



ENVIRONMENTAL CONSEQUENCES



Top left: Mountain lion in Santa Monica Mountains National Recreation Area. Top right: Wildlife viewing. Bottom photo: Rocket engine test stands at Santa Susana Field Laboratory at sunrise. Photos: NPS (top), M. Fellows/NASA (bottom).

Chapter 6: Environmental Consequences

Analysis of the environmental impacts associated with the study alternatives

Introduction

Before taking an action, the National Environmental Policy Act (NEPA) requires federal agencies to identify a range of alternatives for that action and to analyze the potential environmental consequences of that action. This chapter describes the potential environmental impacts of implementing each of the alternatives on a variety of physical, biological, cultural, social and recreational resources.

Presented below is the methodology used to identify impacts, including definitions. Analysis of impacts is according to topics. Descriptions of impacts include potential beneficial and adverse impacts as well as cumulative effects. Analysis of whether the selected alternative would impair the resources within SMMNRA will be included in the decision document. For an environmental assessment the decision document is a Finding of No Significant Impact (FONSI). The NPS issued guidance on impairment analyses in 2011.

Methods and Assumptions

Environmental consequences are determined by comparing likely future conditions under each alternative to current baseline conditions (the no action alternative). Analysis includes consideration of the context, intensity, and duration of direct and indirect effects of the alternatives. The NPS based this analysis and its conclusions on a review of existing literature, information provided by experts within the NPS, as well as outside organizations, analysis of case studies of existing programs in other locations, and the professional judgment of the study team members.

Analysis of the environmental consequences is also based on the status of the resource or the “Affected Environment.” Much of the affected environment for this special resource study is described in *Chapter 2: Resource Description*. The feasibility analysis in *Chapter 3: New Park Unit Evaluation* includes descriptions of the area’s land use. Supplemental information is also provided in this section, prior to the impact analysis discussion.

In most environmental documents, proposed actions are activities whose physical impacts can be estimated, modeled or projected. In this special resource study, proposed actions are often policy changes and plans with no immediate physical impact on land or resources. As a result, this analysis is a programmatic one, rather than one based on specific information about the type and location of facilities.

Given the broad nature of a special resource study, impact analysis is also broad and avoids speculation as to site-specific impacts. The outcome of the study will be a recommendation from the Secretary of the Interior to Congress. Upon receiving the recommendation, Congress may take action, wait or take another action not identified in this study. If Congress takes action, then new environmental analysis would likely be undertaken prior to implementation of specific actions or as directed by legislation.

Methodology

This section contains the methods and criteria used to assess impacts for specific resource topics. The definitions of impacts adhere to those generally used for National Environmental Policy Act (NEPA) analysis, to those used in Section 106 of the National Historic Preservation Act (NHPA), and to those used in Section 7 of the Endangered Species Act (ESA).

Environmental Impact Analysis

NEPA requires that environmental documents disclose the environmental impacts of the proposed federal action, reasonable alternatives to that action, and any adverse environmental effects that cannot be avoided should the proposed action be implemented. This section analyzes the environmental consequences of the special resource study alternatives on potentially affected resources. These analyses provide the basis for comparing the effects of the alternatives. NEPA requires consideration of context, intensity and duration of impacts, indirect impacts, cumulative impacts, and measures to mitigate impacts. These are defined below. Impact analysis for historic prop-

erties is based on NHPA 36 CFR Part 800 criteria of effect as also detailed below. (In this document, “effects” and “impacts” are used interchangeably.)

The environmental consequences for each impact topic were defined based on the following information regarding context, type of impact, duration of impact, area of impact and the cumulative context. As noted above, because of the broad nature of the special resource study alternatives, unless otherwise stated or demonstrated in the resource section in Environmental Consequences, analysis is also broad and is based on qualitative rather than quantitative assessment of impacts.

Context of Impact

The context of the impact is the setting within which impacts are analyzed – such as the project area or region, or for cultural resources – the area of potential effects. The context describes whether the impacts are site specific, local, regional, or wider in scope.

The project area for this special resource study is the Rim of the Valley corridor area as described in the Rim of the Valley Special Resource Study legislation (2008). This area is shown in *Figure 1-2: Study Area* in *Chapter 1: Introduction*. As shown in *Chapter 5: Alternatives*, maps for alternatives A-D include some or all of this study area.

Type of Impact

The type of impact is a measure of whether the impact will improve or harm the resource and whether that harm occurs immediately or at some later point in time. Resource impacts can be beneficial or adverse and direct or indirect.

- **Beneficial Impacts:** A beneficial impact is a positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition. Beneficial impacts reduce or improve resource conditions related to the impact being discussed.
- **Adverse Impacts:** An adverse impact is a change that moves the resource away from a desired condition or detracts from its appearance or condition. Adverse impacts increase or result in the impact being discussed. Adverse impacts cause depletion or loss of the resource being discussed.
- **Direct Impacts:** Direct impacts are caused by and occur at the same time and place as the action, such as animal and plant mortality, damage to cultural resources, etc.
- **Indirect Impacts:** Indirect impacts are caused by the action, but occur later in time, at another place, or to another resource. Examples include changes in species composition, vegetation structure, range of wildlife, off-site erosion or changes in general economic conditions tied to park activities.

Duration of Impact

Duration is a measure of the time period over which the effects of an impact persist. The duration of impacts evaluated in this environmental assessment may be one of the following:

- **Short-term:** Short-term impacts are often quickly reversible and associated with a specific event, from less than one to approximately five years.
- **Long-term:** Long-term impacts are reversible over a much longer period, or may occur continuously based on normal activity, or for more than five years.

Since full implementation of an action alternative often would take place over a number of years, duration frequently assesses the duration of individual actions of the alternative (including removal of structures, site restoration, and construction of new structures) instead of full implementation of the alternative. For a special resource study, depending on whether Congress and the President act, the alternatives may or may not be selected for implementation. Legislation may also direct implementation of an action not analyzed in this study.

Area of Impact

- **Localized:** Detectable only in the vicinity of the activity.
- **Widespread:** Detectable on a landscape or regional scale.

Impact Mitigation

Specific mitigation measures are listed following the analysis for each resource impact topic.

In general, mitigation measures:

- Avoid conducting management activities in an area of the affected resource
- Minimize the type, duration or intensity of the impact to an affected resource
- Mitigate the impact by:
 - Repairing localized damage to the affected resource immediately after an adverse impact.
 - Rehabilitating an affected resource with a combination of additional management activities.
 - Compensating a major long-term adverse direct impact through additional strategies designed to improve an affected resource to the degree practicable.

Impacts have been assessed under the assumption that proposed measures to minimize or mitigate the impact would be implemented (see Measures to Avoid, Minimize, or Mitigate Impacts section in each resource topic section).

Because impacts associated with potential implementation of the alternatives described in this special resource study are

necessarily generally described, the potential for these impacts is also described at a general level.

Intensity of Impact

The intensity describes the degree, level or strength of the impact. For this analysis, intensity is characterized as negligible, minor, moderate or major.

Because special resource study recommendations are broad, the following general intensity definitions apply to all impacts except special status species and cultural resources. As described above, special status species and cultural resources impact determinations are formally determined under the Endangered Species Act (Section 7) and the National Historic Preservation Act (Section 106), respectively.

- **Negligible:** The anticipated degree of change would not be detectable or would be only slightly detectable. Impacts are localized or at the lowest level of detection.
- **Minor:** There would be a measurable or anticipated degree of change that would have a slight effect, causing a slightly noticeable change compared to existing conditions. These impacts are often localized. Impacts would usually be noticed only by specialists or those familiar with the specific resource. Mitigation measures, if applicable, would be simple to implement and would likely be successful.
- **Moderate:** The measurable or anticipated degree of change is readily apparent and appreciable and would be noticed by most people, with a change compared to existing conditions. A moderate effect can be localized or widespread. Mitigation measures, if applicable, would be necessary to offset adverse impacts and would likely be successful.
- **Major:** The measurable or anticipated degree of change would be substantial, causing a highly noticeable change compared to existing conditions. The change would be obvious, though some people would not be able to identify what change had occurred. Major changes are often widespread, but could be localized within a large area. More extensive mitigation measures, if applicable, would be needed but their success could not be guaranteed or they would minimize the effect in only a small area.

Special Status Species (definitions follow section 7 of the ESA)

- **No Effect:** The project (or action) is located outside suitable habitat and there would be no disturbance or other direct or indirect impacts on the species. The action will not affect the listed species or its designated critical habitat (USFWS 1998).
- **May Effect, Not Likely to Adversely Affect:** The project (or action) occurs in suitable habitat or results in

indirect impacts on the species, but the effect on the species is likely to be entirely beneficial, discountable, or insignificant. The action may pose effects on listed species or designated critical habitat but given circumstances or mitigation conditions, the effects may be discounted, insignificant, or completely beneficial. Insignificant effects would not result in take. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not 1) be able to meaningfully measure, detect, or evaluate insignificant effects or 2) expect discountable effects to occur (USFWS 1998).

- **May Effect, Likely to Adversely Affect:** The project (or action) would have an adverse effect on a listed species as a result of direct, indirect, interrelated, or interdependent actions. An adverse effect on a listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions and the effect is not: discountable, insignificant, or beneficial (USFWS 1998).

Cultural Resources Impacts (definitions follow Section 106 of the NHPA)

- **No Effect:** The action will not affect historic properties nor will it affect the characteristics that may qualify historic properties for inclusion in the National Register of Historic Places. The actions, based on conditions of approval, would also be unlikely to result in impacts to presently unidentified cultural resources.
- **No Adverse Effect:** An undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the national register. For example, the action may result in diminishing the character-defining features or aspects of a historic structure that make it eligible for the national register, but the actions are consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.
- **Adverse Effect:** An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association. In other words, the effects on character-defining features or aspects of a historic structure would result in diminishing or removing the characteristics that make it eligible for the National Register of Historic Places and as a result would not be consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

Cumulative Impacts

The Council on Environmental Quality (CEQ) describes a cumulative impact as follows (Regulation 1508.7):

A "cumulative impact" is the impact on the environment which results from the incremental impact of the action when

added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The projects addressed in this cumulative impacts analysis include past and present actions, as well as any planning or development activity currently being implemented or planned for implementation in the reasonably foreseeable future. Cumulative actions are evaluated in conjunction with the impacts of an alternative to determine if they have any additive effects on a particular resource.

The geographic scope for this analysis includes actions within and near the study area boundary, while the temporal scope includes projects within a range of approximately ten years. Because most of the future projects included in the cumulative effects analysis scenario area in the early planning stages, the evaluation of cumulative impacts was based on a general description of the project. The following projects were among those identified for the purpose of conducting the cumulative effects analysis (see also the list in *Chapter 1: Introduction, Related Plans and Studies*)

Past

- Construction of the Anthony C. Beilenson Visitor Center at King Gillette Ranch
- Santa Monica Mountains Land Protection Plan

Present

- Management of SMMNRA by the National Park Service, California State Parks, Santa Monica Mountains Conservancy (SMMC) and others
- Ongoing management by a variety of other public and private land managers in the study area
- Ongoing studies and actions by NASA, Boeing and others related to contamination at the Santa Susana Field Laboratory (including Proposed NASA Demolition and Environmental Clean-up Activities for the Santa Susana Field Laboratory Final Environmental Impact Statement March 2014)
- Current actions by conservation organizations, such as the SMMC, to protect lands within the study area

Future

- Santa Monica Mountains trails management plan (initiated 2014)
- Santa Monica Mountains invasive plant management plan
- Proposed actions by conservation organizations, such as the SMMC, to protect lands within the study area

- Proposed actions along the Los Angeles River by multiple agencies to improve ecological habitat and recreation opportunities.

Impact Topics Analyzed

Specific impact topics were developed to address potential natural, cultural, recreational and park operations impacts that might result from the proposed alternatives as identified by the public, NPS, and other agencies, and to address federal laws, regulations and orders, and NPS policy. A brief rationale for the selection of each impact topic is given below. These impact topics focus the discussion on comparing the environmental impacts among alternatives on affected resources.

Physical Resources

Land Use

NPS Management Policies 2006 provides direction for protection of lands and resources within park units, acquisition of nonfederal lands that are within park units, and cooperation with agencies, tribes, and private property owners to provide appropriate protection measures. Land use refers to the general characteristics of how land is allocated among various administrative, preservation, recreational, and development needs. Because land use could change as a result of the implementation of the action alternatives, it is included as an impact topic. This section also considers prime and unique farmlands and urban quality.

Prime and Unique Farmlands

The Farmland Protection Policy Act was implemented to preserve and protect the dwindling supply of farmland in the nation. In 1980, the CEQ directed that federal agencies assess the effects of their actions on farmlands classified by the U.S. Department of Agriculture Natural Resources Conservation Service as prime or unique. The U.S. Department of Agriculture defines these lands as having soils that are best suited for producing food, feed, forage, and fiber or oilseed crops. Use of land for farming and the type of farmland soils are considered in determining prime and unique farmland. Prime and unique farmlands are included within the study area.

Urban quality, historic and cultural resources, and design of the built environment

Quality of open spaces is a key adjunct to urban quality and quality of life issues. Improving this for residents of the Los Angeles metropolitan area is one of the purposes of this special resources study.

Paleontological Resources

According to *NPS Management Policies 2006*, paleontological resources (fossils), including both organic and mineralized remains in body or trace form, will be protected, preserved, and managed for public education, interpretation, and scientific re-

search. The study area contains a wide array of paleontological resources. SMMNRA includes one of the most extensive and diverse assemblages of fossil material known in the national park system.

Water Resources

Water Quality and Quantity

The 1972 Federal Water Pollution Control Act, as amended by the Clean Water Act (CWA) (33 USC 1251 et seq., PL 92-500 and PL 95-217), is a national policy to restore and maintain the chemical, physical, and biological integrity of the nation's waters, to enhance the quality of water resources (including hydrology, water quality and water quantity), and to prevent, control, and abate water pollution. NPS *Management Policies 2006* provides direction for the preservation, use, and quality of water in national parks.

Biological Resources

Vegetation

NEPA calls for examination of the impacts on the components of affected ecosystems. NPS *Management Policies 2006* calls for protecting the natural abundance and diversity of park native species and communities, including avoiding, minimizing, or mitigating potential impacts from proposed projects. If implemented, the action alternatives could affect the protection of key vegetation communities.

Wildlife

NEPA calls for examination of the impacts on the components of affected ecosystems. NPS policy is to protect the natural abundance and diversity of park native species and communities, including avoiding, minimizing, or mitigating potential impacts from proposed projects. If implemented, the action alternatives could affect the protection of wildlife that reside in or near the study area.

Special Status Species

The federal ESA requires an examination of impacts to all federally listed threatened or endangered species. The NPS *Management Policies 2006* calls for an analysis of impacts to state-listed threatened or endangered species and federal candidate species. Under the ESA, the NPS is mandated to promote the conservation of all federally listed threatened and endangered species and their critical habitats. NPS policy also requires examination of the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species. Ongoing informal consultation with the USFWS has identified several important rare, threatened, and endangered species that occur in or near the study area.

Cultural Resources

Prehistoric and Historic Archeological Resources

In addition to the National Historic Preservation Act and NPS *Management Policies 2006*, NPS Director's Order-28B Archeology affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the national park system. As one of the principal stewards of America's heritage, the NPS is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the national park system reflect a commitment to the conservation of archeological resources as elements of the nation's heritage.

Traditional Cultural (Ethnographic) Resources

NPS *Management Policies 2006* and the NPS Cultural Resource Management Guideline (Director's Order 28 and handbook) direct parks to consider potential impacts of planned actions on cultural resources, including ethnographic resources.

Historic Structures / Cultural Landscapes

Consideration of the impacts to historic properties is required under provisions of Section 106 of the NHPA (1966), as amended, and the 2008 NPS Programmatic Agreement among the National Park Service, the National Conference of State Historic Preservation Officers, and the Advisory Council on Historic Preservation. It is also required under the NPS *Management Policies 2006*. Federal land managing agencies are required to consider the effects proposed actions may have on properties listed in, or eligible for inclusion in, the National Register of Historic Places (i.e. Historic Properties), and to allow the Advisory Council a reasonable opportunity to comment. Agencies are required to consult with federal, state, local, and tribal government/organizations, identify historic properties, assess adverse effects to historic properties, and negate, minimize, or mitigate adverse effects to historic properties while engaged in any federal or federally assisted undertaking (36 CFR Part 800). A wide variety of sites both listed on and eligible for the national register are found within the study area, therefore, historic structures and cultural landscapes is included in this analysis.

According to NPS Director's Order-28 Cultural Resource Management Guideline, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. Although a cultural landscape inventory has not been conducted it is likely that there are potentially eligible resources within the study area.

Recreational / Social Resources

Visitor Experience

Providing for the enjoyment of national park resources is one of the foundations of the NPS Organic Act. The Organic Act directs the NPS to promote and regulate the use of national parks to conserve resources and to provide for their enjoyment by existing and future generations. In accordance with this act, NPS *Management Policies 2006* and Director's Order 17 (Tourism) identify visitor use patterns and the desired visitor carrying capacity, and allow for appropriate recreational activities within park units. The impacts considered in this section related to visitor experience, include access and transportation, visitor use opportunities, and interpretation and education.

Park Operations and Partnerships

Impacts to park operations and partnerships are often considered in environmental documents to disclose the degree to which proposed actions would change park management strategies and methods and what additional costs (including staffing) are associated with the proposal. Because the alternatives include actions that could affect a unit of the national park system (SMMNRA), this topic has been included.

Socioeconomics

Socioeconomic impact analysis is required, as appropriate, under NEPA and NPS *Management Policies 2006* pertaining to gateway communities. A portion of the regional economy is based on tourism and resource use. Agriculture, manufacturing, professional services, and education also contribute to regional economies.

Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations (59 FR 7629, as amended by Executive Order 12948, 60 FR 6381, 42 USC 4321), requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse levels of human health or environmental effects from their programs and policies on minorities and low-income populations and communities. A portion of the purpose of this special resource study is related to providing close-to-home recreational opportunities for urban residents living in areas that currently do not meet standards for access to parks and recreation areas.

Impact Topics Dismissed From Further Analysis

The topics listed below either would not be affected by, or there would be negligible to minor effects from the action alternatives. These effects would not be detectable or would be only slightly detectable over existing conditions. Therefore, these topics have been dismissed from further analysis. A detailed rationale for dismissing these and other impact topics is given below.

Physical Resources

Air Quality

The Clean Air Act of 1963 as amended (42 USC 7401 et seq., PL 88-206) was established to promote the public health and welfare by protecting and enhancing the Nation's air quality. The act establishes specific programs that provide special protection for air resources and air quality-related values associated with NPS units. SMMNRA is a class II area under the CAA. Class II areas allow only moderate increases in certain air pollutants, while class I areas (primarily large national parks and wilderness areas) are afforded the highest degree of protection, meaning that very little additional deterioration of air quality is permitted. The Act states that park managers have an affirmative responsibility to protect air quality-related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse air pollution impacts. There are no specific actions called for in this study that would affect air quality.

Lightscaapes

NPS *Management Policies 2006* states that "the Service will preserve, to the greatest extent possible, the natural lightscaapes of parks, which are natural resources and values that exist in the absence of human-caused light." The stars, planets, and moon, visible during clear nights, influence people and many other species, such as birds, terrestrial predators and prey. The study area alternatives would not introduce or increase artificial light sources in the environment. Whether study area alternatives would decrease or limit additional light sources would depend on which lands were protected in the study area. Overall impacts would likely be negligible unless additional very large areas were protected.

Soundscapes

Park soundscape resources encompass all the natural sounds that occur in parks, including the physical capacity for transmitting those natural sounds and the interrelationship among natural sounds of different frequencies and volumes in the park. NPS Director's Order 47 (Sound Preservation and Noise Management) defines operational policies that will protect, maintain, or restore the natural soundscape. Natural sounds are part of the park environment and are vital to the functioning of ecosystems and may also be valuable indicators of their health. As the total ambient acoustic environment associated with an area, soundscapes may be composed of both natural and human-made sounds. In a high noise environment, natural ambient sounds may be masked by other noise sources. The study area alternatives would not introduce or increase sound sources in the environment. Whether study area alternatives would limit additional noise would be dependent on which lands were protected.

Geology

Geology is an important part of the significance of the Santa Monica Mountains. It contains evidence of the rotation of the Transverse Ranges. These east-west trending mountains rotated approximately 90 degrees during the Miocene epoch (12-20 million years ago) when they were stuck under the North American Plate and pushed clockwise by the Pacific Plate. Although the alternatives would include various areas of geological significance within identified boundaries, there would be no discernible effects on geologic resources.

Soils

NPS *Management Policies 2006* require the NPS to understand and preserve and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil. There are no specific implementation measures in the alternatives that would affect soils.

Water Resources (Wetlands and Floodplains)

Wetlands

Section 404 of the Clean Water Act requires federal agencies to avoid, minimize and mitigate impacts to wetlands. Executive Order 11990, NPS *Management Policies 2006*, and Director's Order 77-1: Wetland Protection direct that wetlands be protected and that wetlands and wetland functions and values be preserved. They further direct that direct or indirect impacts to wetlands be avoided whenever there are practicable alternatives. No specific actions in the study area are proposed that would affect wetlands.

Floodplains

Executive Order 11988 (Floodplain Management) requires an examination of impacts to floodplains and potential risk involved in placing facilities within floodplains. NPS *Management Policies 2006*, Director's Order 12 (Conservation Planning, Environmental Impact Analysis, and Decision Making), and Director's Order 77-2 (Floodplain Management Guideline) provide guidelines for proposals that occur in floodplains. Executive Order 11988 requires that impacts to floodplains be addressed. No specific actions in the study area that would affect floodplains are proposed.

Cultural Resources

Native American Indian Sacred Sites

To comply with the American Indian Religious Freedom Act, federal agencies must consider the effects of their actions on American Indian traditional religious practices. Based on analysis, there are no known traditional or religious use areas within the study area. In addition, there are no known Indian sacred sites that would require compliance with Executive Order 13007: Indian Sacred Sites (61 FR 26771, 42 USC 1996).

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of the Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources in the study area. The lands comprising the study area are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Because there are no Indian trust resources, this topic is dismissed from further analysis in this document.

Recreational/ Social Resources

Wilderness

NPS wilderness management policies are based on provisions of the 1916 NPS Organic Act, the Wilderness Act (1964), and legislation establishing individual units of the national park system. These policies establish consistent NPS-wide direction for the preservation, management, and use of wilderness. The Magic Mountain Wilderness (12,000 acres, part of the San Gabriel Mountains National Monument) would not be affected by the proposals in this plan.

Wild and Scenic Rivers

Under the Wild and Scenic Rivers Act (16 USC 1271 - 1287), "certain selected rivers of the Nation, which with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations." There are no wild and scenic rivers in the study area.

Energy Consumption

Implementation of the proposed actions would not cause measurable increases in the overall consumption of electricity, propane, wood, fuel oil, gas, or diesel associated with visitation or for park operations and maintenance.

Land Use Affected Environment

Land Ownership and Regulatory Setting

There is a complex mixture of land ownership and use in the study area, which is located in Ventura and Los Angeles counties (*Figure 3-3: Land Use in Chapter 3: New National Park Unit Criteria Analysis*). The study area includes federal, state, county, city and private lands as well as privately managed pub-

Table 6-1: Study Area Cities and Unincorporated Communities

Los Angeles County Cities and Towns

Agoura Hills
Beverly Hills
Burbank
Calabasas
Glendale
Hidden Hills
La Cañada Flintridge
Los Angeles
Malibu
Pacific Palisades
Pasadena
Santa Clarita - incl. Newhall
Santa Monica
Sierra Madre
South Pasadena
Westlake Village

Los Angeles County Unincorporated Communities

Acton
Agoura
Altadena
Bell Canyon
La Crescenta-Montrose

City of Los Angeles Communities

Bel Air
Brentwood
Canoga Park
Chatsworth
Encino
Northridge
Panorama City
Reseda
Sherman Oaks
Studio City
Sylmar
Tarzana
Tujunga
Universal City
West Hills
Winnetka
Woodland Hills

Ventura County Cities, Towns and Communities

Camarillo
Moorpark
Newbury Park
Oak Park
Simi Valley
Thousand Oaks

lic lands. The cities and unincorporated communities partially (most) or wholly included in the study area are listed in *Table 6-1: Study Area Cities and Unincorporated Communities*.

Each county and city within and surrounding SMMNRA has established land use plans to guide future development within their jurisdictions. Unincorporated community plans are part of county general plans. In Ventura and Los Angeles counties, areas adjacent to and within SMMNRA are often designated open space or rural residential, however there is also very dense urban development adjacent to the boundary. Commercial and industrial development is generally limited to corridors along the north side of U.S. Highway 101 as well as along the Los Angeles River and Arroyo Seco corridors. Commercial

development is also interspersed throughout the study in cities and towns. Land use varies from high density residential development to parcels of 40 acres or more. In addition to county general plans for undeveloped areas, areas close to the coast are subject to local coastal plans.

Lands within the study area boundary are used for a wide variety of purposes, including as public and private open space (lands protected by private landowners that may or may not be open to public use, such as the Bridle Path Homeowners Association lands in Simi Valley), rural, suburban and urban residential, commercial and industrial activities (*Figure 3-3: Land Use*). Several major highways are found within the study area boundary. Among these include U.S. Highway 101, U.S. Interstates 5, 10, 110, 210, and 405 and California State Routes 1, 2, 23, 27, 118, 126, 134, and 170.

Lands within the study area range from highly urbanized areas in downtown Los Angeles to undeveloped open space. Despite the urbanization within and surrounding the study area, the majority of land within it is undeveloped. Many areas, however, have been affected by land uses such as grazing, water, natural gas and oil development; aggregate mining, and fire access roads and contain small to large areas of highly altered habitat surrounded by large areas of relatively undisturbed habitat. In other areas, because public use of some areas has been restricted by fencing, such as near the Chatsworth Reservoir and the Santa Susana Field Laboratory, and because development within these areas is concentrated, there are also some relatively pristine areas.

A fairly large portion of lands within the study area (approximately 50%) are open to public use and are managed for open space and recreation qualities. There are also large areas, such as the Santa Susana Mountains, that are primarily private and are used for grazing and utility infrastructure, but which currently have minimal development.

Regulatory authority for lands within the study area boundary varies. Regulatory authority for land use is guided by county and/or city land use planning and local zoning for areas within these boundaries and/or state and federal land use planning where state or federal land ownership is present.

NPS Regulatory Authorities

As described in the social and economic impacts section of *Chapters 3 and 4*, additional NPS regulations that could pertain to activities on lands considered for addition to SMMNRA in alternatives C and D include regulation of mineral extraction and the exercise of nonfederal oil and gas rights. These regulations are designed to insure that activities undertaken pursuant to these rights are conducted in a manner consistent with the purposes for which the national park system and each unit thereof were created. New or existing solid waste disposal sites would continue be regulated under 36 CFR Chapter 1, Part 6. These regulations prohibit the operation of any solid

waste disposal site, except as specifically provided for, and govern the continued use of any existing solid waste disposal site within the boundary of any unit of the national park system.

For mineral extraction, the type of mineral right determines which regulations would be applicable. Mining claims are subject to the General Mining Law of 1872 as well as other laws. Mining claims may be established on federally owned public domain lands only if those lands are open to such claims. Many areas of federally owned public domain land, including park units, are withdrawn from the establishment of new mining claims. If the expansion area were to contain previously-established “valid” (meaning the claims have met certain legal, technical, and economic thresholds) mining claims, operations on these claims would come under 36 CFR, Part 9, Subpart 9A, “Mining and Mining Claims,” which – like valid mining claims on other lands – require approval of a plan of operations to ensure that operations associated with the development of the mining claim would not adversely impact natural and cultural park resources and values. Within the study area, active mining primarily takes place on U.S. Forest Service and Bureau of Land Management lands in the San Gabriel Mountains and in areas of the Soledad Basin. U.S Forest Service managed lands are not under consideration for a new park unit or boundary adjustment to SMMNRA.

For other types of mineral operations in any expansion areas, such as extraction of sand and gravel, the general NPS regulations at 36 CFR Parts 1 and 5 would apply based on the federal or nonfederal ownership of the mineral interest. These particular regulations apply to federally owned lands within park units (see 36 CFR § 1.2(a) (1)), and also to the nonfederally owned areas listed at 36 CFR § 1.2(a) (2)-(5). Mineral operations for these types of mineral interests would be conducted under NPS special use permits when appropriate.

Regulations located at 36 CFR Part 9, Subpart B, govern the exercise of nonfederal oil and gas rights within NPS units. “Nonfederal oil and gas rights” are either owned by a state or a private entity. Existing rights either pre-date the establishment of the park or have not been acquired by the United States. These regulations are designed to ensure that activities undertaken pursuant to these rights are conducted in a manner consistent with the purposes for which the National Park System and each unit thereof were created. These regulations would primarily apply if NPS were to purchase lands where oil and gas rights are retained by another entity. Oil and gas development is prevalent in portions of the Santa Susana Mountains and Simi Hills.

Public Lands/Protected Areas

Management of the lands within the study area boundary is overseen by a variety of federal, state, other public and private landowners. Parklands (areas set aside as public open space)

characterize almost 50% of the study area. These include lands owned and managed by the NPS (approximately 23,350 acres), the State of California (California State Parks)(approximately 36,000 acres in SMMNRA plus 1,300 additional acres in the study area), and Santa Monica Mountains Conservancy (approximately 37,300 acres), the U.S. Forest Service (180,000 acres) and the Mountains Recreation and Conservation Authority (approximately 40,000 acres) (California Protected Areas Database, Version 1.9).

There are 11 California State Parks (including State Beaches) within the study area. Among the largest of these (Point Mugu, Leo Carrillo, Point Dume, Malibu Creek, Malibu Lagoon, Topanga, and Will Rogers) are within SMMNRA. Others include Los Encinos State Historic Park, Santa Susana Pass State Historic Park, Rio de Los Angeles State Park, El Pueblo de Los Angeles State Historical Monument, and Los Angeles State Historic Park. The Santa Monica Mountains Conservancy (SMMC) is a state agency created in 1979 with authority to purchase land and to review land use planning for consistency with the *Santa Monica Mountains Comprehensive Plan*. Beginning in 1983, state legislation authorized the Santa Monica Mountains Conservancy to purchase lands within the Rim of the Valley Corridor. The Mountains Recreation and Conservation Authority (MRCA), a local government public agency established in 1985 pursuant to the Joint Powers Act, is a land management entity for its member agencies. The MRCA is a local partnership between the Santa Monica Mountains Conservancy, which is a state agency established by the California legislature, and the Conejo Recreation and Park District and the Rancho Simi Recreation and Park District, both of which are local park agencies established by people in communities encompassed by them (primarily Thousand Oaks, Westlake, Oak Park and Simi Valley).

Other federal lands include those managed by the Army Corps of Engineers (USACOE) (approximately 90 acres) primarily in the Sepulveda basin and Hansen Dam areas (co-managed with Los Angeles City Department of Recreation and Parks); the Bureau of Land Management (BLM) with approximately 3,000 acres primarily spread out in the Santa Clara River area; and the National Aeronautics and Space Administration (NASA) with approximately 451 acres for the Santa Susana Field Laboratory, and 157 acres for the Jet Propulsion Laboratory, which is a federally funded research and development facility managed by the California Institute of Technology for NASA.

Among the other public lands include 4,500 acres managed by Ventura County, 4,600 acres managed by Los Angeles County, and approximately another 7,600 acres of lands managed by Conejo Open Space Conservation Agency, with 2,900 acres managed by Rancho Simi Recreation and Park District. An additional 28,500 acres are owned/managed by cities and towns as public open space.

Urban Land Uses

Rapid urbanization occurred in Los Angeles County beginning in 1920, with a population increase of 240% between 1940 and 2012 (Stoms et al. 2012). Population growth also occurred in eastern Ventura County beginning in the 1970s and in western Ventura County beginning in the 1980s. In 2010, according to the Farmland Mapping and Monitoring Program (FMMP) map, Ventura County contained 105,233 acres of built up and developed land (0.089% of the 1,843.3 square miles in the county), while Los Angeles County contained 174,288 acres of built up and developed land (.000067% of the 4,057.88 square miles in the county). Between 2000 and 2010, the population of Los Angeles County, already the most populous county in the state, grew from 9.543 million to 9.827 million or 0.97%. During the same period the population of Ventura County grew from 756,366 to 825,445 or 0.91% (U.S. Census Bureau 2010).

Farmlands and Agriculture, including Prime and Unique Farmlands

A portion of the study area is also bordered by lands devoted to farming and agriculture. Over 100,000 acres are categorized as important farmland by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP). Irrigated agricultural lands are primarily located near Camarillo and Thousand Oaks. These lands are primarily used for growing strawberries and vegetables. In the Simi Hills and Santa Susana Mountains there are substantial grazing lands. In the Santa Monica Mountains vineyards are becoming more prevalent.

Prime farmland is land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Unique farmland is of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but many include non-irrigated orchards or vineyards as found in some climatic zones in California.

The loss of high quality farmland to development has received national attention. Threats to farmland primarily occur on the edge of metropolitan areas where the value of lands for residential and other urban uses exceeds their value as farmland. Most lands in the central and eastern part of the study area were long-ago converted from farmland to other uses. The once widespread walnut and orange groves in the San Fernando and Simi valleys now exist primarily as remnants in suburban backyards. Adjacent to the western and northern part of the study area, this conversion is ongoing in the communities of Camarillo and Moorpark as well as farther west and north in Oxnard, Santa Paula and Fillmore.

The California Department of Conservation (CDC) Farmland Mapping and Monitoring Program (FMMP) program database indicates that there are approximately 8,500 acres of prime

and unique farmland in the study area (FMMP 2010). Most of this is located in Ventura County near the communities of Moorpark, Camarillo, and Point Hueneme. Smaller areas of prime and unique farmland are located within SMMNRA near the communities of Thousand Oaks and Newbury Park, in the central Santa Monica Mountains along Las Virgenes Road and Mulholland Drive, and along the Upper Santa Clara River in Soledad basin.

State-wide, farmland conversion data collected over the past 24 years indicates that for every five acres of land leaving agricultural use, four convert to urban land and one converts to other land uses. Within the study area, over 300 acres of prime and unique farmland were converted to other uses, primarily urban development between 2000 and 2010. Important farmland acreage (prime and unique farmland, farmland of local and statewide importance, and land suitable for grazing) decreased by 3,000 acres from approximately 104,000 acres in 2000 to 101,000 acres in 2010. Prime farmland decreased by 1,100 acres, whereas unique farmland increased by almost 300 acres (FMMP 2000, FMMP 2010).

Some of the farmland in the study area (16,600 acres) is protected voluntarily under the California Land Conservation Act of 1965 (Williamson Act) (The Williamson Act, Ventura County California Land Conservation Act Program). Through this program landowners enter into voluntary contracts with the county to maintain land in agricultural use for a period of 10 or 20 years. In exchange for the restriction in land use, landowners receive a reduction in property taxes. Although formerly very successful, in recent years, the Williamson Act has been less successful because of statewide economic conditions, resulting in declining incentives. When the value of land for development outweighs the benefit derived from the Williamson Act, landowners have less incentive to stay in the program. Lands within the study area are now closer to urban development. In 2004, there were approximately 162 acres of prime farmland in the application process for non-renewal, which means these lands would no longer be under contract and could convert to other uses in 2014. These lands are primarily located near Thousand Oaks and Camarillo (FMMP 2008).

Open Space

Where lands have been protected as open space and/or used for rural or low intensity ranching, these areas often remain dominated by native plant communities. In the study area, these plant communities include chaparral, big-cone Douglas-fir forest, walnut woodlands, oak woodland, coastal sage scrub, alluvial fan sage scrub, riparian woodlands, intermittent and perennial stream habitats and others. Where lands have been heavily grazed or affected by development, including land clearing activities and agriculture, native landscapes are degraded or absent. Nonetheless, much of the unprotected open space in the study area is comprised of primarily native vegetation communities. These areas are primarily located in the hills and mountains surrounding the valleys in the area.

Table 6-2: Approximate Acreage of Study Area Parks and Protected Open Space

Parks and Protected Open Space	Approximate acreage within study area	% of study area
Local and Community parks (cities and towns)	28,500	4.38%
County Parks	9,100	1.40%
State Land Conservancies	9,100	1%
California State Parks	37,300	5.74%
Special Park Districts and Joint Powers Authorities	47,300	7.28%
Bureau of Land Management	3,000	>1%
U.S. Forest Service	180,000	20.28%
National Park Service	23,350	3.59%
Private protected open space	1,700	>1%
Total Parks and Protected Open Space	340,000	52%

Source: California Protected Lands Database, v. 1.9

Many communities initially had or currently have prohibitions on hillside development and/or have focused infrastructure in valley bottoms. This pattern of development has resulted in the retention of large open spaces in the hills and mountains that make up the Rim of the Valley Corridor. For instance, although the San Fernando and Simi valleys are blanketed by housing and shopping centers the hills surrounding these areas (Simi Hills, Santa Susana Mountains, Santa Monica Mountains, and Verdugo Hills) are largely natural areas. Thousand Oaks also has many small hills within developed areas and is bordered by the Santa Monica and Conejo mountains and the Las Posas and Simi hills. Along the Arroyo Seco corridor, pockets of natural areas remain in the San Rafael Hills as well as in the hills of northeastern Los Angeles.

These large undeveloped areas surrounding the cities and towns in the study area still function as native wildlife habitat and currently provide outstanding opportunities to link currently protected and unprotected areas for wildlife and to provide current and additional recreational opportunities.

There are also highly degraded or developed areas where native land cover is completely absent, but even among these, there are some current efforts directed toward restoration. Among the most promising of these efforts is the transformation of the Los Angeles River into a greenway corridor that supports multiple objectives, including habitat enhancement, stormwater management, recreation and economic revitalization. The 51-mile Los Angeles River, which passes through 13 cities and numerous communities, has been the focus of many agencies, community groups, nonprofit organizations and the business community. Among these efforts has been the *Los Angeles River Revitalization Master Plan*, prepared by the City of Los Angeles. This plan has many proposals for projects throughout Los Angeles that will be developed by working cooperatively with local residents and other stakeholders. The City is working closely with the U.S. Army Corps of Engineers and the County of Los Angeles, key project partners, to realize the new vision through the *Los Angeles River Ecosystem Restoration Feasibility Study*, which has identified environmental restoration opportunities. These efforts are connecting dense urban communities with close-to-home natural resources and recreational opportunities.

Building on the Los Angeles River Greenway concept, similar work is underway to transform tributaries of the Los Angeles River, such as Tujunga Wash and the Arroyo Seco, into greenways that will contribute towards a regional greenway network.

In addition to the Santa Monica Mountains Conservancy and Mountains Recreation and Conservation Authority, there are at least another 50 state, local or private public land organizations actively working to create public lands within the study area. Among these include: Trust for Public Land, The Nature Conservancy, Mountains Restoration Trust, Arroyos and Foothills Conservancy, Sierra Madre Mountain Conservancy, Los Angeles Neighborhood Land Trust, and others (*Table 6-2: Approximate Acreage of Study Area Parks and Protected Open Space*).

Land Use Described by Geographic Areas

The study area can be understood within a physiographic context, by a closer look at the following ten areas: Santa Monica Mountains, Conejo Mountain - Las Posas Hills, Simi Hills, Santa Susana Mountains, Upper Santa Clara River, San Gabriel Mountains, San Gabriel Foothills, Verdugo Mountains - San Rafael Hills, Arroyo Seco, and the Los Angeles River.

Santa Monica Mountains

Although much of this area is comprised of open space, there are also pockets of suburban and urban development within it. A large portion of the eastern Santa Monica Mountains is very urban. Exceptions to this highly urbanized landscape include Griffith Park and Franklin Canyon as well as the pockets of open space formed by the SMMC cross-mountain parks (Runyon Canyon, Dirt Mulholland and others). A little over half of the land in SMMNRA is in public ownership (divided among park agencies, as well as cities [Calabasas, Malibu, Los Angeles, Thousand Oaks] and other entities, such as the Las Virgenes Municipal Water District, University of California, and other Los Angeles County lands), with private lands comprising the rest. Approximately 50% of this area is conserved as protected open space, another 40% of the area is open space in private ownership and approximately 10% of the Santa Monica Mountains are developed (with urban, suburban, commercial or industrial uses) (Stoms et al. 2012). With some small exceptions,

including recently established vineyards and orchards, agricultural land uses are not prevalent in SMMNRA.

Conejo Mountain - Las Posas Hills

This area includes lands on the western edge of the Santa Monica Mountains, as well as lands north and west of Thousand Oaks. Although there is some contiguous open space, public lands in this area are primarily associated with development easements. This subgeographic area also contains the largest percentage of lands in agricultural use.

Simi Hills

The portion of the Simi Hills included in SMMNRA was expanded through a boundary adjustment in 2002. Although surrounded by development, this area comprises a large block protected as public land. This area also contains a landfill as well as a large area of private open space (Bridle Path Open Space).

Santa Susana Mountains

The Santa Susana Mountains are primarily undeveloped open space. Public land is located primarily in the eastern part of the mountains where they abut the Simi Hills as well as along the edge of the Santa Clarita area. Although mostly undeveloped, there are development proposals pending for some areas, including for Mormon/Brown's Canyon. Although many older oil wells have been abandoned, oil extraction continues in some areas of the Santa Susana Mountains. Additionally, the Southern California Gas Company's 3,600-acre Aliso Canyon storage facility is located in the Santa Susana Mountains north of Porter Ranch and Northridge. The facility stores natural gas in depleted underground oil fields. This facility services 20.9 million customers and as such is part of the region's natural gas critical infrastructure.

Upper Santa Clara River

This area primarily comprises the northern foothills of the San Gabriel Mountains (Angeles National Forest and San Gabriel Mountains National Monument) up to and including the Santa Clara River. With the exception of non-contiguous public lands managed/owned by the Bureau of Land Management, California State Parks and local jurisdictions, much of this area is privately owned. There is a mix of uses in this area, including residential, recreational, gravel mining and other commercial and industrial uses.

San Gabriel Foothills

Although edged by urban development, to the south and the Angeles National Forest and San Gabriel Mountains National Monument to the north, the generally undeveloped San Gabriel foothills contain a mosaic of land uses, including protected open space, residential, institutional and commercial development.

San Gabriel Mountains

The San Gabriel Mountains region of the study area is managed by the U.S. Forest Service as part of the Angeles National Forest and San Gabriel Mountains National Monument. Although the primary use is recreation, the U.S. Forest Service managed areas also contain utility easements, communications facilities, and infrastructure related to flood protection and water supply. The San Gabriel Mountains comprise approximately 70% of the open space in Los Angeles County.

Verdugo Mountains - San Rafael Hills

This area is described as a primarily undeveloped island in the midst of a highly developed urban landscape. There is a variety of public parklands that span the center portion of the Verdugo Mountains, with residential areas located mostly along the foothills. There are also areas of sparse residential and commercial development. The Verdugo Mountains and San Rafael Hills are divided by a freeway that parallels Verdugo Wash. There are also several other roads. Private homes are scattered throughout the San Rafael Hills. In addition, there is the Scholl Canyon Landfill.

Arroyo Seco

The Arroyo Seco canyon extends from the San Gabriel Mountains to the Los Angeles River in downtown Los Angeles. Land use in this area is primarily comprised of public parklands surrounded by a highly urban environment. The hillsides lining the Arroyo Seco include a mixture of largely residential development interspersed with canyon and hillside open spaces and parks.

Los Angeles River

The area surrounding the Los Angeles River, including much of the river itself is highly urbanized but contains several pocket parks. Most are less than one acre. Adjacent to and near the river are Griffith and Elysian parks, large public lands managed by the City of Los Angeles. From Griffith Park to downtown Los Angeles, there is a 11-mile natural bottom section of the river within the study area boundary. In addition, Sepulveda basin, managed by the U.S. Army Corps of Engineers in partnership with the City of Los Angeles, contains a natural bottom section of the river. There are also commercial and industrial uses along the Los Angeles River. Rio de Los Angeles State Park and Los Angeles State Historic Park are also along the Los Angeles River.

Land Use Environmental Consequences

This section analyzes several aspects of land use, including potential effects on land use plans, policies or controls; potential effects on private lands; potential effects on prime and unique farmlands; and the quality of urban open space and potential effects on these qualities.

Impacts from Alternative A

There would continue to be no effect on land use associated with private lands in the study area. With designation of

SMMNRA, no additional regulatory or land use authorities over existing agencies or local governments were applied. One exception, as described in the feasibility analysis in *Chapter 3: New National Park Unit Criteria Analysis*, is the regulation of solid waste facilities, required by 36 CFR, Chapter 1, Part 6. Each partner and jurisdiction continues to retain land ownership, management, and decision-making authority for lands that they own. NPS land management policies and regulations would continue to only apply to lands owned by the NPS. Privately held lands would continue to be regulated by local land use authorities (cities and counties).

There would continue to be long-term beneficial effects from the nearly 340,000 acres of parks and open space protected in the Rim of the Valley Corridor study area by the NPS, SMMC/MRCA, other federal and state, and public and private organizations. Ongoing beneficial effects from future land protection efforts by the NPS and other federal, state and local agencies in SMMNRA would also continue. Local agencies that control land use decisions within SMMNRA would likely continue to use NPS research findings to inform land use planning and open space acquisitions, a long-term beneficial effect on conservation of land within the study area (NPS 2013f).

Efforts to protect public lands in SMMNRA (NPS and partners) and within the Rim of the Valley Corridor (SMMC and cities) would likely continue at current levels. There would be ongoing adverse effects from regional growth and development that would continue to affect unprotected lands. Sometimes these would be targeted by conservation groups for open space. Urban development within the mountains would continue to climb up canyons, expand in pockets of low lying land, ridgetops, and encroach on habitat adjacent to protected public land, removing and fragmenting habitat available to wildlife (Stoms et al. 2012). Depending on local and regional planning there could be additional adverse effects from poor or no coordination among the public and private non-profit organizations working toward land protection. Where land use planning did not take into consideration preservation of targeted lands as open space, the ability of conservation organizations to preserve open space could be reduced. Because, however, conservation organizations and/or other groups often work together to protect targeted lands, there could be ongoing beneficial effects, even in the absence of land use plans that identify areas as open space, such as occurred for Ahmanson Ranch in the Simi Hills, when conservation groups worked together to advocate protection for this area.

The signatories to the Santa Monica Mountains Cooperative Management Agreement (NPS, California State Parks and SMMC) would continue to have direct management authority for a large percentage of the protected public lands within SMMNRA and would continue to manage these lands according to federal and/or state laws and policies. Where possible, it is also likely that these agencies would continue to cooperate on issues related to the Rim of the Valley Corridor, especially

where these relate to wildlife habitat connectivity and to educational programs and opportunities.

The NPS would continue to be a partner, sharing stewardship of areas within its boundary with the public, other agencies and private landowners. The NPS would also continue to support activities on non-NPS lands consistent with the purposes of SMMNRA, such as wildlife habitat linkage and educational outreach work beyond the boundary. Actions would continue to emphasize cooperative relationships and planning. Direct management of lands owned by the NPS would continue to provide for operations, maintenance, resource management, education and resource and visitor protection.

Although SMMNRA has cooperative management authority for actions that relate to lands within the boundary, there has to be a clear relationship to the NPS mission for the park to use this authority outside the boundary. If the action clearly benefits SMMNRA and the resources it protects or provides for connections to SMMNRA recreational use, this linkage can be made. Because of limited staffing in some areas, such as landscape architecture and land use planning, however, the park has not often been in a position to take advantage of these opportunities. Nonetheless, the park has continued to use the legislatively identified Santa Monica Mountains Zone as a tool to comment on land use development plans within the zone but outside the boundary as was authorized by SMMNRA enabling legislation. Resulting from this, area land use planners have used park comments as a tool to minimize some adjacent incompatible development effects and to encourage additional land protection within the boundary. Although additional opportunities, such as partnering with agencies and organizations to provide trail access to the north side of the Simi Hills could occur, these ventures have largely been limited by a greater focus on protecting natural and cultural resources and because land use planning staff is already overextended. Other opportunities to work with partners could also be pursued if the park could assemble the necessary resources to work with area landowners.

Cooperative management authority is also integral to land protection within the boundary. For example, because partner agencies have fewer constraints on land purchases and can move with more agility to purchase lands and to negotiate with private landowners, cities and counties, some key lands that were originally slated for development have been protected as public land. Cooperative management would also continue to be used by the Juan Bautista de Anza National Historic Trail staff to promote designation of this route through the study area, an ongoing long-term beneficial effect. The NPS Rivers, Trails and Conservation Assistance Program (RTCA) would also continue to provide technical assistance for public outdoor recreation conservation purposes to state and local governments and community groups in support of natural resources conservation and outdoor recreation efforts.

Cooperative management has also been used to deliver interpretive and educational programs focusing on the resource protection and public use mission of the NPS in SMMNRA and other park sites outside of the boundary of SMMNRA, such as in downtown Los Angeles. Educating young people about the history and mission of the NPS and other public land management agencies in the Santa Monica Mountains has a potential indirect long-term beneficial effect on land use by encouraging and/or creating the next generation's land stewards. Similarly, adults participating in these programs often begin to get a sense of the network of parks available to them in the area, another indirect long-term beneficial effect from acknowledgement of the significance of protecting these areas for themselves, their families, and neighbors.

Under alternative A, it is likely that farmland not protected by voluntary conservation programs could continue to be developed, a long-term moderate adverse effect on prime and unique farmlands. Those lands most likely to be converted to other uses, including residential and urban development, include lands located close to or within city boundaries and lands whose value for development greatly exceeds their value for agricultural production. Trends in the study area over the past 50 years indicate that this conversion would continue to occur because of pressures associated with ongoing population growth. If this conversion was delayed or did not occur, these lands would continue to remain available as open space and would continue to enhance the scenic value of the surrounding landscape, particularly where they are adjacent to public lands.

Impacts from Alternative B

As in alternative A, local governments would retain land use authority within the areas identified for cooperative management. There would, however, be additional beneficial effects on protection of open space from seed money provided by the NPS for development of a cooperative management plan. The cooperative management plan could also be used by existing agencies, local governments, and private landowners to leverage additional funding and resources for open space protection within the Rim of the Valley Corridor partnership area.

It is likely that alternative B would increase access by other agencies and organizations to NPS expertise in conservation planning, vegetation, wildlife and fire management and other disciplines for conservation planning in the study area. Opportunities for increased access to educational and interpretive staffing and programming could also support conservation planning. For some agencies and organizations, this access would provide opportunities that would otherwise be limited, a long-term beneficial effect since this would likely continue beyond cooperative management plan development.

This alternative would also create a mechanism for the NPS to share information with its cooperative management partners, similar to the authority that is now available between federal

agencies via the recent Service First Authority (2011). It is likely that cooperative management agencies could share resources, staffing and funding across jurisdictions during the plan development process and as that plan was initially implemented. If long-term authority for cooperative management was identified as part of this alternative there could be additional beneficial effects. Otherwise these effects would primarily be beneficial but most NPS direct involvement would last only through development of the cooperative management plan.

Through existing authorities, SMMNRA would continue cooperative efforts in some areas encompassed by alternative B where a link to the park was present.

Identification of nationally significant areas could result in local, state or national agencies or private landowners desiring to protect these sites, a long-term beneficial effect on land use.

Impacts to prime and unique farmland would be similar to alternative A, however because of the cooperative conservation plan which would likely encourage private land stewardship opportunities, there could be long-term minor beneficial effects on the protection of these lands.

Impacts from Alternatives C and D

State and local governments would generally continue to maintain regulatory authorities for nonfederal lands in Alternatives C and D. NPS regulatory authority would primarily pertain to lands owned and managed by NPS, with the exception of certain regulations in 36 Code of Federal Regulations (CFR) Chapter 1 including regulation of solid waste facilities, mining related activities, and the exercise of nonfederal oil and gas rights, which may apply to lands within the authorized boundary. Depending on what is specified in any potential future legislation that would authorize a boundary expansion, solid waste facilities, mining related activities, and the exercise of oil and gas rights could be affected by additional permitting and/or reviews by the NPS. As described in *Chapter 5: Alternatives*, Congressional legislation could specifically allow activities or uses that are not typically permitted in national park units. For example, some national park units allow hunting or mineral leasing because this use was specifically identified in the park's authorizing legislation.

As described under alternative A, SMMNRA works cooperatively with local and state agencies to manage lands in the national recreation area. NPS management policies typically apply to lands that NPS acquires. Local jurisdictions could, however, choose to use the expanded boundary as an opportunity to engage in partnerships to increase public lands within their jurisdiction adjacent to the boundary or to use it to spur additional public lands dedications as lands are developed.

Alternatives C and D state that any legislation proposed to implement study recommendations could specify that eminent

domain would not be used for NPS land acquisition. As within the SMMNRA boundary, the NPS would only consider acquiring land on a limited basis from willing sellers. As described in alternative A, designation would not impact local land use authority over lands not owned by the NPS. Land acquisition authority, where used, would continue to be completed in partnership with other agencies and organizations based on the SMMNRA model.

Although a boundary expansion would not establish additional regulatory or land use authority over local governments, lands within an NPS boundary could be protected by the NPS through purchase authorities, for land or easements. Because the NPS is not a regulatory agency, NPS land management policies and regulations would generally only apply to lands that the NPS acquires. Even with the authority to purchase lands within an expanded boundary, the NPS would only consider acquiring land on a limited basis from willing sellers. Such land purchases would also be based on direction from Congress and a land protection plan would be developed to identify priorities for land acquisition, easements and other use of land protection authorities, including cooperative management, compatible public and private lands, etc.

Because these alternatives allow for NPS land acquisition within their respective proposed boundary additions, they would emphasize protecting large areas of open space among urban areas or areas that facilitate protection of key wildlife corridors or open space connections. Because alternative D would provide a larger boundary addition, it could potentially have the most beneficial effects on protecting large areas of open space, including for wildlife habitat and visitor use.

Alternatives C and D would enhance the ability of the NPS to work actively to protect a connected system of public lands in the Rim of the Valley Corridor study area, a connected system that could create a stronger driver for open space protection in the greater Los Angeles and Ventura areas, albeit to a different extent in alternative C vs. D. Cooperative work with other federal, state, private and local land protection agencies and organizations could encourage local land use authorities to direct compatible land use adjacent to an NPS boundary when local land use plans are revised or developed as has generally occurred with the current SMMNRA boundary in alternative A.

As in alternatives A and B, areas of prime and unique farmland would likely continue to be converted to other land uses due to the pressures of population growth and development in the study area. Land acquisition of public open space proposed in these alternatives would be unlikely to include prime and unique farmlands; however, as in alternative B, these could continue to be protected through voluntary easements or other private land stewardship programs. There could, therefore be some minor beneficial effects. To the degree that these lands

were protected, there would be long-term beneficial effects on nearby public lands related to improved protection for scenic resources and wildlife habitat linkages.

Cumulative Impacts

Although land use within the study area varies greatly, approximately 50% of it is protected as open space. Over time past projects have resulted in much of the study area lowlands being developed. Extensive urban and suburban development combined with pockets of rural development is crisscrossed by major national transportation corridors that allow the importation of goods and services to the ever-expanding population of the Los Angeles metropolitan area (*Figure 1-4: Population Density and Ethnicity Map in Chapter 1: Introduction*). SMMNRA is under intense development pressure. Whereas only 11% of the region was urbanized in 2000, urbanization might increase to as much as 47% of the area by 2050 (Delaney et al. 2010 in Stoms et al. 2010). Because most of the development remains within the valleys, public and private open space in the surrounding hills brings a fairly high quality to urban and suburban life to those living near the edges, providing scenic vistas, recreational opportunities, and open space that contributes to clean air. These areas also offer some of the most expensive housing in the region. In some areas, however, such as in the central regions of the San Fernando Valley and in downtown Los Angeles, there are fewer opportunities for people to access open space, particularly public lands. Overall impacts on land use in the region have been moderate to major with vast areas that do not retain natural characteristics. Nonetheless, there remain large undeveloped areas surrounding the cities and towns that function as native wildlife habitat and currently provide outstanding opportunities to link currently protected and unprotected areas for recreational opportunities and wildlife. As described in the natural resources condition assessment for SMMNRA, urban development within the park is relatively small compared to the surrounding metropolitan areas, with its accompanying air pollution, noise, and skyglow (Stoms et al. 2012:36).

Current and future projects would continue to add to the trends toward urbanization in the study area. Land use plans for cities and towns within the study area boundary would continue to add to the range of development currently present in the study area. In addition, future trends predict additional development. According to the natural resources condition assessment for SMMNRA, between 1940 and 2000, housing density within and around SMMNRA increased from suburban to urban density. Between 1990 and 2000, housing units increased by 4%, population by 7%, and developed land by 1% (Stoms et al. 2012:41). Environmental Protection Agency growth scenarios project more land in urban and suburban densities by 2050, with a strong shift from rural/exurban densities within SMMNRA toward suburban and urban land use classes in the coastal canyons by 2050 (Stoms et al. 2012).

Alternative A would have no new impacts on land use within the study area. Existing trends toward both public and private land conservation in the study area as a whole, land acquisition by SMMC/MRCA in the Rim of the Valley Corridor, and land acquisition by the NPS and other public and private land agencies in SMMNRA would continue resulting in long-term beneficial effects on urban quality. Private lands would continue to be regulated by counties and local jurisdictions. Alternative B could have negligible to minor beneficial effects on the protection of open space if the cooperative conservation plan resulted in additional public and/or private land stewardship opportunities that protected additional lands in the study area. Alternatives C and D could similarly add to protection of public lands in the study area and could have minor to moderate beneficial effects, depending on what lands were targeted for protection. Although the contribution to adverse cumulative effects would be small associated with alternatives A-D, because it would primarily be associated with minimal areas for recreational development (i.e. for facilities such as restrooms and signs), the contribution to cumulative effects associated with the purchase of private lands that would otherwise be developed could be minor to moderate, depending on the alternative and the ability of private and public agencies to steward this land protection.

Conclusion

Alternative A would continue to have minor to major long-term beneficial effects on urban quality in the portions of the study area where existing lands have been conserved for public open space by the NPS, private landowners, and other agencies, such as in SMMNRA. Where lands proposed for conservation and open space were developed, there would be a loss of open space resulting in long-term minor to major adverse effects on urban quality. Alternative B would have long-term beneficial effects similar to alternative A, however, if partner agencies and private landowners and organizations were able to conserve additional public lands through a cooperative management plan, there could be additional long-term beneficial effects. Alternatives C and D would initially have long-term beneficial effects similar to alternative A. Later, these beneficial effects could extend to other areas because additional lands would be added to the boundary of SMMNRA, for public recreational use and habitat connectivity (alternative C) and which could include legislative authority to protect wildlife habitat linkages (alternative D). Long-term minor to major adverse effects would continue to occur as key lands were developed in both alternatives but not as a result of this plan.

Paleontology Environmental Consequences

Impacts from Alternative A

SMMNRA would continue to contain one of the most extensive and diverse assemblages of fossil material known in the national park system. As described in the significance analysis in *Chapter 3: New National Park Unit Criteria Analysis*, there

are at least 2,300 known fossil localities found in over a dozen fossil-producing geologic formations. These include a range of fossils of invertebrate, vertebrate, paleobotanical, protista, and trace fossils that range in age from the Late Jurassic to Pleistocene. Because of the proximity of SMMNRA to colleges and universities and large population centers, portions of the area within SMMNRA boundary and zone have been extensively studied. As described in the significance section, the diversity of the fauna, both marine and terrestrial, is extraordinary. Many new species have been named from the Santa Monica Mountains as a result of this research. There are also a variety of ongoing threats to SMMNRA paleontological resources, including erosion, unauthorized collection and development. As a result, there would continue to be minor long-term adverse and beneficial effects. Beneficial effects would include adding to the wealth of information about the paleontology of SMMNRA.

Sites in the study area but outside of protected areas, such as the Topanga Canyon amphitheater site, could continue to be threatened by illegal collecting and high rates of erosion, jeopardizing the potential wealth of paleontological resources, a long-term negligible to moderate adverse effect, depending on the loss and the significance of the site(s). For example, because of construction associated with the Mulholland Estates, some previously identified fossil fish localities are now inaccessible, however, according to Coastal Southern California Science and Learning, there is continuing potential for recovery of new specimens (NPS 2013d). Opportunities to learn about the number of fossil wood deposits identified within and surrounding SMMNRA would continue to be available; however, where these are protected there could be additional impetus to identify found materials, a long-term beneficial effect. Other opportunities like this could be lost due to private collecting, contributing to adverse effects.

Impacts from Alternative B

In addition to existing resources within the boundary of SMMNRA, at least three fossiliferous formations located in the Simi Hills and Santa Susana Mountains contain important formations not currently represented in SMMNRA (Las Virgenes, Pico, and Towsley formations). Adding these to the partnership area in alternative B could encourage additional NPS involvement in their preservation, a long-term beneficial effect. In addition, the study area encompassed by alternative B, includes a large number of fossils found in the Simi Hills and Santa Susana Mountains that would complement those contained within SMMNRA and which, if protected, could contribute to long-term beneficial effects on paleontological resources.

Impacts from Alternative C and D

Alternatives C and D would include fossil formations not currently represented in SMMNRA. Alternative D would also include some formations not in alternative C, including the Conejo volcanics, Sespe formation and the Llajas formation near Simi Valley. Expansion in the Simi Hills and in the eastern

Santa Monica Mountains would likely add a number of type specimens from various species, including seaweeds, fish and marine invertebrates. Because these areas would be added to SMMNRA, the NPS could conduct additional documentation or scientific studies and work with local governments and other public and private organizations to secure further resource protection. If additional sites containing paleontological resources were protected and studied, there would be long-term beneficial effects on understanding of these resources in SMMNRA which would be improved by understanding fossils in nearby and surrounding mountain ranges, such as the Simi Hills, and parts of the Santa Susana Mountains, the foothills of the San Gabriel Mountains and the Upper Santa Clara River, also included within these alternatives.

Cumulative Impacts

As with other study area resources, paleontological resources are threatened by the intense development pressure in the region. Where significant resources are identified for protection, there is support for public and private land stewardship to protect them, however, much of the area that contains these resources is not fully explored and more land is lost to development annually. It is therefore likely that key resources could continue to be lost. Past, current and future development projects would continue to occur in SMMNRA and in the Rim of the Valley Corridor study area and could continue to contribute to the loss or displacement of paleontological resources.

The contribution of the alternatives to cumulative adverse impacts on paleontological resources would be small. Although protection for these could be fostered under alternative A, it would be more likely that in this alternative possible protection would be undertaken by a private or public land stewardship, such as by an individual or directed purchase by a public land management organization only upon the direct threat of development. Under alternative B, the cooperative conservation plan could identify resources needing protection and thus take a more proactive approach to securing it through private or public land stewardship. Alternatives C and D could direct NPS and other public land acquisition funding toward protecting paleontological resources. Although their presence within an expanded SMMNRA would not guarantee protection, it could make it more likely that knowledge of their presence would be available and that this could engender support for their study and/or stewardship. It is likely, however, that under all alternatives, currently unprotected sites could continue to be threatened by unauthorized collection, development and erosion.

Conclusion

There would be a range of beneficial and adverse effects on paleontological resources in alternative A. Although protection for paleontological resources could be spurred by partnership opportunities in alternative B, this protection would be most likely to occur in alternatives C or D if sites containing pale-

ontological resources were identified for new public or private land protection efforts by the NPS or partner agencies and organizations.

Water Resources Context

Hydrology

Portions of the study area lie within four major watersheds (Calleguas Creek, Santa Clara River, Santa Monica Bay, and Los Angeles River) as described in *Chapter 2: Resource Description*.

Tributaries in the study area include three major waterways (Upper Santa Clara River, Los Angeles River, and Calleguas Creek) as well as innumerable streams (including major creeks in the Santa Monica Mountains with 49 outlets to the ocean), several impounded lakes and natural and unnatural ponds. *Chapter 2: Resource Description* contains an overview of water resources and a historical account of water conveyance and flood protection within the study area.

Water Quality

Water quality criteria are numeric values or narrative descriptions of the physical, chemical, and biological characteristics of waters necessary to support their designated beneficial uses. Beneficial uses may include wildlife habitat, aquatic life habitat, rare, threatened or endangered species, migration of aquatic organisms, spawning, reproduction and/or early development, water contact recreation, non-water contact recreation, navigation, groundwater recharge, agricultural supply, municipal and domestic supply, industrial service supply, commercial and sport fishing, shellfish harvesting, etc. Water quality parameters include pH, turbidity, temperature, dissolved oxygen, alkalinity, nutrients, bacteria and toxic chemicals. These measures apply to surface and groundwater quality. The regulated water quality parameters for Class AA surface water include fecal coliforms, dissolved oxygen, total dissolved gas, temperature, pH, turbidity, toxic, radioactive or deleterious materials, and aesthetic value. States, territories, and Indian tribes set water quality standards for waters within their jurisdictions based on Environmental Protection Agency (EPA) standards. In turn, the state designated standards are approved by EPA. In California standards are set by the regional water quality control boards (RWQCB). Minimum standards for recreational waters (water contact) are dependent on the type and amount of water contact (e.g. from light bathing to designated bathing beach) and include routine testing for E. coli, enterococci, and fecal coliform. Water bodies that do not meet the standards for their designated beneficial uses are considered impaired.

Impairment of water quality is related to adverse human health effects. Human health effects are generally caused by the concentration of bacteria in water. Local and national epidemiological studies demonstrate that there is a causal relationship between adverse health effects and recreational water quality,

as measured by the density of bacterial indicator species. For example Beneficial Use Standards for Recreation-1 (minor swimming) waters in California have the following water quality objectives:

- pH - 6.5-8.5
- Turbidity- shall not exceed 5 NTU (over background level)
- Dissolved Oxygen- shall exceed 7 mg/L
- Fecal coliform – shall not exceed a geometric mean of 200 colonies/ 100mL and not have more than 10% of all samples collected exceed 400 col./100mL (CRWQCB 1994)

Water quality varies greatly throughout the study area, depending on land use, including the type and degree of development. Since a large portion of the study area consists of undeveloped mountains, these areas have few inherent impacts. Since a large portion of the study area is comprised of undeveloped mountains which are the headwaters of the rivers and streams that flow through the area, there are few inherent impacts. Among the impacts, however, include a high number of paved and unpaved roads and incursions for utility development. Within the study area are also a wide range of lowlands that have been adversely affected by development. Sources of water pollution include agriculture, industry, wastewater, garbage, and urban runoff. In some areas, there is widespread use of fertilizers, chemicals, solvents, and household products, including pesticides. This pollution comes from both point sources, such as from industry (including mining) and wastewater treatment plants, and non-point sources such as urban and agricultural runoff. Pollution levels vary based on the season (such as time between runoff events and the amount of runoff). For instance, the first runoff after dry periods is likely to have higher levels of pollutant concentrations.

The natural properties of water can also be contaminated by metals, nutrients, pesticides, bacterial and viral pathogens and garbage. Metal pollutants include zinc, cadmium, copper, chromium and nickel. These are found in discarded metals, paint, automobiles, automobile exhaust, and preserved wood, and can come from road and industrial runoff. High nutrient levels are the result of the use of chemical fertilizers, such as nitrogen and phosphorus, human and animal waste such as from wildlife and livestock operations, and effluent from wastewater treatment plants. Pesticides and other organic compounds come from construction and home use, and include adhesives, cleaners, sealants, and solvents, and pesticides. Bacteria and viruses include *Escherichia coli*, *cryptosporidium*, and *giardia*. Sources of these include poorly functioning septic systems, sewer leaks and spills, and fecal matter from humans and other animals. Garbage is another source of pollutants and may include yard waste, improperly disposed of pet waste, plastics and other trash, such as packaging. Several of these

pollutants, including metals, pesticides and other organics can bioaccumulate in organisms, causing more harm to animals at the top of the food chain than to those lower in the food chain (LADPW 2006).

The Los Angeles Regional Water Quality Control Board has identified 38 water quality limited segments (primarily streams and beaches) within or near SMMNRA that do not meet standards for at least one of 37 pollutants. These pollutants span a range of nutrients, pesticides, pathogens, toxicity, metals, and others and are required to be addressed through Total Maximum Daily Load (TMDL) plans. The most frequent pollutants to be addressed are DDT, PCBs, indicator bacteria, and coliform bacteria. Segments of Calleguas Creek have as many as 14 pollutants identified. TMDL plans typically involve a contentious, time-consuming planning process. These water quality violations also represent a large number of stressors and pathways that can impact the aquatic resources in SMMNRA in complex, synergistic ways (Stoms et al. 2012).

Importance of Healthy Water Resources

Streams and rivers in the study area flow through diverse habitats, from mountain canyons, valleys, deserts, estuaries and urban areas. Riparian woodlands along stream banks and floodplains link forest, chaparral, scrubland, grassland, and wetlands (California Water Quality Monitoring Council 2013).

Healthy streams, rivers, and lakes provide safe drinking water, recreational opportunities, and important habitat for species ranging from the red-shouldered hawk to steelhead to crayfish and dragonflies. Maintaining healthy streams, rivers, and lakes can reduce the need for water treatment and water supply costs and make landscapes more resilient to climate change. To determine the health of a waterway and the flora and fauna that live there, investigators can use a combination of chemical, biological, and physical assessments. Among the characteristics that may be considered are habitat quality, aquatic life diversity, water chemistry, stream hydrology (water flow processes), the physical channel form, and sediment transport processes of the stream (California Water Quality Monitoring Council 2013).

Water Resources Environmental Consequences

Impacts from Alternative A

Water Quantity and Supply

Alternative A would have no effect on existing water rights, water supply (quantity), treatment, flood protection or other functions necessary to maintain the infrastructure associated with the public water supply in the study area. The infrastructure associated with various cities and Ventura and Los Angeles counties would continue to be managed under existing authorities and agencies. There would be no facilities or designations that would require new beneficial uses or changes

in requirements for managing water resources within the study area. Existing management of water, wastewater and sanitation facilities would continue in SMMNRA and on other public and private lands.

There would also continue to be adverse effects on area streams and other water resources from the increased availability of water, including from a range of nonnative invasive plants adapted to wetter areas, especially in formerly ephemeral streams. Summer flows have increased in historically intermittent streams. This has likely increased the vulnerability of these streams to nonnative invasive plants and animals. Increased summer flows may be attributed to runoff from irrigation of residential areas and parks from increased water importation, or from channelization, resulting in changes in evaporation rates (Cameron et al. 2005 in Stoms et al. 2012:115). There would also continue to be adverse effects related to an increase in nonnative aquatic wildlife attributed to increased water supply, such as from nonnative fish and crayfish in area streams.

Water Quality

Although impacts within the study area would continue to range from negligible to major from the immense variety of impacts to water quality, there would be a much smaller range of ongoing adverse and beneficial impacts attributable to alternative A from continuing protection of public and private parklands in this area, such as from State Park, SMMC and NPS involvement in SMMNRA and NPS actions in other authorized areas.

Water quality in rivers and creeks would continue to vary greatly in different locations throughout the study area, depending primarily on the level of development and existing or planned land use. According to the SMMNRA *Natural Resources Condition Assessment*, runoff generated from developed areas has placed increasing pressure on fresh water resources. Runoff from urbanized areas (e.g., roads, parking lots, residential areas) may occur more quickly and with higher concentrations of pollutants than before development.

Runoff from developed areas could also contain elevated levels of nutrients (such as phosphorous and nitrogen), pathogens, toxicants (e.g., heavy metals), and litter and trash loads. According to the Natural Resources Condition Assessment, Malibu Creek and many of its tributaries, Topanga Creek, Solstice Creek and beaches east of the Los Angeles/Ventura County line have been identified as water quality limited for various pollutants and have therefore been listed as impaired as required by Section 303(d) of the federal Clean Water Act (Stoms et al. 2012:14).

Recreation and Visitor Use

In SMMNRA, actions that would affect water quality would continue to include impacts from maintenance of trails, re-

source management activities such as treatment of nonnative invasive plants, and recreational use (such as from horseback riding). These mostly short-term impacts would continue to range from negligible to minor and widespread to moderate localized impacts, depending on the activity.

Soil disturbance to construct trails would also continue in SMMNRA and on other public park lands and could affect soil stability, resulting in erosion. This in turn can cause sedimentation of nearby water bodies and reduce water quality by increasing turbidity and nutrient loads. Because mitigation measures would continue to be used by SMMNRA and on other federal and state parklands, these effects would be minimal (negligible to minor). Ongoing analysis of projects to determine project specific impacts and potential mitigation measures would continue to occur on NPS lands.

There would continue to be negligible to moderate localized adverse effects from visitor use on water quality, including from inadvertent actions, such as erosion caused by use of trails when wet, despite widespread trail closures on many parklands after seasonal rains. Ongoing interpretation and education related to water quality impacts from recreational use would also continue to have negligible to minor indirect beneficial effects on water quality by educating visitors about how to avoid impacts prior to their occurrence.

Watershed Protection Efforts

Ongoing beneficial effects would also continue to be provided in the study area by individual organizations and public entities. These include open space zoning by Los Angeles County associated with areas in the San Gabriel Mountains and foothills for watershed protection; ongoing efforts of the Watershed Conservation Authority / Rivers and Mountains Conservancy to provide open space, habitat restoration and watershed improvement projects in the lower portions of the Los Angeles River; and ongoing efforts of the Resource Conservation District of the Santa Monica Mountains (RCDSMM) to promote water conservation and improve water quality, among others. The RCDSMM also provides on-site consultations for home and business owners on how to save water, money and improve water quality by initiating sustainable landscaping solutions on their property. In addition, the *Greater Los Angeles County Region Integrated Regional Water Management Plan* provides funding for projects that meet its goals, including optimizing local water resources to reduce reliance on imported water, improving the quality of runoff to meet beneficial use requirements for receiving water bodies, increasing the number of wetlands, aquatic buffers and wildlife linkages, increasing watershed friendly open space, and reducing flood risk (LADPW 2006).

There would be indirect beneficial effects from ongoing cooperative management of parklands, including protection of watersheds and limited additional development. With land

protection strategies, there would likely be fewer opportunities for additional point source water quality degradation to occur, a long-term beneficial effect.

Nonnative Invasive Plant Treatment

Soil disturbance to remove nonnative invasive plants and would continue to have both beneficial and adverse effects on water resources. Mitigation measures would continue to be employed to reduce or eliminate risks.

Existing Restoration Efforts

Within the study area, there would continue to be cooperation among the signatories to the Santa Monica Mountains cooperative management agreement to identify and protect key water resources, address nonnative invasive plant removal and to assess aquatic species, such as fish and amphibians. Restoration treatments in riparian areas or near other aquatic resources may improve water quality by reducing erosion and sedimentation, where vegetation was used to stabilize stream banks.

Existing partnerships to improve water resources would also continue. These include efforts to improve the Los Angeles River and its tributaries, cooperative efforts to improve Santa Monica Bay and efforts by regional non-profit organizations to secure land for open space protection.

Research and Monitoring

Limited funding for restoration, planning, and public education in the region to address water quality impacts would likely continue to contribute negligible to moderate adverse impacts on water resources under alternative A. As additional information is gained through research, however, these effects could be mitigated through best management practices and cooperative actions among land management agencies, a long-term beneficial effect. Already, renewed monitoring of water resources in SMMNRA has contributed to a better understanding of the effects of development and options for restoration.

Impacts from Alternative B

Impacts would be similar to alternative A. Ongoing impacts to water quality and water quantity from development as well as specific impacts related to restoration and recreational use in the area would continue as would beneficial effects from restoration and protection of public lands. Under alternative B, no specific actions that would affect water resources are proposed, however if identified in the cooperative management plan, there could be an emphasis on increased protection of open space (thereby conserving watershed lands) and habitat enhancement through private land stewardship that could have a beneficial effect on water resources in the study area.

Impacts from Alternative C

Impacts would be similar to alternative A. Alternative C, however, would provide opportunities for the NPS to engage in and support more restoration opportunities within the ex-

panded boundary area. Beneficial effects could occur from conservation of additional lands by the NPS or other agencies and organizations if these included important water resources. Because many of the lands within the proposed boundary expansion are at higher elevation than surrounding developed areas, preservation of water resources could have long-term beneficial effects on downstream beneficial uses. Where protection occurred, there would also be long-term beneficial effects from preservation and fewer potential future adverse effects (such as from development). There would also likely be more resources dedicated to visitor education that could indirectly result in fewer potential adverse effects from recreation (for example, from adverse effects related to use of wet trails).

As in alternative A, development of new trails or other facilities to support visitor use could disturb soils. Any subsequent action by the NPS to develop such facilities on newly acquired lands would undergo project specific analysis to determine impacts and to identify potential mitigation measures to prevent these, a long-term beneficial effect. Similarly, actions on other public lands would continue to be subject to a variety of federal and state permits and regulations and would be modified as appropriate to meet the conditions of these permits thereby avoiding most adverse effects.

Impacts from Alternative D

Impacts in alternative D would be similar to alternative C; however, these could affect some additional areas with similar beneficial and adverse impacts. As in alternative C, implementation actions on NPS lands would be analyzed and mitigation measures for adverse effects would be identified. As in alternative C, any implementation actions on other public lands would continue to be subject to environmental analysis to comply with federal and state permits and regulations related to water quality.

Cumulative Impacts

Given the breadth of the area encompassed by the natural watersheds and the fact that more than 5 million people live in and adjacent to the study area, while 18 million live within close proximity, existing effects on water resources across the study area encompass a wide range of actions and adverse and beneficial effects. The development of local water resources has been integral to the growth of the greater Los Angeles metropolitan area. In addition, because of a wide range of natural threats to the area, including related to major stormwater runoff and high rates of erosion, water development has included construction of major detention basins and reservoirs as well as lining of river and stream channels with concrete. As a result, effects on water resources within the study area would continue to range from negligible to major from the immense variety of impacts to water resources, particularly with regard to water quality.

Although the contribution to cumulative impacts from proposed alternatives would generally be small (negligible to mi-

nor and localized), when combined with other past, present, and foreseeable future actions, there would continue to be negligible to major cumulative impacts on water resources.

Conclusion

Alternative A would continue to have no effect on water quantity or water supply management actions in most of the study area. Where public lands are protected, there would continue to be negligible to moderate direct and indirect beneficial effects. Actions to manage recreational use and to construct visitor facilities would likely continue to have negligible to minor, and occasionally the potential for moderate, localized adverse effects. Actions in alternative B would be the same as alternative A, except that there could be additional beneficial effects if the conservation plan resulted in protection of additional public lands. Impacts from alternatives C and D would be similar to alternative A, with additional beneficial effects from protection of lands for conservation purposes if these contained important water resources and additional adverse effects from actions associated with recreational use of these public lands. Because alternative C would likely include more degraded lands and more recreational opportunities, there could be slightly more adverse effects in alternative C as compared to alternative D. Some of these effects could be offset by the emphasis on restoration efforts in the implementation of alternative C.

Biological Resources Context

As a Mediterranean-type ecosystem, southern California is one of the world's hotspots of biological diversity. As noted in the resource description and significance analysis, this region supports more than 30% of California's native plant species while comprising less than 10% of its land area (CDFG 2008). The region also contains more endemic plant and animal species than any other U.S. ecoregion (Stein et al. 2000). The ecoregion has also experienced tremendous population growth and related urban development since the 1940s. Rural, suburban and particularly urban development has dramatically transformed the native landscape. In addition, some of the areas within and adjacent to the study area have also been dramatically transformed by the region's highly productive agricultural lands. The intersection of high biological diversity and urbanization has made southern California the most-threatened biologically diverse area in the continental U.S. (CDFG 2007).

With the expansion of the urban wildland interface, since the 1970s, remaining natural lands in the area are increasingly vulnerable to nonnative invasive plants and animals, air and water pollution, and the direct and indirect effects of human use and development, such as increased use of pesticides, including rodenticides, and frequent fire (most fires are human caused). These effects have been both intentional (use of herbicides and nonnative plants from landscaping in the wildland urban interface) and unintentional (e.g. the contribution of frequent fires to type converting shrub lands to nonnative grasslands). Many

of these changes have also occurred over time, and pre-date urban development. For instance, the use of the area for large ranchos and grazing of cattle and sheep facilitated the conversion of native shrubland and grassland to nonnative annual grasslands dominated by European annual grasses and pre-dated urbanization. As described in previous sections of the study the importation of water to this semi-arid environment and creation of regional and national transportation corridors facilitated widespread development in the region.

Developed areas, which are primarily located in valleys but also located on some hillsides and canyons, along with their associated roads, and utility corridors, have fragmented landscapes and severed or begun to sever remaining connections between the large blocks of undeveloped public and private lands in the surrounding mountains. Many of the study area native habitat types are severely reduced from their former range. Among the rare communities within the study area include riparian areas, wetlands, native grassland, California walnut woodlands, and others. Other rare communities, such as big-cone Douglas-fir and subalpine areas have become even more limited in extent. Many rare, threatened, or endangered species within the study area are found in ever smaller areas. Altogether, there are 35 rare communities recognized by the California Native Plant Society and the California Department of Fish and Wildlife in the study area (*Table D.5: Imperiled Vegetation Communities in Appendix D: Resource Inventories*). Further study would likely reveal additional rare species and habitats. The persistence of some large and medium-sized mammals is dependent on their ability to move through areas of intact habitat. This habitat connectivity, or linkages between large habitat patches, has become progressively limited, and if lost has the potential to isolate wildlife populations in areas where their long-term persistence may be unsustainable.

In response to these issues, public and private agencies and organizations in the Santa Monica Mountains and beyond have protected large areas of key resources in the Rim of the Valley study area. As a result, there are opportunities to connect these areas and to ensure the long-term persistence of key vegetation and wildlife communities, many of which continue to prosper in the surrounding mountains because of the efforts of local, state and federal agencies and organizations and despite the effects of ever-increasing development.

Vegetation Environmental Consequences

Setting

Due to the complex topography, fire history and transitional habitats the diversity and assemblage of unique vegetation associations within the study area is important and would add to the diversity of plant communities protected within SMMNRA if these areas were protected (Tiszler 2013). The study area captures transition zones, including from foothills covered with chaparral to the western Mojave Desert and from valley bot-

tom to high elevation forest. As a result, there are a variety of native plant communities in these areas that are not currently part of SMMNRA. In addition, several of these plant communities are relatively rare, including a pure stand of elderberry in Towsley Canyon, relict big-cone Douglas-fir, and the alluvial fan sage scrub found in Tujunga Wash and the Upper Santa Clara River system.

The study area also contains eight areas that have been identified in the Los Angeles County General Plan as Significant Ecological Areas (SEAs). These are areas of high priority for regional conservation (note that areas in parentheses are within SMMNRA):

- Altadena Foothills and Arroyos
- Griffith Park
- Santa Clara River
- (Santa Monica Mountains)
- (Point Dume)
- Santa Susana Mountains and Simi Hills
- Verdugo Mountains
- Tujunga Valley / Hansen Dam

Within the study area, many species such as big-cone Douglas-fir and valley oak are also at the edge of their range. These populations at the edge of their range can have a wider climatic tolerance and are important to preserve because they may have characteristics that may help the species survive as the climate continues to change (Craine and White 2011).

Impacts from Alternative A

There would continue to be a wide array of beneficial and adverse effects on vegetation, ranging from actions to modify public lands for recreational use (such as for construction or rehabilitation of trails) to preservation of rare, sensitive and common native plant communities in the study area, especially on lands protected in perpetuity by federal, state and private agencies and organizations.

Land Protection Efforts

Beneficial effects would continue to result from the protection of native vegetation communities on public lands within the study area and related efforts by local communities and public and private agencies and organizations to add to this base of protected lands. Since establishment of SMMNRA in 1978, protected public lands within the Santa Monica Mountains have increased from 22 to 52%. Today, roughly 80,000 acres of the land within the 153,250-acre SMMNRA (almost 25% of the study area) are preserved for resource protection. This has resulted in long-term beneficial effects on vegetation for an expansive variety of plant communities, from wetland and riparian to various types of chaparral and oak communities to the wide coastal slope comprised of coastal sage scrub. Another

27% of the study area is protected by the U.S. Forest Services as part of the Angeles National Forest and San Gabriel Mountains National Monument. These U.S. Forest Service managed areas contains numerous sensitive and rare plant communities. Outside of the major protected areas within the study area (SMMNRA and the U.S. Forest Service managed areas) approximately 23% of the lands are protected by public agencies and conservation organizations. In these areas there are also rare plant communities not currently represented in SMMNRA, such as big cone Douglas-fir, alluvial fan sage scrub, and others.

When possible SMMNRA staff would continue to comment on projects within the Santa Monica Mountains zone and these comments could continue to be used by public planning officials to mitigate or limit the effects of development on SMMNRA resources. (Land use planners frequently have the ability to direct the intensity or location of the development toward more durable areas and away from sensitive resources and/or to require setbacks or open space as part of these development projects.)

Although the effects associated with development are primarily adverse when associated with vegetation communities, there would continue to be direct and indirect long-term beneficial effects where development is concentrated in currently disturbed areas and where it results in developer dedications or set-asides, for the preservation of open space as required by some communities within the study area. A variety of local community park agencies, state entities and non-profit organizations have made themselves available to manage public land donations and/or to purchase and/or manage these set-aside public lands themselves. Where this occurred, there would continue to be long-term beneficial effects. Adverse effects would continue to occur from the conversion of intact natural habitat to development.

Nonnative Invasive Plants

There would continue to be a wide range of threats to vegetation from the proximity to urban, suburban and rural development and from the sensitivity of Mediterranean ecosystems to nonnative plant invasions, opportunistic colonizing and establishment of nonnative species. According to the SMMNRA Natural Resources Condition Assessment, the most vulnerable locations in SMMNRA are often the lower reaches of the coastal canyons, and along roads and trails where the invasive populations occur in or near disturbed or highly landscapes with the high potential for being invaded. SMMNRA currently has over 10,000 populations of more than 300 species of nonnative invasive plants (Stoms et al. 2012:110-112). Where control efforts for invasive plants have been effective, there is substantial opportunity to reduce further establishment of these species. In shrub-dominated communities, including chaparral and coastal sage scrub, there is limited invasion by nonnative species. In many grasslands and some riparian areas, however, invasive plants may comprise more than 80% of

plant cover. Although SMMNRA has implemented some small scale restoration projects, primarily along streams, widespread restoration is currently considered infeasible based on the scale of the degradation of grasslands and continuing threats from new invasions associated with nonnative plant landscaping in communities located within and surrounding SMMNRA. In addition, priorities have been focused on protecting additional public lands to protect existing native plant and wildlife communities, rather than on restoration of degraded areas. As a result, these long-term adverse effects would likely continue in most areas pending project specific restoration and/or a change in overall land management priorities.

In SMMNRA and in the U.S. Forest Service managed areas, nonnative invasive plant management programs such as early detection rapid response could result in control of some newly established nonnative species, a long-term beneficial effect. Elsewhere, control would occur on public and private lands in compliance with state and county noxious weed laws and could also limit the spread of or contain the most invasive species.

Fire

Fire is a natural process in the grassland and shrub-dominated ecosystems of southern California. Fires at the right place and in the right season can have a wide array of beneficial effects on plant communities, such as fostering plants which need fire to allow them to produce seed and recycling nutrients back into the soil. Fires also often result in stunning displays of post-fire wildflowers. These beneficial effects are evident in the study area, including SMMNRA following fire; however the area is also facing impacts from too frequent fire intervals in some areas close to development. Although, overall fire frequency does not seem to be increasing in SMMNRA, some areas within the study area are experiencing shorter fire return intervals. The mean fire rotation interval for the Santa Monica Mountains subsection for the period 1946-2008 was 34 years, which is shorter than many chaparral-dominated landscapes in California but still within the historical range of variability typical of many chaparral landscapes (~20-60 years) (Stoms et al. 2012:118).

Shorter fire return intervals of seven years or less can greatly reduce the density of non-resprouting chaparral shrubs (although many chaparral and coastal sage scrub species do resprout from their root-crown, which lies just below the soil surface). Native communities are not resilient enough to withstand short fire return intervals and as a result, type-conversion to nonnative annual grasslands can result. Short return fires have occurred at least once across 13.8% of the Santa Monica Mountains subsection and 15.6% of SMMNRA (Stoms et al. 2012:118). Fire return intervals of 12 years, which are considered a threat to non-sprouting chaparral species, have occurred across 25% of the Santa Monica Mountains and 28.9% of SMMNRA (Stoms et al. 2012:118). Therefore more than 35% of the area is experiencing shorter return intervals for wildfires.

The places most vulnerable to this are the western Santa Susana Mountains (South Mountain, Oak Ridge, and Oat Mountain), the Simi Hills, and the ocean-front canyons of the Santa Monica Mountains above Malibu (*Figure 2-9: Fire Frequency in Chapter 2: Resource Description*) (Stoms et al. 2012). These areas are currently dominated by annual grassland and coastal sage scrub.

Habitat Restoration Efforts

Actions to provide for habitat restoration and other resource-enhancement projects would continue throughout the study area, including efforts by agencies such as the Resource Conservation Districts of the Santa Monica Mountains and Ventura. Although these projects often have short-term adverse effects during implementation, most also result in long-term beneficial effects including from vegetation restoration.

Research and Monitoring

Long-term research and monitoring projects would continue to have indirect beneficial effects on vegetation from better understanding of plant community changes, species interactions, and the effects of fire on native vegetation.

Recreation and Visitor Use

Within the study area public and private agencies undertake a variety of actions to provide for public use, including the development of trails and trailheads and associated facilities, such as small parking areas and restrooms), re-use of existing buildings, location of administrative and research facilities and other actions. These actions would continue to cause negligible to moderate localized adverse impacts on vegetation, including from removal and alteration. There would also continue to be long-term minor to moderate localized beneficial effects where vegetation was restored, native landscaping planted or nonnative invasive plants removed.

Agencies that manage parklands would continue to implement planned trail systems such as the Rim of the Valley and Los Angeles River trails. As a result, there would continue to be long-term, minor to moderate localized impacts on vegetation as sections of the trail were constructed.

Ongoing use of recreational facilities in SMMNRA, the Angeles National Forest, San Gabriel Mountains National Monument, the Juan Bautista de Anza National Historic Trail and on other existing public and private parklands would primarily continue to have negligible to minor adverse effects from visitor use, including from trampling of vegetation near trails, creation of social trails, off-trail travel, as well as from occasional illegal activities, such as harvest of plants or cutting of vegetation.

Impacts from Alternative B

The range of beneficial and adverse impacts from alternative A would likely continue but actions within the study area could benefit from the expanded partnership authority associated with this alternative.

Because many species within the study area are at the edge of their range and may therefore have wider climatic tolerance, there could be long-term beneficial effects from partnerships to preserve individuals, species and communities within the study area that have ecotypic and genetic variability that will likely continue to grow in importance as climate change continues.

There are also many narrow endemic species, mostly with unknown specific habitat requirements. With more connectivity between public lands, there may be more opportunities to facilitate resiliency for these species. For example, protection of the Conejo Volcanics would allow for preservation of rare species associated with these, such as dudleyas, a long-term beneficial effect.

Many of the plant communities in the study area would also add to the diversity of species in SMMNRA because some are found at higher elevations than are present in SMMNRA. Although many plants and plant communities within SMMNRA are rare in southern California, they are often not globally rare. Where SMMNRA took the lead in establishing inventory and monitoring programs for these additional resources, there could be long-term beneficial effects from better understanding of some species and habitat types.

In alternative B, sister agency and private land stewardship would be relied upon to protect native plant communities in areas outside of SMMNRA. It is likely that a collaborative plan would identify a range of optional stewardship strategies to protect vegetation and vegetation communities, however, participation would continue to be voluntary. Although there could be long-term indirect beneficial effects from development of the plan, implementation would be uncertain because no one agency would serve as a coordinator. The SMMC, however, which is authorized to conduct land transactions in the study area would likely continue to identify and purchase key parcels and could continue to manage these, including the Rim of the Valley Trail, via the MRCA. Because SMMNRA's partnership authority for these areas would be expanded, there could also be ongoing technical assistance for public outdoor recreation conservation purposes from the NPS in this broader area.

Efforts to protect plants and plant communities would continue to rely on inventory and monitoring data. Because many sister agencies in SMMNRA do not have resources to conduct studies, many might continue to look to the NPS for data and expertise, an action that could improve with the opportunities for NPS to partner with agencies with similar goals regarding land protection and vegetation research in the study area.

Alternative B could also offer public and private park land managers the potential for additional coordinated studies to better understand the ecological occurrence of fire throughout

the region and how changes in fire frequency may affect the long-term persistence of some vegetation communities, especially as climatic changes continue.

Partner agencies could work to leverage greater funding for conservation (open space protection) in the area encompassed by alternative B. Although this alternative would designate a large area for partnerships, there would be nothing to preclude additional development in the area. Although other partner land management and conservation agencies and organizations could continue to purchase land within the partnership area, the NPS would not have that authority in this alternative.

Because there could be additional land protection by partner agencies that would also allow for recreational use of lands they manage, there could be an array of negligible to moderate localized adverse effects from the potential for increases in recreational use, including because trails are often conduits for nonnative invasive plants to spread. For instance, the Rim of the Valley Trail would continue to be constructed in segments by partner agencies and use of this trail would continue to have both minor to moderate localized adverse and beneficial effects on vegetation from construction and use, and from long-term maintenance of the trail that could result in nonnative invasive plant removal and restoration in some areas.

Impacts from Alternative C

As in alternative B, a diversity of plant communities not currently protected by SMMNRA would be encompassed by this alternative. In alternative C, however, these areas could be targeted for select land acquisition, if deemed important in a land protection plan and if they also supported the recreational intent of this alternative. Other plant communities currently represented in SMMNRA would be expanded and/or diversified by including new areas within a potential boundary adjustment. Among these would be the remnant valley oak savanna near Chatsworth Reservoir and on the north face of the Santa Susana Mountains near Oat Mountain.

Adding the area within alternative C to SMMNRA would result in more efforts by SMMNRA and its partner agencies to work toward broader actions to protect resources in the study area. This could translate into resource protection measures such as habitat restoration, conservation, and research in targeted vegetation communities. Instead of relying solely on private and other public land stewardship, and volunteer efforts to protect public lands (as in alternative B), the NPS could become a partner in targeted land acquisition efforts that would protect additional vegetation communities, especially those near urban areas that are also available for recreational use.

Because the expansion area would include a wide range of intact and altered habitat areas as well as a wide range of ownership by federal, state, local and private agencies and organizations, any one of these agencies or organizations, including

interested area homeowners associations, could also undertake the preservation or restoration of a unique area. For example, because the emphasis in alternative C would be on reaching out to urban audiences, there could be more opportunities for these groups to adopt land protection and restoration efforts close to urban communities in adjacent protected wild lands and semi-natural portions of the Los Angeles River and its tributaries. This could result in more interest in preserving these lands by adjacent cities and towns and/or more interest in conducting other local restoration projects to ensure that these areas do not become degraded by adjacent urban and suburban uses. Partnerships in alternative C could also improve coordination for monitoring and restoration activities, resulting in more opportunities to obtain funding through grants and agency requests and more opportunities to coordinate and solicit volunteers to carry out the activities.

In alternative C there would be increased potential for new land purchases to protect key resources, such as habitat linkage parcels and rare habitats. The NPS could work with partner agencies and organizations to identify and protect these key resources, a long-term beneficial effect. Where lands were purchased or donated, future development of these would be precluded. Where this occurred, there would be long-term beneficial effects from protection of plants and plant communities.

Although there would be more opportunities for restoration of degraded plant communities, as in alternative A, the focus of the cooperative network of land managers would likely continue to be on preserving intact areas where possible prior to restoration of degraded areas. Partners could collaborate to identify the most vulnerable areas, a long-term beneficial effect on vegetation from increasing the range, size and diversity of protected areas.

Because there would be additional land that could be made available for recreational use, there could also be some localized minor to moderate adverse effects from providing for recreation trail use and other incidental facilities associated with protecting and providing for use of acquired lands.

Impacts from Alternative D

Impacts to vegetation in alternative D would be similar to alternative C; however instead of a focus on restoration and urban community participation, there would be a broader focus on wildlife habitat linkage protection that could also encompass urban community participation and restoration efforts and emphasize opportunities for private land stewardship. Because wildlife habitat linkages are primarily comprised of vegetated areas, there could be additional protection for an expanded array of plant communities and unique species. Habitat connectivity could improve the resilience of vegetation communities to perturbations, such as fire and climate change, allowing for migration of native species between patches via seed dispersal.

As in alternative C, the NPS would accept an overall role of coordination, which could result in better coordination among partner agencies. If this happened, it could improve the ability to synthesize data from studies in similar habitat types and lead to a better understanding of needs to enable the persistence of some vegetation communities and habitat types in the study area, especially for wildlife populations.

As in alternative C, there could be an increase in recreational opportunities on public lands from NPS and other agency purchases of areas suitable for such use within the study area. This potential for increased water and land-based recreational opportunities, where there has been no or light use, could result in a minor adverse effect on wildlife and wildlife habitat from noise and disturbance.

Cumulative Impacts

As noted in the resource description section, many of the region's native plant communities have been displaced due to grazing, agriculture, and ultimately, urban development. Almost all of the native plant communities that remain contain sensitive, rare or endangered flora and fauna.

Because the native California prairie was well-suited for grazing and irrigated agricultural lands, shortly following development of valleys for missions and ranchos, this native prairie virtually disappeared. The array of native bunchgrasses was replaced by an influx of nonnative European annual grasses. Dominant species, were perennial bunchgrasses including purple needlegrass (*Nassella pulchra*), nodding needlegrass (*Nassella cernua*), foothill needlegrass (*Nassella lepida*), and crested needlegrass (*Achnatherum coronata*). Herbaceous plants such as such as wildflowers, sedges, and bulbs were also common (Burcham 1957).

Future shifts in temperature and precipitation patterns are likely to stress native plant communities and open additional opportunities for invasive species. Climate-induced changes in fire regime can also increase the frequency or severity of fire that would also provide disturbed niches for invaders (Stoms et al. 2012:115).

As development continues and private lands are converted, there would continue to be major changes, including loss of native plant communities in some areas. This would be combined with protection of plant communities by public and private agencies and organizations in the study area.

Outside of protected lands within the study area, there could continue to be a range of impacts, including direct, indirect and cumulative adverse and beneficial effects from development. Development, including low density single family homes, small suburban tracts, and adjacent or sometimes urban land use in natural habitat within the study area, including on private lands in SMMNRA would continue to have a wide range of negligible

to major adverse effects on native plant communities. Impacts include the loss and fragmentation of native plants and plant communities in isolated areas and additional opportunities for nonnative invasive plants to colonize and spread from bare ground created by access roads and grading of home sites and other disturbance.

Over time as additional land is developed in the study area, high urban growth rates and sprawl may slow the rate of increase in fire frequency because development reduces the proportion of natural vegetation (fuel) in the landscape (Stoms et al. 2012:127). Urban growth decreases wild vegetation and increases fragmentation and fire ignitions but may also contribute to reducing fire size due to the proximity of higher value resources (i.e. homes) at risk. Greater fire frequency can also stimulate the invasion of nonnative plants and/or cause type-conversion from communities adapted to less frequent fire, such as chaparral to communities adapted to more frequent fire, such as grasslands. This may increase the overall flammability of the ecosystem (Stoms et al. 2012:127).

When the effects of alternative A are combined with the cumulative effects of development and other public and private past, present and future projects, alternative A would continue to have cumulative moderate to major adverse and beneficial effects. Alternatives B-D would have similar adverse and beneficial effects, however, there would be the potential for greater cumulative beneficial effects from alternatives C and D because these alternatives would allow for additional protection of sensitive and/or important vegetation communities by the NPS and other land management agencies in a coordinated and/or systematic fashion based on ongoing analysis of the importance of these in the study area.

Conclusion

Alternative A would continue to have a range of beneficial and adverse effects. Beneficial effects would be contributed by a variety of direct and indirect actions, the most important of which would continue to be long-term protection of vegetation communities in SMMNRA by the NPS and partner agencies and in the study area by other public and private agencies and organizations. Other beneficial effects would be contributed from restoration actions. Adverse impacts would continue to be related to actions to provide for public recreational use, including for trails and other facilities. Negligible to minor localized impacts would also likely continue to occur from visitor use. Alternative B would have the potential for additional beneficial effects on vegetation if the cooperative management plan resulted in additional protection of plant communities not found in SMMNRA or targeted restoration of important areas. Alternatives C and D would have greater long-term beneficial effects from a coordinated approach to protection of plant communities and from improved cooperative actions by public, private entities and organizations to manage them. Protection of more areas could allow for plant community resilience as the area continues to develop and change.

Wildlife Habitat Connectivity Context

As described in *Chapter 2: Resource Description*, connectivity between open space habitat is essential to the preservation of biodiversity in the South Coast Ecoregion. Multiple interdisciplinary studies, including the South Coast Missing Linkages project and the California Essential Habitat Connectivity project, have identified key corridors/wildlife habitat linkages for preservation in the region, including several in the study area.

The NPS is actively involved in identifying critical habitats to ensure that sufficient open space remains in SMMNRA and that these areas are connected with habitat linkages or wildlife movement corridors (NPS 2002). A 2003 recreational use study demonstrates the importance of preserving wildlife habitat in the Santa Monica Mountains. In that study, when asked to choose the most important reason for protecting the Santa Monica Mountains, most (53.2%) visitors identified providing habitat for plants and animals; 22% identified providing recreational opportunities; and 21.6% identified both reasons, while only 2.0% had no opinion and 0.5% stated another reason. As noted in the study, “when combined with those visitors who were unable to choose between conservation and recreation (21.6%), strongly positive attitudes towards nature are clearly dominant among park users (USC 2003:45 in NPS 2003).”

Wildlife Environmental Consequences

Impacts from Alternative A

There would continue to be a range of direct and indirect beneficial and adverse effects on wildlife from existing public and private agency and organization management actions within the study area. Among these actions include conservation and administration of public lands, and providing for public use, interpretation and education on public lands within SMMNRA and other currently protected lands in the study area. These actions would continue to occur in an area where habitat fragmentation resulting from the construction of roads, housing and other suburban and urban land uses is continuing (see cumulative effects).

Recreation and Visitor Use

The existing array of recreational opportunities and access would continue to have long-term minor to moderate localized adverse and negligible to minor beneficial effects on wildlife and wildlife habitat from continued visitor use of the trails and from the ability of wildlife to travel easily through dense shrub environments on the trails. There would also continue to be minor to moderate localized adverse effects on wildlife and wildlife habitat from the construction of trails and facilities to provide for public use. These actions would continue in SMMNRA. Other similar actions in the study area would be at the discretion of existing agency and organization landowners/managers and could have similar effects. Planned trails within SMMNRA would also have similar effects.

Resource Protection

Current efforts by local, state, and federal agencies to manage wildlife, restore habitat, and protect wildlife corridors would continue to have long-term beneficial effects, although regional coordination would be limited except within SMMNRA and as associated with other endeavors, as well as in the Rim of the Valley Corridor study area associated with the SMMC/MRCA (as mentioned above). For instance, there would continue to be long-term beneficial effects from agency and organization efforts to conserve and restore native ecosystems and habitat. There are approximately 340,000 acres of public lands in the study area that are managed by a variety of federal, state, local and private agencies and organizations. Conservation of these lands is immensely important to wildlife in these areas, particularly medium- and large-sized mammals. Ongoing management of these areas and continued land acquisition by agencies and organizations in the study area would therefore continue to have moderate to major long-term beneficial effects on these wide-ranging species. Under alternative A, NPS land protection efforts would be limited to existing land within SMMNRA boundary. SMMNRA, however, would continue to work collaboratively on regional efforts to protect wildlife corridors and to share research and scientific expertise on conserving wildlife in the surrounding urban setting.

Implementation of management actions on study area lands outside SMMNRA would continue to be at the discretion of agency and organization owners/managers but could contribute to overall beneficial effects if restoration or other improvements were made. In conducting potential projects, stakeholders would continue to have some NPS and/or government programs available to them, including grants and partnership coordination via current programs of the Rivers, Trails and Conservation Assistance program. Coordination of these projects, however, with other Rim of the Valley landowners and managers would likely be on a case-by-case basis as the need or opportunity arose.

Habitat Loss and Fragmentation

Threats to wildlife resources, including from habitat loss and fragmentation as a result of development, air and water pollution, and altered fire regimes could continue to have minor to moderate localized and/or widespread adverse effects on the viability of species and ecological communities. Among these include effects of chronic skyglow from urban lights, as well as direct glare and intermittent lights such as car headlights, that can create “ecological light pollution” and are known to affect behavior, navigation, reproduction, communication, competition, and predation in some species (Longcore and Rich 2004, Rich and Longcore 2006 in Stoms et al. 2012:142). In addition, because the mountains are crisscrossed by numerous roads, there would continue to long-term moderate adverse effects on wildlife from the presence of these roads, which in addition to the effects of road kill, make it difficult for wildlife to move within the mountains, as well as to disperse and migrate. As

noted in the California Essential Habitat Connectivity Project, the ecological footprint of a road network extends far beyond its physical footprint because of vehicle caused wildlife mortality, habitat fragmentation, and other indirect impacts, such as by encouraging additional development once this infrastructure is in place (Spencer et al. 2010: xvi). The severity of these impacts varies among species, with smaller species generally able to survive in fragmented areas and larger species needing to move between patches, however there are numerous actual and anecdotal contradictions to this as is evidenced by small species, such as mice and voles crossing roads at night and birds, which are able to fly between both large and small patches.

Direct effects from roads include wildlife mortality, habitat fragmentation and loss, and reduced connectivity. According to the California Essential Habitat Connectivity Project, the severity of these effects depends on the ecological characteristics of a given species. Direct roadkill affects many species, with severe documented impacts on wide-ranging predators such as the cougar in southern California, the Florida panther, the ocelot, the gray wolf, and the Iberian lynx in other parts of the country and world (Forman et al. 2003 in Spencer et al. 2010:140). In a 4-year study of 15,000 km of road observations in Organ Pipe Cactus National Monument, Rosen and Lowe (1994) found an average of at least 22.5 snakes per km per year killed due to vehicle collisions (Spencer et al. 2010:140).

Roads also cause habitat fragmentation because they break large habitat areas into smaller habitat patches, which, in turn, support fewer individuals and this can increase the loss of genetic diversity and increase the risk of local extinction (Spencer et al. 2010:140). Roads may also block access to essential physical or biological features necessary for breeding, feeding, or sheltering. In addition to these obvious effects, noise from traffic or road construction may alter habitat use and activity patterns, increase stress, reduce reproductive success, and increase predation risk for terrestrial vertebrates (Bowles 1995 and Larkin et al. 1996 in Spencer et al. 2010:140). Roads are conduits for the spread of nonnative invasive plants and animals. Roads also promote erosion and create barriers to fish, and pollute water sources with roadway chemicals (Forman et al. 2003 in Spencer et al. 2010:140). Recent studies have demonstrated that vehicles can deposit hundreds of nonnative invasive plant seeds per square meter per year to roadside areas, often from several kilometers away (von der Lippe and Kowarik 2007 in Spencer et al. 2010:140). Highway lighting also has important adverse impacts on animals (Rich and Longcore 2006 in Spencer et al. 2010:140).

Wildlife Habitat Connectivity

Wildlife and wildlife habitat would continue to benefit from conservation of public lands in SMMNRA and beyond in the areas currently protected by other federal, state and local agencies and organizations in the study area boundary. Although

the area is fragmented at local and regional scales, there would continue to be efforts by SMMNRA and other private and public agencies and organizations to protect lands and to identify and protect wildlife habitat linkages and corridors that connect SMMNRA protected areas to other large landscape blocks.

There are several regional efforts to connect wildlife habitat in the study area. For instance, the connection from the Santa Monica Mountains through the Simi Hills to the Santa Susana Mountains and the Sierra Madre Mountains is shown as part of the California Essential Habitat Connectivity Project map (produced by CalTrans, among other agencies and cooperators, including the NPS) (Spencer et al. 2010). This report found that the area between SMMNRA and the Los Padres National Forest is 62% privately owned and unprotected. By overlaying the area with the California Protected Areas Database this analysis also showed that 33% of the area is in some form of park or open space management (46,000 of nearly 126,000 acres), although not necessarily conserved for biodiversity and connectivity (Stoms et al. 2012: 10, 134). The Natural Resources Condition Assessment documents that two-thirds of the area is vulnerable to land use change that could further reduce its connectivity value. This report also describes the area's importance for nine federally listed species, and five essential habitats identified by the USFWS as well as for 23 plants and 37 animals tracked by the California Natural Diversity Database. The Natural Resources Condition Assessment also emphasizes opportunities for connections from SMMNRA to U.S. Forest Service managed areas.

For instance there is an ongoing effort by the USFS, and local and state land conservancies to connect the two separate units of the Angeles National Forest. As noted in the California Essential Habitat Connectivity Project report, a functional network of connected wildlands is essential to the continued persistence of diverse natural communities in the face of human development and climate change (Spencer et al. 2010:1).

Medium and Large Mammals

Although the target species for wildlife habitat connectivity is often mountain lions, protecting additional lands and connectivity would also benefit a range of wildlife species, including medium and small mammal such as bobcats and ringtail cats. Large contiguous blocks of habitat would be most beneficial, and including those with water resources would be especially important for the range of species that would not benefit from narrower wildlife "corridors."

Connectivity also benefits small animals and plants by allowing gene flow between populations, therefore potentially allowing them to adapt to changing conditions, including climate change.

Where lands remained unprotected, it is likely that some species present in disconnected habitat patches, such as red racer

snakes, would be lost. The red racer or red coachwhip, is found in southern California from Ventura county to the Baja California border, including in the eastern Sierra Nevada Mountains (California Herps 2013). These snakes are currently found in the Simi Hills but have not been found in similar habitat where that habitat has been separated from other intact areas, even in relatively large habitat patches (Stoms et al. 2012). Therefore it is important to look at connectivity for wildlife on several scales within the study area. Appropriate research could have long-term indirect beneficial effects on some species by identifying additional habitats that should be protected.

Research conducted by SMMNRA would continue to provide data that would substantiate wildlife habitat linkages and movement corridors and facilitate their protection by other public and private agencies and organizations in the study area. Direct protection of wildlife corridors by the NPS through either land donation or acquisition, however, would be limited to areas within the existing boundary of SMMNRA. Outside of this area, the NPS would be precluded from purchasing or accepting land to facilitate these landscape connections.

As documented in SMMNRA general management plan, the 8-10 lane U.S. Highway 101 freeway has eliminated most options for north-south connections between the Santa Monica Mountains and Simi Hills, which if maintained would enable mountain lions access through the Santa Susana Mountains to the Los Padres National Forest. There are still a few opportunities, however, such as at Liberty Canyon. Another option on the west end of the Santa Monica Mountains exists to link the Santa Monica Mountains to the Los Padres National Forest by crossing the Conejo grade. Under alternative A, the NPS would continue to work with partner agencies and organizations to identify these areas and to work with the California Department of Transportation and Federal Highway Administration on a long-term plan for them. If viable connections are established, there would be long-term beneficial effects on wildlife habitat connectivity, especially for medium and large mammals.

The NPS would continue to participate in regional landscape conservation projects such as the California Essential Habitat Connectivity Project and the South Coast Missing Linkages project. The NPS would also continue to conduct research via the Mediterranean Coast Network (an NPS research partnership that includes several national parks in southern California) and would therefore continue to advocate for protection of these areas. Working within the boundary of SMMNRA, the NPS would continue to protect large blocks of core habitat that could help to establish connections between these and other areas. Work outside the boundary would continue in alternative A where there are clear linkages to protecting wildlife and other resources within the boundary. Among these would be long-term beneficial effects from using resource management staff to provide technical expertise on conservation of wildlife corridors and habitat and restoration in urban areas and participation in existing planning efforts to link habitat

connections such as the South Coast Missing Linkages Project. This participation could improve the situation noted above for SMMNRA connection to nearby blocks of protected land. NPS and other environmental protection staff have been identifying the potential for connecting SMMNRA to other protected areas for years, including for identifying and increasing the number of potential ways that large mammals can travel between protected habitat areas.

In the no action alternative, protecting wildlife corridors would be the responsibility of existing agencies and landowners. If protection of wildlife habitat linkages occurs in the study area, there would be long-term beneficial effects. These efforts would come from federal, state and local agencies and organizations working independently to protect land for wildlife habitat linkages in the study area. Among these agencies are the Santa Monica Mountains Conservancy, Mountains Recreation and Conservation Authority, California Department of Fish and Game, U.S. Fish and Wildlife Service, and other local park and open space management agencies in cities and towns in the study area.

As noted above, agencies working to protect lands for wildlife and other resource purposes would also continue to have access to NPS technical assistance for public outdoor recreation conservation purposes and to conservation programs, such as opportunities to obtain funding for land conservation through the Land and Water Conservation Fund grant program. Although competitive, this program could be accessed using existing authorities, although specific actions would likely continue to occur in response to development and on a case-by-case basis.

NPS and partner actions in SMMNRA and other actions in the study area would also continue to be supplemented by other efforts going on in the region, including California Essential Habitat Connectivity and the South Coast Missing Linkages (SCML). Based on the report, 10 of the 11 SCML studies' designs are being actively implemented by cooperating groups of agencies, non-governmental organizations, and other stakeholders (Spencer et al. 2010:61). For example, there is a multi-agency effort to connect the San Gabriel Mountains to the Sierra Pelona/Castaic Mountains.

SMMNRA research would also continue to expand documentation regarding the need to maintain ecological connectivity to areas beyond the legislated area of the park so that species, such as mountain lions, can persist in the Santa Monica Mountains. Without this connectivity, the Santa Monica Mountains are only large enough to sustain a mountain lion population of 8-10 animals, too few to maintain long-term viability because of the potential for inbreeding depression and the propensity for males to kill each other when territories are spaced too closely together (Riley et al. 2014).

Although in some parts of the study area vegetation is degraded, such as in the relatively widespread presence of nonnative grasslands, these degraded habitats retain some natural values, as hunting and foraging areas for small and medium-sized mammals, reptiles and birds. Although the Los Angeles River generally does not contain much native habitat, it would continue to provide open space values and could provide habitat linkages for some species, such as medium-sized mammals and birds that may travel through, or live in the natural bottom (riparian) portion of the river.

Amphibians

Irrigation in landscaped areas within the boundary of SMMNRA and the study area would continue and combined with increases in built surfaces, would continue to increase surface runoff. As residential development progresses outside SMMNRA and within the study area, it would continue to alter aquatic habitats and may promote the growth and spread of invasive aquatic species. Within SMMNRA, there would continue to be ongoing beneficial effects from researching native amphibian use and applying the findings to protect aquatic amphibian populations. Among the actions identified would include NPS collaboration with local communities and developers to identify best management practices for stream-friendly land use to protect aquatic amphibian populations. Stream friendly land use actions include working with others to identify ways to avoid increasing water flow in naturally dry streams and filtering runoff before it enters streams. Other management actions have included removal of nonnative species, such as crayfish from aquatic habitats and experimental re-introduction of red-legged frogs. Among the other species that could benefit from aquatic habitat rehabilitation include California tree frogs and California newts. Currently Pacific tree frogs continue to be common in suitable habitat. Where additional habitats were protected for these species in the study area, there would be long-term beneficial effects. Opportunities to improve habitat and increase monitoring efforts could also assist these species.

Reptiles

A variety of reptiles persists in appropriate habitat in SMMNRA and in the study area. Some of these, such as those limited to specific habitats (for instance, horned lizards) could also benefit if additional habitat is protected in the Rim of the Valley Corridor.

Birds

Within the study area, Point Mugu and the Santa Clara River have been identified by the Audubon Society as Important Bird Areas. According to the program, important bird areas provide "essential habitat for (i) rare, threatened or endangered birds, (ii) exceptionally large congregations of shorebirds, or (iii) exceptionally large congregations of waterfowl" (Spencer et al. 2010:99). Although the designation does not provide regulatory authority, it could be used to leverage conservation resources

and efforts to conserve the habitat, therefore providing indirect long-term beneficial effects.

Fish

There would be long-term beneficial effects from the NPS and its partner agencies continuing work in SMMNRA to protect Arroyo Sequit, Malibu Creek, and Topanga Canyon, which still support extremely rare spawning runs of the federally endangered southern California coast distinct population segment of steelhead. As noted in the resource description section, historically, steelhead were known from Solstice and Zuma canyons as well, and it is likely that all the major drainages, which once had perennial water and extended to the shore in the rainy season supported this species. In the study area, several agencies are also working to protect Santa Clara River habitat for native fish including southern steelhead, unarmored three-spine stickleback, tidewater goby, Santa Ana sucker, and arroyo chub (LADPW 2005).

Research and Education

Ongoing research by SMMNRA and through the Mediterranean Coast Network would continue to have long-term indirect beneficial effects on wildlife and wildlife habitat connectivity in SMMNRA and beyond. This research provides information that the NPS and its partner agencies can use to enhance protection of wildlife and wildlife habitat by providing science-based evidence of impacts and vulnerabilities and the network helps by disseminating this information to land use planners and the public.

SMMNRA and other agency research has also directed attention regarding the use of rodenticides and the subsequent potential for effects on wildlife. To the degree that these efforts continued and were used by local jurisdictions to modify behavior, there could be long-term beneficial effects on wildlife. SMMNRA has documented secondary exposure of non-target wildlife populations to anticoagulant rodenticides in and around developed areas (Riley et al. 2007). In the absence of regulatory actions restricting the use of rodenticides and other toxicants, wildlife exposure to these toxicants would continue to adversely affect wildlife, although more research is needed to determine population level effects on susceptible species. Development also subjects wildlife to predation from domestic animals (Lepczyk et al. 2003), fragments habitat for wide ranging carnivores (Riley et al. 2006), and exposes wild animal populations to infectious diseases, such as canine distemper, harbored by domestic animals (Daszak et al. 2000). All of these effects would continue under alternative A (Stoms et al. 2012).

Ongoing educational and interpretive opportunities directed at increasing park staff and public knowledge about wildlife issues in SMMNRA and beyond would continue. Among these include occasional publications, such as resource briefs (on amphibians and mountain lions) through the Mediterranean Coast network and programs published in *Outdoors in the Santa*

Monica Mountains. These would continue to have direct and indirect beneficial effects by encouraging residents of SMMNRA to avoid using rodenticides and by increasing opportunities for better understanding (and therefore encouraging protection of) area wildlife.

Impacts from Alternative B

As in alternative A, there would continue to be a range of beneficial and adverse effects on wildlife from existing public and private agency and organization management actions within the study area as well as from existing conditions, such as roads and development within the study area boundary. In addition, in this alternative the cooperative conservation plan, if implemented could have additional long-term beneficial effects.

Recreation and Visitor Use

Impacts would be the same as in alternative A, with adverse and beneficial effects on wildlife from visitor use, and construction of trails and facilities to provide for public use. In alternative B, the cooperative conservation plan would guide future agency actions to develop or maintain sections of the Rim of the Valley Trail and other important areas in the study area for recreational use. Actions to implement the plan would be at the discretion of existing agency and organization landowners/managers.

Where agencies worked to develop additional sections of the Rim of the Valley Trail and other regional trails, impacts would be the same as in alternative A. Additional indirect impacts on wildlife would be associated with NPS supporting planning and implementation of the trail through technical assistance and partnerships. As in other alternatives, the trail would be owned and managed by partner agencies and organizations, who would determine specific actions that would be undertaken.

Resource Protection

As in alternative A, there would continue to be long-term beneficial effects on wildlife from agency and organization efforts to conserve and restore native ecosystems and habitat in existing protected areas within the study area. Unlike alternative A, there would be potential long-term beneficial effects from development of a cooperative conservation plan that could extend the benefits of protected areas in a coordinated effort across the study area if implementation of the plan were to occur. If common goals in the cooperative conservation plan included measures for protecting important bird areas and wildlife habitat connectivity, there could be long-term beneficial effects. Although the emphasis would be on private land stewardship, the wide array of public agencies and organizations with land in the study area would likely continue to be major participants in wildlife habitat protection, a long-term beneficial effect.

Wildlife Habitat Connectivity

The cooperative conservation plan would likely benefit wildlife and wildlife habitat connectivity. Agencies and organizations would work together to identify a range of common goals for connecting habitat. The plan would also identify incentive programs and technical assistance opportunities for private land stewardship strategies to protect habitat and to maintain or create habitat linkages. In alternative B, having such a plan could provide the impetus to protect these areas, however as in alternative A, promoting such actions would be at the discretion of individual agencies, landowners and organizations and would also likely evolve on a voluntarily case-by-case basis under the guidance of the plan. Where connections between areas of protected public lands were prioritized and implemented by plan partners, wildlife would benefit. As in other alternatives, connectivity to the Santa Susana and Sierra Madre Mountains and to the San Gabriel Mountains is most important to enable mountain lions and other wide-ranging species to persist over the long-term in SMMNRA and other locations within the study area, such as the Verdugo Mountains.

There could be long-term beneficial effects in alternative B from enhancing regional efforts to connect wildlife habitat in the study area, such as opportunities to work with organizations and agencies responsible for the California Essential Habitat Connectivity Project (Spencer et al. 2010) and other agencies and organizations that have identified connectivity corridors, such as were identified in the Natural Resources Condition Assessment (Stoms et al. 2012).

The value of these connections to areas outside SMMNRA is high. There is evidence that wildlife is using the few existing underpasses that are available. For instance, several studies have documented the use of the bridge at Alamos Canyon that links the Simi Hills and the Santa Susana Mountains. Species using this connection include mountain lion, bobcat, coyote mule deer, striped skunk, raccoon, small mammals and birds (Ng 2000, Psomas 2002, LSA 2004 in South Coast Wildlands 2008: 11). In October 2013, a mountain lion was also struck and killed by a car at the Liberty Canyon area, which has long been believed to be one of the best opportunities to connect the Santa Monica Mountains with the Los Padres National Forest. This area would also facilitate connection to the Angeles National Forest/San Gabriel Mountains. DNA analysis of the remains of this animal confirmed that it originated in the Los Padres and that, therefore, it could have introduced new genetic material to SMMNRA population.

Research and Education

Impacts would be similar to alternative A. In addition, in alternative B, there would be new opportunities to engage people living in nearby communities more actively through citizen science efforts and through coordinated interpretive messages about wildlife. These opportunities, however, would need to be coordinated voluntarily by one of the partner organizations.

Where possible, partners could engage key educational and research institutions to implement plan recommendations. If this occurred, there could be long-term beneficial effects on wildlife and wildlife habitat connectivity.

Impacts from Alternative C

Impacts from alternative A related to development and loss of wildlife habitat connectivity would continue. In addition to beneficial effects noted from agency and partner management actions, there would be a range of new opportunities to protect wildlife and wildlife habitat connectivity in SMMNRA from potential expansion of the boundary to encompass areas identified in alternative C. The focus of alternative C, however, would primarily be on connecting additional urban communities to recreational opportunities in Rim of the Valley Corridor parklands added to SMMNRA. Nonetheless, these areas would also provide new opportunities to restore habitat connections between the Santa Monica and San Gabriel mountains.

Recreation and Visitor Use

Impacts associated with recreational opportunities and access would be similar to alternative B, however, there would likely be a wider range of impacts on wildlife from the emphasis on engaging more people to experience recreational opportunities in areas close to them. Relying more on public transportation to expand these opportunities could result in more people at one time accessing some areas. There could also be more development of trails and programs to promote use of them. Combined, there would be additional short- and long-term minor to moderate localized adverse effects from noise and disturbance and from loss of vegetation in wildlife habitat, depending on where this access was provided.

Resource Protection

The current range of long-term beneficial effects from agency and organization efforts to conserve and restore native ecosystems and habitat in existing protected areas within SMMNRA and in the Rim of the Valley Corridor study area would continue and would be expanded by NPS authority to purchase lands within the boundary expansion area, a long-term beneficial effect. These land purchases could potentially be targeted toward areas that enhanced urban residents' connection to parklands, as identified by the NPS and partner agencies and organizations.

Wildlife Habitat Connectivity

The NPS could provide technical assistance, including planning and funding, to protect wildlife habitat linkages. With NPS involvement and authority for land protection, opportunities to guide actions within the study area would be enhanced. Combined with agency and staff expertise in wildlife and land use planning this could facilitate protection of areas more than in alternative A or B. There would also be long-term beneficial effects from using NPS resource management staff to

provide technical expertise on wildlife corridor conservation and habitat and restoration opportunities in urban areas. If protection of these areas could be enhanced through partnerships identified in a cooperative conservation plan, the high conservation value of this area in its own right as well as its benefits to SMMNRA to provide habitat connectivity could be realized.

Research and Education

NPS entities, including SMMNRA and the Mediterranean Coast Network would continue existing wildlife research as in alternatives A and B. In addition, this research would be expanded to encompass additional areas added to the boundary in alternative C. If additional research provided an expanded nexus for protecting wildlife habitat connectivity for SMMNRA, there could be long-term beneficial effects.

As in alternative B, there could be more opportunities to engage people in urban communities in citizen science opportunities. In alternative C, however, these opportunities would be led by the NPS and would include additional targeted outreach to urban residents, who could learn more about wildlife and efforts to conserve them and potentially support future opportunities for park land conservation, a long-term indirect beneficial effect.

Impacts from Alternative D

Alternative D would have impacts similar to alternative A from existing agency and partner management actions within SMMNRA and in the study area. Existing impacts within the study area related to wildlife habitat fragmentation from development would also continue. Alternative D, however, would provide the most new opportunities to protect wildlife and wildlife habitat connectivity in the study area. These opportunities would primarily be a result of potential expansion of the SMMNRA boundary to encompass a much broader portion of the study area. Because alternative D would also have a focus on protecting wildlife and wildlife habitat connectivity, these opportunities would also have more likelihood of being implemented. As in alternative B, there would also be cooperative conservation efforts to encourage private land stewardship as a means of conserving habitat connections beyond the proposed SMMNRA boundary expansion toward the Los Padres and Angeles national forests.

Recreation and Visitor Use

Impacts associated with recreational opportunities would be similar to alternative C, however, there would likely be a fewer impacts on wildlife because visitor use would likely be spread out over the much larger area identified by this alternative, allowing greater flexibility in identifying appropriate locations and providing more locations closer to where people live. There would also be more opportunities for NPS to own or manage segments of the Rim of the Valley Trail because the entire conceptual trail system would be within the proposed boundary adjustment.

Resource Protection

As in other alternatives, the current range of long-term beneficial effects from agency and organization efforts to conserve and restore native ecosystems and habitat in existing protected areas within SMMNRA and in the Rim of the Valley study area would continue. As in alternative C, this would be expanded by NPS authority to purchase lands within the boundary expansion area, a long-term beneficial effect. These land purchases would potentially be targeted toward significant resources, wildlife habitat connectivity and key recreational connections.

Wildlife Habitat Connectivity

As in alternative C, with NPS involvement and authority for land protection and technical assistance, opportunities to guide actions within the study area would be enhanced. Combined with agency and staff expertise in wildlife and land use planning this could facilitate protection of more areas, a long-term beneficial effect. Public and private agency and organization partners could work together to protect wildlife corridors.

As in alternative B, if partnership actions through collaborative plan development and other venues could enhance protection for connecting SMMNRA to the Los Padres and Angeles national forests, there would be long-term beneficial effects on wildlife habitat and habitat connectivity. Although some areas within SMMNRA boundary would be closer to these connections, as in alternative B, these efforts would need to rely on partnerships since the actual connections would remain outside the boundary.

Private land stewardship would be a key component. Those efforts to undertake cooperative conservation actions that do not rely on federal acquisition would have long-term beneficial effects on wildlife habitat connectivity and could provide a model for protecting areas in other places, providing long-term beneficial effects.

Research and Education

The beneficial effects of new NPS research efforts would be the same as in alternative C, except that the expanded area encompassed by this alternative would likely have extended benefits for research opportunities. This research could be directed at understanding plant and animal responses to habitat destruction and fragmentation to better manage this important biodiversity hotspot, as the climate continues to change (Delaney et al. 2010).

As in alternatives B and C, there could also be more opportunities to engage people in urban communities in citizen science opportunities. These opportunities would be led by the NPS and could include additional targeted outreach to urban residents as well as additional engagement with partners in providing programming. As is currently contained in *Outdoors in the Santa Monica Mountains*, NPS could provide a link to the network of partners that offer programs. Combined, these actions would have direct and indirect beneficial effects on wildlife

and wildlife habitat connectivity by providing support for these actions and by encouraging others to protect areas near them.

Cumulative Impacts

The long-term impacts of urbanization, including removal of native vegetation, spread of nonnative invasive species, loss and harassment of wildlife by pets, effects of artificial lighting, noise, pesticides (including rodenticides and herbicides), changes in fire regimes, air and water pollution and altered water regimes will continue and would continue to affect wildlife. Other effects, such as an increase in the number of residential and commercial developments, roadways and people would also continue and would continue to have minor to major localized and widespread adverse effects.

Over time, the wildlife habitat and connections have become lost or fragmented. In some cases, these are so severely fragmented that major species are no longer present in suitable habitats. Although there are now a variety of conservation initiatives to link habitats and to prevent species loss and the southern California ecoregion is recognized as a unique biodiversity hotspot important for conservation, it is likely that development of remaining unprotected habitats would continue. In fact, population projections show continued loss of land development from development over the next 30+ years. The Los Angeles greater metropolitan area population is projected to increase by 4 million by 2035 (SCAG 2012). Thus lands in the study area will likely become ever more valuable for both people and for providing wildlife habitat and will likely be devoted to one of these uses in the near future.

To the extent that wildlife crossing structures, such as overpasses and underpasses, including bridges and culverts are constructed in the future, wildlife movement in the region could improve. This is especially true where agencies and organizations are already working together to evaluate needs and to plan for future connectivity. However, because the loss of individual animals is continuing and discontinuous habitat persists, the ability of these structures to provide relief and connectivity for wildlife in the study area is diminishing as additional development occurs. Because species vary tremendously in their reactions to roads, fences, and different types of crossing structures, the California Essential Habitat Connectivity Project calls for multiple types of crossing structures to be constructed and maintained. It also notes that the structures should be spaced close enough to allow free movement by species with different spatial requirements, and fencing should keep animals off the road and direct them towards crossing structures (Spencer et al. 2010: xvii). Because this need is recognized, there is currently support, but limited funding for modifying major freeways, such as U.S. Highway 101. CalTrans is currently evaluating road-crossing improvements as part of transportation projects along Highway 101 near Liberty Canyon and along the California State Route 118 freeway near Alamos Canyon in the Santa Monica-Sierra Madre Connection (Penrod et al. 2006), both of which have long been identified as critical for

maintaining connectivity in the region (Soulé 1989, Sauvajot et al. 2000, Riley et al. 2003, Ng et al. 2004, LSA 2004, Riley et al. 2005, Riley et al. 2006). Therefore, over time, it is likely that the focal species identified by the California Essential Habitat Connectivity Project would continue to be most affected by habitat fragmentation. These include area-sensitive species (those with large area requirements, which are often the first to disappear when connectivity is lost); barrier-sensitive species (those least likely to traverse roads, urban areas, canals, agricultural fields, or other features); and less mobile species (habitat specialists and those with limited movements) (Spencer et al. 2010:xv).

Under alternative A, the area encompassed by SMMNRA would continue to be protected and would have beneficial effects on wildlife and wildlife habitat connectivity within the study area. The approximately 340,000 acres of protected land in the study area would continue to provide a variety of natural and altered wildlife habitat. When combined with other actions in the study area, actions in alternative A would contribute negligible cumulative adverse and minor beneficial impacts. Overall cumulative effects, however, could be moderate and adverse, depending on the degree to which wildlife and wildlife habitat is affected by additional development of existing open space within SMMNRA and the study area. If irrevocable loss of wildlife habitat connectivity occurred, adverse effects in SMMNRA and other isolated public lands could be major for some species.

In the action alternatives, the cumulative effect of growth and land use trends, plus the beneficial effects of protecting additional public lands would have minor to moderate cumulative beneficial effects on wildlife and wildlife habitat connectivity. These effects would likely be greater in alternatives C and D than in alternative B, with the greatest beneficial effects potentially coming from alternative D because it has the potential to spur the protection of the most public land. Identification and protection of critical wildlife habitats linkages could also help to protect these through partnership and private land stewardship actions. If actions did not protect important movement corridors or habitats, however, cumulative adverse impacts to wildlife would be similar to alternative A (moderate to major).

Conclusion

Alternative A would likely continue to have long-term beneficial and negligible to moderate localized adverse effects from ongoing activities in SMMNRA. The actions of other agencies in land conservation and habitat restoration would also likely contribute long-term beneficial effects in the study area. To the extent that SMMNRA and others conducted research, and agencies and organizations working together in the study area continued to identify and moved toward implementation of protection for wildlife habitat linkages and movement corridors, there would be long-term beneficial effects. Alternative B would have similar long-term beneficial effects from land protection and actions to protect wildlife in SMMNRA. In the study area, alternative B could provide the direction needed for

agencies and organizations working on their own to conserve resources and to protect lands, a long-term indirect beneficial effect. Alternatives C and D would provide for additional land conservation by the NPS in the study area that could be directed toward wildlife and wildlife habitat protection. Actions in alternative D would be likely to result in greater long-term beneficial effects due to the broader management direction in that alternative and the larger area encompassed within the proposed boundary adjustment.

Special Status Species Environmental Consequences

Impacts and Context of Alternative A

Numerous plants and animals within the study area are listed as rare, threatened or endangered (*Table D.6: Rare Plants* and *Table D.7: Rare Animals* in *Appendix D: Resource Inventories*). Because of its location in southern California the study area contains one of the highest concentrations of rare species in the U.S. Because of the extensive development in southern California, the importance of the California floristic province as a hotspot of biodiversity and ongoing population expansion, numerous natural communities have also become limited in extent. These communities may have originally been restricted to areas targeted for development, such as valley oak savanna in the flat valley bottomlands or walnut woodlands, or may have become limited in extent due to the widespread consequences of human use in the area, such as the effect on native grasslands from the introduction of grazing and European annual grasses (*Table D.5: Imperiled Plant Communities* in *Appendix D: Resource Inventories*). The loss and alteration of wetland and riparian habitats has been particularly devastating in some parts of the study area, because streams and rivers have been channelized and lined with concrete, dramatically reducing habitat values. Use of water for development and the importation of water and its runoff into these areas has also had widespread effects. These species and communities are threatened by the related effects of human uses in the study area as described above in the *Wildlife and Vegetation* sections.

Where lands are protected in public parklands from the ongoing threats of agricultural, industrial and urban development, public and private agencies and organization land managers would continue to survey for and protect rare species, including in SMMNRA, a long-term beneficial effect. These current efforts by land managers to manage sensitive plants and wildlife, restore habitat and protect large contiguous areas of habitat would continue to have beneficial effects.

Outside protected areas, these species would continue to be subject to degradation and loss of habitat as the effects of ongoing agricultural, industrial and urban development continue, with minor to major adverse effects, depending on the species, its population and location. As part of this critically important landscape, these remaining natural lands are important for

the conservation of sensitive species. Simultaneously, because of existing impacts they are also more vulnerable to ongoing threats associated with human uses. As described elsewhere, developed areas, roads and utility corridors have fragmented landscapes, severing connections between core areas of habitat. As a result, those lands currently protected in the study area by the SMMC, cities and other public land management entities would continue to be important and it is likely that these agencies and organizations would continue to target remaining rare species habitats for protection. In alternative A, this would continue to be without overall coordination.

Impacts from Alternative B

Actions and impacts in alternative B would likely be the same as in alternative A, except that there would be potential for coordination because of the development of the cooperative conservation plan. This coordination could result in spurring individuals, communities and public agencies or organizations to protect additional sensitive species habitat, a long-term beneficial effect.

Impacts from Alternative C

Actions and impacts in alternative C would be similar to alternatives A and B, except that there would be potential for new land purchases to protect sensitive species and habitats where these intersected with protecting additional lands for close-to-home urban recreational opportunities. Ongoing purchases of lands for public use by SMMC and cities and towns within the area encompassed by alternative C and the opportunity to do so by the NPS would prevent further degradation of these areas from development. As a result there could be long-term beneficial effects.

Impacts from Alternative D

Actions and impacts in alternative D would likely be the same as in alternative C, except that there would be a focus on connecting habitats to promote long-term resiliency of biological resources in the boundary adjustment area combined with continued focus in SMMNRA to protect and enhance habitat and connectivity between parks, habitat areas and open spaces. This expanded focus would be consistent with protecting rare species and habitats and, among the alternatives, would likely provide the greatest beneficial effects on conserving rare species and habitats. The alternative D boundary adjustment would also protect additional areas rich in endemics and special status species, including not only the Santa Susana Mountains, but also the Conejo Mountain area and the Upper Santa Clara River within the Soledad basin, thus providing greater opportunities to protect species diversity.

Cumulative Impacts

Ongoing development for a wide array of human uses has contributed to the loss of species and habitats over time. Combined, these direct impacts (habitat loss) have led to a variety of other indirect impacts (habitat fragmentation) and resulted

in a near crisis situation for many species and habitats. This has been mitigated by specific land purchases and dedications for some species and other more widespread land protection for habitat conservation. Although some species and habitats are likely secured from additional loss within the study area, others remain at risk.

Alternatives A and B would continue existing land uses and trends and would offer only slight improvements to the protection of sensitive species and habitats since these would continue to rely on proactive conservation by a limited number of public land management agencies and organizations. Alternative B, however, with a cooperative conservation plan, could target some additional conservation efforts toward the most sensitive species by identifying and promoting this in the plan, a negligible to minor beneficial effect. Alternatives C and D would provide the likeliest venues for additional sensitive species and habitat conservation because these would add lands to the boundary of SMMNRA. Adding lands to the boundary would promote conservation of sensitive species and habitats by increasing the area that would fall under the ability of the NPS to work directly to promote conservation of species and habitats through its own management policies. NPS management policies promote treating species identified or proposed for listing the same. As a result, although direct protection efforts could be small, indirect beneficial effects would be expanded.

Conclusion

Existing threats and ongoing adverse effects to sensitive species and habitats would continue; however, it is likely that because of the importance of sensitive species and habitat conservation, all of the alternatives could contribute beneficial effects, especially, because SMMC would continue to have the ability to protect important resource areas in the legislated portions of the Rim of the Valley study area under alternatives A and B. In alternatives C and D, the NPS would also have this authority if a potential boundary expansion occurred. As a result, there would be mandates from more than one agency to protect sensitive species and habitats, likely resulting in long-term beneficial effects from targeted actions to protect these species.

Archeological and Ethnographic Resources (Traditional Use) Environmental Consequences

Context

Human occupation of the study area dates to almost 10,000 years. Archeological deposits that depict this occupation occur in mountain passes, at the mouths of rivers and creeks, and along the seashore where there was an abundance of food. The study area contains more than 1,700 documented archeological sites, some of which have been listed in the National Register of Historic Places for their significance. Upon evaluation, the Saddle Rock Ranch rock art site, a privately owned resource, has been determined eligible for national historic landmark designation by the Secretary of the Interior.

Impacts from Alternative A

Lands within the study area lie within the traditional territories of the Chumash, the Tongva/Gabrielino, the Serrano, and the Tatavium. The opportunity to better understand these cultures, including contemporary descendants, would continue to provide a range of beneficial effects.

As described in the significance section, the more than 1,000 prehistoric sites documented in the Santa Monica Mountains represent one of the highest densities of archeological resources for a mountain range in the world. Opportunities to continue study and documentation of these resources would have ongoing long-term beneficial effects.

There would also continue to be long-term beneficial effects from additional scientific documentation and understanding of archeological sites related to the Tongva/Gabrielino cultures and their relationship to the Santa Monica Mountains. Known sites within SMMNRA include spectacular Chumash pictographs, village sites representing over 3,000 years of human use, and the only known site where a Clovis point has reportedly been found on the west coast (Stickel 2006). The Angeles National Forest and San Gabriel Mountains National Monument also contains many documented sites. The 7,800-acre Aliso-Arrastre special interest area located in the Santa Clara-Mojave River Districts also includes numerous prehistoric sites. The concentration of stone circles, many of which have been interpreted as house rings, storage caches, and religious sites, may be unique in southern California (USFS 2005).

Outside SMMNRA, the Simi Hills, Conejo Mountain, Santa Susana Mountains, and San Gabriel Mountains contain approximately 700 additional documented sites, approximately 200 of which are located in the Angeles National Forest and San Gabriel Mountains National Monument. Where these sites are located on public lands, they would continue to be protected and investigation could lead to better understanding of their importance. Those located on private lands would also likely continue to be investigated and understood, however, there would likely continue to be less intensive survey work and research associated with them. For instance, only a small portion of the areas outside SMMNRA in the Simi Hills have been surveyed. Similarly, although it is likely that surveys of the Santa Susana Mountains would yield additional sites, very few sites in this area have been documented. For example, recent surveys of the new Santa Susana Pass State Historic Park nearly tripled the number of known sites.

There would continue to be a range of beneficial effects from traditional use activities. Traditional activities currently occur in SMMNRA at sites such as Satwiwa at Rancho Sierra Vista. These activities include tule gathering and events that attract Native American Indians living in the Los Angeles area, an area which contains one of the largest Native American Indian populations in the world, representing virtually every tribe. Al-

though the area is principally related to the Chumash, the tribe has embraced Satwiwa at Rancho Sierra Vista as a gathering place for other tribes and tribal members and the park continues to offer a variety of opportunities for tribal members to discuss and demonstrate their heritage.

Traditional activities also occur in the San Gabriel Mountains, including at the Haramokngna American Indian Cultural Center in the study area. Operated by Pukú Cultural Community Services, a native non-profit organization, the purpose of the cultural center is to share Native American history, heritage, and culture of the five regional tribes of the Angeles National Forest and San Gabriel Mountains National Monument. The site includes a visitor center, museum and art gallery. Those tribes include the Tongva, the Chumash, the Tataviam, and the Serrano. Programs include festivals and exhibitions.

Impacts from Alternative B

The Rim of the Valley Corridor includes lands associated with Tongva/Gabrielino, Chumash, Tataviam (northern Simi Hills, Santa Susana Mountains toward Newhall and west toward Piru, including Castaic reservoir and upper reaches of Santa Clara River, including Vasquez Rocks), and Serrano (primarily associated with San Bernardino Mountains and Mojave desert but is also described as extending east from the San Bernardino Mountains into the Mojave Desert and north in the San Gabriel Mountains through the Sierra Pelona to the Tehachapi Mountains) tribes. Lands associated with the San Fernando Mission, San Buenaventura Mission and San Gabriel Mission, where members of these native tribes were gathered, are also included within the study area. As a result, there are archeological and ethnographic sites associated with all of these peoples in the study area.

Partnership opportunities in alternative B could lead to additional survey of and protection for archeological sites in areas beyond SMMNRA where agency and organization goals coincided. This could lead to better understanding of identified transition zones between the ethnographic territories of Chumash, the Tongva/Gabrielino, and Tataviam such as has been identified for the Santa Susana Pass area. Agencies and organizations managing land in the partnership area could work together to better understand the resources in the Rim of the Valley areas. As additional connector portions of the Rim of the Valley Trail were constructed, archeological surveys would likely document additional sites, since many of the prehistoric sites in the area are along ridgelines (valley living arose with the advent of agriculture and irrigation).

Partnerships could also offer the ability to conduct more coordinated studies, especially to better understand areas within the San Fernando Valley, where three different cultural groups overlapped. For example, with additional protection of the Burro Flats area, there could also be more opportunities to study the overlap of pre-contact Fernandeno and Tongva groups.

Some of this overlap is attributed to Tataviam and Tongva that were associated with the San Fernando Mission. Fernandeno is a term used to describe these people, just as Gabrielino is a term to describe Tongva associated with the San Gabriel Mission.

Impacts from Alternative C

Impacts would be similar to alternative B. In addition, there would be long-term beneficial effects from NPS designation, including comprehensive research and documentation of sites and facilitation of development of a network of cultural resources stakeholders that would explore and make recommendations related to cultural resources protection and interpretation on NPS- or partner-managed lands. The collaborative land protection program could also include strategic land acquisition to protect key resources.

Because the area encompassed by alternative C would include the eastern portion of the Santa Susana Mountains, including the connections in the Simi Hills to the Santa Monica Mountains, there could be additional opportunities to protect archeological resources sites in the Santa Susana Pass area that transition between the Chumash and Tongva/Gabrielino as well as the Tataviam. For instance, Burro Flats (Chumash and Tongva/Gabrielino) and the Tujunga village site (Hansen Dam—Serrano) would be within the boundary.

Impacts from Alternative D

Impacts would be similar to alternative C, however, there would be more opportunities to protect additional significant archeological resources because additional areas would be included within the boundary and/or partnership areas. For instance, Conejo Mountain, which contains additional archeological sites and the Soledad basin area containing habitation, processing and production sites in the easternmost portion of the study area would also be included in the national recreation area. As a result, there would be opportunities for additional survey in these areas.

Cumulative Impacts

Archeological resources in SMMNRA and surrounding areas have likely been adversely impacted to varying degrees from past construction-related disturbance (prior to the advent of archeological resources protection laws), from visitor use, vandalism, erosion, and from other natural processes. It is likely that actions—including the development of some facilities and use of park areas prior to purchase by NPS or other or state agencies responsible for protecting archeological resources—resulted in disturbance to or inadvertent damage of archeological resources prior to SMMNRA establishment. Because mitigation measures would continue to be employed to minimize impacts to potentially unidentified cultural resources in proposed and future projects on NPS-managed lands in SMMNRA, there would be increased protection for archeological resources from potential future adverse impacts.

There have likely been and would continue to be negligible to moderate adverse impacts on archeological resources on private lands within the study area. Most of these actions would likely continue to be unintentional; however intentional vandalism, such as collecting artifacts, could also occur and has been documented in the areas encompassed by the alternatives.

Past and present actions that could affect archeological resources include ongoing use of public lands for recreation, study and documentation of resources. A potential for inadvertent moderate to major adverse effects could occur with implementation of the Santa Susana Field Lab remediation, because of limited documentation of a proposed archeological district if the extent of the district is not fully identified prior to testing and removing contaminated soils.

When the impacts of alternative A-D are added to the impacts of past, present and proposed future actions, they would contribute negligible to minor adverse and long-term beneficial impacts on archeological resources.

Conclusion

There would be ongoing beneficial effects from opportunities to study and document the more than 1,000 archeological sites within SMMNRA boundary. Opportunities to study the more than 550 additional sites in the Rim of the Valley corridor would be dependent on the initiative of existing landowners, such as SMMC. Where these exist in the Angeles National Forest and San Gabriel Mountains National Monument, there would be ongoing research and documentation similar to SMMNRA. Periodic surveys of new public lands or areas proposed for development could increase the number of known sites. A range of beneficial effects would also occur from traditional use activities in SMMNRA and Angeles National Forest and San Gabriel Mountains National Monument. In alternative B, partnership opportunities in alternative B could lead to additional survey of and protection for archeological sites in areas beyond SMMNRA where agency and organization goals coincided. This could lead to better understanding of identified transition zones between ethnographic territories. Agencies and organizations managing land in the partnership area could work together to better understand the resources in the Rim of the Valley areas. In alternative C, additional long-term beneficial effects from the potential boundary expansion could include comprehensive research and documentation of sites in the area and creation of a network of stakeholders to recommend sites for protection. Protecting lands related to the transition between the Chumash and Tongva/Gabrielino and new sites related to the Serrano could improve understanding of archeological resources. Impacts in alternative D would be similar to alternative C, however, there would be more opportunities to protect additional significant archeological resources because additional areas would be included within the boundary and/or partnership areas.

Historic Structures/Cultural Landscapes Environmental Consequences

Impacts from Alternative A

In the no action alternative federal, state, and local agencies would continue to preserve and manage historic resources throughout the study area. Hundreds of sites have been listed in local, state, or national historic registries. As described in *Chapter 2: Resource Description*, over 50 sites have been listed in the National Register of Historic Places, while many more appear eligible through survey or evaluation. Another five sites have been designated as national historic landmarks (NHLs), with two others determined eligible (Mount Wilson Observatory and Saddle Rock Ranch Pictograph Site).

Depending on the mandates of area federal, state and local agencies and organizations in the study area, it is likely that many of the cultural resources that have survived up to this point would continue to be protected, albeit to various degrees, depending on agency and organization missions and expertise in cultural resources preservation. Various agencies and organizations would continue to identify and document historic resources. For example, the City of Los Angeles is in the midst of a comprehensive survey of the City's historic sites and resources. Federal and state organizations that have cultural resources within the study area in their care would likely continue to take ongoing actions to manage and preserve these. Such management and preservation could include technical assistance, including the potential for funding, from NPS cultural resources preservation programs. This could come from programs, such as the NHL program, if the significance warranted and if owners/managers determined their eligibility for programs such as this on their own.

SMMNRA would continue to document and preserve historic structures and cultural landscapes within the park boundary, a long-term beneficial effect. Within SMMNRA, there are more than 29 cultural landscapes on NPS lands alone that are listed, eligible or potentially eligible for listing in the national register. An unknown number of similar sites are located on other SMMNRA parklands. Outside the park boundary in the study area, a variety of agencies and organizations maintain and preserve a range of significant cultural resources related to development of the region. As described in *Chapter 3: New National Park Unit Criteria Analysis*, the study area contains resources related to every major prehistoric and historic theme associated with human interaction and development of the U.S. Where these resources were maintained in compliance with the Secretary of the Interior's standards for rehabilitation and preservation, there would continue to be long-term beneficial effects.

The NPS regional or SMMNRA offices could provide technical assistance to some agencies and organizations in alternative A, however without a mandate for doing this in the study area,

this assistance would be provided on a case-by-case basis upon being contacted by the landowner/manager.

Where state lands and managers are involved, preservation of resources could be more likely. Documentation and preservation, however, could be limited by funding and resources and occur on a case-by-case basis. This could result in deterioration of resources as managers await funding or priority-setting management actions. Ongoing preservation projects, however, such as rehabilitation work at Los Encinos State Historic Park and other state park lands would continue and would have long-term beneficial effects on cultural resources. On private lands, cultural resources would continue to be protected at the discretion of the landowner, and some inadvertent adverse effects from misguided rehabilitation could also occur, depending on the level of historic expertise / consultation prior to taking actions.

Impacts from Alternative B

Actions and impacts would be similar to alternative A, however, in alternative B, the NPS would have broader authority to work with partners beyond SMMNRA. NPS technical assistance could support the planning stages of rehabilitation efforts and could be more proactive, but this assistance would still be upon request by the landowner/manager. There would be a potential for more protection for cultural resources that reflect everything from the early hunters and gatherers, to Native American Indian cultures, the Spanish mission and rancho periods, the American homestead era, and Post World War II modernization and settlement. There would also be more opportunities to relate these study area resources to those currently protected in SMMNRA.

In addition, based on the proposed cooperative conservation plan, partner agencies and organizations could explore and make recommendations related to the cultural resources most important to preserve in the study area. By doing so, more resources could be directed toward preserving these and there could be long-term beneficial effects on those resources as a result of this targeted analysis. Provisions could also be made for research and inventories to document and identify cultural resources.

More analysis could also result in new theme studies related to existing resources in the area, which could result in more nominations of significant resources for listing in the national register and/or more national historic landmarks being designated. The plan could also catalyze nearby communities to focus on their local significant cultural resources which could result in more protection of these resources, an indirect beneficial effect. If additional protection or interest in preserving significant cultural resources occurred this could improve cultural resources preservation locally and/or within the study area as a whole, depending on the level of interest generated.

The plan could also be an opportunity for colleges and universities near and far to direct the interest of graduate students looking for research projects, a long-term beneficial effect. There could be opportunities to study a wide range of human interest and significant events important to the development of the oil industry (development of Union/Standard Oil in Newhall, Santa Clarita and Santa Paula), the aerospace industry (Boeing, Rocketdyne and NASA's Jet Propulsion Laboratory in Simi Valley/Chatsworth and Pasadena), the film industry (numerous film settings and studios), archeological and ethnographic information about the Chumash, Tatavium, Tongva/Gabrielino, and Serrano as well as stories of the first African American woman to own land in California (Biddie Mason), and even more modern development associated with the development of conservation biology and firefighting techniques (as these relate to the study area). This history also encompasses the Spanish and Mexican influences in California and the mission period and a Japanese-American confinement site (Tuna Canyon in the Verdugo Mountains). Finally, there could be opportunities to study the water development (importation into the Los Angeles area) from the Colorado River, the Owen's Valley and beyond that was an important catalyst in the region's development.

Impacts from Alternative C

Potential impacts would be the same as in alternative B except that some of the significant resources would be within the proposed boundary adjustment for SMMNRA.

Additional cultural resources within the boundary expansion area would include those related to the space program and the Cold War, located in the Simi Hills and the Arroyo Seco corridor, respectively. Also included would be significant historical sites that reflect the settlement and economic development of the region. This includes the Pico Well No.4 National Historic Landmark, portions of the Butterfield Overland Trail, the Arroyo Seco Parkway, Route 66, and the El Pueblo de Los Angeles Historical Monument. The Simi Hills and Santa Susana Mountains contain numerous archeological sites, including rock art examples not found in the Santa Monica Mountains. Many sites of architectural significance would be within the boundary adjustment, including the Gamble House National Historic Landmark in Pasadena. Although many cultural resources are protected to some degree, additional beneficial effects would be expected from NPS contributions to cultural resources protection. For example, the NPS could conduct studies, inventories, provide technical assistance and incorporate site significance into NPS interpretive and educational programs. The NPS would also facilitate the development of a network of cultural resources stakeholders including historical societies, institutions, and other organizations. This network would explore and make recommendations related to cultural resources protection and interpretation.

The NPS could also collaborate and partner with related historical sites outside of the proposed boundary adjustment such as Mission San Fernando Rey de España in the San Fernando Valley and Rancho Camulos National Historic Landmark in Piru, California.

Impacts from Alternative D

Potential impacts would be similar to alternative C, with additional areas potentially included within a SMMNRA boundary adjustment. Among these would be sites around the Conejo Valley, near Camarillo and in the central and western portions of the Santa Susana Mountains. As in alternatives B and C, public and private agencies and organizations would continue to manage their resources but could receive additional preservation help, beyond technical assistance for their preservation, by working with the NPS.

Cumulative Impacts

The Los Angeles and Ventura county areas encompassed by the alternatives contain a great number of national, regional and locally important cultural resources that have been preserved by a variety of public agencies and private organizations and foundations. Continued preservation of these important cultural resources would have ongoing beneficial effects in the study area. In addition, ongoing research and preservation of significant cultural resources would continue in SMMNRA and would continue to contribute to better understanding of a wide range of nationally important industries and endeavors, including those associated with movie-making, oil production, history and settlement patterns in the area, architecture and other important aspects of American life represented in the study area and within SMMNRA. Both the breadth of resources and the significance of resources in the study area are outstanding.

Past human development and use of the area has resulted in incremental loss of historic structures and cultural landscapes in the study area. Impacts have included changes that occurred as areas within the study area boundary were developed or redeveloped. In many cases, formal historic recognition has led to preservation of resources, such as Pico Well No. 4 in the Santa Susana Mountains and the Corriganville studios area in the Simi Hills. Numerous sites have been identified and preserved as state parks, including Placerita Canyon State Park and Los Encinos and Santa Susana Pass state historic parks. The U.S. Forest Service has a heritage resource program that documents and protects cultural resources on the Angeles National Forest and San Gabriel Mountains National Monument. Approximately 5% of the lands in the U.S. Forest Service managed areas have been surveyed for cultural resources and several sites within the study area have been determined eligible for listing in the National Register of Historic Places.

Past projects also include those related to SMMNRA, including the boundary adjustment that added the Simi Hills to the park. Combined, past projects have primarily resulted in a

range of beneficial and adverse effects (such as from loss of associated resources before existing sites were protected).

Current projects include efforts to acknowledge the significance of the Santa Susana Field Laboratory through the environmental impact statement on the disposition of that site, rehabilitation work at Los Encinos State Historic Park and at Mentryville, as well as a host of other preservation maintenance projects being undertaken to preserve the integrity of historic structures and cultural landscapes within the study area. Potential adverse effects on Santa Susana Field Lab historic resources could occur if contamination in the Coca test stands warrants removal of these as proposed in the FEIS and Record of Decision.

Alternative A would continue to contribute minor to moderate beneficial effects from preservation of historic resources in SMMNRA, and from actions by a variety of other public agencies and private organizations related to study area historic resources outside of SMMNRA. Ongoing minor to moderate adverse effects would continue as a result of actions that adversely affect cultural resources preservation in the study area, such as uninformed or misguided rehabilitation of historic structures and/or deterioration caused by neglect or benign neglect. Alternative B would enhance the efforts of public and private agencies and organizations in SMMNRA and beyond through improved partnership coordination among cultural resources organizations working to preserve resources in the study area. It would also improve access to NPS technical assistance for cultural resources preservation. Therefore, cumulative beneficial effects in alternative B would be greater than in alternative A and adverse effects similar to alternative A but slightly improved if there was targeted cooperative conservation planning by public and private agencies and organizations for cultural resources. Alternatives C and D would further enhance the ability to preserve significant cultural resources through targeted land acquisition and through improved access to NPS preservation programs contributing to greater cumulative beneficial effects.

Conclusion

Alternatives A-D would have a range of beneficial and adverse effects, depending on the resource, its location and the land manager/owner and their own or access to expertise in historic/cultural resources. Effects could range from minor to moderate and could affect the integrity of the historic structure or cultural landscape. Beneficial effects could also occur if additional sites were identified/preserved. Impacts under alternatives B-D would be more likely to have long-term beneficial effects because of improved knowledge and access to NPS cultural resources staff and because these alternatives would include development of cultural resources protection plans that would identify the character-defining features of the historic structure and/or cultural landscape and identify the means to protect and/or to undertake preservation actions for these.

Visitor Experience Environmental Consequences

Impacts of Alternative A

Access and Transportation

The Los Angeles International (LAX) and Burbank/Bob Hope airports provide visitors from outside the area access to the region, however most visitors to SMMNRA area are from the local area and/or from the region. The SMMNRA *General Management Plan* (NPS 2002) calls for more information to be provided at LAX for visitors from outside the area. This could result in more visitors with a better understanding of this urban national park. Recent surveys, however, still show most visitors surprised to find a national park near Los Angeles (Designory 2011 in NPS 2012c). The park is also quite confusing with not a handful of entrances, but rather hundreds of entrances and only a few highway and entrance signs. Most visitors and even some nearby residents therefore generally do not know they are within SMMNRA or a national park.

Most access to SMMNRA would be via private vehicle on roads that would continue to provide for access and egress to public parklands as well as to private lands and residences within the boundary. These roads within SMMNRA would also continue to link to those outside the boundary. Most roads within the SMMNRA boundary are managed by cities or counties; however, there are also state routes, such as State Route 1 and State Route 23 within the boundary. Major highways (e.g. U.S. Highway 101, Interstate 405) provide access to secondary state and county roads. Many of these roads are used not only for access in SMMNRA, but also for commuting, especially Topanga Canyon Road (State Route 27), Mulholland Highway, Las Virgenes Canyon Road and Kanan-Dume Road. There are also a few NPS, State Park and SMMC roads providing local access to and within public parklands.

Because public transportation in SMMNRA remains limited, there would continue to be moderate to major adverse effects on providing access to the park for those without vehicles. Not all communities have good access to parklands in the study area. There are currently two public transportation corridors near SMMNRA, one on Pacific Coast Highway (State Route 1) and one along U.S. Highway 101. In the past, SMMNRA received a transportation grant to provide bus travel within the Santa Monica Mountains (ParkLINK Shuttle). The system was a network of five buses (four for operations) used on three routes in SMMNRA which lasted from July 2005 through November 2007 and ran weekends only (with some holidays) from 8:00 a.m. to sunset. It was funded by MRCA and Category Three ATPPL (Alternative Transportation In Parks and Public Lands Program).

Although somewhat successful, the program was not well-advertised and thus ridership was below expectations carrying

approximately 80 people per day rather than the 100 people per day anticipated (MacKechnie 2013). The link to weekend Los Angeles Metro service also did not occur until late July 2007 also contributed to low ridership, shortly before the shuttle was discontinued due to funding shortfalls. This lack of connectivity between public transit systems also resulted in low ridership.

Within the study area outside SMMNRA, there are numerous other major highways (e.g. Interstate 5, Interstate 210, State Route 118), major roads (State Route 110 and 126) and a high density of county and city managed roadways. In the urban areas near the study area are numerous city bus routes. Some of these areas, such as the eastern end of Simi Valley are also serviced by the regional Metrolink railway. A few of these routes provide close access to public parklands in the study area.

Public transportation within the study area to public parklands is also somewhat limited, but is more extensive in some areas than is available for access to SMMNRA parklands. For instance, there is public bus service from Chatsworth to Griffith Park in summer for concerts and events at the Hollywood Bowl which is accessed from the Chatsworth Train Station parking area. The Orange Line (Metropolitan Transit Authority) also connects to Metrolink and Amtrak. The MTA Bus Route 534 takes visitors from Los Angeles (Fairfax/Washington) to park sites along the Pacific Coast Highway (Highway 1) in Malibu. The MTA Bus Route 302 takes visitors from downtown Los Angeles to Pacific Palisades via Sunset Blvd. Santa Monica's Big Blue Bus connects LAX with park sites in Santa Monica and Pacific Palisades.

Amtrak generally provides service twice a day in or near the Rim of the Valley with stops at the following stations: Burbank Airport, Camarillo, Chatsworth, Los Angeles Union Station-LAX, Moorpark, Oxnard, Simi Valley and Van Nuys. The rail timetable, however, may or may not coincide with the ability to visit parklands during optimal times. For instance, a cursory search for a round-trip between Camarillo and Chatsworth turned up a fare of \$15.00 and travel times of 3:00 and 8:00 p.m. The commuter rail system MetroLINK currently operates Monday through Friday between Union Station and Chatsworth and Simi Valley.

The Simi Valley Amtrak station is located at the eastern end of Simi Valley and is within walking distance to Rocky Peak Park and Corriganville. Similarly, the Chatsworth station could provide access to areas within the study area in that vicinity. Both train stations can be accessed from areas, such as Camarillo on the west and Los Angeles on the east.

Where carpools can be arranged, there are numerous park and ride locations that provide relatively close access to parklands, such as the park and ride at Elysian Park that can be used to access Dodger Stadium.

Visitor Use Opportunities

There would continue to be long-term beneficial and adverse effects from providing visitors a wide range of visitor use opportunities in SMMNRA, including hiking, horseback riding, bicycling, camping, birdwatching, picnicking, driving for pleasure, viewing scenery, beachcombing, attending educational and interpretive programs and special events and others. Effects would vary depending on individual visitors and their preference for these activities. Visitor use opportunities can be experiential, cognitive, emotional and behavioral. In other words, visitors do things, learn things, feel things and exhibit actions or are inspired to behave a certain way. Nearly 18 million people live within close proximity to SMMNRA and visitation is estimated at 33 million visitors per year, although recorded visitation to NPS sites alone is under one million (NPS 2012c).

SMMNRA visitors come from a variety of places. There are educational and cultural institution groups, people coming to engage in specific recreational activities (hiking, climbing, etc.), and the general public. Visitors also include commercial users, such as people on retreats, or engaging in paid commercial services tourism (bus tours, horseback riding, kayaking and other recreational activities), realtors, film industry personnel on shoots, etc. There are also cultural heritage tourists, who are interested in historic and house tours, museums or craft fairs and other similar venues.

These visitor use opportunities would also continue to be available to a wide array of visitors at sites throughout SMMNRA and in the Rim of the Valley Corridor study area on public and private parklands. Visitor use opportunities would also have a range of social experiences, from the solitude available in more remote areas on weekdays, to the highly social special events held at Paramount Ranch during the height of summer. These opportunities would also continue to be both beneficial and adverse, depending on the type of visitor and whether they preferred social or solitary experiences and where they decided to go.

There would also continue to be a full range of volunteer visitor use opportunities, including the well-established Mountain Bike Unit and Mounted Volunteer Patrol. Over 8,000 volunteers contributed nearly 90,000 hours in 2011 (NPS 2012c).

Visitors would also have the opportunity to have experiences enhanced by media, such as at the Gillette Ranch visitor center or during educational or evening programs, or to have media free experiences on hiking trails and during other interpretive programs. Both within and outside SMMNRA, there would continue to be a variety of other structured public recreational opportunities, including guided horseback riding, fishing, golfing and formal camps, though some of these would occur primarily on private and local parklands. There would also continue to be a wide range of opportunities to learn about

different resources, places, and facilities in SMMNRA and beyond (see next section on Interpretation and Education).

Broader experiences that would continue to be available in areas primarily outside SMMNRA include boating, public swimming pools and other structured recreational activities, such as those at Hansen Dam and Sepulveda basin.

Because most public lands within the study area would continue to be located in SMMNRA or the U.S. Forest Service managed areas, most visitors would likely congregate at these sites, however, existing very popular parklands, such as Griffith and Elysian parks, Towsley Canyon, sites along the Los Angeles River and others would likely continue to appeal to people who lived closer to them or who were seeking new experiences in parklands. As a result visitors would continue to disperse across both SMMNRA and the Rim of the Valley Corridor study area mostly on weekends, but at all times, where public parklands have been preserved. This dispersal would continue to occur in alternative A, even in the absence of the broader area being designated. This would occur both because these parklands already exist and because the SMMC has promoted them through publications such as *Outdoors* and on their website and also because of the recreational purposes of the Angeles National Forest and San Gabriel Mountains National Monument (the most visited national forest in the U.S.). Other areas, such as the several state parks in the study area would also continue to receive visitors unfamiliar with the proposed broader Rim of the Valley plan being implemented by SMMC through its ability to protect land in the Rim of the Valley corridor. In addition, the myriad of small historic sites listed in the National Register of Historic Places and/or in other registries and scattered throughout the study area would continue to attract visitors from near and far interested in the wide range of sites.

Interpretation, Education and Partnerships (Sites and Facilities)

There would continue to be long-term beneficial effects from NPS, CSP and MRCA visitor facilities and contact stations where interpretative and educational programs are conducted. NPS interpretive programs in SMMNRA are conducted from a variety of sites and facilities, including the primary visitor center at King Gillette Ranch, the Satwiwa Native American Indian Culture Center, small or portable visitor contact stations (Circle X, Cheeseboro, and Paramount Ranch) and a roving van. CSP also has visitor contact stations at Leo Carrillo, Sycamore Canyon, Malibu Creek, Topanga, Trippet Ranch, Will Rogers, and Malibu Lagoon. MRCA has visitor contact stations at Franklin Canyon and Temescal. There is another visitor contact station at Charmlee, operated by the City of Malibu.

Outside SMMNRA there are a wide variety of other existing nature centers and interpretive facilities, as well as historic sites and museums run by a stunning array of local, regional,

and state agencies and organizations. Some of these include the Santa Susana Pass State Historic Park and Rio de Los Angeles State Historic Park (CSP); Mentryville (SMMC); William S. Hart Park Museum (Natural History Museum of Los Angeles County); Eaton Canyon Nature Center, Placerita Canyon Nature Center and Vasquez Rocks Natural Area (County of Los Angeles); Stough Canyon Nature Center (City of Burbank), Chatsworth Nature Preserve (Los Angeles Department of Water and Power), and numerous cultural sites listed in the National Register of Historic Places. These would continue to provide a wide range of visitor facilities and experiences offering beneficial effects through interpretive and educational opportunities for visitors to the study area.

Programming

There would continue to be short- and long-term beneficial effects on visitor experience from interpretive and educational programming. Interpretation helps visitors do meaningful activities, learn key messages about the site, feel an emotional connection to places, and learn park etiquette, and ideally be changed because of, visiting park sites. Well-designed interpretive programs provide all visitors, regardless of age, interests, background, or ability, opportunities for meaningful, enriching experiences as they engage with park resources, staff and enjoy parks (NPS 2012c).

In 2011, the NPS made approximately 208,346 direct visitor contacts through interpretive and education programs. These programs provided by interpreters included formal/guided talks, walks, demonstrations, performing arts, special events, educational programs, outreach services, community programs and programs facilitated by NPS materials. Other agencies conducting programs in SMMNRA also made an unknown additional number of contacts through programs. In addition to NPS interpreters and a wide array of volunteers conducting programs for the NPS, these agencies contribute numerous additional permanent and seasonal staff as well as additional volunteers in offering public programming across the mountains. NPS also offers annual interpretive training for agency and partner organizations and volunteers that helps to increase the understanding of the NPS goals and objectives for interpretation throughout SMMNRA and to increase consistency of programming in the Santa Monica Mountains.

This wide range of programming in SMMNRA is published quarterly in *Outdoors*, which has a physical distribution of 15,000 copies, including 10,000 regularly mailed, and which is also published online. Dozens of programs are offered each week, covering an amazing array of topics related to natural history, cultural history, environmental education, and recreational skills. These programs are offered by the NPS, CSP, MRCA, and other partners. Programs offered by CSP include an array of interpretive services: interpretive tours, and educational, summer community group and seasonal campground programs as well as an annual whale festival (NPS 2012c). MRCA programs in-

clude curriculum-based environmental education, after-school programs for at-risk youth, programs for seniors, families and small children; transportation programs for groups and organizations to visit public open space, and training programs for individuals and other park professionals.

Outside SMMNRA, in other established park areas within the Rim of the Valley study area, an unknown variety and number of additional public interpretive and educational programs are offered in a wide array of areas. As with the programming in SMMNRA, it is likely that these programs would continue to be offered, providing long-term beneficial effects for visitors to the wide array of sites. Because, however, they are offered by such a wide range of public and private agencies and organizations, there would continue to be little coordination, although common goals likely exist for those offered by individual agencies, such as CSP and SMMC/MRCA.

In SMMNRA, public interpretive, education and outreach programs are structured around four broad interpretive themes related to open space and recreation, human use/cultures, Mediterranean Ecosystem, and providing a gateway to the national park system. More specific subthemes identify specific topics that relate to these broader themes. The existing themes and the subthemes offer many opportunities for structuring public programs that further the mission of the NPS and SMMNRA, a long-term beneficial effect for interpretive and educational visitor experience opportunities.

Although the NPS partners with a variety of other public and private agencies and organizations in SMMNRA, there is no unified thematic framework for public interpretive, educational and outreach programs provided by these agencies and organizations within SMMNRA. As a result, there continues to be a lack of name recognition and little understanding of SMMNRA as a whole and its association with the NPS for many nearby urban and suburban communities and to some extent even for those who live within SMMNRA boundary itself (NPS 2012c).

Although NPS programs in SMMNRA are guided by an interpretive framework of themes, there are no unifying themes currently used for public interpretive, educational and outreach programming in the other portions of the study area.

To the extent that this trend continues, there would be ongoing minor to moderate adverse effects on visitor education and interpretation in SMMNRA from not meeting goals associated with one of the major interpretive themes -- namely to help visitors understand the relationship between the NPS and SMMNRA and the connection to other national parks.

Outreach

SMMNRA counts among its objectives a desire to connect the park, its resources, and its mission with urban audiences in

the Los Angeles area. Toward this end, the park now operates a space in El Pueblo de Los Angeles Historical Monument in downtown Los Angeles to serve as a base of operations within the City of Los Angeles. This is one of the sites within the study area. At this site, SMMNRA cooperates with CSP and the City of Los Angeles to reach additional audiences. Another outreach program is directed at students enrolled in the Los Angeles Unified and Oxnard Union school districts to encourage high school students to pursue careers with the NPS. The program includes educational and work experience opportunities in SMMNRA. Combined, these programs would continue to have long-term beneficial effects on reaching underrepresented visitors to SMMNRA and other national parks and would continue to extend the benefits of SMMNRA outside the physical boundary of the park within the study area.

Education

SMMNRA education programs offer broad and far-reaching programming for youth and adults of all ages, from the K-12 programs on biodiversity and national parks as laboratories to programs on wildland fire ecology and restoration activities for teens. SMMNRA is also used by area science and other magnet schools as a learning center. In addition, the park conducts teacher workshops, offers a teacher-ranger-teacher program (to allow teachers to serve as interpreters in the park and then to convey their experience back to the classroom), as well as hosting one of 17 national research learning centers to encourage college students to do research in national parks.

Within SMMNRA, there are a variety of public programs for children and adults offered by NPS, California State Parks, Mountains Recreation and Conservation Authority, Mountains Restoration Trust, the Resource Conservation District of the Santa Monica Mountains, NatureBridge and others. Beyond SMMNRA, an unknown number of public and private agencies and organizations offer interpretive and educational programs to youth and adults providing a range of beneficial effects on visitor experience in the study area. Scanning the range of nature centers and public parkland visitor centers currently established in the study area as shown in the *Outdoors in Los Angeles* map gives only a hint of the additional range of interpretive and educational programming that might be going on in the study area. Among these include Wildwood Park, Lang Ranch, Placerita Canyon Nature Center, Hansen Dam Recreation Area, Stough Canyon Nature Center, Griffith Park Visitor Center, Rio de Los Angeles State Park, etc.

Media

Interpretative exhibits in SMMNRA also include a wide array of indoor and outdoor exhibits, including trailhead signs, bulletin boards and self-guided nature trails. To the extent that these are similar in construction and design they contribute broadly toward improving understanding of SMMNRA and its resources, a long-term beneficial effect. Because, however, there is also a large number of independent partner agencies

and organizations, there are also numerous other sign sets and styles across the mountains. Although these also contribute to visitor information and interpretation, the lack of a unifying system, including for site entrance and place name signs, continues to contribute to both beneficial effects for visitor interpretation and education and adverse effects in visitor use and understanding of the partnership national park that is SMMNRA. Similarly there is a dazzling array of site bulletins, flyers and other publications about resources in SMMNRA put forth by the array of partner agencies and organizations that have the same types of beneficial and adverse effects on understanding SMMNRA as a whole.

Within the wider array of nature centers, additional state, county and local parks and independent open space areas and other visitor sites in the study area are numerous public agencies and organizations that provide a range of media, maps and site signs. These would continue to provide long-term individual beneficial effects on visitor understanding and visitor experience through interpretation and education in and for individual sites, but not for the study area as a whole.

Impacts from Alternative B

Access and Transportation

Impacts would be the same as alternative A. There would be no changes in visitor access routes or commuter patterns in SMMNRA or the Rim of the Valley parklands from development of a cooperative conservation plan. Although the plan could specify opportunities to increase access to public transportation, this would occur on a case-by-case basis, based on the interest of partner agencies and organizations. None of the proposals in this alternative would change regional traffic impacts.

Visitor Use Opportunities

Visitor use opportunities available in alternative B would be the same as in alternative A. Although a cooperative conservation plan developed by public and private agencies and organizations is proposed as part of alternative B, it is unknown to what degree there would be a unified vision associated with recreational uses and other visitor use opportunities in the study area beyond the efforts of the SMMC to continue to protect public parklands in the vicinity of the study area according to their legislative mandate. In this alternative, however, the NPS would seek to coordinate educational messaging, which could provide some unifying themes linking partnership areas, which could in turn encourage visitors to explore similar recreation sites.

Interpretation, Education and Partnerships

Sites, facilities and interpretive, educational and outreach programs and media in SMMNRA would continue to be the same as in alternative A, albeit expanded incrementally over time, and would therefore continue to offer long-term beneficial

effects on visitor experience to the degree that the programs reached visitors to SMMNRA. Cooperation among partners in SMMNRA would continue to extend the benefits of conservation to youth and adults attending programs given by the NPS and its partners. Visitors to SMMNRA would continue to be inspired by the park and its resources. Despite more than 35 years of NPS presence in the Santa Monica Mountains, name recognition of the park is low and would likely initially continue to remain so. Over time as outreach programs matured, there would continue to be better understanding of the park and its mission and partners as well as its relationship to other NPS sites, offering visitors the benefits of interpretation and education related to public land preservation in the Los Angeles and Ventura county metropolitan area. Some of the state parks, including those that have been around for more than 60 years, have much greater name recognition.

Outside SMMNRA in the study area, the cooperative conservation plan could identify interpretive and educational linkages among its disparate parklands and land managers.

For the most part, however, those outside SMMNRA would continue to operate independently and would not be linked by any common boundary, although as more parklands are acquired by SMMC and managed by MRCA, there could begin to be better connections established.

Because some additional parklands in the study area would be included within a partnership area, there could be a range of beneficial effects from extending NPS interpretive program and media expertise and experience to these other park sites through technical expertise and training to other park site staff and volunteers in interpretation and education. In general because these areas would continue to be outside SMMNRA, however, there would continue to be independent visitor programming by a wide range of public and private agencies and organizations that while benefitting local and neighborhood schools and organizations, would not increase visitor understanding of the resources in the greater Los Angeles and Ventura county areas within the study area. These agencies and organizations would continue to be a mostly disjointed range of sites and experiences in alternative B and would not contribute to a broad understanding of resources in the Rim of the Valley study area. Furthering the goals of the cooperative conservation plan would also continue to be voluntary among the wide array of public and private agencies in the study area and therefore may or may not contribute to furthering the goals of the cooperative conservation plan, including public land protection in the study area.

Impacts from Alternative C

Access and Transportation

In addition to impacts from alternative A, the NPS would provide technical assistance to surrounding communities (valleys

and urban areas) to enhance access to SMMNRA through trail connections and public transportation options and to increase the diversity of public parklands. With a broader emphasis on connecting people to recreation, providing more close-to-home recreational opportunities for urban communities, and improving transportation to major recreational destinations, alternative C could have beneficial effects on providing access to public lands.

There would be more opportunities for visitors to access sites within the Rim of the Valley area and more opportunities to preserve public parklands in the area encompassed by alternative C. Providing these additional opportunities could disperse visitors from some currently overcrowded areas and could improve traffic conditions in some places. Overall, however, it is likely that because of continued growth and visitors looking for new places to go that this would not be discernible given regional traffic patterns and trends. Generally actions in alternative C would therefore have overall minor adverse and beneficial impacts on transportation, while providing moderate beneficial impacts on visitor access.

Visitor Use Opportunities

Although the same visitor use opportunities as described in alternative A would be available, visitor use opportunities would be expanded in SMMNRA because there would be new parklands included within the boundary. Among these would be a dog park, camping with RV hook-ups, kayaking on the Los Angeles River, boating and public swimming pools at Hansen Dam, golfing, and recreational ballpark opportunities in the Sepulveda basin, several shooting ranges, and a variety of nature centers, movie ranches, historic and cultural sites, state parks, city parks, educational camps and open space preserves. Although there is some concern about overcrowding at some sites during some seasons, many places within SMMNRA often have more capacity in peak seasons, especially inland sites in the summer and coastal sites in the winter.

Interpretation, Education and Partnerships

Impacts from alternative C would be similar to those in alternatives A and B, except that because some additional parklands in the Rim of the Valley Corridor study area (173,000 acres) would be included within the boundary of SMMNRA, a wider range of beneficial effects from extending NPS expertise and experience in interpretive programs and media to these other park sites could ensue. There would also be an even greater number of sites as additional parklands continued to be protected by land management partners in the expanded boundary. Although SMMNRA already offers NPS programs at sites in a few areas encompassed by alternative C, it is likely that more programs and media would be offered if this area was included within the boundary.

Because of an even broader dispersion of sites across a much greater region, however, it is likely that as in alternative A, there

would continue to be problems in identifying the areas, especially those managed by different entities, as part of an NPS unit and in encouraging individual independent partners to identify themselves as part of SMMNRA. Therefore, although the area would become a region of interconnected parks and open spaces, visitor understanding of this and the NPS role in it would likely continue to be less than ideal without concentrated outreach, education and marketing efforts.

Overall, however, there would be an enhanced range of interpretive and educational programs that would target additional urban audiences and underrepresented groups that could enhance the appeal of the NPS and other parklands across the country for these groups and which could result in additional local, regional and national incentive to protect public parklands. If this occurred, the NPS and SMMNRA mission could be conveyed to ever greater numbers of people as recognition of the significance of parklands and their resources increased over time as it has with state parks established since the 1950s.

Impacts from Alternative D

Access and Transportation

Actions and impacts would be similar to alternative C. Although there could be slightly less emphasis in this alternative regarding providing public access to parklands, there would potentially be more opportunities to connect public parklands to urban communities, since more area would be included in this alternative. The range of impacts would likely continue to be minor for transportation requiring private vehicles with minor to moderate improvements in access, depending on the degree to which opportunities for public access were implemented or became available for nearby communities.

Visitor Use Opportunities

Similar to alternative C, although visitor use opportunities would remain the same overall, they would be expanded within the boundary of SMMNRA. Expanded opportunities included within the boundary in alternative D would be similar to those in alternative C. Notably, more open space that could provide for more low impact activities would also be included in the boundary.

Interpretation, Education and Partnerships

Impacts from alternative D would be the same as in alternative C, except that there would be an even greater area (313,000 acres) encompassed by this alternative. In the short term, this could further exacerbate identity problems associated with SMMNRA but would continue to offer the public an even greater and outstanding array of interpretive and educational programs that would ultimately provide beneficial visitor experiences notwithstanding ongoing and initial potential identity problems. Overall, alternative D is likely to provide the greatest range of interpretive and educational programs but would also need additional staffing dedicated to partnerships to achieve this.

Cumulative Impacts

Access and Transportation

With a population of 18 million and growing, documentation of traffic impacts is widespread in the region. The area's population grew by 7% and the number of housing units grew by 4% in the decade from 1990-2000. In the decade from 2000-2010, population also grew by 4 % therefore both population and housing demand are projected to continue to increase (Stoms et al. 2012:142). Predictions in the GMP called for level of service reductions (more traffic/longer waits) on most major roads in SMMNRA through 2015. Although traffic will likely continue to increase on roads within and surrounding SMMNRA and Rim of the Valley study area, this increase would continue to be primarily related to growth in rural, suburban and urban communities in the vicinity of these areas. As a result, the alternatives would contribute negligible cumulative impacts on transportation. Alternatives A and B would also have negligible impacts on access and alternatives C and D would contribute negligible to minor cumulative beneficial impacts on access from dispersal of some visitors to new areas and through exploring opportunities for improved transportation connections to SMMNRA.

Visitor Use Opportunities

Home to more than 18 million people, the greater Los Angeles metropolitan area also hosts an immense number and range of recreational opportunities, including educational, sporting, athletic, museum, music and film entertainment, and interpretive experiences. Population growth trends in the study area and the surrounding region would likely continue to increase pressure on available open space. With more than 33 million visits, the public lands in the study area are among the most heavily visited nationally; therefore recreational opportunities and quality are likely to be reduced over time without additional public land protection. Alternatives A and B would continue to add incrementally to public land protection in the area, while alternatives C and D would do more to alleviate increasing public pressure on lands within the study area by including more area within the boundary of SMMNRA.

The wide array of visitor experiences in SMMNRA and in the broader Rim of the Valley study area would continue. Alternatives A and B would contribute negligible effects by continuing to offer this broad range of visitor use opportunities. Alternatives C and D would contribute minor beneficial effects by providing some of these experiences in areas within SMMNRA and would lend NPS nationally renowned expertise and skill in interpretive media and presentations to enhancing these experiences.

Interpretation, Education and Partnerships

Natural, historical, and cultural sites abound in the greater Los Angeles and Ventura county areas encompassed by the Rim of the Valley study area and also extend beyond this area to en-

compass a veritable buffet of sites that could appeal to most if not all of the more than 18 million people in the region. Those offered in SMMNRA by the NPS and its partners and those in the Rim of the Valley study area are only a small portion of the cultural sites that are available but encompass most of the intact blocks of open space available. Alternative A would continue to contribute cumulative minor to moderate beneficial impacts from interpretation of those sites within SMMNRA and in the study area. Alternative B could enhance this range of beneficial impacts by attempting to encircle a portion of this area with a partnership, optional area of coordination for some of these sites and land managers but would continue to contribute the same range of beneficial effects as in alternative A. Alternatives C and D could potentially contribute moderate beneficial impacts if the area began to be perceived as a seamless system of parks available to urban and suburban residents alike and which appealed to visitors from outside the region. If marketing of the area increased, residents and visitors could begin to understand the significance of the area's resources and this could increase support for protection of additional parklands in the region and in the U.S. by people as diverse as the region itself.

Conclusion

Access and Transportation

Alternatives A and B would have no or negligible beneficial or adverse effects on visitor access and transportation, while alternatives C and D would have negligible to minor adverse and beneficial effects on transportation and minor beneficial effects on visitor access, with the potential for localized moderate beneficial effects primarily in alternative C, where the emphasis would be on providing more close-to-home opportunities for urban communities.

Visitor Use Opportunities

There would continue to be a wide range of visitor use opportunities in alternative A offered both within and outside SMMNRA. Visitors and residents would have the opportunity to participate in both formal and informal recreational activities at an array of sites, with long-term beneficial effects from the diversity of activities offered and from the assortment of groups that manage the sites within the study area boundary. Impacts would be similar in alternative B, except that through the cooperative conservation plan in alternative B, there is a possibility that visitors and residents could better understand the choice of activities available to them. Alternative C would both increase the kind of activities available within the boundary of SMMNRA and would potentially increase public access to and information about them, providing a range of beneficial effects. Similar to other alternatives, visitor use opportunities in alternative D would be broad and far-reaching and would include activities provided by the NPS and its partner agencies within an expanded SMMNRA that would encompass an extended scope of visitor use opportunities.

Interpretation, Education and Partnerships

Alternative A would have continued moderate beneficial and negligible to minor adverse effects on visitor experience from continued limited understanding of the NPS and its role in SMMNRA. There would be no additional beneficial effects associated with management of study area sites except associated with SMMC/MRCA continued acquisition and management of additional parklands. Alternative B would likely slightly improve coordination among land management agencies in the study area and would therefore have some additional negligible beneficial effects from additional interpretation and education on visitor experience, but because entities within the partnership area would remain largely separate and there would likely be no overall coordination in interpretation and education, these benefits would remain slight. Alternatives C and D would have some overall long-term beneficial and adverse effects from including more land within the boundary of SMMNRA, where visitor experience would likely be enhanced by more interpretive and educational programs offered by a wide array of agencies and organizations. Because, however, these alternatives would increase the number of entrances to SMMNRA parklands and because there is already some difficulty in identifying SMMNRA as a NPS unit and in identifying parklands within it as part of SMMNRA, there would continue to be some minor adverse effects on visitor understanding of the area unless extensive marketing occurred. The interpretive, educational and outreach programs themselves would continue to add greatly to visitor understanding of parklands and would likely meet a full range of other objectives in enhancing the visitor experience in these areas. Compared to alternative C, alternative D would expand the area covered by these programs. Due to its smaller size compared to alternative D, Alternative C might focus more on underserved communities and underrepresented groups, and could, in the long-run improve these groups' identity with parklands, contributing to long-term protection of public lands, including national parks.

Park Operations and Partnerships Environmental Consequences

Impacts of Alternative A

There would continue to be widespread and localized beneficial and adverse impacts on park operations related to management of SMMNRA and the study area. Specific operations in national park units vary widely, depending on the amount and type of resources managed, number of visitors, level of programs offered, and many other factors. Together, the National Park Service, California State Parks, Santa Monica Mountains Conservancy, Mountains Recreation and Conservation Authority provide and maintain a wide variety of public park operations in the Santa Monica Mountains. These include administration, maintenance, resource management, interpretation, law enforcement and fire management among others. In addition, park partners beyond SMMC, MRCA and CSP provide additional operations and management of SMMNRA resources.

Among the most active of these include the Resource Conservation District of the Santa Monica Mountains and Mountains Restoration Trust, as well as local governments, such as Malibu. In fact, there are more than 60 different management agencies in SMMNRA. These agencies maintain their own budgets, operations and activities and have varying numbers of employees dedicated to management and administrative activities in SMMNRA.

Similar to other national park units, SMMNRA park operations include a breadth of activities that can seem like the management of a small city. There are public utility systems, buildings, historic and non-historic structures and a variety of administrative, maintenance and law enforcement operations. In addition, there are visitor use management operations, special use permit management and educational and interpretive activities. To conduct these activities, SMMNRA has approximately 80 permanent and varying seasonal staff who work in the approximately 23,350 acres managed by the NPS spread throughout the Santa Monica Mountains.

Like the NPS, the Santa Monica Mountains Conservancy and Mountains Recreation and Conservation Authority are responsible for a variety of park operations on the lands they manage (approximately 18,000 acres in SMMNRA and 18,400 acres in the Rim of the Valley Corridor study area), including activities such as opening and closing gates, administering permits, enforcing rules, dealing with noxious weeds, conducting wildlife surveys and restoration activities and providing for visitor use with restrooms, water, parking and maintaining and creating trails. To do these activities, the SMMC/MRCA have a staff of about 130 who work in SMMNRA and in the Rim of the Valley Corridor parklands.

California State Parks also conduct the same types of activities as the NPS and SMMC/MRCA on the approximately 36,000 acres they administer in SMMNRA and 1,300 acres they administer in the Rim of the Valley Corridor study area.

In addition to the management of most of SMMNRA by the NPS, SMMC/MRCA and CSP, there are a host of other private and public land managers in the Santa Monica Mountains. These agencies and organizations manage lands under their own authorities and mandates. As a result, it can be difficult for visitors (and even residents and neighbors) to understand the complex patchwork of partnership public lands and private lands that make up SMMNRA.

Currently the above agencies and a host of other agencies and organizations provide operations throughout SMMNRA and in the Rim of the Valley Corridor study area. In addition, (as described in SMMNRA *General Management Plan*), through partnerships with a variety of national and local service and youth organizations such as the Sierra Club, Boy Scouts of America and Girl Scouts, Santa Monica Mountains

Trails Council, and local colleges, the park is provided with volunteers for special events such as National Trails Day, National Public Lands Day, Keep America Beautiful, the Great American Clean Up, and Earth Day. Other growing volunteer resources derive from providing community service opportunities for high school and college students, as well as the continual growth of the association with the Boy Scouts of America, which has resulted with several Eagle Projects a year benefiting both the scouts and the NPS. SMMNRA has also developed volunteer projects for college students from programs such as AmeriCorps, Student Conservation Association, and Alternative Spring Breaks.

The NPS and other agencies also work with cooperating associations, natural history associations and concessioners in SMMNRA and it is likely that partner agencies in the study area also have a variety of agreements with non-profit and commercial organizations to provide services, such as for maintenance and visitor services.

The arrangement in SMMNRA is so complex that occasionally, even the partner organizations miss identifying their affiliation with each other. For instance, the LAMountains.com website operated by SMMC/MRCA did not show the SMMC/MRCA affiliation with the NPS in SMMNRA except as associated with the visitor center at King Gillette Ranch. As noted in the Long-Range Interpretive Plan:

There is no identification of SMMNRA included on LAMountains.com, a well-known resource throughout the region for events in the Santa Monica Mountains. Further, there is no indication that the vast majority of the parks listed on this site are partners with and within the boundaries of SMMNRA. The only SMMNRA reference on the site is alphabetized under A for the existing Anthony C. Beilenson Interagency Center in Thousand Oaks (NPS 2012c).

Therefore, although the partnerships within SMMNRA are strong, as evidenced by the agreement signed in 2000 among the NPS, CSP and SMMC/MRCA, there are still some key ways that this partnership could be strengthened. It is unlikely, however, that one agency could undertake the breadth or complexity of operations in the public parklands in the study area. Because of the complexity of park operations and partnerships under alternative A within SMMNRA, there would continue to be both minor adverse and long-term beneficial effects. In addition, staff in different public parklands wears different uniforms and their law enforcement officers have different laws to enforce.

Among the confusing aspects for land managers and visitors would continue to be how to demonstrate the connectedness of parklands despite their management by a variety of agencies and organizations. For instance, there is a wide array of signs and interpretive messages on different public parklands within

SMMNRA and beyond in the study area. Another example is the differences related to facilities and information provided in NPS-managed areas in SMMNRA and USFS-managed areas in the San Gabriel Mountains.

Impacts from Alternative B

Impacts would be similar to alternative A, however the cooperative conservation plan could identify specific roles for partner agencies and organizations and messaging provided by the NPS could increase the recognition of public lands within the study area. If this occurred, there would be long-term beneficial effects. Without this kind of role identification process, it would continue to be difficult for visitors and even partners to understand and explain the complex web of management authorities and partnerships in the Rim of the Valley Corridor study area, where agencies and organizations would continue to manage their lands under separate authorities and direction from federal, state and/or local jurisdictions.

Impacts from Alternatives C and D

Impacts would be similar to alternatives A and B. With more land within the boundary of SMMNRA, there would be a need for increased staffing and funding to conduct park operations and an even greater need for partner agencies and organizations to emphasize the cohesiveness of public lands within SMMNRA. As in alternative B, messaging provided by the NPS could assist in this, such as in developing similar sign and publication themes and by publishing information to cooperative websites and in *Outdoors* in the Santa Monica Mountains.

Broadening the NPS' ability to partner beyond the current SMMNRA authorized boundary would also create new opportunities to leverage resources to protect the area. The NPS could expand its current cooperative management agreement, allowing for new visitor opportunities, scientific research and study, and for coordinated work on wildlife corridors. Agencies that currently cooperate with NPS in SMMNRA manage lands throughout the proposed boundary adjustment areas. Adding these lands to SMMNRA could increase efficient cooperative management approaches that have been applied in the Santa Monica Mountains for over 30 years.

Expanding SMMNRA to include areas of the Rim of the Valley Corridor could also improve understanding of resource conditions and ecosystem stressors. The NPS would have the authority to develop a comprehensive baseline inventory of the natural resources of the broader Mediterranean ecosystem and to identify the processes that influence those resources. The NPS would also be authorized to study and document cultural resources. This could optimize protection and conservation of archeological sites and historic properties throughout the study area and inform interpretive and educational programs.

In this alternative, there would be specific partnership actions that would help to diminish identity problems and that could

provide for more seamless connections between federal and state and other partner agency public parklands. Among these would include partnerships with land management organizations for a collaborative land protection program and management framework. To the extent that these activities solved identity problems and improved cooperation there would be long-term beneficial effects. Without these efforts, there could be an increasing array of confusion among managers, staff and visitors that could affect the ability to partner with cooperators in the expanded boundary.

Cumulative Impacts

Over time, there have been a series of beneficial and adverse cumulative impacts on park operations from establishment and management of SMMNRA. Since its establishment, park operations have grown increasingly complex over time. Improved partnerships with SMMC, MRCA and CSP as well as other agency and private and public agency and organization partners, however, have greatly increased the effectiveness and spread of resource protection messages across the mountains. Alternative A would not contribute additional cumulative impacts on park operations. Alternative B would have negligible to minor cumulative adverse and beneficial effects on park operations. Alternatives C and D would have negligible to moderate cumulative adverse and beneficial effects on park operations. Beneficial effects would outweigh adverse effects in these alternatives to the degree that public and private agencies and organizations worked together to avoid duplication of efforts and to undertake actions that resulted in better protection for study area resources and broadened opportunities to conserve open space.

Conclusion

There would be no change in management complexity (park operations) in alternative A. Alternative B would temporarily increase management complexity during development of the plan and afterwards, if additional staffing or funding were contributed could have long-term beneficial effects by increasing the capability of SMMNRA to assist with implementation of the cooperative conservation plan. Alternatives B-D would have long-term adverse effects by increasing the complexity of park operations, because these would be spread across a broader area. Beneficial effects would also occur if increased staffing and funding were associated with the proposed boundary adjustment and because the adjustment would increase the ability of SMMNRA to work with partners outside its current boundary on implementation actions that affected SMMNRA as a whole and on actions which could lead to long-term persistence of SMMNRA resources.

Socioeconomic Affected Environment

The study area lies within Los Angeles and Ventura counties. This section describes the socioeconomic conditions of these counties and the cities and in and near the Rim of the Valley Corridor.

Table 6-3: 2000-2030 Population Projections

Location	2000 Population	2020 Population	2030 Population	% Pop. Change 2000-2030
Los Angeles County	9,578,960	11,214,237	11,920,289	24%
Ventura County	758,884	956,392	1,049,758	38%
Combined Counties	10,337,844	12,170,629	12,970,047	25%
California	33,871,653	44,135,923	49,240,891	45%

Source: United States Census Bureau, 2000; State of California, Department of Finance, July 2007

Table 6-4: Study Area Communities Population Density (2010)

Name	Type	Area (sq mi)	Total Population	Population Density (people/per sq mi)
Los Angeles	City	468.67	3,792,627	8,092.30
South Pasadena	City	3.41	25,619	7,523.90
Casa Conejo	CDP	0.48	3,249	6,836.51
Glendale	City	30.45	191,719	6,295.60
Pasadena	City	22.98	137,122	5,969.60
Burbank	City	17.34	103,340	5,959.30
La Crescenta-Montrose	CDP	3.43	19,653	5,736.40
Arcadia	City	10.93	56,364	5,159.20
Altadena	CDP	8.71	42,777	4,909.60
Sierra Madre	City	2.95	10,917	3,696.90
Santa Clarita	City	52.73	176,320	3,344.70
Camarillo	City	19.53	65,201	3,338.80
Simi Valley	City	41.48	124,237	2,995.10
Stevenson Ranch	CDP	6.36	17,557	2,761.95
Moorpark	City	12.58	34,421	2,736.40
Monrovia	City	13.60	36,590	2,689.50
Oak Park	CDP	5.29	13,811	2,610.80
Agoura Hills	City	7.79	20,330	2,608.80
La Cañada Flintridge	City	8.63	20,246	2,346.50
Thousand Oaks	City	55.54	126,683	2,302.00
Calabasas	City	13.71	23,058	1,682.36
Westlake Village	City	5.19	8,270	1,595.00
Hidden Hills	City	1.69	1,856	1,099.14
Santa Susana	CDP	1.11	1,037	931.54
Malibu	City	19.79	12,645	638.98
Bell Canyon	CDP	3.62	2,049	565.76
Lake Sherwood	CDP	3.14	1,527	487.02
Santa Rosa Valley	CDP	6.86	3,334	485.95
Topanga	CDP	19.13	8,289	433.33
Acton	CDP	39.26	7,596	193.50
Total		906.36	5,088,444	5,614.12

Source: United States Census Bureau, 2010

Note: Some communities are only partially located in the study area. Figures are for the entire community (both within and adjacent to the study area)

Table 6-5: 2010 Combined County Population Density

Location	Area (sq mi)	Population	Population Density (people/per sq mi)
Los Angeles County	4,057.88	9,818,605	2,419
Ventura County	1,845.30	823,318	446
Combined Counties	5,903.18	10,641,923	1,802
California	155,779.22	37,253,956	239

Source: United States Census Bureau, 2010

Table 6-6: 2010 Race/ Ethnicity (County and State)

Race	Number/ Percentage							
	Los Angeles County		Ventura County		Combined Counties		California	
White	4,936,599	50%	565,804	69%	5,502,403	52%	21,453,934	58%
Black or African American	856,874	9%	15,163	2%	872,037	8%	2,299,	6%
American Indian and Native Alaskan	72,828	1%	8,068	1%	80,896	<1%	362,801	1%
Asian	1,346,865	14%	55,446	7%	1,402,311	13%	4,861,007	13%
Native Hawaiian and other Pacific Islander	26,094	<1%	1,643	<1%	27,737	<1%	144,386	<1%
Some other race	2,140,632	22%	140,253	17%	2,280,885	21%	1,815,384	5%
Two or more races	438,713	5%	36,941	5%	475,654	5%	6,317,372	17%
Total Population	9,818,605		823,318		10,641,923		37,253,956	
Hispanic or Latino (of any race)*	4,687,889	48%	331,567	40%	5,019,456	47%	14,013,719	38%

Source: United States Census Bureau, 2010

Note: The 2010 census asked individuals to identify their race and framed the question of Hispanic, Latino or Spanish origin as a separate question about ethnicity independent of race.

Table 6-7: 2011 Per Capita Personal Income

	Per Capita Personal Income (Dollars)	Population
Los Angeles County	\$42,564	9,889,056
Ventura County	\$45,855	831,771
California	\$43,647	37,691,912

Source: State of California Employment Development Department; Department of Commerce, Bureau of Economic Analysis (BEA)

Table 6-8: 2010 College Degrees

	Percent of Population over 25 yrs old with 4-year college degree or higher
Los Angeles County	29%
Ventura County	31%
California	30%
United States	28%

Source: United States Census Bureau, 2010

Population

The Rim of the Valley Corridor study area includes portions of 30 cities in Los Angeles and Ventura counties. These cities held a combined population of 5,088,444 in 2010 (including areas within and adjacent to the study area). Between 2000 and 2010, the study area's population increased by 4%. In the same time frame, the County of Los Angeles (9,818,605 in 2010) grew 3% while Ventura County (823,318 in 2010) grew 9%. For comparison, the State of California grew 10% in population between 2000 and 2010, which is reflective of the national average for population growth.

Los Angeles County's population is projected to increase 24% between 2000 and 2030, while Ventura County is projected to increase by 38% (*Table 6-3: 2000-2030 Population Projections*). Combined, the two counties are expected to grow 26% by the year 2030, which is significantly below the California state average of 45% in 30-year projection.

On average, the population density of the 30-city study area is 5,614 people per square mile (*Table 6-4: Study Area Communities Population Density [2010]; Table 6-5: 2010 Combined County Population Density*). These census designated areas comprise roughly 900 square miles of southern California, of which 350 square miles (40% of 30-city study area) are within the study area. The cities of Los Angeles and South Pasadena represent the two densest cities in the study area with densities of 8,092 and 7,523 individuals, respectively, per square mile.

Race and Ethnicity

An in-depth breakdown of the combined-county population by race and ethnicity is provided in *Table 6-6: 2010 Race/ Ethnicity (County and State)*, but important highlights follow. According to the 2010 census, people identifying their race as white are the largest population in the combined-county area comprising 52% of the total population. Behind them, Asians compose 13% and blacks 8%. Significantly, 47% of the total 2010 population in the combined-county area self-identified as Hispanic or Latino. This percentage stands above the 38% estimate of self-identified Hispanics or Latinos for the State of California in 2010. The 2010 census asked individuals to identify their race and framed the question of Hispanic, Latino or Spanish origin as a separate question about ethnicity independent of race. Individually, 48% of Los Angeles County identifies as Hispanic or Latino ethnicity while 40% of Ventura County identify as Hispanic of Latino ethnicity. Comparing counties, the 2010 Ventura County population was 68.7% white while 50% of Los Angeles' County's total population was white in the same year. This difference in minority-majority population is evident in the counties' black and Asian demographics: while Los Angeles County was 9% black and 14% Asian in 2010, Ventura County was only 2% black and 7% Asian. In the combined-county area, the Asian population grew by the largest percentage (19%) from 2000 until 2010. Self-identification as Hispanic or Latino ethnicity increased by 12% in the same time period. Compared to the California statewide population

Table 6-9: 2010 Employment by Industry

Industry	Number/ Percentage							
	Los Angeles County		Ventura County		Combined Counties		California	
Agriculture, forestry, fishing and hunting, and mining	21,643	<1%	17,990	5%	39,633	<1%	370,146	2%
Construction	271,945	6%	23,824	6%	295,769	6%	1,087,881	7%
Manufacturing	503,000	11%	40,678	11%	543,678	11%	1,694,975	10%
Wholesale trade	167,472	4%	13,477	4%	180,949	4%	545,225	3%
Retail trade	478,438	11%	42,427	11%	520,865	11%	1,831,603	11%
Transportation and warehousing, and utilities	235,933	5%	12,872	3%	248,805	5%	783,588	5%
Information	198,235	4%	11,242	3%	209,477	4%	488,366	3%
Finance, insurance, and real estate and rental and leasing	300,506	7%	33,423	9%	333,929	7%	1,120,432	7%
Professional, scientific, and management, and administrative and waste management services	543,258	12%	47,746	12%	591,004	12%	2,049,341	12%
Educational services, and health care and social assistance	909,420	20%	71,291	19%	980,711	20%	3,409,551	21%
Arts, entertainment, and recreation, and accommodation and food services	446,515	10%	31,783	8%	478,298	10%	1,563,669	9%
Other services, except public administration	272,550	6%	18,091	4%	290,641	6%	877,768	5%
Public administration	152,467	3%	19,348	5%	171,815	4%	780,872	5%
Total civilian employed population 16 years +	4,501,382		384,192		4,885,574		16,603,417	

Source: United States Census Bureau 2010

Table 6-10: 2010 Study Area Population by City, Poverty and Minority

Name	2010 Population	Pop. Below Poverty	2010 % Below Poverty (individuals)	2010 Pop. Minority	2010 % Minority
Arcadia	56,364	4,904	9%	38,158	68%
Los Angeles	3,792,627	766,111	20%	1,903,899	50%
Altadena	42,777	4,107	10%	20,191	47%
South Pasadena	25,619	1,563	6%	11,708	46%
Pasadena	137,122	17,552	13%	60,608	44%
Monrovia	36,590	3,513	10%	14,673	40%
Stevenson Ranch	17,557	1,001	6%	6,285	36%
La Crescenta-Montrose	19,653	1,376	7%	6,839	35%
Santa Clarita	176,320	13,577	8%	51,309	29%
Glendale	191,719	25,690	13%	55,407	29%
La Cañada Flintridge	20,246	688	3%	5,709	28%
Burbank	103,340	8,371	8%	28,212	27%
Camarillo	65,201	3,651	6%	16,235	25%
Moorpark	34,421	1,342	4%	8,571	25%
Simi Valley	124,237	7,703	6%	30,687	25%
Casa Conejo	3,249	497	15%	689	21%
Thousand Oaks	126,683	7,601	6%	24,957	20%
Sierra Madre	10,917	939	9%	1,954	18%
Oak Park	13,811	539	4%	2,334	17%
Calabasas	23,058	1,499	7%	3,712	16%
Bell Canyon	2,049	55	3%	326	16%
Agoura Hills	20,330	996	5%	3,192	16%
Acton	7,596	630	8%	1,033	14%
Santa Rosa Valley	3,334	183	6%	433	13%
Santa Susana CDP	1,037	0	<1%	133	13%
Topanga	8,289	564	7%	978	12%
Westlake Village	8,270	281	3%	943	11%
Lake Sherwood	1,527	160	11%	159	10%
Malibu	12,645	936	7%	1,075	9%
Hidden Hills	1,856	67	4%	143	8%
Total	5,088,444	876,094	17%	2,300,551	45%
Los Angeles County	9,818,605		6%		50%
Ventura County	823,318		10%		31%
California	37,253,956		14%		42%

Source: United States Census Bureau 2010

increases of these two groups, 32% and 28% respectively, the combined-county estimates are below the overall state average.

In primary household language, Ventura County was predominantly English-only in 2010 (62% of the population) while Los Angeles County was dominated by non-English languages spoken at home and only 43% English-only households. In Los Angeles County, 39% of households spoke Spanish and 10% spoke languages of Asian or Pacific Islander origin, reflecting the dominant demographics of the geographic area.

Income

In 2011, Los Angeles County had a per capita personal income of \$42,564, slightly below the California average of \$43,647. In the same year, Ventura County had a higher per capita personal income of \$45,855. According to the U.S. Department of Commerce Bureau of Economic Analysis, Los Angeles County was ranked 19th (out of 58 counties for the State of California) in per capita personal income, while Ventura County ranked only slightly higher at 15th place, in 2011 (*Table 6-7: 2011 Per Capita Personal Income*).

Education and Employment

The educational attainment in the combined-county study area is representative of both state and national information. In 2010, 29% of Los Angeles County had attained a college degree. Similarly, 31% of Ventura County residents had attained a college degree. For the State of California, 30% of residents were college graduates in 2010, just slightly more than the United States average of 28% (*Table 6-8: 2010 College Degrees*).

Major components of the combined-county local economy include educational and health care services; professional, scientific, and waste management and services; manufacturing; retail trade; and arts, entertainment, recreation, accommodation, and food services. In 2010, the combined counties had 4,885,574 civilian employed individuals over the age of 16. In 2010 6.4% of the total labor force population was unemployed in Los Angeles County compared to 5.5% of Ventura's total labor force population. For comparison, the State of California maintained a 6.5% unemployment rate in 2010 (*Table 6-9: 2010 Employment by Industry*).

According to State of California Employee Development Department, biomedical engineering, construction aid, and home health aide are the three fastest growing occupations in the County of Los Angeles. Between 2010 and 2020, these occupations are expected to grow by 60%, 50%, and 49% respectively. In Ventura County, data and communications analysis, physical therapy aid, and home health aide are the three fast growing occupations, expected to grow by 38%, 36%, and 35%, respectively, between 2000 and 2018.

Poverty

In the 30-city study area, Los Angeles, Casa Conejo, Glendale, and Pasadena represent the cities with the highest percentage of individuals below poverty; 20, 15, 13, and 13% respectively. In total, 17% of the 30-city population was below the poverty level in 2010. In the same year, 16% of Los Angeles County and only 10% of Ventura County were below poverty. For comparison, the State of California had 14% of the total population below poverty level in 2010, revealing rates of poverty in Los Angeles County and the specific 30-city area to be significantly higher (*Table 6-10: 2010 Study Area Population by City, Poverty and Minority*).

Subgeographic Area Demographics

The following section provides a demographic overview of the subgeographic areas within the larger Rim of the Valley Corridor Study area.

Santa Monica Mountains

In the Santa Monica mountains subarea, eight cities and census-designated places (CDPs) combine to create a demographic profile of this physiographic area. These cities and CDPs, which largely surround the Santa Monica Mountains, include Casa Conejo, Thousand Oaks, Agoura Hills, Westlake Village, Malibu, Beverly Hills, and West Hollywood. According to the 2007-2011 American Community Survey 5-Year Estimates, the average median household income for these communities is projected to be \$96,874 with 7% of the combined population below poverty level. The predominant race of this subarea is white, with 75% of the population being classified as "white alone" in the 2010 census. Compared to the California state average for educational attainment, 89% of the Santa Monica Mountains subarea had attained high school graduation or higher, while 81% of all Californians have attained the same educational level. Importantly, while the population in the Santa Monica Mountains is primarily centered in several lower density (or smaller suburban) communities such as Malibu and, Agoura Hills, it is surrounded to the north and east by some of the most populated areas of the City of Los Angeles. This subarea hosts 107,322 housing units.

Conejo Mountain-Las Posas Hills

In the Conejo Mountain-Las Posas subarea, two municipalities combine to create the demographic profile of this physiographic area; Camarillo and Moorpark. With minimal population within the Conejo Mountain-Las Posas Hills site, these cities surround the area. According to the ACS 2007-2011 estimates, the average median household income between these communities is \$93,589 with only 5% of the combined population below poverty level. The predominant race of this subarea is white, with 60% of the population identified as "white only" in the 2010 census. Significantly, the second largest demographic is Hispanic, consisting of 26% of the population in 2010. Regarding educational attainment, 91% of the Conejo

Mountain-Las Posas Hills subarea has attained at least a high school diploma (or equivalent), well above the California state average. This subarea hosts 35,440 housing units.

Simi Hills

The Simi Hills subarea, directly north of the Santa Monica Mountains subarea, is composed of the following cities and CDPs: Casa Conejo, Thousand Oaks, Simi Valley, Oak Park and Agoura Hills. The average median household income between these communities is \$102,309 with only 6% of the combined population below poverty level, according to the ACS 2007-2011 estimates. This subarea is predominately white with 68% of the population identified as “white only.” Almost 20% of the population identifies their ethnicity as Hispanic. Most (92%) of the population has attained at least a high school diploma (or equivalent), well above the California state average of 81%. This subarea hosts 103,895 housing units. Though this subarea is predominately white and affluent, its location is just east of the densely diverse San Fernando Valley.

Santa Susana Mountains

Moorpark, Simi Valley, and Santa Clarita are the three municipalities located in and around the Santa Susana Mountains subarea. For this area’s associated communities, the average median household income is \$92,013 with 7% of the combined population below poverty level, which is below the California state average of 14%. According to the 2010 Census, this subarea is largely white with 59% of all California residents identified as “white.” Another 27% of the subarea’s residents, however, identify being of Hispanic or Latino ethnicity. Above average for the State of California, 89% of the Santa Susana Mountains subarea is a high school graduate or higher. This subarea hosts 38,433 housing units.

Upper Santa Clara River

In this subarea, Santa Clarita and Acton combine to create the surrounding area’s sociodemographic profile. According to the 2007-2011 ACS 5-Year Estimates, the combined median household income for this community is \$85,738 with 8% of individuals below the poverty line. In the combined area, 88% are high school graduates or higher, above the California state average. Importantly, Acton and Santa Clarita comprise a small percentage of this subarea’s total population, making this a largely rural and less-dense subarea than others in the study area. This subarea hosts 64,869 housing units.

San Gabriel Mountains Foothills

Around the San Gabriel Mountains, nine cities and CDPs combine to create this subarea’s demographic profile: Acton, San Fernando, La Crescenta-Montrose, La Cañada Flintridge, Altadena, Sierra Madre, and Pasadena. These communities lie largely around the edges of the San Gabriel Mountains with minimal population residing within. For this area, the combined average median household income is \$86,857 with 11%

of the population below poverty. This subarea is largely white, with Hispanic, Asian, and black also present. Eighty-four percent of the combined area has attained at least a high school diploma (or equivalent), slightly above the California state average of 81%. This subarea hosts 104,155 housing units.

Verdugo Mountains-San Rafael Hills

The Verdugo Mountains-San Rafael Hills is composed of four cities and CDPs: La Crescenta-Montrose, La Cañada Flintridge, Glendale, and Burbank. In this area, the combined average median household income is \$86,247 with 11% of the population below poverty, below but close to the California state average of 14%. Of the combined area, 87% has attained at least a high school diploma (or equivalent), which is above the California state average in educational attainment. This subarea hosts 139,372 housing units according to the 2010 census.

Arroyo Seco

The Arroyo Seco subarea of the study area, is small in comparison to several of the other site study areas, yet it connects to some of the largest and densest populations. Pasadena, South Pasadena, and Los Angeles combine to create the demographic profile for this area. The combined average median household income for the Arroyo Seco subarea is \$77,565 with 11% of the population below poverty, just below the California state average of 14%. Of the combined population, 87% have graduated from high school, according to the 2007-2011 ACS 5-Year Estimates. There are 75,024 housing units in the Arroyo Seco subarea.

Los Angeles River

Similar to the Arroyo Seco subarea, the Los Angeles River subarea is small in comparison to others within the study area yet hosts a dense and diverse population. This subarea is composed of parts of the City of Los Angeles and Hidden Hills. According to the 2007-2011 ACS 5-Year Estimates, the combined average median household income for this area is \$127,294 with 13% of the population below poverty, just below the California state average of 14%. In educational attainment, only 67% of the combined population has at least a high school diploma (or equivalent), below the California state average of 81%. There are 11,272 housing units in the Los Angeles River subarea.

San Fernando Valley

The five cities and CDPs that comprise this subarea are: San Fernando, Los Angeles, Burbank, Glendale, and Hidden Hills. According to ACS 5-Year Estimates, the combined average median household income for this area is \$156,145 with 12% of the population below poverty. In educational attainment, about 84% of the combined population has attained at least a high school diploma, or equivalent, slightly above the state average of 81%. There are 131,850 housing units in the San Fernando Valley subarea.

Socioeconomics Environmental Consequences

Impacts from Alternative A

If none of the action alternatives is adopted, current social and economic trends as described in the affected environment section would continue. Trends in property values, economic activity, income, population, employment, recreational use and distribution, tourism, community relationships (as affected by local federal land use) would remain unchanged, except as associated with continued purchases of public lands by SMMC and other city and county agencies, such as the City of Santa Clarita. There would also continue to be long-term beneficial, albeit slightly detectable impacts on socioeconomics from continued operation of SMMNRA, including from its employment opportunities and the spending power of the NPS, California State Parks and Santa Monica Mountains Conservancy and their employees. Because SMMNRA and other park land agencies in the Santa Monica Mountains would not be identifiable in a regional analysis, these effects are unlikely to be noticeable in the diversified economic base of Los Angeles and Ventura counties. Outside SMMNRA, because area population is increasing, there would be increasing beneficial effects from spending on local economies and there would be ongoing changes in recreational opportunities, but these would be generally unrelated to the selection of alternative A.

Impacts from Alternative B

With a cooperative conservation partnership agreement in the study area, there is a potential for alleviating some socioeconomic conditions associated with lack of access to parklands near some urban areas, particularly on the edges of the San Fernando Valley and portions of Los Angeles, but this would be entirely dependent on the initiative of the agencies involved and on opportunistic purchases of nearby areas. Area visitation would continue to be predominantly local and there would be no new sources of socioeconomic activity. Actions and impacts would therefore be similar to alternative A, but would encompass some benefits for people visiting public parklands over time, with a slow but potentially steady increase in land base from SMMC purchases. Although there would initially be slight, but undetectable increases in economic activity associated with planning for the cooperative conservation plan, this would drop off following completion of the plan because no additional staff would be retained to implement the plan and because establishment of the cooperative conservation area is unlikely to increase visitation or socioeconomic impacts in the study area.

Impacts from Alternative C

With additional areas near urban centers added to SMMNRA, there would be slight, but beneficial impacts on socioeconomics from increasing the range of spending associated with SMMNRA for the NPS and its partners. This smaller, urban expansion of SMMNRA could increase visitation by urban residents located within and adjacent to the expansion area

and could also slightly increase visitation from outside this area as recognition of the new parklands by other Los Angeles and Ventura county residents and visitors grew. Because there would not be a change in name designation or a major expansion, it is likely that national park visitors as a whole would not be attracted to SMMNRA as a new area. Instead, it would be more of a regional attraction by visitors looking to investigate areas added to the park for similar recreational opportunities, including hiking, mountain bicycling and horseback riding. Adding new areas, however could increase identity with the national recreation area by more urban residents, including those living near the Los Angeles River and the Arroyo Seco areas, who would find new close-to-home recreational opportunities as new areas were added and existing areas were identified as part of SMMNRA. Slight increases in visitation, although small, could have similarly modest beneficial effects on surrounding local communities which would provide supplies and services to visitors. There could also be a slight increase in the number of jobs associated with managing, restoring and interpreting the parklands for the NPS and its partner agencies, however these beneficial effects would be negligible in the overall Los Angeles and Ventura county region and it is likely that SMMNRA would continue to mostly appeal to local and regional visitors.

Impacts from Alternative D

Because the designated expansion area of SMMNRA would be greater in alternative D, beneficial effects could be greater, where these were affected by this larger area. There could be more jobs and associated economic benefits related to managing, restoring, and interpreting parklands.

These impacts could cause a small increase in visitation over time that could have modest beneficial economic effects on surrounding local communities. Beneficial effects could occur from providing supplies and services to visitors, especially associated with special events or activities, including visits by educational groups. With more emphasis on habitat connectivity, there could be more desire to see other areas in SMMNRA to better understand how these areas are connected and this could initially cause a slight increase in visitation, even by regular visitors to SMMNRA.

Cumulative Impacts

The study area is within a complex region with a long and storied socioeconomic history. A wide range of beneficial and adverse effects within SMMNRA, even if expanded to the degree proposed in alternatives C or D is unlikely to have much of an impact on socioeconomic activity in the Los Angeles and Ventura county metropolitan region. Instead, the alternatives would contribute negligible to minor overall impacts in an area already brimming with a diverse economy. Numerous other activities have a much greater impact on the region's socioeconomics. The cumulative effect of growth and development trends plus the beneficial effects of the alternatives, particularly

C and D, however, could result in a small, net beneficial condition to some local communities as a result of improved urban quality, land protection, and economic benefits from recreation and conservation of public lands. Overall cumulative effects would continue to be dependent on regional economic conditions and population increases (and distribution) rather than actions taken as a result of this study.

Conclusion

The action alternatives (B-D) would contribute negligible beneficial impacts on socioeconomics. These would be greater in alternatives C and D than in B and could range to minor if SMMNRA acquired more of a national identity and began to attract more of a market share of visitors to the region. Alternative A would continue to contribute negligible beneficial impacts over time as ongoing management of SMMNRA continued. These impacts could potentially be more detectable in Ventura County because SMMNRA headquarters are located there and because of the number of staff living in the area.

Environmental Justice Affected Environment

Supporting the conservation of land and providing improved access to recreational space is an important endeavor for social and environmental equity. Recreation areas in the study area serve a large and diverse population in need of increased access to healthy, recreational space. It has been well documented, by groups such as The City Project and the Trust for Public Land, that southern California bears a significant brunt of California's environmental inequality (*Figure 2-14: Map of Park Poverty, Income Poverty and People of Color Throughout the Study Area in Chapter 2: Resource Description*). With a rapidly growing population, that hosted the second largest metropolitan statistical area in the U.S. in 2010 (the Los Angeles-Long Beach-Santa Ana metropolitan statistical area, at 12,828,837 people), Los Angeles and Ventura Counties represent geographic areas that would benefit from improved public land access and recreational opportunities. In particular, a large population of youth and above average rates of childhood obesity reveals high need for improved recreational access. Understanding the relative size and density of major cities served by the study area, also enforces recreational need.

In 2013, Los Angeles and Ventura counties both hosted populations where those under 18 represented a quarter of all residents. Youth benefit immensely from access to recreational space and close-to-home nature and are often targeted as park users. Of these youth, 32% of those within Los Angeles County and 34% of those within Ventura County were considered obese. These statistics are close to the California state average of 38% in childhood obesity. Additionally, based on 2010 Census results, the nation's most densely populated urban area is Los Angeles/Anaheim/Long Beach with nearly 7,000 people per square mile. In the study area, the most densely populated urban areas include: Los Angeles (8,092 people per square

mile), South Pasadena (7,524 people per square mile), Casa Conejo (6,837 people per square mile), and Glendale (6,296 people per square mile). With high urban density, there is an increased need for open space.

According to The City Project's *Healthy Parks, Schools, and Communities: Mapping Green Access in Southern California*, benefits of increased park access include: "physical, psychological and social health; improved academic performance; positive alternatives to gangs, crime, drugs, and violence; and economic vitality" (The City Project 2011). It is important to note, however, that the presence of green spaces is not enough. Despite the existence of recreation space in a given region, many local communities remain park poor from a lack of physical access as well as the presence of historic social and political discrimination. To truly improve the accessibility of healthy green space for all residents in a given area, consideration should be given to urban "connector" projects and improved transportation networks to given sites.

In February of 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Executive Order identifies agency responsibilities:

To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Marianas Islands.

The Council on Environmental Quality provided *Environmental Justice: Guidance under the National Environmental Policy Act* in December 1997 to assist federal agencies in addressing environmental justice in their NEPA procedures. This guidance defines low-income population, minority, and minority population as follows:

Low-income population:

Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

Minority:

Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; black, not of Hispanic origin; or Hispanic.

Minority Population:

Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50% or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native American), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds (CEQ 1997).

Cities and CDPs with the highest minority population in the study area are Arcadia (68%), Los Angeles (50%), Altadena (47%), South Pasadena (46%), and Pasadena (44.2%).

Environmental Justice Environmental Consequences

Impacts from Alternative A

The NPS has numerous partnerships programs with youth corps and conservation organizations that serve as a means to introduce minority and low income children and young adults to environmental and conservation issues. Youth corps and job corps partnerships provide a solid environmental learning experience for the youth involved, while at the same time leaving a legacy of work which significantly benefits the parks and community. In particular, SMMNRA has partnerships with local school districts to encourage youth to take part in educational opportunities that eventually may lead to summer internships and even jobs. The NPS also seeks to identify opportunities to develop partnerships with tribal governments, consistent with mission needs to provide necessary technical assistance to enhance tribal capacity to address environmental, health, and welfare concerns.

More than 33 million visits occur per year in SMMNRA. A wide array of people enjoy the diverse resources in the Santa Monica Mountains. Visitors hike, bicycle or ride horses on hundreds of miles of mountain trails or enjoy scenic driving, beaches and other areas. The park is within easy access of

more than 18 million people who live and work in the rural, suburban and urban environments surrounding and within the Santa Monica Mountains, including Los Angeles, Ventura, Orange and Santa Barbara Counties. Los Angeles County alone is home to more than 9 million people, most of whom live within an hour's drive of the park. The western part of the Santa Monica Mountains is within easy access of the suburban communities of the western San Fernando, Simi and Conejo valleys. The eastern portion is more proximate to the dense urban communities of Los Angeles, including the central and eastern portions of the San Fernando Valley (USC 2003:77). The mountains and adjacent coastline constitute an expanse of natural landscape whose scenic, natural and cultural values are multiplied because of the area's location on the fringe of this large and expanding urban complex (NPS 1982:3).

Within the study area, a portion of the local population can be characterized as socially or economically disadvantaged. Population growth trends over time will likely exacerbate the amount and intensity of this condition. These people may be unable to take part in recreational opportunities in the study area due to physical barriers (e.g. adult and childhood obesity or other ailments) or other factors, such as lack of access to or the inability to afford transportation. There are also fewer public parklands in highly developed urban areas. Much of SMMNRA is closer to suburban and rural populations, who given the economic climate in southern California must have higher economic status to live in these areas. There are also physical deficiencies in open space and few or no transportation options to SMMNRA and other Rim of the Valley Corridor parklands without access to a private vehicle.

As a result, many economically disadvantaged populations in the study area lack access and the ability to partake of existing opportunities due to lack of close-to-home open space, lack of effective transportation, lack of culturally advantageous facilities or opportunities, and lack of knowledge about recreation and natural resources. Some populations also lack the desire to protect public parklands or have little or no knowledge or interest about public parklands beyond the nearest city facilities. This lack of knowledge and sense of relevancy may stem from living conditions (related to poor access) or cultural conditions (related to little desire to visit natural areas, where self-reliance may be important). Under current conditions, all of these factors would continue to contribute to minor to moderate adverse effects on access to public parklands for these populations.

Impacts from Alternative B

Impacts from alternative B would be the same as in alternative A. Because this alternative calls for expanded partnership authority, it would be up to the partners to determine whether to provide for additional public recreational access for disadvantaged groups. If this was an emphasis, this alternative does encompass much of the study area boundary and could offer

some of the most urban residents additional opportunities to experience public parklands.

Impacts from Alternative C

Among the alternatives, alternative C would have the greatest likelihood of providing increased access to recreation for underserved populations and of providing close-to-home recreational opportunities in urban communities. This alternative would potentially offer the greatest benefits for disadvantaged populations because of its emphasis on providing recreational opportunities for visitors, residents and neighbors within the expanded boundary of SMMNRA. If these goals were realized, there could be long-term beneficial impacts on disadvantaged populations and communities. For this to occur, however, there would need to be long-term commitments to working with public transportation providers and with cities and communities through grant-writing and determining other means to fund this endeavor.

Impacts from Alternative D

Alternative D impacts would be similar to alternative C, except that instead of targeting expanded recreational opportunities, there would be a greater emphasis on providing wildlife habitat connectivity. Nonetheless, because the expanded SMMNRA boundary under this alternative would also include some areas close to urban residents, there could be some long-term beneficial effects on providing recreational opportunities for disadvantaged populations. In addition, it is likely that SMMNRA would continue to find ways to partner with organizations to provide more parkland opportunities for underrepresented populations, some of which may include the economically or socially disadvantaged. As a result, it is likely that there would be minor beneficial effects compared to alternative A.

Cumulative Impacts

Population growth trends in the study area and the surrounding region are likely to put additional pressure on available open space. Considering that public lands in this area are currently heavily visited, recreational opportunities and qualities are likely to diminish if nothing is done.

For a time, SMMNRA provided the ParkLINK Shuttle to provide alternative access to parks. SMMNRA desired to increase

the number of underrepresented groups in park visitation, which had historically been overwhelmingly white and affluent. In addition, the shuttle was intended to reduce motor vehicle impacts, offering potential negligible beneficial effects on air quality. The shuttle was also designed to provide high-quality visitor experiences on board and at bus stops and it was to serve as a model partnership in SMMNRA. Although these goals were initially equal, the primary goal eventually became the need to increase the number of park visitors who came from underrepresented groups. Unfortunately, despite great efforts on the part of the park and its partners, the ParkLINK shuttle failed to achieve many of its goals and was prematurely discontinued because its high costs and poor ridership did not meet expectations.

Alternatives A and B would contribute few beneficial or adverse cumulative effects on environmental justice. Where possible SMMNRA would continue to work with partner organizations to more effectively encourage visitation from underrepresented groups, including socially and/or economically disadvantaged populations, such as was done by providing the ParkLINK shuttle. Alternative D would have slightly more beneficial effects, while alternative C would do the most to alleviate environmental justice issues regarding public parklands in the Rim of the Valley Corridor study area. Therefore, the cumulative effect of growth and development trends, plus the effects of each alternative, would likely result in a net beneficial condition in regard to recreational opportunities for disadvantaged populations. Overall, cumulative impacts would likely diminish compared to alternative A.

Conclusion

The action alternatives, particularly alternatives C-D, would be likely to improve conditions regarding the health and well-being of disadvantaged populations by creating new public lands and where possible enhancing public access to those lands for people within the study area. Alternative A would continue to result in minor to moderate adverse effects. Alternative B would offer some improvements but these would be mostly dependent on non-federal partners to implement.

Table 6-11: Summary of Environmental Consequences by Impact Topics

Impact Topic	Alternative A	Alternative B	Alternative C	Alternative D
Land Use	<p>No effect on private lands No additional regulatory or land use authority over existing agencies or local governments.</p> <p>Long-term beneficial effects from preserving 340,000 acres of parks and open space and from ongoing stewardship and cooperation in protection of SMMNRA public lands.</p> <p>Ongoing adverse effects from regional growth and development; from poor or no coordination among groups working toward land protection, and on prime and unique farmlands from conversion to other uses.</p>	<p>Similar to Alternative A with local governments retaining land use authority.</p> <p>Additional beneficial effects from protecting open space through development of cooperative conservation plan. Potential for local governments to leverage funding and resources for additional open space protection within study area.</p> <p>Increased access to NPS and other expertise in natural and cultural resources protection and interpretation/education. Expansion of SMMNRA cooperative management efforts in study area.</p> <p>Potential for minor beneficial effects on prime and unique farmlands if cooperative conservation plan encouraged protection.</p>	<p>Local and state governments would continue to have regulatory authority over nonfederal lands within the SMMNRA boundary. However, where applicable and depending on authorizing legislation some activities within the boundary could be subject to permitting related to nonfederal oil and gas leasing, mineral extraction, and solid waste facilities. Beneficial effects from expansion of SMMNRA authority to work cooperatively with park neighbors within and outside boundary.</p> <p>Potential for local jurisdictions to increase public land protection in areas under their authority.</p> <p>Opportunity for NPS to purchase lands from willing sellers to better protect significant resources, such as key wildlife corridors or other open space connections.</p> <p>Enhanced ability to protect a connected system of public lands through cooperative partnerships and targeted land acquisition.</p> <p>Same potential for minor beneficial effects on prime and unique farmlands if these were protected through voluntary easements or stewardship programs.</p>	<p>Same as Alternative C plus:</p> <p>More opportunities to work with partners to protect significant lands on the western edge of the study area.</p>
Paleontological Resources	<p>Beneficial effects from ongoing protection of one of the most diverse and extensive assemblages of fossil resources in the national park system in SMMNRA.</p> <p>Continued outstanding opportunities for research regarding paleontological resources from proximity to world-class educational institutions resulting in opportunities to learn about fossil resources in SMMNRA.</p> <p>Ongoing adverse effects from threats, such as unauthorized collecting, erosion, and development of unprotected areas containing fossil resources.</p>	<p>Same as Alternative A plus:</p> <p>Beneficial effects from opportunities to protect additional fossiliferous formations in Rim of the Valley area through cooperative conservation plan.</p> <p>Expanded opportunities for research and protection of paleontological resources beyond the current SMMNRA boundary through partnerships.</p>	<p>Same as Alternative B plus:</p> <p>Beneficial effects from improved opportunities to protect additional fossiliferous formations not within SMMNRA. Beneficial effects from opportunities to document and research additional paleontological resources, such as in the Santa Susana Mountains and to work with others to protect them.</p>	<p>Similar to Alternative C plus:</p> <p>Beneficial effects from opportunities to better understand the Conejo volcanics, Sespe and Llajas formations, among others in the western study area.</p>

Table 6-11: Summary of Environmental Consequences by Impact Topics (continued)

Impact Topic	Alternative A	Alternative B	Alternative C	Alternative D
Water Resources	<p>No effect on existing water rights, water supply, treatment, flood protection or other infrastructure or functions associated with maintaining the public water supply in the study area. No new beneficial uses.</p> <p>Alternative A would continue to have no effect on water quantity or water supply management actions in most of the study area. Where public lands are protected, there would continue to be negligible to moderate direct and indirect beneficial effects. Actions to manage recreational use and to construct visitor facilities would likely continue to have negligible to minor, and occasionally the potential for moderate, localized adverse effects.</p>	<p>Actions in Alternative B would be the same as Alternative A. No specific actions would affect water resources; however, the cooperative conservation plan could improve protection of open space, increasing the potential for beneficial effects.</p>	<p>Same as Alternative B, plus:</p> <p>Potential for additional beneficial effects from protection of lands for conservation purposes if these contained important water resources and additional adverse effects from actions associated with recreational use of these public lands.</p> <p>Because Alternative C would likely include more degraded lands and more recreational opportunities, there could be slightly more adverse effects from increased focus on recreational opportunities.</p>	<p>Similar to Alternative C, with a potential for more beneficial effects from additional opportunities to protect lands in partnership with others in the expanded boundary.</p>
Vegetation	<p>Alternative A would continue to have a range of beneficial and adverse effects. Beneficial effects would be contributed by a variety of direct and indirect actions, the most important of which would continue to be long-term protection of vegetation communities in SMMNRA by the NPS and partner agencies and in the Rim of the Valley Corridor study area by other public and private agencies and organizations. Other beneficial effects would be contributed from restoration actions. Adverse impacts would continue to be related to actions to provide for public recreational use, including for trails and other facilities. Negligible to minor localized impacts would also likely continue to occur from visitor use.</p>	<p>Alternative B would have potential for additional beneficial effects on vegetation if the cooperative management plan resulted in additional protection of plant communities not found in SMMNRA or targeted restoration of important areas.</p>	<p>Alternatives C would have greater long-term beneficial effects from a coordinated approach to protection of plant communities and from improved cooperative actions by public and private agencies and organizations to manage them. Protection of more areas could allow for plant community resilience as the area continues to develop and change.</p>	<p>Same as Alternative C plus more opportunities for vegetation community protection because of larger area within the proposed boundary expansion.</p>
Wildlife	<p>Alternative A would likely continue to have long-term beneficial and negligible to moderate localized adverse effects from ongoing activities in SMMNRA. The actions of other agencies in land conservation and habitat restoration would also likely contribute long-term beneficial effects in the study area. To the extent that SMMNRA and others conducted research and agencies and organizations working together in the study area continued to identify and moved toward implementation of protection for wildlife habitat linkages and movement corridors, there would be long-term beneficial effects.</p>	<p>Alternative B would have similar long-term beneficial effects from land protection and actions to protect wildlife in SMMNRA. In the study area, Alternative B could provide the direction needed for agencies and organizations working on their own to conserve resources and to protect lands, a long-term indirect beneficial effect.</p>	<p>Alternative C would provide for additional land conservation by the NPS in the study area that could be directed toward wildlife and wildlife habitat protection.</p>	<p>Actions in Alternative D would be likely to result in greater long-term beneficial effects due to the broad direction for connectivity and the larger area encompassed within the proposed boundary expansion.</p>

Table 6-11: Summary of Environmental Consequences by Impact Topics (continued)

Impact Topic	Alternative A	Alternative B	Alternative C	Alternative D
Special Status Species	Existing threats and ongoing adverse effects to sensitive species and habitats would continue and could also continue to have adverse effects; however, it is likely that because of the importance of sensitive species and habitat conservation, that all of the alternatives could contribute beneficial effects. In Alternative A the SMMC would continue to have the ability to protect important resource areas in the legislated portions of the Rim of the Valley study area.	Similar to Alternative A.	In Alternatives C and D, the NPS would also have this authority if a potential boundary expansion occurred. As a result, there would be mandates from more than one agency to protect sensitive species and habitats, likely resulting in long-term beneficial effects from targeted actions to protect these species.	Similar to Alternative C.
Prehistoric and Historic Archeological Resources	<p>Ongoing beneficial effects from opportunities to study and document the more than 1,000 archeological sites within SMMNRA boundary.</p> <p>Opportunities to study the more than 550 additional sites in the Rim of the Valley corridor would be dependent on the initiative of existing landowners, such as SMMC. Where these exist in the Angeles National Forest and San Gabriel Mountains National Monument, there would be similar ongoing research and documentation as in SMMNRA. Periodic surveys of new public lands or areas proposed for development could increase the number of known sites.</p> <p>A range of beneficial effects would also occur from traditional use activities in SMMNRA and Angeles National Forest and San Gabriel Mountains National Monument.</p>	<p>Impacts would be similar to Alternative A.</p> <p>Partnership opportunities in Alternative B could lead to additional survey of and protection for archeological sites in areas beyond SMMNRA where agency and organization goals coincided. This could lead to better understanding of identified transition zones between ethnographic territories. Agencies and organizations managing land in the partnership area could work together to better understand the resources in the Rim of the Valley areas.</p>	<p>Impacts would be similar to Alternative B.</p> <p>Additional long-term beneficial effects from the potential boundary expansion could include comprehensive research and documentation of sites in the area and creation of a network of stakeholders to recommend sites for protection. Protecting lands related to the transition between the Chumash and Tongva/Gabriolino and new sites related to the Serrano could improve understanding of archeological resources.</p>	Impacts would be similar to Alternative C, however, there would be more opportunities to protect additional significant archeological resources because additional areas would be included within the boundary and/or partnership areas.
Historic Structures/ Cultural Landscapes	<p>There would be a range of beneficial and adverse effects, depending on the resource, its location and the land manager/owner and their own or access to expertise in historic/cultural resources. Some effects could range from minor to moderate and could affect the integrity of the historic structure or cultural landscape.</p> <p>In SMMNRA and other federally protected areas, overall effects would be beneficial and long-term, with preservation maintenance actions and ongoing research to assess key characteristics to preserve.</p>	Impacts would be similar to Alternative A; however, there would be a greater likelihood of long-term beneficial effects because of improved knowledge and access to NPS cultural resources staff. In addition development of cultural resources protection plans would identify the character-defining features of the historic structure and/or cultural landscape and identify the means to protect and/or to undertake preservation actions for these.	Similar to Alternative B.	Similar to Alternative B.
Visitor Experience: Access and Transportation	No or negligible beneficial or adverse effects on visitor access and transportation	Same as Alternative A.	Negligible to minor adverse and beneficial effects on transportation and minor beneficial effects on visitor access, with the potential for localized moderate beneficial effects from providing more close-to-home opportunities for urban communities.	Same as Alternative C; however there could be less emphasis on urban community recreational opportunities, depending on funding and management priorities, because of the larger size of this boundary expansion.

Table 6-11: Summary of Environmental Consequences by Impact Topics (continued)

Impact Topic	Alternative A	Alternative B	Alternative C	Alternative D
Visitor Experience: Visitor Use Opportunities	There would continue to be a wide range of visitor use opportunities offered both within and outside SMMNRA. Visitors and residents would have the opportunity to participate in both formal and informal recreational activities at an array of sites, with long-term beneficial effects from the diversity of activities offered and from the assortment of groups that manage the sites within the study area boundary.	Impacts would be similar to Alternative A, except that through the cooperative conservation plan, there is a possibility that visitors and residents could better understand the choice of activities available to them because these could be more widely advertised.	The range and breadth of activities available within the boundary of SMMNRA would increase. Public access and information about these could also increase, providing a range of beneficial effects.	Visitor use opportunities would be broad and far-reaching and would include activities provided by the NPS and its partner agencies within an expanded SMMNRA that would encompass more visitor use opportunities.
Visitor Experience: Interpretation, Education and Partnerships	Continued moderate beneficial and negligible to minor adverse effects on visitor experience from continued limited understanding of the NPS and its role in SMMNRA. There would be no additional beneficial effects associated with management of Rim of the Valley study area sites except associated with SMMC/MRCA continued acquisition/ and management of additional parklands.	Alternative B would likely slightly improve coordination among land management agencies in the Rim of the Valley study area and would therefore have some additional negligible beneficial effects from additional interpretation and education on visitor experience, but because entities within the partnership area would remain largely separate and there would likely be no overall coordination in interpretation and education, these benefits would remain slight.	<p>Alternatives C and D would have some overall long-term beneficial and adverse effects from including more land within the boundary of SMMNRA, where visitor experience would likely be enhanced by more interpretive and educational programs offered by a wide array of agencies and organizations. Because, however, these alternatives would increase the number of entrances to SMMNRA parklands and because there is already some difficulty in identifying SMMNRA as a NPS unit and in identifying parklands within it as part of SMMNRA, there would continue to be some minor adverse effects on visitor understanding of the area unless extensive marketing occurred. The interpretive, educational and outreach programs themselves would continue to add greatly to visitor understanding of parklands and would likely meet a full range of other objectives in enhancing the visitor experience in these areas.</p> <p>Alternative C, however would have a focus on underserved communities and underrepresented groups and could, in the long-run improve these group's' identity with parklands, contributing to long-term protection of public lands, including national parks.</p>	<p>Similar to Alternative C plus:</p> <p>Alternative D would expand the area covered by these programs. Alternative C, however could have a focus on underserved communities and underrepresented groups and could, in the long-run improve these group's' identity with parklands, contributing to long-term protection of public lands, including national parks</p>
Park Operations and Partnerships	There would be no change to SMMNRA management complexity (park operations).	There would be long-term adverse effects by increasing the complexity of park operations, because these would be spread across a broader area. There could also be a wide variety of beneficial effects from expanding public parklands protection through the SMMNRA model.	Beneficial effects would also occur if increased staffing and funding were associated with the proposed boundary adjustment and because the adjustment would increase the ability of SMMNRA to work with partners outside its current boundary on implementation actions that affected SMMNRA as a whole and on actions which could lead to long-term persistence of SMMNRA resources.	Similar to Alternative C, but the area encompassed by the potential boundary expansion would be larger and would therefore add to increasing the complexity associated with park operations and partnerships.

Table 6-11: Summary of Environmental Consequences by Impact Topics (continued)

Impact Topic	Alternative A	Alternative B	Alternative C	Alternative D
Socioeconomics	Ongoing negligible beneficial impacts contributed over time as ongoing management of SMMNRA continued. These impacts could potentially be more detectable in Ventura County because of its SMMNRA headquarters are located there and because of the number of staff living in the area.	Same as Alternative A plus: increasing potential for additional negligible beneficial effects.	Similar to Alternatives A and B with a potential for impacts to range to minor if SMMNRA acquired more of a national identity and began to attract more of a market share of visitors to the region.	Same as Alternative C.
Environmental Justice	<p>Much of SMMNRA is closer to suburban and rural populations, who given the economic climate in southern California must have higher economic status to live in these areas.</p> <p>SMMNRA goals would continue to include linking disadvantaged populations to park resources through special initiatives when possible.</p> <p>Many economically disadvantaged populations in the study area lack access and the ability to partake of existing opportunities due to lack of close-to-home open space, lack of effective transportation, lack of culturally advantageous facilities or opportunities, and lack of knowledge about recreation and natural resources. Some populations also lack the desire to protect public parklands or have little or no knowledge or interest about public parklands beyond the nearest city facilities.</p> <p>These factors would continue to contribute to minor to moderate adverse effects on access to public parklands for these populations.</p>	Similar to Alternative A; however partnership opportunities could include providing additional links to public lands for disadvantaged populations.	Potential to improve conditions regarding the health and well-being of disadvantaged populations by creating new public lands and where possible enhancing public access to those lands for people within the study area.	Same as Alternative C