation area to sell such property, if such individual notifies the Secretary that the continued ownership of such property is causing, or would result in, undue hardship.

(i) Administration

The Secretary shall administer the recreation area in accordance with this Act and provisions of laws generally applicable to units of the National Park System, including sections 1 and 2 to 4 of this title. In the administration of the recreation area, the Secretary may utilize such statutory authority available for the conservation and management of wildlife and natural resources as appropriate to carry out the purpose of this section. The fragile resource areas of the recreation area shall be administered on a low-intensity basis, as determined by the Secretary.

(j) Cooperative agreements for rescue, fire prevention and firefighting, and law enforcement services

The Secretary may enter into cooperative agreements with the State of California, or any political subdivision thereof, for the rendering, on a reimbursable basis, of rescue, firefighting, and law enforcement services and cooperative assistance by nearby law enforcement and fire preventive agencies.

(k) Donations

Notwithstanding any other provision of law, the Secretary is authorized to accept donations of funds, property, or services from individuals, foundations, corporations, or public entities for the purpose of land acquisition and providing services and facilities which the Secretary deems consistent with the purposes of this section.

(l) Report of Advisory Commission to Secretary

By January 1, 1981, the Santa Monica Mountains National Recreation Area Advisory Commission, established by this section, shall submit a report to the Secretary which shall—

(1) assess the capability and willingness of the State of California and the local units of government to manage and operate the recreation area,

(2) recommend any changes in ownership, management, and operation which would better accomplish the purposes of this section, and

(3) recommend any conditions, joint management agreements, or other land use mechanisms to be contingent on any transfer of land.

(m) Report of Secretary to Congressional committees

The Secretary, after giving careful consideration to the recommendations set forth by the Advisory Commission, shall, by January 1, 1982, submit a report to the committees referred to in subsection (c) of this section which shall incorporate the recommendations of the Advisory Commission as well as set forth the Secretary's recommendations. Such report shall—

(1) assess the benefits and costs of continued management as a unit of the National Park System,

(2) assess the capability and willingness of the State of California and the local units of government to manage and operate the recreation area, and

(3) recommend any changes in ownership, management, and operation which would better accomplish the purposes of this section.

(n) Comprehensive plan: contents; approval considerations; environmental consultations; grants and funds; assurance and grant requirements; plan changes; liability for reimbursement of funds, approval by Secretary

(1) The Secretary shall request the Santa Monica Mountains Comprehensive Planning Commission to submit a comprehensive plan, prepared in accord with this section and title 7.75 of the California Government Code (commencing with section 67450), for the Santa Monica Mountains Zone generally depicted on the map referred to in subsection (c) of this section for approval.

(2) The comprehensive plan shall include, in addition to the requirements of California State law—

(A) an identification and designation of public and private uses which are compatible with and which would not significantly impair the significant scenic, recreational, educational, scientific, natural, archeological, and public health benefits present in the zone and which would not have an adverse impact on the recreation area or on the air quality of the south coast air basin;

(B) a specific minimum land acquisition program which shall include, but not be limited to, fee and less than fee acquisition of strategic and critical sites not to be acquired by the Federal Government for public recreational and other related uses; and a program for the complementary use of State and local authority to regulate the use of lands and waters within the Santa Monica Mountains Zone to the fullest extent practicable consistent with the purposes of this section; and

(C) a recreation transportation system which may include but need not be limited to existing public transit.

(3) No plan submitted to the Secretary under this section shall be approved unless the Secre-

tary finds the plan consistent with paragraph (2) and finds that—

(A) the planning commission has afforded adequate opportunity, including public hearings, for public involvement in the preparation and review of the plan, and public comments were received and considered in the plan or revision as presented to him;

(B) the State and local units of government identified in the plan as responsible for implementing its provisions have the necessary authority to implement the plan and such State and local units of government have indicated their intention to use such authority to implement the plan;

(C) the plan, if implemented, would preserve significant natural, historical, and archeological benefits and, consistent with such benefits, provide increased recreational opportunities for persons residing in the greater Los Angeles-southern California metropolitan area; and

(D) implementation of the plan would not have a serious adverse impact on the air quality or public health of the greater Los Angeles region.

Before making his findings on the air quality and public health impacts of the plan, the Secretary shall consult with the Administrator of the Environmental Protection Agency.

(4) Following approval of the plan with respect to the Santa Monica Mountains Zone, upon receipt of adequate assurances that all aspects of that jurisdiction's implementation responsibilities will be adopted and put into effect, the Secretary shall—

(A) provide grants to the State and through the State to local governmental bodies for acquisition of lands, waters, and interests therein identified in paragraph (2)(B), and for development of essential public facilities, except that such grants shall be made only for the acquisition of lands, waters, and interests therein, and related essential public facilities, for park, recreation, and conservation purposes; and

(B) provide, subject to agreements that in the opinion of the Secretary will assure additional preservation of the lands and waters of the zone, such funds as may be necessary to retire bonded indebtedness for water and sewer and other utilities already incurred by property owners which in the opinion of the Secretary would if left outstanding contribute to further development of the zone in a manner inconsistent with the approved plan developed by the planning commission.

No grant for acquisition of land may be made under subparagraph (A) unless the Secretary receives satisfactory assurances that such lands acquired under subparagraph (A) shall not be converted to other than park, recreation, and conservation purposes without the approval of the Secretary and without provision for suitable replacement land.

(5) Grants under this section shall be made only upon application of the recipient State and shall be in addition to any other Federal financial assistance for any other program, and

shall be subject to such terms and conditions as the Secretary deems necessary to carry out the purposes of this section. Any jurisdiction that implements changes to the approved plan which are inconsistent with the purposes of this section, or adopts or acquiesces in changes to laws, regulations or policies necessary to implement or protect the approved plan, without approval of the Secretary, may be liable for reimbursement of all funds previously granted or available to it under the terms of this section without regard to such additional terms and conditions or other requirements of law that may be applicable to such grants. During the life of the planning commission, changes to the plan must be submitted by the planning commission to the Secretary for approval. No such application for a grant may be made after the date five years from the date of the Secretary's approval of the plan.

(j) Comments on undertakings prior to expenditure of Federal funds or issuance of licenses or permits

The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in the lands and waters within the Santa Monica Mountains Zone, generally depicted on the map referred to in subsection (c) of this section, and the head of any Federal agency having authority to license or permit any undertaking in such lands and waters shall, prior to the approval of the expenditure of any Federal funds on such undertaking or prior to the issuance of any license or permit, as the case may be, afford the Secretary a reasonable opportunity to comment with regard to such undertaking and shall give due consideration to any comments made by the Secretary and to the effect of such undertaking on the "findings" and purposes of this section.

(p) State agency recommendations; consideration

The Secretary shall give full consideration to the recommendations of the California Department of Parks and Recreation, the Santa Monica Mountains Comprehensive Planning Commission, and the California Coastal Commission.

(q) Advisory Commission: establishment and termination; membership; term; meetings; notice, publication in newspapers; compensation and expenses; consultations of Secretary with Commission

(1) There is hereby established the Santa Monica Mountains National Recreation Area Advisory Commission (hereinafter referred to as the "Advisory Commission"). The Advisory Commission shall terminate ten years after the date of establishment of the recreation area.

(2) The Advisory Commission shall be composed of the following members to serve for terms of five years as follows:

(A) one member appointed by the Governor of the State of California;

(B) one member appointed by the mayor of the city of Los Angeles;

(C) one member appointed by the Board of Supervisors of Los Angeles County;

(D) one member appointed by the Board of

Supervisors of Ventura County; and

(E) nine members appointed by the Secretary, one of whom shall serve as the Commission Chairperson.

(3) The Advisory Commission shall meet on a regular basis. Notice of meetings and agenda shall be published in local newspapers which have a distribution which generally covers the area. Commission meetings shall be held at locations and in such a manner as to insure adequate public involvement. Such locations shall be in the region of the Santa Monica Mountains and no more than twenty-five miles from it.

(4) Members of the Commission shall serve without compensation as such, but the Secretary may pay expenses reasonably incurred in carrying out their responsibilities under this Act on vouchers signed by the Chairperson.

(5) The Secretary, or his or her designee, shall from time to time but at least semiannually, meet and consult with the Advisory Commission on matters relating to the development of this recreation area and with respect to carrying out the provisions of this section.

(r) Authorization of appropriations for property acquisitions and State grants

There are authorized to be appropriated such sums as may be necessary for acquisition of lands and interests in land within the boundaries of the recreation area established under this section, but not more than \$15,000,000 for fiscal year 1979, \$40,000,000 for fiscal year 1980, \$45,000,000 for fiscal year 1981, \$10,000,000 for fiscal year 1982, and \$15,000,000 for fiscal year 1983, such sums to remain available until expended. For grants to the State pursuant to subsection (n) of this section there are authorized to be appropriated not more than \$10,000,000 for fiscal year 1979, \$10,000,000 for fiscal year 1980, \$5,000,000 for fiscal year 1981, and \$5,000,000 for fiscal year 1982, such sums to remain available until expended. For the authorizations made in this subsection, any amounts authorized but not appropriated in any fiscal year shall remain available for appropriation in succeeding fiscal years.

(s) Authorization of appropriations for public facilities development

For the development of essential public facilities in the recreation area there are authorized to be appropriated not more than \$500,000. The Congress expects that, at least until assessment of the report required by subsection (t) of this section, any further development of the area shall be accomplished by the State of California or local units of government, subject to the approval of the Director, National Park Service.

(t) General management plan; transmission to Congressional committees

Within two years from the date of establishment of the recreation area pursuant to this section, the Secretary shall, after consulting with the Advisory Commission, develop and transmit to the Committees referred to in subsection (c) of this section a general management plan for the recreation area consistent

with the objectives of this section. Such plan shall indicate—

(1) a plan for visitor use including the facilities needed to accommodate the health, safety, education and recreation needs of the public;

(2) the location and estimated costs of all facilities;

(3) the projected need for any additional facilities within the area;

(4) any additions or alterations to the boundaries of the recreation area which are necessary or desirable to the better carrying out of the purposes of this section; and

(5) a plan for preservation of scenic, archeological and natural values and of fragile ecological areas.

(Pub. L. 95-625, title V, § 507, Nov. 10, 1978, 92 Stat. 3501; Pub. L. 96-87, title IV, § 401(j), Oct. 12, 1979, 93 Stat. 666; Pub. L. 96-199, title I, § 113, Mar. 5, 1980, 94 Stat. 71.)

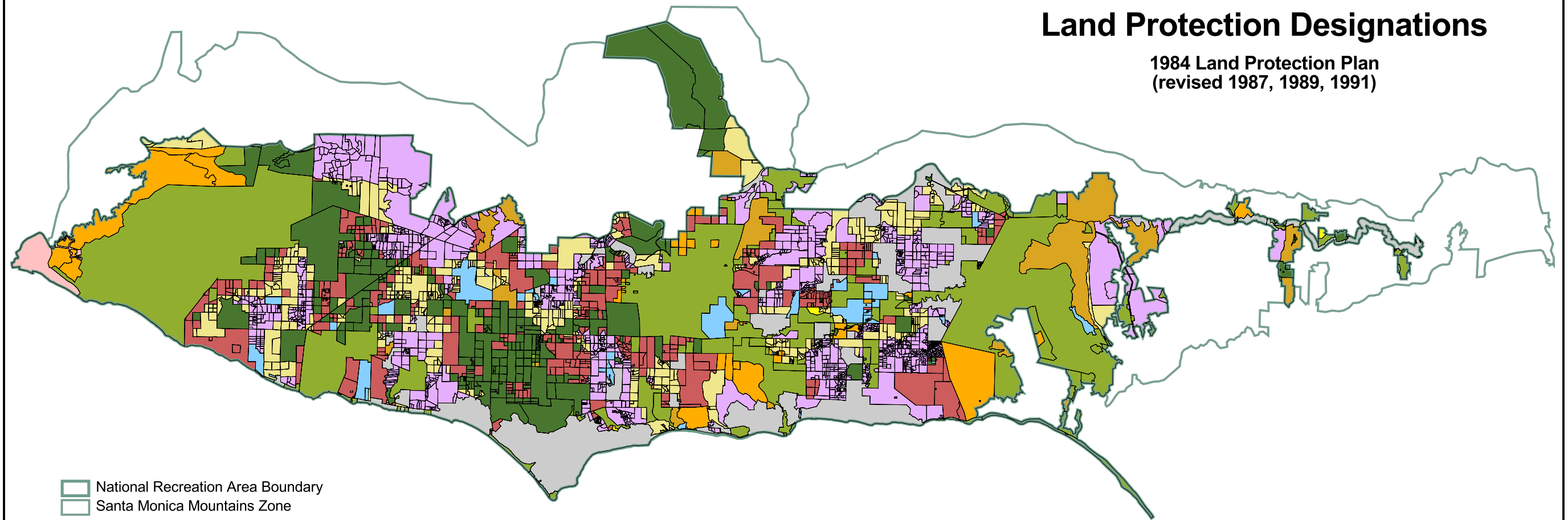
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






This Act, referred to in subsecs. (l) and (q)(4), means Pub. L. 95-625, Nov. 10, 1978, 92 Stat. 3467, as amended, known as the National Parks and Recreation Act of 1978. For complete classification of this Act to the

Appendix B

Land Protection Designations

1984 Land Protection Plan
(revised 1987, 1989, 1991)



-  National Recreation Area Boundary
-  Santa Monica Mountains Zone
-  National Park Service Land
-  Other Parkland (state, county, city, other local)
-  Compatible Private Recreation Land
-  Other Public Land
-  Cooperative Planning Area
-  Military Land
-  Developed Area
-  Proposed National Park Service Fee Acquisition area
-  Proposed National Park Service Easement Acquisition Area
-  Proposed State Acquisition Area
-  State Conservation Easement Land



6 miles