

DRAFT

**BLACK MOUNTAIN OPEN SPACE PARK
NATURAL RESOURCE MANAGEMENT PLAN**

NOVEMBER 2010

**PREPARED BY
CITY OF SAN DIEGO
PARK AND RECREATION DEPARTMENT
MULTIPLE SPECIES CONSERVATION PROGRAM**

**IN CONJUNCTION WITH
CITY PLANNING AND COMMUNITY INVESTMENT**

**Adopted by San Diego City Council
on _____, by Resolution No. _____**



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SUMMARY

The *Black Mountain Open Space Natural Resource Management Plan* (Plan) recognizes the value of natural resources in the Black Mountain Open Space Park (Park) and provides for protection, enhancement, and management of these resources. This Plan establishes guidelines for present and future use and maintenance of the Park while protecting the natural resources. Use of the Plan can help bridge what can sometimes be a gap between human activities and natural resource protection and management. This Plan helps to clarify expectations for natural resource protection in the Park and to facilitate the granting of any federal, state, or local permits required for projects in the Park.

The 1,552-acre Park is located in the community of Rancho Peñasquitos, City of San Diego, California. The Black Mountain study area consists of Black Mountain, Paraiso Cumbres, and Montana Mirador and is in the northern portion of the City. The Park is roughly bounded by Black Mountain Road to the north and west, and Carmel Mountain Road to the south and east.

Management of the Park must address problems of public use, misuse, and overuse; urban encroachment; presence of utility structures requiring maintenance and expansion; erosion from slopes, hillsides, and water courses resulting in sedimentation in riparian areas; and fire-fuel management. Guidelines provided in the management plan for maintenance, Park usage, and development include the following practices: requiring prior maintenance crew “natural resource awareness” training; requiring all maintenance vehicles and personnel to stay within existing access roads and rights-of-way; minimizing erosion by using appropriate measures and Best Management Practices (BMPs); providing cultural resource protection and awareness; scheduling maintenance and development activities to avoid nesting/breeding seasons; restraining domestic animals; keeping Park users on designated areas and trails only; inspecting trails regularly to identify areas requiring erosion control, maintenance, closure, and/or revegetation; providing buffer zones around sensitive areas; and limiting water quality and erosion impacts from new development.

Five hundred thirty-eight acres, also known as Montana Mirador, are located in the southern portion of the Park. Three hundred twenty-five acres of this parcel were used to mitigate biological impacts to sensitive upland habitats associated with the San Diego County Water Authority (CWA) Emergency Storage Project (ESP). Management and monitoring of the site is required and shall be conducted in accordance with this Plan upon approval by the U.S. Fish and Wildlife Service (Biological Opinion (BO) 1-6-97-F-13).

For maintenance activities and new development that are unable to eliminate impacts and, thereby, result in natural resource disturbance, mitigation and restoration guidelines are outlined in this Plan. These guidelines include: mitigation for loss of marsh, riparian, vernal pool, coastal sage, oak woodland, or chaparral habitat; mitigation and monitoring program requirement; revegetation projects using a variety of habitat types, vertical and horizontal plant diversity, and irregular borders; potential need for temporary irrigation; and use of appropriate native plants. Management and monitoring of the site is required and shall be conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) BO 1-6-97-F-13 for the ESP. Any impacts to mitigation lands associated with the CWA ESP shall be approved by the CWA, USFWS, and City of San Diego. Additional mitigation will be required to offset any impacts to mitigation lands within the Park. The 325-acre Montana Mirador parcel shall be managed by the City of San Diego pursuant to the provisions contained within this Plan. This Plan and its manager shall be approved by the USFWS pursuant to the ESP BO.

Enhancement and restoration guidelines provided in the Plan include: the elimination of non-native, exotic plants and their replacement with native vegetation; a controlled or prescribed burn program to stimulate coastal sage and chaparral vegetation; the posting of “No Entry” signs for areas supporting sensitive plants and animals including sensitive bird species nesting sites and sensitive plant areas; specific management and enhancement options for MSCP covered species; and periodic monitoring of natural resources.

Suggested guidelines for interpretive and research opportunities include: use of signs with rustic appearance; limitation of interior Park signs; placement of kiosks at major access locations for information and interpretive signs and brochures; installation of an interpretive facility focused on natural history and biological and cultural resources; and encouragement of research to gather unknown information on natural and cultural resources. The Plan also addresses implementation including identifying which agencies have jurisdiction over various projects and mitigation planning, implementation, and maintenance requirements. Responsibilities of the various departments at the City of San Diego, Citizen Advisory Committee, and other local community groups associated with the Park are also discussed.

A variety of tasks and action items are identified throughout this document. A list of these tasks in order of priority is given in Chapter 13, Implementation.

1. INTRODUCTION

A. PLAN AREA SETTING

For the purpose of this Plan, the area bounded by Black Mountain Road to the north and west, and Carmel Mountain Road to the south and east will be considered the limits of the Park (Park; Figure 1). Currently, the Park consists of two distinct sections, the existing 776-acre Park to the north and the recently acquired 538-acre Montana Mirador site to the south. The existing Park area has designated trails and facilities established (Figure 2). When additional properties are added to the Park, this Plan will also apply to those lands and this Plan may be amended to include specific management guidance for additional lands added to the Park. This Plan may provide general management guidance for lands currently outside the boundaries of the Park. Maintenance and or restoration activities suggested in this document cannot occur on private land without the permission of the landowner.

The Park is owned by the City of San Diego and originated in 1964 when the City acquired it under the “Recreation and Public Purposes Act of 1926.” Easements for San Diego Gas and Electric (SDG&E) and CWA are maintained on-site. Approximately two acres at the top of Black Mountain are owned by American Towers, Pacific Bell, and Time Warner. Communication towers and access for the communication towers are maintained on-site. This area will not be considered part of the habitat management and restoration guidelines sections but will need to follow the guidelines provided which apply to adjacent land uses to ensure the minimization of negative impacts to neighboring natural habitat and species.

A 325-acre portion of the 538-acre Montana Mirador parcel, which is located in the southern portion of the plan area, was purchased and dedicated as open space in order to mitigate biological impacts associated with the San Diego CWA ESP. The remaining 213 acres of this parcel were purchased through a Wildlife Conservation Board grant for inclusion in the Park. Management and monitoring of the Montana Mirador CWA mitigation lands (Montana Mirador conservation area) is required and shall be conducted in accordance with this Plan once approved by the USFWS (BO 1-6-97-F-13). No development is currently proposed within the 325-acre Montana Mirador conservation area, and the primary purpose of this area is protection of biological resources. Development should be avoided, and any impacts to Montana Mirador conservation area lands would require approval from the CWA, USFWS, and the City of San Diego. Additional mitigation will be required to offset any impacts to mitigation lands within the Park.

FIGURE 1. Location Map

FIGURE 2. Existing Trails and Facilities

Background documents used in the preparation of this Plan include the following: 1) *Black Mountain Rare Plant Survey* (November 2001); 2) *MSCP California Gnatcatcher Monitoring Survey Report* (August 2001); 3) *City of San Diego MSCP Subarea Plan* (March 1997); 4) *Draft Black Mountain Park Master Plan* (November 1987); 5) *Montana Mirador Environmental Impact Report (EIR)* (June 1993); and 6) *Peñasquitos Community Plan*.

B. PURPOSE

The purpose of this Plan is to provide guidance for the present and future development and maintenance of the Park. This Plan is intended not only to make provisions for the protection and preservation of the natural resources, especially sensitive resources, but also to allow safe and accessible use of the Park to meet the needs of the present and future communities. This Plan is intended as a tool to protect resources while accommodating certain human activities in the Park. The Plan provides for maintenance of the quality of the Park's natural environment and associated visual enjoyment of the Park's open space. In addition, this Plan is intended to identify management needs for the 325-acre CWA mitigation portion of the site pursuant to the terms and conditions in the CWA's ESP BO. This Plan is also intended to compliment any future Park master plan, which would include management directives for any potential new recreation sites within the Plan area. A variety of tasks and action items are identified throughout this document. A list of these tasks in order of priority is given in Chapter 13, Implementation.

Creation and implementation of this Plan also contributes to the fulfillment of Condition 2.1 of BO 1-6-97-F-13, which requires the preservation and management of "420 acres of coastal scrub habitat, of which 210 acres are to be located within a core California gnatcatcher (*Polioptila californica californica*; gnatcatcher) population, and consist of habitat evaluated as high/very high for the gnatcatcher; support a minimum density of nine gnatcatcher pairs; and contain a minimum of 475 acres of land designated as 'very high' and 44 acres designated as 'high'" (USFWS, 2002).

The 325-acre Montana Mirador conservation area purchased by the CWA supports a total of 310 acres of coastal scrub habitat, of which 184 acres are within a core gnatcatcher population, and consists of 218 acres of habitat evaluated as high/very high for the gnatcatcher; supports 29 gnatcatchers (12 pairs and 15 unpaired individuals), and contains 186 acres of land designated as "very high" and 32 acres of land designated as "high" (San Diego CWA, 2000).

The purpose, goals, and objectives of this Plan are established as long-range goals with review as needed. The guidelines outlined in the Plan will be updated at least every ten years, or as

needed, with input from the City of San Diego, Black Mountain Citizen's Advisory Committee, resource agencies and other interested parties.

C. OBJECTIVES

The objectives of this Plan are:

1. To establish management practices and means to preserve and protect biological resources while providing for future passive recreational use, maintenance, and land use in the Park;
2. To enhance and restore native habitats in the Park;
3. To manage native habitat and wildlife species for their survival;
4. To identify and maintain important wildlife corridors and the connectivity between open space areas;
5. To control erosion throughout the Park and protect the watershed;
6. To facilitate compatible public uses such as picnicking, multi-use trails, and other low-intensity (passive) recreational activities;
7. To develop opportunities to utilize reclaimed water for habitat enhancement;
8. To ensure all individual projects proposed within the Park meet federal, state, and local environmental standards and requirements;
9. To enhance and maintain the quality of water resources in the Park;
10. To protect, restore and maintain archaeological and historical resources in the Park pursuant to any future Park cultural resources plan.
11. To discourage illegal and unauthorized activities through an enforcement program;
12. To develop a reporting and enforcement procedure for preventing encroachment into Park property;
13. To conduct education, outreach, and research programs which increase public awareness of the unique natural and cultural resources within the Park;
14. To develop and maintain facilities compatible with the natural character of the Park;
15. To develop procedures for facility and utility siting, maintenance, and repair which are sensitive to species, habitat, and aesthetics;
16. To develop emergency response procedures which safe-guard sensitive species and habitat; and

17. To ensure that all improvements and maintenance activities consider and provide for public safety.

D. CONSTRAINTS AND OPPORTUNITIES

The Park offers an opportunity to combine recreational and community planning with the protection and enhancement of natural resources within certain constraints.

The Plan recognizes the following constraints.

1. The primary purpose of this Management Plan is to protect, preserve, and enhance natural resources in the Park. Since, however, the Park is in an urban setting, management of the Park must consider the proximity of residential and recreational uses and cannot be managed solely as wildlife habitat.
2. Within the Plan area, there are a variety of access easements, including but not limited to CWA pipelines, San Diego Gas and Electric power poles and communication towers owned by Pacific Bell and AT&T. These activities, plus the extensive residential development in the surrounding the site, preclude returning all of the Plan area to undisturbed habitat.
3. Protection of natural resources, as required by state and federal law, may preclude certain human activities (e.g., construction, dredging, and recreation) from certain areas and during certain seasons.
4. Erosion within the Park may make siting of trails and other facilities difficult, and erosion control is a necessity for site management.

Opportunities within the Park for preserving wildlife habitat and maintaining recreational access include the following:

1. Comprehensive planning and management can provide adequate protection measures for natural resources.
2. Areas of degraded habitat within the Park can be restored to improve the overall natural resource system.
3. Habitat improvement or conversion can be used as mitigation for future losses.
4. The Park system, including biological and historical resources, can be used for educational and research purposes.
5. Many recreational activities in the Park are compatible with most resources.

6. The size of the Park can support a wide spectrum of habitat and wildlife, as well as allowing recreational use in areas separate from those requiring sensitive species protection and habitat enhancement.
7. An interpretive center and signage throughout the Park could provide educational opportunities for visitors to learn about the natural and cultural resources present as well as history of the area.

2. AGENCY JURISDICTION AND APPLICABLE PLANS

A. AGENCY JURISDICTION

A number of agencies have direct or indirect involvement with land use planning, resource protection, and permit approvals for the Park. The primary agencies and their degrees of involvement with activities in the Park are as follows:

City of San Diego: The Park is within the jurisdiction of the City of San Diego. The day-to-day management of the Park is the responsibility of the Park and Recreation Department, operating under the authority of the Mayor. In 2003, the City Council established the Open Space Division in Park and Recreation. This division has taken on the task of managing the City's existing open space park system, including lands acquired under the Multiple Species Conservation Program (MSCP). The Open Space Division of the Park and Recreation Department performs all management activities on open space parklands, including tasks such as trash removal, maintenance of all physical structures (such as fences, restrooms, signs, and trails), and brush management. Additionally, this Division provides park rangers, whose responsibilities include enforcement of city and state regulations, overseeing small enhancement and restoration efforts, interpretive activities, and coordination of volunteers. The Park and Recreation Department includes a Natural Resource Management Section whose primary purpose is the MSCP-required monitoring, management and protection of environmental resources within the City's natural parks and open space.

The MSCP Section of the City Planning and Community Investment Department oversees the development regulations and land acquisition of the MSCP program. MSCP staff also coordinate with Park and Recreation on activities related to MSCP covered species and biological management.

The Development Services Department involvement is centered on the permitting and environmental review process. Any individual project proposed within or adjacent to the Park is required to meet the regulations outlined in the following applicable plans, ordinances, and laws: Land Development Code, MSCP Subarea Plan, applicable community plan(s), City General Plan, and City environmental and construction standards and requirements. Agencies and the public become involved with individual project proposals during this process. For projects requiring permitting, the Development Services Department serves as a liaison between the City, public, and agencies. Other City departments involved in the Park include the Police, Fire, Engineering and Capital Projects (erosion control; urban runoff; streets), and Public Utilities departments.

U.S. Army Corps of Engineers (ACOE): The U.S. ACOE exercises permit authority under Section 404 of the Clean Water Act. Projects that involve the discharge of fill or dredge material into Waters of the United States must secure a Section 404 permit through the ACOE. There are several U.S. Geological Survey-identified blue line streams within the Plan area that may require a 404 permit if placement of fill or dredge material is proposed within them (see Chapter 3 Section B for additional information regarding hydrology in the Park). There may be additional Waters of the U.S. in the Park for which a permit would be required. Consultation with ACOE would be required for a determination on an individual project's need for a 404 permit.

U.S. Fish and Wildlife Service: The USFWS acts in an advisory role with projects requiring a ACOE permit, or certain City of San Diego permits. The USFWS also serves other permitting agencies in an advisory capacity. Of particular importance to the USFWS is the status of plants and animals on the List of Endangered and Threatened Species, which are protected under the federal Endangered Species Act of 1973. The USFWS also is concerned with protecting bird species covered by the Federal Migratory Bird Treaty Act of 1916, and as amended in 1994. The USFWS has signed an Implementing Agreement with the City of San Diego for the City of San Diego MSCP Subarea Plan. The USFWS has also issued a BO (1-6-97-F-13) regulating management for the 325-acre Montana Mirador portion of the study area discussed within this document.

California Department of Fish and Game: Involvement of the California Department of Fish and Game (CDFG) can occur in three ways. For projects involving alteration of a streambed, a permit must be issued pursuant to Section 1601-1.606 of the CDFG Code. The second type of involvement would occur when the CDFG serves in an advisory capacity to the City of San Diego. The third area of involvement relates to plants and animals on the California List of Endangered or Threatened Species that are protected under the California Endangered Species Act. The CDFG is signatory to the MSCP Implementing Agreement for the City of San Diego MSCP Subarea Plan.

California Water Quality Control Board: The State Water Quality Control Board through its local office, the Regional Water Quality Control Board (RWQCB), administers National Pollutant Discharge Elimination System (NPDES) permits. A NPDES permit would be required for any future activity disturbing five acres or more within the Park. The RWQCB will also be requiring new development to follow BMP under the renewal of the San Diego Municipal Storm Water Permit currently being developed.

B. CITY PLANS APPLICABLE TO BLACK MOUNTAIN OPEN SPACE PARK

City of San Diego MSCP Subarea Plan (1997) is a part of the MSCP regional program of which the County of San Diego and several other local jurisdictions are also participants. The MSCP process was originally initiated by the City of San Diego's Metropolitan Wastewater Department during the early 1990s. At that time, several local plant and animal species had recently been listed as state and/or federally threatened or endangered, so extensive state and federal permitting would be necessary for the department's Metropolitan Sewerage System upgrade projects. Because other local government agencies and private developers in the area had similar needs, it was recognized that a regional plan would be beneficial to area developers as well as for regional conservation efforts.

An MSCP working group was assembled, which included: 1) Participating jurisdictions and special districts (11 local cities and the County of San Diego); 2) The U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG); 3) Property owners; 4) Development industry representatives (e.g., the Building Industry Association, etc.); and 5) Environmental group representatives (e.g., Sierra Club, Center for Biological Diversity, etc.).

These groups were all stakeholders in development of the MSCP and worked together for several years to draft the current MSCP program. Based on the stakeholders work, participating agencies such as the City of San Diego and the County of San Diego then developed MSCP implementing agreements for their respective jurisdictions. Because they were involved in its development and have an ongoing stake in the program, many of the working group members remain active participants in the MSCP. Development industry groups and environmental groups, in particular, remain actively involved in the program and have been partners in program implementation and oversight.

On March 18, 1997, the San Diego City Council unanimously adopted the MSCP (R-28455) and in July 1997 entered into a 50-year MSCP Implementing Agreement with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Through this agreement, the City received its federal Endangered Species Act section 10(a) incidental take permit (PRT-830421) on July 18, 1997.

Pursuant to its MSCP permit, the City of San Diego has incidental "take" authority over 85 rare, threatened and endangered species. This means that the City may incidentally impact these species without additional state or federal approval or permits. This take authority is used by City departments for public projects and is also conferred to third parties (e.g., private developers) who receive City of San Diego development permits. Because take authority is

granted locally, City and private development projects are spared the additional time and financial costs of state and federal wildlife agency permitting processes. In order to receive its MSCP take authority, the City agreed to carry out the obligations outlined in its Implementing Agreement. The City's primary MSCP obligations are:

1. Preserve 52,012 acres within the City's MSCP planning area (total acreage was increased to 52,727 acres per R-300799 in conjunction with the City's brush management ordinance changes adopted on September 6, 2005);
2. Ensure development project compliance with all City of San Diego MSCP implementing regulations (e.g., City of San Diego MSCP Subarea Plan, Environmentally Sensitive Lands Ordinance, Biology Guidelines, etc);
3. Annual reporting of habitat gains and losses to wildlife agencies;
4. All rare plant, animal, habitat, and wildlife corridor biological monitoring as outlined in the 1996 *Biological Monitoring Plan for the Multiple Species Conservation Program* (1996);
5. Biological monitoring results reporting to wildlife agencies on an annual basis;
6. Preparation of area-specific management plans for lands preserved under the program; and
7. Management of all lands preserved under the MSCP

The City's MSCP division is generally responsible for carrying out these obligations, with the exception of land management and monitoring, which is carried out by departments with ownership of preserved land (primarily the Park and Recreation's Open Space Division and Public Utilities Department) with input, as needed, from MSCP staff.

The Preserve Design Criteria contained in the MSCP Plan were used as guides in the development of the City's Multi-Habitat Planning Area (MHPA). The MHPA delineates core biological resource areas and corridors targeted for conservation. The City's MHPA is approximately 56,831 acres and includes approximately 47,910 acres within City jurisdiction. Approximately 90 percent of the MHPA lands (52,012 acres) within the City's subarea will be preserved for biological purposes. The subarea is divided into five areas (Southern, Eastern, Urban, Northern, and Hodges Cornerstone Lands/San Pasqual Valley). The Park lies within the Northern area.

Rancho Peñasquitos Community Plan

The Rancho Peñasquitos Community Plan identifies the Park as a resource-based park. The Park is subject to the policies of the Rancho Peñasquitos Community Plan and City of San Diego General Plan. The primary open space and resource management goals of the plan are to conserve, enhance and restore sensitive resources in the community; retain a viable connected open space system; maintain existing open space in its natural state; and prohibit development encroachment and adjacency impacts on open space.

Specific Rancho Peñasquitos Community Plan policies related to the Park include:

1. Open space areas should provide a continuous, connected open space system maximizing the use of open spaces as wildlife habitat.
2. Open space with reduced long-term biological value (due to proximity of development) should be used for moderate impact activities such as jogging, horseback riding, pet walking, mountain biking and interpretive trail hiking.
3. Open space serving as wildlife habitat should be maintained in its natural state.
4. Exotic or invasive plant species should not be planted adjacent to natural open spaces areas.

According to the Rancho Peñasquitos Community Plan, the following are guidelines to be followed in the design and development of parks, recreation, and open space:

1. Coordinate park development with growth in the planning area.
2. Provide passive recreation for all ages.
3. Provide a trail system. Integrate parks and open spaces wherever possible to provide a continuous open space network, maximizing the utility with use of layout, fencing, signage, and landscape at access points.

The plan also includes criteria for development adjacent to the park for prevention of impacts to park resources. These criteria include guidance on such issues as filling, grading, viewshed impact avoidance, public access, and project design. The community plan policies and criteria should be referenced during any proposals for development adjacent to the Park.

Lastly, the Rancho Peñasquitos Community Plan includes several open space and resource management goals. Following are the recommendations that are related to the Park or to areas immediately adjacent it:

1. Include the land acquisition of the remaining 240 acres of Black Mountain Park in the City's Capital Improvement Program (CIP).
2. Coordinate with the San Diego CWA to provide a pedestrian pathway and a Class I bicycle path along its utility easement. Require dedication of land along the paths during development of contiguous property.
3. Require that long- and short-term maintenance responsibilities on open space areas be clearly defined as a part of the development approvals. (Note: may apply if any new areas are added to the Park as mitigation for surrounding development)
4. Require applicants to set aside wildlife crossing areas through the Black Mountain neighborhood, connecting all remaining natural habitat to Black Mountain Park as development is approved.
5. Develop pathways or bike trails through the Black Mountain neighborhood for public access to Black Mountain Park.
6. Encourage the use of open space with reduced long-term biological value by:
 - Providing well-marked and convenient access points with signage which clearly indicates that these open space areas are intended to be used by people with pets, for mountain biking, hiking, jogging and horseback riding, while other open spaces in the community are not available for such uses.
 - Developing interpretive and environmental outreach programs in these areas.
 - Educating new residents through homeowner's brochures.
7. Encourage retention of wildlife habitat value in connected open space systems by:
 - Providing signs which indicate these areas are for pedestrian use only and that pets are not permitted.
 - Providing signs at limited access points which direct moderate impact users to the appropriate areas in the community.
 - Providing visual access overlooks where possible.
 - Educating new residents through homeowners' brochures.

3. EXISTING CONDITIONS

The Plan addresses the natural resources found in the 1014-acre Park and 538-acre Montana Mirador Park (Park).

A. GEOLOGY AND SOILS

The Park is located in the geological area known as the “Poway Quadrant” which consists of rock units called “Santiago Peak Volcanics.” The Santiago Peak Volcanics comprise an elongate belt of mildly metamorphosed volcanic, volcanoclastic, and sedimentary rocks that crop out from the southern edge of Los Angeles Basin southward towards Mexico (California Division of Mines, 1975).

The Santiago Peak Volcanics are extremely erosion-resistant, hard, and form topographic highs. Where fresh, most of the volcanic rocks are dark greenish-gray in color but where weathered are grayish-red to dark reddish-brown. The soil that develops from the volcanic rocks is the color of the weathered rocks and supports growth of dense chaparral.

The majority of the soils onsite are classified as San Miguel-Exchequer rocky silt loam with smaller areas supporting San Miguel, Olivenhain, Auld, and Altamont soils (Figure 3). San Miguel soils are derived from meta-volcanic rock that is unique because of their relatively high acidity, clay subsoil layer, and low permeability. Olivenhain, Auld, and Altamont soils are also derived from meta-volcanic parent material and typically have a prominent clay layer (Bowman, 1973). Each of these soils types is known to support sensitive plant species elsewhere within the region. Following are the erodibility classifications for each of the on-site soils:

Soil Type	Erodibility
San Miguel-Exchequer rocky silt loam (SnG)	Severe
San Miguel rocky silt loam (SmE)	Severe
Olivenhain cobbly loam (OhE)	Severe
Auld stony clay (Aye)	Moderate
Las Flores loamy fine sand (LeE)	Severe
Altamont clay (AtC)	Slight

Source: Bowman, 1973

FIGURE 3. Soils

B. TOPOGRAPHY AND HYDROLOGY

When viewed from a regional scale, Black Mountain is part of a chain of relatively high coastal peaks stretching from northern Baja California to Camp Pendleton. A number of these peaks support sensitive plant species because of unique soils or microclimates (Beauchamp, 1986). The Park ranges in elevation from 600 feet above mean sea level at the southern portion of the study area to 1,552 feet at Black Mountain Peak. The topography is characterized by bands of steep ridges and canyons across the majority of the site. Most of the site is greater than 25 percent slope and much of the remainder is more than 10 percent.

The Park includes Black Mountain Peak and a system of interconnected ridges and ravines, including several U.S. Geological Service blue line streams (e.g., streams identified on U.S. Geological Survey 7.5-minute quadrangle topographic maps), that eventually drain to Los Peñasquitos, Carmel, and Lusardi creeks (Figure 4). A small portion of the site at the north to northeast boundary consists of more gradually sloping hills and meadows. Surface water within the park drains into channels that lead the water off-site and eventually empty into the San Dieguito River.

C. BIOLOGICAL RESOURCES

The Park area is comprised of a diverse assemblage of vegetation types and wildlife habitats. Plant and animal species lists are provided in Appendix A.

NATURAL COMMUNITIES

Chaparral, chaparral-coastal sage scrub, and coastal sage scrub are the dominant plant communities onsite (Figure 5). Non-native grassland and ruderal habitats are also found within the Park in areas associated with past disturbance. Although not delineated on the plant community map, small patches of native grassland (less than one acre) were observed within larger stands of coastal sage scrub. One small patch of freshwater marsh that is an old excavation site (Mike Kelly, pers. comm., 2004, see p. 22) was mapped in the northern portion of the Park.

Native Grassland - Some hillsides include substantial populations of the native purple needle grass (*Nassella pulchra*). Focused surveys for native grasslands could not be conducted as part of this plan. Native grass is often intermixed with Non-Native Grassland and can be easily overlooked during general, coarse vegetation mapping; however, according to Mike Kelly, Black Mountain Citizen Advisory Committee Chair, the grasslands on the north slopes within the park are largely native grasslands. The largest of these grasslands is adjacent to the parking/staging

FIGURE 4. Topo & Blue Line Streams

FIGURE 5. Vegetation Map

area on the north slope and is greater than 50% native species cover, with a good diversity of grass, bulbs and annuals, and is over an acre in size. Another native grassland also exists east of Hilltop Community Park on the west slope of Black Mountain.. Native composition in one large contiguous area ranges from 30%-80% cover. Other grasslands in the park are largely non-native but often have several native species, including *Nasella pulchra* present in patches. A number of native bulb and annuals are an important component of these grasslands, including plants such as Blue-eyed grass, Hedge nettle, Johnny jumpups, Checkerbloom, and others. Volunteers have been controlling invasives in these areas since the early 2000s (Mike Kelly, pers. comm., 2004).

These native patches of grassland may provide nesting habitat for the grasshopper sparrow (*Ammodramus savannarum*). Therefore, direct and indirect impacts to this habitat should be avoided. Native grasslands have been severely depleted throughout the coastal area and are often overlooked as sub-components of larger stands of non-native grasses.

Diegan Coastal Sage Scrub and Coastal Sage-Chaparral Scrub - A total of approximately 308 acres of Diegan coastal sage scrub habitat and approximately 252 acres of coastal sage-chaparral scrub are scattered throughout the Park. A large portion of the coastal sage scrub (100 acres) and coastal sage-chaparral (195 acres) habitat is found on the Montana Mirador section of the Park. Approximately 185 acres of this habitat is California gnatcatcher (*Polioptila californica californica*) core habitat. Dominant species include coastal sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), and lemonadeberry (*Rhus integrifolia*). The coastal sage scrub on-site contains many sensitive plant species including California adolphia (*Adolphia californica*), San Diego viguiera (*Viguiera laciniata*), and San Diego barrel cactus (*Ferocactus viridescens*).

Sensitive wildlife known to use the Diegan coastal sage scrub and chaparral-coastal sage scrub include: the coastal California gnatcatcher, and the orange-throated whiptail (*Cnemidophorus hyperythrus*). The San Diego coast horned lizard (*Phrynosoma coronatum blainvillei*) is also present in small numbers. Many bird species typical of scrub habitats in Southern California occur here, such as the California towhee (*Pipilo crissalis*), California quail (*Callipepla californica*), wrentit (*Camaea fasciata*), and California thrasher (*Toxostoma redivivum*). Other animals found in this habitat include the desert cottontail (*Sylvilagus audubonni*) and western fence lizard (*Sceloporus occidentalis*).

Southern Mixed Chaparral - Southern mixed chaparral is the most common habitat type within the Park, totaling approximately 252 acres. Southern mixed chaparral is a plant community dominated by tall, drought-tolerant shrubs. This habitat is typically found on north-facing slopes. This plant community is dominated by chamise (*Adenostoma fasciculatum*), toyon

(*Heteromeles arbutifolia*), ceanothus (*Ceanothus* spp.), and mission manzanita (*Xylococcus bicolor*). This vegetation type is usually dense with little or no under story cover. As a slightly more common habitat, southern mixed chaparral does not support a large number of sensitive species. However, some of the same species which inhabit the nearby scrub habitats may also utilize chaparral habitat.

Southern Coastal and Valley Freshwater Marsh - A small amount of freshwater marsh (0.47 acre) occurs in the northern portion of the Park. Freshwater marsh consists of peripheral stands of vegetation around permanent or late-drying ponds. During the drier portions of the year, the marsh vegetation in these ponds typically dies back to the tuberous root system with only short and sparse young leaves remaining green. Several of these ponds are highly alkaline during the summer months and a thin layer of salt can often be seen crusting over drying mud in mid and late summer.

Dominant plants include cattails (*Typha* spp.) and bulrush (*Scirpus* spp.). Other native plant species likely occurring include marsh fleabane (*Pluchea odorata*), toad rush (*Juncus bufonius*), and several species of sedge (*Cyperus eragrostis*, *C. odoratus*, *C. erythrorhizos*). In addition, a variety of non-native weeds, such as bristly ox-tongue (*Picris echioides*), sometimes form on the disturbed marsh periphery.

Avian use by species such as the tri-colored blackbird (*Agelaius tricolor*) and red-winged blackbird (*Agelaius phoeniceus*) is seasonally high in the marshes. Ponds surviving into late summer and fall are undoubtedly important watering holes for birds and small mammals. The Pacific chorus frog (*Pseudacris regilla*) and the western toad (*Bufo boreas*) also utilize this habitat. This habitat is also utilized by the sensitive two-striped garter snake (*Thamnophis hammondi*).

Non-native Grassland - Small stands of non-native grassland, totaling approximately 23 acres, 17 acres of which occurs within the 325-acre Montana Mirador conservation area, can also be found throughout the Park, usually in areas of disturbance. Eurasian grasses dominate these areas, generally between patches of sage scrub. The dominant non-native grasses include wild oat (*Avena barbata*), bromes (*Bromus madritensis* ssp. *rubens*, *B. hordaceous*, *B. diandrus*), foxtail fescue (*Vulpia myuros*), hare barley (*Hordeum murinum* ssp. *leporinum*), and English ryegrass (*Lolium perenne*).

Note that native grassland is often intermixed with non-native grassland; focused native grassland surveys should be conducted in the Park if funding permits (see native grassland discussion, p. 18).

Birds which may be found utilizing this habitat include the grasshopper sparrow (*Ammodramus savannarum*) and various raptor species including northern harriers (*Circus cyaneus*).

Ruderal Habitat - There are approximately 18 acres of ruderal habitat within the Park, including tracts of land that now feature disturbed upland vegetation. Approximately 1.61 acres of this ruderal vegetation occurs within the 325-acre Montana Mirador conservation area. Off-road vehicle activities, urban encroachment, and other disturbances have contributed to the establishment of ruderal habitat within the Park.

Artichoke thistle (*Cynara cardunculus*) is an invasive, exotic species that is quite common throughout the Park. Large stands of this plant can be found adjacent to developed, urban areas and just north of the parking lot for the Park. Ruderal lands also consist of non-native weeds, such as black mustard (*Brassica nigra*), short-pod mustard (*Hirschfeldia incana*) and fennel (*Foeniculum vulgare*).

WILDLIFE

Due to the size and diversity of habitat within the Park, a variety of wildlife (invertebrates, amphibians, reptiles, birds, and mammals) inhabit the Park. A full list of species known to occur in the Park are included as Appendix A to this Plan.

Invertebrates - A variety of butterfly species, such as Behr's metalmark (*Apodemia mormo virgulti*) and California ringlet (*Coenonympha californica*), are found throughout the Park. Limited habitat of the Hermes copper butterfly (*Lycaena hermes*) host plant spiny redberry (*Rhamnus crocea*) exists in the Park.

Amphibians – A variety of frog and toad species are known to occur in the Park area. One species, the pacific tree frog (*Hyla regilla*), was observed on-site (City of San Diego 1993). The bullfrog (*Rana catesbeiana*) is occasionally found throughout the Plan area, usually in lowland aquatic habitats such as streams and ponds. This species is native to Southeast Asia and Australia and was introduced into California around the turn of the century. It is one of the largest anurans in North America, and preys on native frogs and toads.

Reptiles - Lizard species observed on-site include the side-blotched lizard (*Uta stansburiana*) and western fence lizard (City of San Diego 1993). Previous sightings of orange-throated whiptail have been recorded on-site (State of California 2002). Western rattlesnake (*Crotalus viridus*) has also been reported in the Park (Kelly, 2004). The San Diego alligator lizard (*Gerrhonotus multicarinatus*), gopher snake (*Pituophis melanoleucus*), and San Diego horned lizard are additional reptile species expected to occur on-site.

Birds - Ample nesting and foraging habitat for many avian species exists on-site, and a wide variety of birds have been observed. Migratory birds species, such as Wilson's warbler (*Wilsonia pusilla*) and olive-sided flycatcher (*Contopus borealis*), are known to visit the Park. Anna's hummingbird (*Calypte anna*), Say's phoebe (*Sayornis saya*), common raven (*Corvus corax clarionensis*), Bewick's wren (*Thyromanes bewickii*), rock wren (*Salpinctes obsoletus*), California thrasher (*Toxostoma redivivum redivivum*), lesser goldfinch (*Carduelis psaltria hesperophilus*), yellow-rumped warbler (*Dendroica coronata*), coastal California gnatcatcher (*Polioptila californica californica*), and fox sparrow (*Zonotrichia iliaca*) are among the perching bird species occupying habitat within the Park.

Several rock outcrop formations located throughout the site are embellished with "whitewash", indicating their use as raptor perches. Birds of prey observed within the Park include red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), northern harrier, Cooper's hawk (*Accipiter cooperii*), and turkey vulture (*Cathartes aura*). Other species not observed within the Park, but likely to use the area, are golden eagle (*Aquila chrysaetos canadensis*), red-shouldered hawk (*Buteo lineatus elegans*), and sharp-shinned hawk (*Accipiter striatus velox*).

Owls and nighthawks are likely to occur within the Park. Species likely to utilize the habitat on-site include common barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), lesser nighthawk (*Chordeiles acutipennis*), and common poorwill (*Phalaenoptilus nuttallii*).

Mammals - Direct observation of mammal species is very difficult due to their shy and sometimes nocturnal habits. Evidence such as scat, tracks, burrows, and dens aid in determining presence of various animals. Abundant signs of common species, such as coyote (*Canis latrans*), woodrat (*Neotoma* spp.), mule deer (*Odocoileus hemionus*), and cottontail rabbit (*Sylvilagus auduboni*), have been observed within the Park. Signs of large predators such as bobcat (*Lynx rufus*) and gray fox (*Urocyon cinereoargenteus*) have been observed in portions of the Park (City of San Diego 1993), and mountain lions have also been reported in the Park ((Mike Kelly, 2004). Habitat within the Park has a high probability of supporting a wide variety of animals, including rodents such as California ground squirrel (*Spermophilus beecheyi*), striped skunk (*Mephitis mephitis*), and long-tailed weasel (*Mustela frenata*). Raccoons (*Procyon tator*) and related species, such as the ringtail (*Bassariscus astutus*), could also occur within the Park.

An informal survey of the historic Park mine was conducted by Mike Kelly and a local bat expert several years ago. A minimal amount of bat guano was observed in the mine, and no bats were detected. This indicates single or occasional visits by a small number of bats. However,

surveyors agreed that the mine could be used by bat species in the future, and a bat gate would be beneficial for this area (Mike Kelly, 2004).

WILDLIFE CORRIDORS

A wildlife corridor is a habitat connection between larger preserve areas that allow for wildlife movement, recruitment, and colonization between different core areas. Corridors are very important for large mammals, especially predators. These corridors link core resource areas that have high concentrations of sensitive biological resources which, if lost, could not be replaced or mitigated elsewhere. The Park is considered a core resource area. Corridors are defined or constrained by various factors, such as topographic features, habitat, availability of natural and passable open space, game trails, and/or urban pressures (e.g., noise, lighting, lack of vegetative cover, and domestic animals). There are three wildlife corridors that link to the Park (Figure 6): 1) The Del Mar Mesa corridor (#1 on Figure 6); 2) The Lusardi Creek corridor (#2 on Figure 6) linking the Park directly to San Dieguito and Lake Hodges; and 3) A corridor between from Black Mountain north to eastern Lake Hodges (#3 on Figure 6). These wildlife corridors ultimately allow for wildlife connections to Poway, Del Mar, Carlsbad, Santa Fe Valley and other core resource areas of habitat. It is important to maintain the wildlife corridors within and around the Park in order to preserve the diversity of animals within the Park.

SENSITIVE SPECIES

Several sensitive plants and animals occur within the Park and in the immediate vicinity (see Figure 7, plants and Figure 8, animals; see Figure 9 for more detailed vegetation and sensitive species within the 325-acre Montana Mirador conservation area). Others have not been observed but are expected due to the presence of favorable conditions and habitat. Below is a list of sensitive species observed on-site and sensitive species with the potential to occur on-site. These include MSCP covered species, species considered sensitive by the USFWS, CDFG, California Native Plant Society (CNPS), and Audubon Society (Blue List).

FIGURE 6. Wildlife Corridors

FIGURE 7. Sensitive Plants

FIGURE 8. Sensitive Animals

FIGURE 9. CWA Montana Mirador Vegetation & Sensitive Species

Table 3-5 of the City of San Diego MSCP Subarea Plan contains conditions for coverage for certain species, otherwise known as covered species. These species and the MSCP conditions for each are discussed further in this section. Specific management directives that can be implemented within the Park to fulfill the requirements of MSCP are given in Chapter 10 Section D for MSCP covered species that are known to occur on-site.

Sensitive Plant Species Observed On-site

Variegated dudleya (*Dudleya variegata*)

Status Federal/State: None/None

CNPS List, R-E-D: 1B, 2-2-2

Primary Habitat Associations: Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland, vernal pools

Life Form: Perennial herb

Blooming Period: May-June

Status On-site: Observed immediately offsite, east of Paraiso Cumbres. Some potential to occur in open coastal sage scrub and grasslands where they occur on clay soils.

MSCP Conditions: Area specific management directives must include species-specific monitoring and specific measures to protect against detrimental edge effects to this species, including effects caused by recreational activities.

San Diego barrel cactus (*Ferocactus viridescens*)

Status Federal/State: None/None

CNPS List, R-E-D: 2, 1-3-1

Primary Habitat Associations: Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools

Life Form: Shrub

Blooming Period: May-June

Status On-site: Present mostly on southeast facing slopes within recent burn areas; additional populations may be present as under story to coastal sage scrub and chaparral on steep slopes.

MSCP Conditions: Area specific management directives must include measures to protect this species from edge effects, unauthorized collection, and include appropriate fire management/control practices to protect against a too frequent fire cycle.

California adolphia (*Adolphia californica*)

Status Federal/State: None/None

CNPS List, R-E-D: 2, 2-1-1

Primary Habitat Associations: Chaparral, coastal sage scrub, valley and foothill grassland, clay

Life Form: Shrub

Blooming Period: December-May

Status on-site: Present within coastal sage scrub and coastal sage-chaparral scrub, especially in rocky areas on-site.

MSCP Conditions: None

Western dichondra (*Dichondra occidentalis*)

Status Federal/State: None/None

CNPS List, R-E-D: 4, 1-2-1

Primary Habitat Associations: Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grasslands

Life Form: Perennial herb

Blooming Period: March-July

Status On-site: A few small (one-foot diameter) patches of western dichondra were observed in the central portion of the site (northwest portion on Montana Mirador) in May 1989. Recent surveys have not been done at the right time of year to confirm the 1989 sighting.

MSCP Conditions: None

Ashy spikemoss (*Selaginella cinerascens*)

Status Federal/State: None/None

CNPS List, R-E-D: Considered, but rejected (too common)

Primary Habitat Associations: Undisturbed soils within chaparral and coastal sage scrub habitats

Life Form: Perennial herb (rhizomatous)

Blooming Period: Fertile in July or August

Status on-site: Throughout the Park on undisturbed soils in openings of chaparral and coastal sage scrub habitat.

MSCP Conditions: None

Sensitive Plant Species With Potential to Occur On-site

San Diego thornmint (*Acanthomintha ilicifolia*)

Status Federal/State: FT/SE

CNPS List. R-E-D: 1B 2-3-2

Primary Habitat Associations: Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools, clays

Life Form: Annual herb

Blooming Period: April-June

Status On-site: Not observed. Possible in areas of grassland or opening in coastal sage scrub where they occur on clay soils. While past the blooming period, dried inflorescences would have been detectable during survey period. A substantial population has been documented within the adjacent Black Mountain Ranch area.

MSCP Conditions: Area specific management directives must include specific measures to protect against detrimental edge effects from the surrounding development.

Encinitas baccharis (*Baccharis vanessae*)

Status Federal/State: FT/SE

CNPS List. R-E-D: 1B 2-3-3

Primary Habitat Associations: Chaparral on sandstone

Life Form: Shrub

Blooming Period: August-November

Status On-site: Not observed. Moderate possibility of occurrence in open chaparral on ridgelines onsite; known from 4S Ranch immediately east of the study area.

MSCP Conditions: Based on BMPs, area specific management directives must include specific management measures to address the autecology and natural history of the species and to reduce the risk of catastrophic fire; and appropriate male/female plant ratios. Management measures to accomplish this may include prescribed fire.

Orcutt's brodiaea (*Brodiaea orcuttii*)

Status Federal/State: None/None

CNPS List. R-E-D: 1B 1-3-2

Primary Habitat Associations: Meadows and seeps, valley and foothill grassland, vernal pools, clays

Life Form: Perennial herb

Blooming Period: May-July

Status On-site: Not observed. Potential habitat onsite is limited; grasslands and sparse coastal sage scrub on clay soils could be suitable.

MSCP Conditions: Area specific management directives must include specific measures to protect against detrimental edge effects.

Wart-stemmed ceanothus (*Ceanothus verrucosus*)

Status Federal/State: None/None

CNPS List. R-E-D: 2, 2-2-1

Primary Habitat Associations: Chaparral

Life Form: shrub

Blooming Period: January-April

Status On-site: Not observed. Moderate possibility of occurrence in low numbers in dense chaparral.

MSCP Conditions: Revegetation efforts within appropriate habitats must include restoration of this species. Area specific management directives for the protected populations must include specific measures to increase populations. Area specific management directives must include specific management measures to address the autecology and natural history of the species and to reduce the risk of catastrophic fire. Management measures to accomplish this may include prescribed fire. Any newly found populations should be evaluated for inclusion in the Park strategy through acquisition, like exchange, etc.

Sticky dudleya (*Dudleya viscida*)

Status Federal/State: None/None

CNPS List. R-E-D: 1B 2-2-2

Primary Habitat Associations: Coastal bluff scrub, chaparral, coastal sage scrub, rocky areas

Life Form: Perennial herb

Blooming Period: May-June

Status On-site: Not observed; however, habitat (rock faces and canyon walls) fairly inaccessible. Could occur in these areas.

MSCP Conditions: Area specific management directives must include specific measures to protect against detrimental edge effects.

San Diego goldenstar (*Muilla clevelandii*)

Status Federal/State: None/None

CNPS List. R-E-D: 1B 2-3-2

Primary Habitat Associations: Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools

Life Form: Perennial herb

Blooming Period: May

Status On-site: Not observed; surveys may have been too late in season to detect. Moderate possibility of occurrence; known from 4S Ranch immediately to the east of the study area. Potential habitat onsite is limited; grasslands and sparse coastal sage scrub on clay soils could be suitable.

MSCP Conditions: Area specific management directives must include monitoring of the transplanted population(s), and specific measures to protect against detrimental edge effects to this species.

California adder's tongue (*Ophioglossum californicum*)

Status Federal/State: None/None

CNPS List. R-E-D: 4, 1-2-2

Primary Habitat Associations: Chaparral, valley and foothill grassland, vernal pools (margins), mesic

Life Form: Perennial herb (rhizomatous)

Blooming Period: December-May

Status On-site: Not observed; the species is easily observed in the springtime. However, surveys may not have been at the right time to detect this species.

MSCP Conditions: None

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)

Status Federal/State: None/None

CNPS List. R-E-D: 1B 2-2-2

Primary Habitat Associations: Chaparral

Life Form: Shrub

Blooming Period: April-June

Status On-site: Not observed; however, has been found adjacent to the site in the southwest portion of Black Mountain Ranch. There is moderate potential for summer holly to occur on-site, especially in canyons where moisture is higher.

MSCP Conditions: None

Sensitive Reptile Species Observed On-site

Orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*)

Status Federal/State: None/CSC

Primary Habitat Associations: Coastal sage scrub and chaparral habitats with moderately open vegetation and patches of loose soils. The orange-throated whiptail is found only in extreme southwest California, west of the mountains in San Bernardino County, Riverside County, and San Diego County and south to northern Baja California, Mexico. The orange-throated whiptail is threatened by loss of habitat as a result of urban and agricultural development throughout its range.

Status On-site: Occurrences within the Park are documented in the NDDB and suitable habitat exists throughout the Park.

MSCP Conditions: Area specific management directives must address edge effects.

San Diego horned lizard (*Phrynosoma coronatum blainvillii*)

Status Federal/State: None/CSC

Primary Habitat Associations: The horned lizard inhabits open coastal sage scrub, grassland, broadleaf woodlands, and chaparral and requires large open areas of sandy soil within these

habitats. The species is found only in southwestern California from the coast to the foothills and valleys of the Peninsular Ranges. This species is declining in numbers due to habitat destruction, commercial or hobby collecting, and the decline of native ant species that serves as the food source for horned lizards.

Status On-site: Horned lizards have been observed on the adjacent Water Department parcel by City staff. The horned lizard is likely to occur throughout much of the property due to the sandy substrates that are suited to the habitat requirements of the species.

MSCP Conditions: Area specific management directives must include specific measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this species.

Sensitive Reptile Species With Potential to Occur On-site

Red diamond rattlesnake (*Crotalus ruber*)

Status Federal/State: None/CSC

Primary Habitat Associations: Usually associated with open chaparral, woodlands, thorn and desert scrub in southwestern California from Morongo Valley, San Bernardino County and Riverside County southward to Baja California, Mexico.

Status On-site: It is highly likely this species occurs on-site since appropriate habitat is available and location records for this species occur in nearby Los Peñasquitos Canyon Preserve.

MSCP Conditions: None

Coastal rosy boa (*Lichanura trivirgata roseofusca*)

Status Federal/State: None/None

Primary Habitat Associations: The boa is a nocturnal snake found in brush land habitat with many boulders. It prefers to hide in the boulders and is very secretive. Coastal rosy boa is found from extreme southern California to northern Baja California, Mexico. Although major portions of its habitat have been converted to urban or agricultural development, the major source of population depletion is probably due to private collectors and the pet trade.

Status On-site: This species was not observed on-site, but records of its occurrence in areas adjacent to the subject property exist. The presence of this species in adjacent habitat suggests areas within the property are likely to be occupied as well.

MSCP Conditions: None

Sensitive Bird Species Observed On-site

Northern harrier (*Circus cyaneus*)

Status Federal/State: None/CSC

Primary Habitat Associations: Salt marsh habitat, open grasslands, and sage scrub are regularly hunted by the northern harrier. This species may be active during most of the daylight hours; sometimes spending as much as 50 percent of the day in flight.

Status On-site: No nests were observed on-site. This species was observed foraging over the Park.

MSCP Conditions: Area specific management directives must: manage agricultural lands and disturbed lands (which become part of the preserve) within four miles of nesting habitat to provide foraging habitat and include an impact avoidance area (900 foot or maximum possible within preserve) around active nests.

Cooper's hawk (*Accipiter cooperii*)

Status Federal/State: None/CSC Primary Habitat Associations: Cooper's hawk breed almost exclusively in oak woodland habitats. They can be found foraging over a variety of habitat including oak woodland, riparian areas, and upland habitats, such as non-native grassland or coastal sage scrub. Cooper's hawk is a common migrant and a rare summer resident in San Diego County.

Status On-site: No nests were observed on-site. This species was observed foraging over the Park.

MSCP Conditions: Area-specific management directives must include 300-foot impact avoidance areas around active nests and minimization of disturbance in oak woodlands and oak riparian forests.

Coastal California gnatcatcher (*Poliophtila californica californica*)

Status Federal/State: FT/CSC

Primary Habitat Associations: The gnatcatcher shows a preference for open Diegan coastal sage scrub or southern succulent scrub that has a predominance of California sagebrush (*Artemisia californica*) and flat-top buckwheat (*Eriogonum fasciculatum* ssp. *foliolosum*). Other shrubby species present may include lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and California encelia (*Encelia californica*).

Status On-site: California gnatcatchers are located throughout the Park except in those areas heavily dominated by chaparral. Eleven pairs and seven individuals were found within the 325 acres of Montana Mirador (City of San Diego 1993).

MSCP Conditions: Area-specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. No clearing of occupied habitat within the MHPA may occur between March 1 and August 15.

Coastal rufous-crowned sparrow (*Aimophila ruficeps canescens*)

Status Federal/State: None/CSC

Primary Habitat Associations: The coastal rufous-crowned sparrow generally occurs on the steeper slopes flanking floodplains. Some preference is shown for open, low-growing, and rockier terrain within coastal sage scrub habitat. The bird also favors grassy areas in scrub, and is known to colonize successional vegetation following brush fires.

Status On-site: The coastal rufous-crowned sparrow is found throughout the park, typically on slopes associated with ravines or drainages.

MSCP Conditions: Area-specific management directives must include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components.

Bell's sage sparrow (*Amphispiza belli belli*)

Status Federal/State: MNBMC/CSC

Primary Habitat Associations: Sage sparrows typically inhabit dense chaparral habitats, but the species has been documented in coastal sage scrub habitat as well as vegetation communities dominated by chamise.

Status On-site: Bell's sage sparrow has been observed throughout the park, mostly in chamise chaparral and chaparral-coastal sage scrub dominated by black sage.

MSCP Conditions: None

Black-shouldered kite (*Elanus caeruleus*)

Status Federal/State: None/None

Primary Habitat Associations: Kites nest in riparian woodlands, oaks, and sycamores. Kites can also be found foraging over grasslands and open fields.

Status On-site: No nests observed on-site. Black-shouldered kites have been documented flying over the Park. This species is dependent on riparian habitat for breeding and, therefore, can only be expected to utilize the Park for foraging.

MSCP Conditions: None

Turkey vulture (*Cathartes aura*)

Status Federal/State: None/None

Primary Habitat Associations: Turkey vultures have been known to nest in hollow stumps, caves, or old buildings. Turkey vultures forage over grasslands and open fields.

Status On-site: No nests observed on-site. Turkey vultures have been documented flying over the Park.

MSCP Conditions: None

American kestrel (*Falco sparverius*)

Status Federal/State: None/None

Primary Habitat Associations: American kestrels nest in natural cavities, such as woodpecker holes or cliff nook. This bird species forages over a wide variety of open habitats, such as grassland and coastal sage scrub.

Status on-site: No nests observed on-site. American kestrels have been documented flying over the Park.

MSCP Conditions: None

Blue-gray gnatcatcher (*Polioptila caerulea*)

Status Federal/State: None/None

Primary Habitat Associations: Blue-gray gnatcatchers nest and forage in coastal sage scrub habitat.

Status On-site: Blue-gray gnatcatchers are located throughout the Park except in those areas heavily dominated by chaparral.

MSCP Conditions: None

Sensitive Invertebrate Species With Potential to Occur On-site

Hermes Copper (*Lycaena hermes*)

Status Federal/State: Federal Species of Concern/None

Primary Habitat Associations: Hermes copper eggs are laid exclusively on redberry (*Rhamnus crocea*), the larval host plant, which occurs in mixed coastal-sage chaparral habitat and is present on-site.

Status On-site: No Hermes copper surveys have been performed in the Park (Klein, 2003); however, local entomologists have documented the butterfly in areas immediately south of the park, and potential habitat for Hermes copper exists on-site. The species is a narrow endemic (occurring only in the San Diego area), with very limited known populations and may have experienced significant population declines as a result of the wildfires of 2003 (Faulkner and Klein, 2003).

MSCP Conditions: None. Not an MSCP covered species due to unknown conservation level and insufficient distribution and life history data.

Sensitive Bird Species With Potential to Occur On-site

Golden eagle (*Aquila chrysaetos*)

Status Federal/State: None/Fully Protected CSC

Primary Habitat Associations: Golden eagles typically nest on cliffs. The golden eagle forages over immense areas that include grasslands, woodlands, and open chaparral and sage scrub.

Status On-site: No golden eagles have been detected in the Park; however, NDDB records document-nesting sites in the San Pasqual Area north of the park. There is potential foraging habitat for golden eagle on-site. However, it is estimated that only 30 breeding pairs are left in San Diego County, making this species a very rare occurrence.

MSCP Conditions: Area-specific management directives for areas with nest sites must include measures to avoid human disturbance while the nest is active, including establishing a 4,000-foot disturbance avoidance area within preserve lands. Area-specific management directive must also include monitoring of nest sites to determine use/success.

Sharp-shinned hawk (*Accipiter striatus*)

Status Federal/State: None/CSC

Primary Habitat Associations: This species is a winter migrant in San Diego County in any woodland habitat except deserts.

Status On-site: Sharp-skinned hawks have not been documented on-site. Sharp-skinned hawks have not been documented nesting in San Diego County but may forage here while migrating through. The likelihood of this raptor occurring in the Park is moderate because appropriate habitat occurs on-site and because the species has been documented on adjacent property.

MSCP Conditions: None

Red shouldered-hawk (*Buteo lineatus elegans*)

Status Federal/State: None/None

Primary Habitat Associations: Red shouldered-hawk is a resident bird of prey which typically utilizes woodland edges, grasslands, and agricultural areas, but may also use a variety of other habitats.

Status On-site: This species was not observed in the Park but it is likely that the raptor occurs on-site since appropriate habitat is available.

MSCP Conditions: None

Sensitive Mammal Species with Potential to Occur On-site

Mountain lion (*Felis concolor*)

Status Federal/State: None/None

Primary Habitat Associations: Mountain lions have a large home range that traverses a wide variety of habitats. Mule deer and rabbits are the main prey species of this cat.

Status On-site: Tracks tentatively identified as mountain lion have been documented in the Park. Because of the relatively undisturbed nature of the site and abundance of prey species on-site, there is a moderate likelihood that this species may occur on-site. However, as development begins to surround the park, the likelihood that mountain lion will be found on-site will become less likely.

MSCP Conditions: None

CALIFORNIA NATIVE PLANT SOCIETY	
LISTS	R-E-D CODES

<p>1 = Plants of highest priority</p> <p>1A = Species presumed extinct in California</p> <p>1B = Species rare, threatened or endangered in California and elsewhere. These species are eligible for state listing.</p> <p>2 = Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.</p> <p>3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.</p> <p>4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their population.</p>	<p>R (Rarity)</p> <p>1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.</p> <p>2 = Occurrence confined to several populations or to one extended population.</p> <p>3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.</p> <p>E (Endangerment)</p> <p>1 = Not endangered.</p> <p>2 = Endangered in a portion of its range.</p> <p>3 = Endangered throughout its range.</p> <p>D (Distribution)</p> <p>1 = More or less widespread outside California</p> <p>2 = Rare outside California</p> <p>3 = Endemic to California</p>
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FEDERAL AND STATE STATUS

<p>FE = Federally endangered</p> <p>PE = Proposed for federal listing as endangered</p> <p>FT = Federally threatened</p> <p>PT = Proposed for federal listing as threatened</p> <p>C = Candidate for federal listing</p> <p>MNBMC = Migratory Nongame Birds of Management Concern</p> <p>SE = State Endangered</p> <p>SR = State rare</p> <p>ST = State threatened</p> <p>Fully Protected = Cannot be taken without a permit from DFG or Fish and Game Commission</p> <p>CSC = California Special Concern Species</p> <p>None = No status</p>

D. CULTURAL RESOURCES

Historic and prehistoric cultural resources in and around the Park have been investigated several times in the past. Archaeological investigations of prehistoric sites in the region have revealed evidence of an extensive occupation by prehistoric cultures. Permanent village sites from the late prehistoric period have been found near year-round water sources. The drier mesa tops have been shown to contain artifacts from special activity areas likely associated with the village sites. Investigations in Los Peñasquitos Canyon Preserve have uncovered resources from prehistoric, Mexican, and early American periods (City of San Diego, 1993). Based on this information, it is considered possible that prehistoric or historic cultural resources are located within the Park.

Archeological surveys were conducted on the southern portion of the Park, known as Montana Mirador, as part of an EIR for the site (City of San Diego, 1993). No sites were identified during a records search or field survey of the site.

A historic mine is located within the Park on the north slope of Black Mountain at an elevation of 1,000 feet. The Black Mountain Mine was mined for arsenopyrite in the 1920's. The concentrates of arsenopyrite produce the commercial product arsenic that was primarily used for the preparation of insecticides. Remnants of the mining operation still exist on-site.

Additional information is needed regarding the cultural resources within the Park, including the mine. Site-specific archeological surveys should be completed for the site in order to accurately document the resources on-site.

E. LAND USE AND RECREATION

Land Use and Approved Development

Existing land uses within and adjacent to the Park are shown on Figure 10. Existing developments and easements are shown on Figure 11. Adjacent land uses were included for the purposes of analyzing the edge effect that could affect the viability of the natural and cultural resources within the Park.

Known projects currently being developed or proposed for development adjacent to Park boundaries include the following:

Black Mountain Ranch Subarea Plan - This 5,098-acre residential project is northwest of the Park. The plan includes residential development of varying densities, a hotel, mixed-use

FIGURE 10. Land Uses

FIGURE 11. Developments and Easements

commercial and residential areas and 1,945 acres of resource-based open space. Grading began in 2000. The project has been developed in conformance with the MSCP.

Black Mountain Water Treatment Plant - This 40-acre project is located west of the Park and east of the existing Black Mountain Reservoir. This project is not currently under construction but is approved. The project has been developed in conformance with the MSCP.

The Park contains multiple access easements for a variety of agencies including CWA, SDG&E, Pacific Bell, and other utilities. The CWA currently maintains water pipelines on-site. SDG&E have a variety of power poles which traverse the site. Pacific Bell, AT&T and other communication companies also own land on the peak of Black Mountain. These companies maintain antennas on the peak for which regular access is required.

Recreation

Current passive recreational uses within the Park include hiking, bird watching, gliding and paragliding, biking, and equestrian use on trails designated for each activity. Active recreational activities such as camping, ball fields, or off-road activities are not allowed in the Park. Off-road vehicles have been known to illegally use the site, which may cause erosion and damage to habitat.

The Park is surrounded by residential development to the south, west, and east. Residential development is currently proposed to the north. The City of San Diego Water Department currently maintains a reservoir to the west of the Park. The Water Department is also planning to construct a water treatment plant adjacent to the reservoir in the future (10+ years) when the need arises. In addition, the Water Department currently owns a 140-acre parcel immediately west of the Park. A portion of this land has been used by hang gliders and para-gliders as a launch point, both when the land was privately-owned and after the land was purchased by the Water Department. The landing area for the hang gliders and para-gliders is located on City land within the Water Department parcel. This use is currently not authorized by the City of San Diego without a permit; however, negotiations regarding such use are underway.

The only current authorized land uses within the 325-acre Montana Mirador conservation area are utility easements, which are discussed above. Potential problems associated with the easements may result from construction and maintenance crew activities, especially when equipment leaves designated access roads. Also, given the number of agencies with easements within the Park, there are many duplicative easements which cause fragmentation of habitat and lead to exotic invasion. The siting of access roads can damage wetlands, impact aesthetic values,

and increase erosion. Guidelines to avoid impacts associated with easements are given in Chapter 7, Section B.

There are several unauthorized trails within the Montana Mirador conservation area, including a BMX bike park. These unauthorized uses have negatively impacted native habitats and species by removing native vegetation and creating detrimental edge effects as well as causing erosion impacts. There are several sensitive species located near the unauthorized trails (Figure 9), which have likely been negatively impacted by these uses. Illegal BMX use have been and are a constant negative impact in a number of City Parks. Mission Trails Open Space Park resolved this issue by officially creating a legal BMX bike park in an abandoned rock quarry within the park. Working with the local BMX community, Mission Trails staff succeeded in stopping illegal BMX use and shifted BMXers into the legal bike park (Mike Kelly, pers. comm., 2004).

4. GENERAL MANAGEMENT ISSUES

Management of natural resources in the Park must consider impacts from human use, erosion, fire management, and surrounding development.

A. PUBLIC USE

The Park is used not only by adjacent communities but also attracts people from throughout the local and regional communities. The constant pressure of human use, including both passive and active recreational use, can damage the Park's natural and cultural resources. Presently, the Park is in almost constant use during the year for hiking, horseback riding, running, picnicking, nature appreciation, and bicycling. This degree of use and the Park's setting, as a large natural open space in an urban area, bring attendant problems such as litter control, graffiti, and illegal activities. Some Park users have created numerous trails, often in inappropriate, sensitive areas. Overuse is also a threat to trails and Park resources as the number of visitors increase. Misuse and overuse results in damage to trails, hillsides, natural resources, and historic artifacts. This pressure will continue to rise as the population increases and new types of recreation develop which require open space.

There are several unauthorized trails that are regularly used by the public within the Montana Mirador conservation area. These unauthorized uses have negatively impacted native habitats and species by removing native vegetation and creating detrimental edge effects as well as causing erosion impacts. Most notably, several of the trails in the western portion of the conservation area are in close proximity to occupied gnatcatcher habitat. Guidelines for addressing these specific areas are provided in Chapters 7, 10, and 12.

Guidelines for public use are given in Chapter 7, Section A (Development Maintenance and Management Guidelines, New Development).

B. URBAN ENCROACHMENT

The Park's proximity to residential areas results in refuse dumping and visual and backyard encroachment into the Park. Often residents with property adjacent to publicly-owned open space consider it an extension of their backyards and build spas, decks, and/or fences; clear the area of native vegetation; and/or plant nonnative vegetation or gardens. In doing so, they are encroaching on public property. Nonnative landscape plants also have invaded the Park from adjacent land uses. Increased runoff from surrounding urban development introduces sediments and pollutants, like oil and heavy metals, which degrade the Park.

Several areas of urban encroachment occur within the 325-acre Montana Mirador conservation area. Areas along the southern boundary of the conservation area, and an area along the westernmost border of the conservation area are being impacted by adjacent development and invaded by non-native plant species (see Chapter 6, Section B, Management Areas 1 and 6). Additionally, some residences along the western border of the southern area of the conservation area may be encroaching into the Park. These areas should be investigated, and any illegal landscaping should be removed and the areas should be restored (see Chapter 12, Section E, Tasks to Be Implemented).

Guidelines to reduce urban encroachment are given in Chapter 7, Section A (Development Maintenance and Management Guidelines, New Development), and plan directives and priorities regarding encroachment are provided in Chapter 12, Section E.

C. EASEMENTS

There are several easements that allow utilities and landowners on the peak to access their facilities in the Park. Problems result from construction and maintenance crew activities, especially when equipment leaves designated access roads. Also, given the number of agencies with easements within the Park, there are many duplicative easements which cause fragmentation of habitat and lead to exotic species invasion. The siting of access roads can damage wetlands, impact aesthetic values, and increase erosion.

Easements occur in the western portion of the 325-acre Montana Mirador conservation area. The dominant trail beginning at the northwestern most point of the conservation area and traveling southeast then east up the mountain is a utility easement. This area has been subject to considerable edge effects and, in addition to the easement, a trail/road runs north/south along the western border which may be associated with the easements. All unauthorized trails should be closed and rehabilitated, and easements should be monitored to ensure that non-native species invasions do not occur and that trails are not widening beyond dedicated easement areas (see Chapter 12, Section E, Tasks to Be Implemented).

Guidelines to avoid impacts associated with easements are provided in Chapter 7, Section B (Utility Maintenance).

D. EROSION/SEDIMENTATION

Erosion and sedimentation problems exist throughout the Park, especially along hillsides where off-road vehicles have created a network of trails and eliminated the native vegetative cover,

thereby, increasing erosion. Sand and gravel are carried from tributary canyons and surrounding slopes onto roadways, trails, and into streams within the Park during rainstorms. The eroded material entering the streams eventually is deposited in the Pacific Ocean. Prehistoric sites and riparian habitat are being damaged by erosion.

Some of the erosion and redeposition is part of the natural process of succession. Urban runoff, storm drains, and human disturbance, however, are accelerating the natural process by concentrating flows, increasing flow velocity, and damaging slope vegetation and cultural resources. The resultant erosion is causing safety hazards, extreme siltation redeposition, and loss of valuable habitat. Areas of specific concern are steep trails up Black Mountain where off-road vehicle activity has exacerbated erosion problems.

Areas of erosion and sedimentation problems within the 325-acre Montana Mirador conservation area are primarily associated with unauthorized trails. All unauthorized trails should be closed and rehabilitated (see Chapter 12, Section E, Tasks to Be Implemented).

Guidelines for prevention of erosion and sedimentation are given in Chapter 7.

E. FIRE MANAGEMENT

Ideally, from a habitat management perspective, coastal sage scrub and chaparral vegetation should undergo regular controlled burns to encourage perpetuation of these fire-adapted habitats. Many important species of these habitats, especially chaparral, are fire dependent and require fire, or the chemicals from smoke, for seed scarification, or the cracking open of a seed coat that is necessary for seed germination and growth (Keeley, 1987, 1998). However, the Park's urban setting makes controlled burns expensive in the short-term due to the need to insure the safety of the surrounding development. A brush thinning program along the wildlife/urban interface is currently implemented regularly by the Park and Recreation Department in open space areas throughout the City of San Diego. Fire history and guidelines for fire management are given in Chapter 7, Section E (Fire).

6. RESOURCE MANAGEMENT

The City of San Diego will be restoring and enhancing natural, cultural, and historic resources within the Park. The City will also identify, develop, and implement maintenance and recreation projects within the Park. All projects will need to comply with the Black Mountain Park Master Plan and obtain permits, as needed, consistent with CEQA, federal, state, and city requirements. Any mitigation programs required should incorporate the guidelines set forth in this Plan, as appropriate.

The 325-acre Montana Mirador conservation area was used to mitigate biological impacts associated with the CWA ESP. Management and monitoring of the site is required and shall be conducted in accordance with this Plan upon approval by the USFWS Biological Opinion (BO) 1-6-97-F-13). No development is proposed in this area, and impacts to the area should be avoided. Any impacts to mitigation lands associated with the CWA ESP would require approval by the CWA, USFWS, and City of San Diego. Additional mitigation, including mitigation for impacts to sage scrub at a 5:1 mitigation ratio, would be required to offset any impacts to mitigation lands within the Park.

B. PARK FACILITY, RESTORATION, AND ENHANCEMENT PROJECTS

HABITAT RESTORATION AND ENHANCEMENT

Many areas in the Park need restoration to remove non-native, invasive species and replace them with the appropriate native vegetation, while others would benefit just from removal of non-native species providing the opportunity for natives to re-colonize the area naturally. Figure 12 identifies low, medium, and high priority opportunities for restoration. The need for most of this restoration effort arises from non-native invasion due to past land use activities, such as agriculture, grazing, and illegal encroachment or dumping. Opportunities for coastal sage scrub/chaparral restoration occur within the Park.

Enhancement involves only the removal of invasive and/or nonnative species or the provision of conditions designed to improve the habitat for a specific species, thereby encouraging additional growth or usage. Artichoke thistle, fennel, tree tobacco and non-native grasses are a few of the invasive, nonnatives that are targeted for removal.

Management Area 1: This area is located along and east of the water aqueduct easement east of Black Mountain Road and includes unauthorized paths up to the summit of Black Mountain.

Figure 12. Restoration Areas

Many of the sensitive species, including California gnatcatcher, are known to occur onsite occur within or near this area. The area is subject to significant urban edge effects as it is used as a recreation area by residents of nearby housing developments. Artichoke thistle and fennel have colonized this area for some time, along with grasses (e.g., false brome) and herbs.

The majority of Management Area 1 is located within the 325-acre Montana Mirador Conservation Area.

Management Area 1 is a high priority action area, and recommended management actions include weed eradication and habitat restoration of clay soils (could include program to expand offsite population of variegated dudleya) and unwanted trails. Current unauthorized trails should be fenced off to preclude access and signage should be installed to direct recreationists to appropriate trails. Formalization of existing easement clearings as trails should be considered so that hikers have an entryway to the Park from the west and to discourage unauthorized trails.

Management Area 2: This area is near the parking lot for Black Mountain Park. A large native grass population exists among considerable non-native vegetation. Non-native grasses and herbs are present in abundance and false brome appears to have established a foothold on clay soils. Management Area 2 is considered a high priority action area, and recommended management actions include weed eradication and native grassland habitat restoration on clay soils.

Management Area 3: This area is located east of Hilltop Community Park and Mt. Carmel High School in an area of clay soils. Immediately east of Hilltop Community Park is a large native grassland population dominated by *Nasella pulchra* and other natives. However, the area is subject to significant urban edge effects, and populations of artichoke thistle and fennel are present in grassland habitat and are expanding into coastal sage scrub. False brome and non-native herbs are also establishing a foothold on clay soils. This area is heavily used as evidenced by numerous unauthorized trails, illegal dumping, paintball games, etc. The potential for accidental fires or arson is high. Management Area 3 occurs within the 325-acre Montana Mirador conservation area, and is adjacent to occupied gnatcatcher habitat.

Management Area 3 is considered a high priority action area, and recommended management actions include weed eradication, trash removal, delineation of a trail system (and restoration of illegal trails), and installation of signage that identifies prohibited uses in the reserve. Such signs should be placed at obvious entrance areas or trails out of the residential areas. Considerable volunteer efforts have helped reduce invasives in this area and coordinated assistance with these groups is encouraged.

Management Areas 4 and 5: These areas are subject to significant urban edge effects. This area has been subject to illegal dumping and paintball activity due to its proximity to residential development. Large populations of artichoke thistle and fennel (*Foeniculaturm vulgare*) are present and areas expanding into coastal sage scrub occupied by coastal California gnatcatchers.

Management Area 4 is located within the 325-acre Montana Mirador conservation area, and is adjacent to occupied gnatcatcher habitat. Management Area 5 is located adjacent to the 325-acre Montana Mirador conservation area, and is also adjacent occupied gnatcatcher habitat.

Management Area 4 is considered a high priority action area, and Management Area 5 is considered a moderate priority action area. Recommended management actions include weed eradication, trash removal, and habitat restoration, signage and fencing. Signage should identify those uses prohibited in the reserve and should be placed at obvious entrance areas or trails out of the residential areas. Fencing should be used in conjunction with signage to discourage public access and impacts to sensitive biological resources.

Management Area 6: This area lies at the southernmost portion of the park adjacent to Carmel Mountain Road. The relatively open nature of the coastal sage scrub and proximity to urban development makes this area susceptible to exotic species invasions and other problems associated with urban edge effects.

Management Area 6 is located within the 325-acre Montana Mirador conservation area and is considered a moderate priority action area. Recommended management actions include regular monitoring of this area, and weed eradication and habitat restoration if non-native species problems are detected. Additionally, any illegal encroachment into this area (and all other Park areas) should be noted and sent to Neighborhood Code Compliance [Civic Center Plaza, 1200 Third Ave, MS 51N, San Diego, CA 92101-4106; (619) 236-5500] for investigation and corrective action.

Management Areas 7a and 7b: These areas are called out specifically as there was evidence of fire rings or past fires in the area.

Management Area 7a is located within the 325-acre Montana Mirador conservation area and is adjacent occupied California gnatcatcher habitat.

Management Area 7b is considered a moderate priority action area. Recommended management actions include removal of fire rings, weed eradication and habitat restoration.

Management Area 8: This area is currently being disturbed by BMX bicycle activities. An unauthorized BMX park has been constructed and habitat disturbed in the process.

Management Area 8 is located within the 325-acre Montana Mirador conservation area and is a high priority action area. Recommended management actions include removal of bike jumps, reconstruction of natural topography and habitat restoration. Signage identifying those uses prohibited in the reserve should be placed at obvious entrance areas or trails out of the residential areas.

TRAIL DEVELOPMENT AND CLOSURES

Not every trail in the Park is in an appropriate, approved location. Some are volunteer trails created by public foot or bike traffic and/or off-road vehicles for user convenience or adventure without considering potential erosion or impacts to cultural and natural resources. Proposed trail improvements and trails to be designated as legal should include the existing designated trails, and conceptual alignments detailed in the Black Mountain Park Master Plan and/or developed through collaboration between the public, wildlife agencies and the City of San Diego. Trails should be located within and/or adjacent to existing utility access roads wherever possible to consolidate use areas; trails that are not collocated with utility access roads should be a maximum of four feet. In addition, trails should be sited to avoid close proximity to sensitive cultural resources, all sensitive plant populations, and all sensitive bird breeding areas while still maintaining the opportunity for interpretation of those resources.

The Black Mountain Park Master Plan identifies designated trails, viewpoints and entries, most of which have been implemented within the existing the Park area. Any volunteer trails not designated for future trails shall be designated for closure and habitat restoration.

The primary purpose of the 325-acre Montana Mirador conservation area is the protection of sensitive species and habitats. No development or recreational activities should be developed in the conservation area, with the potential exception of a trail along the easement alignment or other appropriate location. Unauthorized trails within the conservation area should be identified, closed and restored.

PARK MAINTENANCE PROJECTS

The City of San Diego maintains its land within the Park for safety, sanitation, and habitat management reasons. The following maintenance activities are conducted within the Park and, unless otherwise indicated, are the responsibility of the City of San Diego Park and Recreation Department:

Litter Control - twice a week in parking lots and picnic areas; annual cleanup in other areas; and special volunteer projects for litter and illegal encampment removal as needed.

Removal of Illegally Dumped Material - as soon as possible, where needed.

Removal of Manure from Equestrian Trails and Parking Lots - as soon as possible, where needed.

Graffiti Removal - as soon as possible from Park facilities.

Maintenance and Installation of Gates, Chains, and Locks - as needed to prevent illegal entrance.

Signs - replacement, repair, and cleaning as needed.

Removal of Safety Hazards - safety hazards, such as fallen trees or hanging limbs, along the trails are removed and placed, as needed.

Removal of Improper Public Activities - activities, such as transient encampments, private encroachments on public land, tree houses, swings, or ropes in trees, placed in the Park illegally by the public are removed, as needed.

Removal of Exotic, Nonnative Plants - as and where needed, by City staff, contractors, or volunteers trained and/or supervised by City staff. Coordination with other agencies conducting similar activities in the watershed is desirable for optimal effectiveness.

Brush Management - brush removed within 100 feet from structures on adjacent property, per City of San Diego Municipal Code 142.0412.

Trail Maintenance - major repair of trails once a year after the end of the rainy season to repair damage; minor repairs done throughout the year as needed.

Hazardous Materials Removal - when identified, hazardous materials should be removed per approved procedures.

Parking Lot Repair - parking areas maintained once a year after rainy season to repair damage.

Power line, Pipeline and Right-of-way Maintenance - (San Diego Gas & Electric, CWA, Pacific Bell, AT&T, Public Utilities) - general maintenance once a year; emergency repair, as soon as possible.

The Park does not currently have public restroom facilities or picnic areas. However, if such facilities are installed in the future, restrooms would be cleaned at least once a day and picnic areas would be mowed and weeded to prevent fire and safety hazards.

7. DEVELOPMENT, MAINTENANCE AND MANAGEMENT GUIDELINES

The Park is open to the public and is heavily used for a variety of purposes. In addition, utility easements and facilities and park facilities need regular maintenance and improvement. The following guidelines are provided for public safety and for protection of native habitat and wildlife while preserving the natural Park experience for everyone. If any maintenance activity adversely impacts natural and/or cultural resources, mitigation will be required as outlined in the Mitigation Options and Guidelines chapter. If any sensitive species are within the development area, specific management directives as outlined in Chapter 3 should also be implemented. The BMPs prescribed in the Park and Recreation Department Best Management Practices (BMPs) for Stormwater Pollution Prevention manual will be followed for all construction and maintenance activities (manual available from Park and Recreation Department).

Three hundred twenty-five acres in the southern portion of the site, known as Montana Mirador, were used to mitigate biological impacts associated with the CWA ESP (Figure 1). Management and monitoring of the site is required and shall be conducted in accordance with this Plan upon approval by the USFWS (BO 1-6-97-F-13). Any impacts to mitigation lands associated with the CWA ESP shall be approved by the CWA, USFWS, and City of San Diego. Additional mitigation, including mitigation for impacts to sage scrub at a 5:1 mitigation ratio, will be required to offset any impacts to mitigation lands within the Park.

A. NEW DEVELOPMENT

The following guidelines are provided to reduce or eliminate impacts to natural resources from developments within the Park as well as development adjacent to the Park. In addition to various guidelines discussed in Chapter 2, these development guidelines should be addressed, on a project-by-project basis, during either the planning (new development) or management (new and existing development) stages to minimize impacts and maintain the function of the MHPA. Many of these issues will be identified and addressed through the CEQA Process.

The primary purpose of the 325-acre Montana Mirador conservation area is to protect sensitive species and habitats. Generally, no new development or recreational activities are allowed in this area. Any impacts to mitigation lands associated with the CWA ESP (conservation area) shall be approved by the CWA, USFWS, and City of San Diego. Additional mitigation will be required to offset any impacts to mitigation lands within the Park.

All development projects within the Park shall adhere to the following guidelines:

1. Applicable city, state, and/or federal permits shall be required prior to beginning a development activity. Additionally, all such activity will comply with guidelines in this Plan. City of San Diego Park and Recreation approval of project design, implementation, and mitigation is needed to ensure the guidelines adopted in this Plan are being incorporated.
2. Any permitted mining activity, including reclamation of sand, shall consider changes and impacts to water quality, water table level, fluvial hydrology, flooding, and wetlands and habitats upstream and downstream, and provide adequate mitigation.
3. All new development projects affecting water quality or quantity downstream shall follow RWQCB standards and conduct monitoring studies for a period of time that includes one season of normal rainfall. Any significant water quality impact discovered during this monitoring period shall require mitigation. Any project upstream of the Park resulting in future changes to stream flows should consider the natural resources management policies contained in this Plan.
4. All parking lots and developed areas in and adjacent to the Park shall not drain directly into the Park. All developed and paved areas shall prevent the release of toxins, chemical, petroleum products, fertilizers, exotic plant material, and other elements that might degrade or harm the natural environment within the Park. Methods for pollutant runoff control, such as natural retention basins, grass swales or mechanical trapping devices, should be maintained as needed to ensure proper function. Appropriate maintenance could include dredging of sediments, removing exotic plants, and/or adding chemical-neutralizing compounds.
5. Development, construction, or maintenance design or activities should avoid concentrating runoff into the Park.
6. Road and trail design should consider constructing dip-section rather than culverts, as they have proven to be more stable during heavy stream flows.
7. All new development adjacent to the Park should provide a buffer or setback outside the Park sufficient to accommodate MSCP and brush management requirements, including mitigation for such activities if required. New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad

and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size than is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party.

8. Adjacent development should provide a fence or vegetative barrier along the edge effect within their brush management zone, except at an approved trailhead location.
9. Developer should consult with City of San Diego to identify the specific trailhead location(s) in order to insure the trailhead and connecting trail locations are sited away from sensitive plants, sensitive habitats, sensitive breeding areas, and cultural resources. The design of the trailhead and trail should also be subject to approval of the City of San Diego.
10. Stream crossings by vehicles will be limited to reduce water quality impacts.
11. Buffer zones serve a biological function by providing a separation and screening of wildlife habitat from human activity associated with human development. The size/width of the buffer shall be based on site-specific biological resource information. Land use within buffer areas will be limited to bikeways, walkways, and passive recreation, such as nature study, viewing, and picnicking. Buffer areas should be planted with appropriate vegetation native to southern California and compatible with the adjacent habitat. Measures should be taken to keep run-off from entering the Park.
12. The only exceptions to buffer zone provisions are signs, boundary fences, and educational or research-oriented structures with City approval on a project-by-project basis. City approval will include environmental review.
13. If barriers are needed, preference should be given to using a rustic style, such as split rail or post and rail fencing, or natural barrier plantings, such as plants like cactus (*Opuntia* spp.) that tend to deter access.
14. Within Park boundaries, maintenance roads, footpaths, and equestrian and bicycling trails in the open space core area should be unpaved to maintain the natural character of the

Park. Trails (or portions thereof) designated “wheelchair accessible” shall be composed of firm material to minimize rolling resistance.

15. Paved areas (i.e., parking lots, etc.) within the Park should be kept to a minimum to avoid water quality, hydrology, and aesthetic impacts.
16. All agricultural uses, including animal-keeping activities, and recreational uses that use chemicals or general by-products, such as manure, which would be potentially toxic to or would impact wildlife, sensitive species, habitat, and/or water quality shall incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the Park. Methods shall not be in addition to requirements requested by the RWQCB.
17. Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year. Where noise associated with clearing, grading, mining, or grubbing would negatively impact, as determined by City’s biologist, an occupied nest for raptors, California gnatcatcher during March 1 to August 15, or cactus wren during February 15 to August 15, clearing, grading, mining, or grubbing activities shall be modified if necessary to prevent noise from negatively impacting the breeding success of the pair. Noise levels should not exceed 60 dBA LEQ (averaged over one hour) or the ambient noise level. If warranted, however, a more restrictive standard may be used to be determined on a case-by-case basis. If an occupied raptor, gnatcatcher or cactus wren nest is identified in a pre-construction survey, noise reduction techniques, such as temporary noise walls or berms, shall be incorporated into the construction plans to reduce noise levels below 60 dBA LEQ. Outside the bird breeding season(s) no restriction shall be placed on temporary construction noise.
18. Impacts to any narrow endemic species must be avoided within the Park. These plant species are listed in the City of San Diego MSCP Subarea Plan.
19. Any proposed equestrian staging areas should be sited sufficient distance (i.e., 300-500 feet) from riparian or coastal sage scrub habitat to minimize negative effects from cowbirds on breeding birds.

20. The permanent storage of materials, hazardous material, and/or equipment shall be prohibited from occurring within the Park. Any such storage of similar materials and equipment adjacent to the Park should follow all applicable regulations to ensure that toxic and/or polluting materials do not enter the Park.
21. Any development must comply with all requirements of the City of San Diego MSCP.
22. Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.
23. No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.
24. Any development must comply with Park and Recreation's standard BMPs.
25. Any wildlife crossing should be screened on both sides of the crossing between the crossing and adjacent land uses. Cover for wildlife should also be provided.

B. UTILITY MAINTENANCE

Three hundred twenty-five acres in the southern portion of the site, known as Montana Mirador, were used to mitigate biological impacts associated with the CWA ESP (Figure 1). Management and monitoring of the site is required and shall be conducted in accordance with this Plan once approved by the USFWS (BO 1-6-97-F-13). Any impacts to mitigation lands associated with the CWA ESP shall be approved by the CWA, USFWS, and City of San Diego. Additional mitigation will be required to offset any impacts to mitigation lands within the Park.

All utility projects and maintenance within the Park shall adhere to the following guidelines:

1. Applicable city, state, and/or federal permits will be required prior to conducting any maintenance activity. Additionally, all such activity will comply with guidelines in this Plan. Approval from the City of San Diego Park and Recreation is required for all maintenance activity design, implementation, and mitigation to ensure the guidelines adopted in this plan are being incorporated.
2. Within City of San Diego (San Diego City Council Policy 700-17), necessary underground public facilities are permitted to cross City open space areas if no permanent damage is sustained. Revegetation would be required, as well as any other required mitigation outlined in appropriate permits.

3. A Memorandum of Understanding or Letter of Agreement with each utility that conducts maintenance activities within the Park should be developed to outline specific conditions for maintenance of their facilities and easements.
4. All SDG&E, CWA, and City work crews should undergo training programs to make crews alert to the sensitivity of the habitats in which they are working. The City of San Diego, CWA, and SDG&E have training programs for crews working in environmentally sensitive areas, as well as a sensitive plant, animal, and habitat reference guide. Crews should be routinely trained and advised on how to minimize environmental impacts during maintenance activities.
5. Maintenance activities should be coordinated with a Park Ranger. If activities will result in impacts to resources, the Park Ranger will notify the City of San Diego Park and Recreation Natural Resource Manager. Notification of appropriate City of San Diego personnel should also occur as soon as possible when emergency action is required.
6. If a maintenance activity could result in direct or indirect impacts to surrounding habitat or sensitive resources, the maintenance work area should be coned or flagged by a Park Ranger, Natural Resource Planner, or qualified biologist and/or archaeologist to aid the maintenance personnel in keeping the impact confined to the work area.
7. Prior to conducting any maintenance activity that disturbs substrate, a site check for archaeological resources shall be conducted by a qualified archaeologist. Results should be given to the City of San Diego (Contact: Park Ranger or Natural Resource Planner for review by Development Services archaeologist) for review and evaluation. If the potential for indirect impacts exist, the site shall be flagged to keep work crews away. If direct impacts are found to be likely, the project should: 1) try to avoid the area; 2) minimize the impact; and 3) develop and implement a plan for recovery of resources subject to approval by the City contacts provided earlier. Native American consultation should be made, when appropriate, during impact analysis and mitigation design and implementation. A stewardship program for prehistoric and historic resources should be instituted for the Park in conjunction with a Cultural Resource Site Management Plan, outlined under Cultural Resource Restoration section in the Land Use Proposal chapter. A designated steward would then be involved in consultations about projects and possible impacts to cultural sites.
8. Regular maintenance activity and new construction should avoid nesting/breeding season of sensitive species as required by the Land Development Manual Biology Guidelines (approximately February - September).

9. If work crews find an unidentified, potentially sensitive plant, nest, or burrow in the maintenance area, a qualified biologist will be contacted. The biologist will determine appropriate action to avoid or minimize impacts prior to resuming work.
10. Utility easements and siting of access roads should be reviewed to identify changes which could be made to minimize erosion and the impact on sensitive areas and species, cultural sites, wetlands, and aesthetic values. No activity should increase the size of existing access roads. If re-routing of access roads occurs, the vacated area(s) should be available for sensitive plant/habitat restoration. Duplicative access road should not be allowed and should be restored as funding becomes available.
11. Parking or driving under all large native trees, especially oak trees, is not permitted in order to protect tree root system.
12. Stream crossings by vehicles shall be minimized and limited to previously designated crossing locations to reduce water quality impacts.
13. All construction and maintenance materials will be disposed of in an appropriate manner and not in or near wetlands.
14. All construction and maintenance activities should use BMPs for erosion control at construction/work site and should provide for park user safety, such as temporary signs and/or barricades.
15. Erosion on access roads will be minimized using appropriate measures, such as water bars.
16. For all grading work, dust will be controlled with regular watering.
17. Mowing, rather than grading, should be the method of vegetation removal if needed to eliminate/reduce fire hazard, to provide safe access, or to improve view of utility facility.
18. SDG&E shall conduct all operations within the Park according to “Operational Protocols” outlined in their NCCP. This NCCP serves as a permit with USFWS and CDFG and meets the requirements for the federal and state Endangered Species Acts.
19. Additional guidelines for CWA maintenance/emergency activities include:
 - Maintenance activities shall avoid being conducted during the rainy season when soils are wet;
 - All vehicles, personnel, and equipment shall remain within the approved easement;
 - Any accidental damage to Park habitat outside the easement will be mitigated per the Mitigation Options and Guidelines section outlined in this Plan; and

- Within CWA easements (see Figure 11), temporary impacts shall be mitigated through on-site restoration, where feasible. Riparian woodland trees, however, should not be replaced where they could result in damage to pipelines from root systems. This permanent impact should be mitigated through habitat creation, restoration, or enhancement in an appropriate location, and off-site areas should be utilized if on-site opportunities are not available. Mitigation sites for impacts within the Park shall be located within the Park, whenever possible. Mitigation details should be outlined as part of the permit process with appropriate agencies.

20. All maintenance activities will comply with Park and Recreation BMPs.

C. PARK MAINTENANCE

The following Park maintenance guidelines shall be followed within the Park:

1. If required, all applicable city, state, and/or federal permits shall be obtained prior to conducting any maintenance activity. Additionally, proposed maintenance activity shall comply with guidelines in this Plan.
2. If a maintenance activity could result in direct or indirect impacts to surrounding habitat or sensitive resources, the maintenance area should be coned or flagged by a Park Ranger, Natural Resource Planner, or qualified biologist and/or archaeologist to aid the maintenance personnel in keeping the impact confined to the work area.
3. Prior to conducting any maintenance activity that disturbs substrate, a site check for archaeological resources shall be conducted by a qualified archaeologist. Results shall be given to the City of San Diego (Contact: Park Ranger or Natural Resource Planner for review by Development Services archaeologist) for review and evaluation. If the potential for indirect impacts exist, the site shall be flagged to keep work crews away. If direct impacts are found to be likely, the project should: 1) try to avoid the area; 2) minimize the impact; and 3) develop and implement a plan for recovery of resources subject to approval by the City contacts provided earlier. Native American consultation should be made, when appropriate, during impact analysis and mitigation design and implementation. A stewardship program for prehistoric and historic resources should be instituted for the Park in conjunction with a Cultural Resource Site Management Plan, outlined under Cultural Resource Restoration section in the Land Use Proposals chapter. A designated steward would then be involved in consultations about projects and possible impacts to cultural sites.

4. Access should be maintained for emergency and maintenance vehicles. Road maintenance should be limited to clearing or thinning brush and smoothing the road surface within the existing roadway.
5. All road repair and maintenance activity should be confined to the roads and easements themselves. Work should be planned and coordinated with appropriate personnel and agencies in advance to ensure no impacts occur to known sensitive biological and archaeological resources.
6. Whenever possible, maintenance and/or patrol vehicle activity should be minimized within the Park when soils are wet to avoid degradation of trails.
7. All fences and gates will be kept in good repair and, when necessary, promptly replaced.
8. All maintenance activities should use BMPs for erosion control and water quality at the work site and will be required to develop a Storm Water Pollution Prevention Program in accordance with the RWCB. Additional guidance on controlling erosion and protecting water quality is given in Chapter 7.
9. Replace road culverts with armored dips whenever appropriate for better erosion control.
10. Stream crossings by vehicles will be limited to reduce water quality impacts.
11. Trail (hiking, bicycling, and equestrian) maintenance will be initiated based on Park Ranger inspection and coordinated with biologist and/or archaeologist, as necessary.
12. Trails closures should be instituted to: allow native vegetation to recover; facilitate wildlife movement; protect archaeological sites and biological sensitive species or areas; allow added protection for sensitive species during breeding season; provide erosion control; ensure public safety; and allow for trail maintenance. Such closures may be temporary or permanent depending on the need.
13. Brush management activities (fire breaks, brush thinning) shall be done in accordance with City of San Diego Fire Department and Development Services Department regulations (Appendix D, or most current). Brush management actions are exempt from mitigation requirements in this document as long as sensitive habitats and species are avoided and guidelines in the MSCP Subarea Plan are followed.
14. Wildlife corridors shall be kept free of debris, trash, homeless encampments, and other obstructions to wildlife movement.
15. Park and Recreation BMPs will be followed for any construction or maintenance activities.

16. The potential release of toxic or extraneous materials from the adjacent development should be monitored and enforcement action taken as necessary.
17. A reporting and enforcement procedure should be developed to prevent residential and/or landscape encroachment into the Park.
18. Standard flood control channel and desiltation basin maintenance, such as clearing, erosion control, and dredging of existing channels and basins, should not be conducted during breeding or nesting seasons of sensitive bird or wildlife species utilizing riparian habitat.
19. Natural materials should be used to stabilize river, creek, tributary, and channel banks within the Park. River, stream, and channel banks shall be stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife movement.
20. No berming, channelization, or man-made constraints or barriers to creek, tributary or river flows should be allowed in any floodplain within the Park unless reviewed by all appropriate agencies and adequately mitigated. Review shall include impacts to upstream and downstream habitats, flood flow volumes, velocities and configurations, water availability, and changes to the water table level.

The following elements represent the primary mechanisms to be used in the maintenance of trails. They are generally listed in priority order, but each has its own special application and purpose.

1. Maintaining the Out-Slope - This is the simplest, but most labor-intensive trail maintenance tool. Normal trail use will build up a berm along the outside (downhill) edge of the trail. If allowed to continue, the berm will grow and prevent water from flowing off the trail, causing gullying down the centerline of the trail. If this centerline gullying is allowed to continue unchecked, the trail will trench deeper and deeper until it is both unusable and unredeemable. The out-slope is maintained by simply pulling the berm back into the trail tread. This must be done consistently by trail crews. In many cases, if the out-slope is restored on a regular basis, little or no maintenance is needed of any other kind. However, some use patterns (extensive equestrian use), soil conditions (sandy), and climate conditions (high precipitation) combine to minimize the effectiveness of this maintenance tool; it just has to be done too often to make it worthwhile. Once a trail has reached a predicament where the berm is too large and overgrown with vegetation to be removed; the out-slope cannot be restored and other

maintenance approaches must be employed. When a trail deteriorates to an unrecoverable state, the trail should be abandoned and relocated.

2. Install and Maintain Water Bars. The use of water bars is not advised in areas where serious erosion is a problem on the trail and in the surrounding area. Water bars tend to clog rapidly or be affected by serious down cutting at the outfall. If water bars are to be used until the trail surface can be properly engineered, multiple, closely spaced bars may be needed to control flow. Water bars divert water off a trail at controlled points along the trail. They can be incorporated in the original construction of a trail, or they can be installed later as a maintenance measure. Done well, a series of water bars can effectively eliminate erosion and stabilize a trail for years. Done poorly, water bars can accentuate trail erosion and become dangerous tripping hazards. The most permanent water bars are made from native rock obtained on-site. When rock of a suitable size is not available, water bars can be made from 4x6-foot redwood timber, or native logs. Peeler logs or other landscaping products should not be used because their appearance is foreign to a natural environment. Bicyclists prefer a new product made of black rubber that diverts water, but is flexible enough to allow cyclists to easily cross. However, this too, may be inappropriate for a natural environment. There are many options about the proper installation of water bars. The elements of a properly installed water bar are:

- Set the water bar at a 60-degree angle across the trail. A water bar set perpendicular (90 degrees) across the trail will not divert the water off. A water bar set 30 degrees across the trail can be awkward to hike or ride over.
- Extend the water bar such that water is carried completely off the trail to a steep side slope. Otherwise, the water flow will bypass the water bar and erosion will occur.
- Provide rock at the down slope end of the water bar to dissipate the energy of the flowing water, thereby minimizing erosion.
- The top of the water bar should be nearly flush with the trail tread to minimize tripping hazards. On first consideration, it may not make sense to make the top of the bar flush with the tread because there would be nothing to “catch” and divert the water. However, we are not concerned about diverting all water flowing down a trail, only that amount of water than causes erosion. With the bar flush, its effectiveness only kicks in when there is enough water to erode away a lip on the uphill side of the water bar, which then allows the bar to divert the water flow.
- The boulders used for rock water bars must be huge; otherwise, they will be kicked out of place by a horse. The rocks should overlap like shingles on a roof to prevent

water from flowing between rocks and eroding away the integrity of the water bar. In addition, long boulders with one flat side work best to prevent tripping hazards.

- Water bars need regular maintenance. The excess soil and debris that build up at the down slope end of the water bar needs to be periodically graded out to assure that water flows off the trail. Without regular unplugging, the utility of a water bar is marginal.
3. Maintaining Drainage Dips - A drainage dip is built into the original trail alignment and is a change in gradient (a “dip” in the trail) that dissipates and diverts water flow (like a built-in water bar). Like a water bar, it only remains an effective means of erosion prevention as long as regular maintenance keeps it unplugged.
 4. Check Dams - Check dams are a popular, though generally ineffective, instrument of trail maintenance. A wood timber is placed 90 degrees across a trail. In theory, the check dam is intended to slow the velocity of water flowing down the trail, thereby reducing erosion. In reality, nearly all check dams only halt erosion in the two to three feet immediately behind the check dam, but accelerate erosion immediately below and beside the dam. This is because they do not take the water off the trail; they only slow it down momentarily. For check dams to be truly useful in stopping erosion, they need to be spaced three feet apart, and this effectively makes a stairway out of the trail. Check dams should not be used in trail maintenance. However, they may have limited application in restoring abandoned trail alignments to natural conditions.
 5. Import Fill Material - A deeply trenched trail can be restored by importing dirt or decomposed granite, compacting it, and recreating a well-drained out-sloped trail. In most situations, however, this approach is usually both cost prohibitive and far too labor intensive.
 6. Existing and proposed trails will be regularly evaluated by a qualified biologist and/or Park Ranger for impacts with consideration given to erodibility of soils and to sensitive species/habitat in the vicinity.
 7. A natural seep at the north slope along the old dirt Black Mountain Road causes erosion on a regular basis. Check dams or other methods should be explored to minimized erosion in this area while avoiding impacts to the seep.
 8. Periodic fencing of trails may be needed to keep people on the trails and out of sensitive areas.
 9. Refurbish existing trails and relocate, if necessary, to avoid environmentally sensitive areas.

10. Poison oak, stinging nettle, and other native human nuisance plant species should be controlled only around highly used public areas, such as restrooms, trails, parking lots, historic points of interest, and interpretive displays. In other areas they should be allowed to remain as part of the natural system.
11. Equestrian trails need to be cleaned frequently using manual, not mechanical, methods by City or other forces.

D. TRAIL PLANNING, DESIGN, AND CONSTRUCTION

A majority of erosion and sedimentation problems arise from trails that are poorly designed or maintained. All trails should be constructed according to current Park and Recreation and California State Parks policy. The following guidelines from California State Parks and Recreation outline how to prevent trail erosion and sedimentation problems:

1. Generally, the linear gradient of a trail should be less than ten percent. The term “gradient” refers to the ratio of the rise over the run. In other words, an elevation gain of 2 feet in 20 horizontal feet represents a ten percent gradient. Ten percent is a good standard, but circumstance may warrant a greater or lesser gradient. Trails designated as “wheelchair accessible” shall be as level as possible. Gradients on these trails shall be less than 8.3% (1 foot rise to 12 foot run). In highly erosive, sandy soils, a five percent slope may be excessive. Granitic soils are more forgiving and can allow long sections of trail to be constructed at 13 to 15 percent. It is best to look at existing trail conditions and measure gradients to determine what maximum gradient works best in each unique condition. However, it should be noted that trails less than ten percent are far more comfortable to hike and ride. Therefore soils may allow for a trail that exceeds ten percent, but it could remain unsuitable for users.
2. A contour is a line of points that are at the same elevation. If you walk precisely parallel to a contour, you are walking at a level (0 percent) grade. If you walk perpendicular to a contour, you are walking either straight uphill or straight downhill. A well-designed trail is laid out to traverse a hillside, closer to parallel than perpendicular to the contours. When a trail runs perpendicular to the contours, water runs down the middle of the trail, causing trenching, even at a ten percent gradient. This results in erosion of the trail and sedimentation downstream. The only way to get water off the trail is for the route to traverse the natural slope, because then there is always a lower side of the trail. When there is a lower side of the trail, it becomes a simple matter to redirect water across and off the trail, rather than allowing it to cut a channel down the trail’s centerline.

3. A well-designed trail should be constructed to have a three to four percent cross-slope to get the water off the trail as soon as possible. This explains why it is difficult to construct an effective trail in a flat meadow. You cannot merely cut out sod and call it a finished trail. It will always be easiest to construct an out-sloped trail if the original trail alignment traverses the natural slope.
4. Switchbacks should be avoided where possible. A “switchback” is any place where the alignment of a trail traverses a slope in one direction and then abruptly “switches back” toward the opposite direction. Switchbacks are often used to run a trail up a steep slope in a constrained location. Although switchbacks are often the only solution to the problems of rock outcrops and steep slopes, they should be avoided where possible. Unless they are perfectly designed and constructed, switchbacks present a temptation to shortcut the trail and cause erosion over a web of indiscriminately created volunteer routes. Trail design where there are moderate to severe elevation changes should use climbing turns instead of switchbacks.
5. Wheelchair accessible trails shall have a maximum cross slope of 2%. Erosion concerns for these trails will be mitigated due to the firm, less permeable material with which the material is constructed.

Additionally, the following guidelines should be followed in planning and constructing new trails:

1. Development of new trails requires City of San Diego environmental review per state law California Environmental Quality Act (CEQA). In the case of a stream crossing, a CDFG streambed alteration agreement and/or ACOE permit may also be required.
2. The trail system should be sited within or adjacent to existing access roads whenever possible to consolidate uses.
3. Trail width should be minimized, wherever possible, consistent with the type of use on that trail and trail location.
4. New trails should be planned on north-facing slopes in chaparral, away from the coastal sage scrub habitat of the threatened gnatcatcher, which is usually found on south-facing slopes, and all other sensitive habitat.
5. Any new trail construction resulting in subsurface disturbance should be monitored by a Native American consultant and/or qualified archaeologist for impacts to prehistoric and historic resources.

6. The design of new trails or rehabilitation of existing trails should avoid or minimize potential impacts to the greatest extent possible. Impacts should be determined through biological and cultural resource assessment survey. For example: minimize the number of creek crossings and pass through riparian vegetation corridor only intermittently to prevent continuous disruption of wildlife movement.
7. Trails from adjacent areas should be limited in number. Possible locations should be studied in advance to avoid sensitive habitats and archaeological sites and minimize erosion, while allowing for reasonable public use.
8. Locate trails, view overlooks, and staging areas in the least sensitive areas of the Park. Locate trails along the edges of urban land uses adjacent to the Park, or the seam between lands uses (e.g., agriculture/habitat), and follow existing dirt roads as much as possible rather than entering habitat or wildlife movement areas. Avoid locating trails between two different habitat types (ecotones) for longer than necessary due to the typically heightened resource sensitivity in those locations.
9. In general, avoid paving trails unless management and monitoring evidence shows otherwise. An exception may be made for the paving of wheelchair accessible trails. Clearly demarcate and monitor trails for degradation and off-trail access and use. Provide trail repair/maintenance as needed. Undertake measures to counter the effects of trail erosion including the use of stone or wood cross-joints, edge plantings of native grasses, and mulching of the trail.
10. Wheelchair accessible trails should begin and end at accessible staging areas. These trails should lead to accessible viewpoints and/or nature appreciation areas.
11. Minimize trail widths to reduce impacts to critical resources.
12. Provide trail fences or other barriers at strategic locations when protection of sensitive resources is required.
13. Limit the extent and location of equestrian trails to the less sensitive areas of the Park. Locate staging areas for equestrian uses at a sufficient distance (e.g., 300-500 feet) from areas with riparian and coastal sage scrub habitats to ensure that the biological values are not impaired.
14. Trails should be relocated to avoid/protect endangered or sensitive plant species (including all MSCP covered species), key wildlife breeding habitats, and archaeology sites with surface artifacts.

15. Alternative trail and access road surfaces should be considered for erosion control. Possible alternatives include: gravel; polymer-based compounds; mulching with organic or non-organic materials; and other measures, such as culverts or logs diagonally crossing the trail, should be used to control erosion. A concrete-treated base may be desirable in some locations for stability but should not be used unless absolutely necessary. Fiber matting should not be used as it is implicated in reptile mortality.
16. Erosion from construction of trails should be limited by:
- Constructing trails parallel to slope contours with cross-slope toward downhill side of trail;
 - Embedding large rocks or logs perpendicular to trails wherever it must to directly cross a slope;
 - Using pipe culverts with riprap on downstream side of trail where water seems to concentrate; and
 - Embedding a course of large rocks along downhill edge of trail where natural drainage swales must be crossed. Additional guidelines to minimize erosion are given in the Erosion and Sedimentation chapter of this plan.
17. Trails should be located to avoid introducing adverse impacts, such as avoidance of slopes from adjacent residential development and of areas with highly erodable soils.
18. No trails, with the possible exception of the existing utility easement, should be developed within the 325-acre Montana Mirador conservation area.

E. FIRE

The Park is comprised primarily of chaparral and coastal sage scrub habitat, both of which are fire-evolved vegetation types. Two fires have been documented on-site by the U.S. Forest Service. One fire burned the entire site in 1943. Another fire burned the eastern portion of the site in 1979. It is also reported (Kelly, 2004) that fires occurred in Montana Mirador in the 1990s and a fire on the adjacent Black Mountain Road in the 1980s. Fire management is an issue within the Park in order to protect the surrounding residents and homes. Fire management techniques, however, can also be used to minimize impacts to resources associated with fire abatement. General brush management, fire suppression, and resources protection measures are described below. However, it is recommended that a comprehensive Fire Management Plan be developed for the Park.

FIRE SUPPRESSION AND BRUSH MANAGEMENT

Ideally, from a habitat management perspective, coastal sage scrub and chaparral vegetation should undergo regular controlled burns to encourage new and more robust growth. Additionally, controlled burns eliminate or reduce the level of accumulated vegetative fuel-loading which can be hazardous and make controlling a wildfire much more difficult. Controlled burns can be less expensive in the long-term as the results last longer than other brush control measures and, therefore, do not need to be conducted as often. The Park's urban setting, however, makes controlled burns expensive in the short-term due to the need to insure the safety of the surrounding development. A brush thinning program and firebreaks in appropriate locations are simpler fire control methods that are currently implemented regularly by the Park and Recreation Department throughout City of San Diego open space.

Brush management activities (e.g. brush thinning) should be done in accordance with City of San Diego regulations (Appendix D or most current). Brush management actions are exempt from mitigation requirements in this document as long as sensitive habitats and species are avoided and guidelines in the MSCP Subarea Plan are followed.

New residential development located adjacent to and at a higher elevation than MHPA lands (e.g., homes along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size than is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party.

MANAGEMENT OF FIRE CONTROL ACTIVITIES

If a fire does start within the Park, the City of San Diego Fire Department is currently responsible for fire control. Their first priority will be to protect life and property. By working with the Fire Department to identify staging areas and access, impacts to sensitive resources associated with fire control activities can be minimized.

The City of San Diego Park and Recreation Department should work with the Fire Department to create a Fire Management Plan, including maps that designate areas for access and staging. Areas where access and staging should not occur should also be identified, with the understanding that those areas may be entered if life or property is threatened.

8. TRAILS, PUBLIC USE AND RECREATION GUIDELINES

A variety of documents provide guidelines for public use within the Park, such as the MSCP Subarea Plan and Rancho Peñasquitos Community Plan. Below is a summary of all the public use guidelines that apply to the Park. Specific guidelines for construction of public use facilities, including trails, are given Chapter 7, Development, Maintenance and Management Guidelines.

A. TRAILS

An existing trail system is designated in the northern portion of the Park (Figure 2). Existing designated trails should not be closed. However, any trails not designated may be closed and revegetated as needed and as funding becomes available. The following are general guidelines for the trails within the Park:

1. Provide clearly marked access areas and well-demarcated trails and post signage to prevent off-trail access and use. Where sensitive or covered species are present, close trails during the breeding and nesting seasons if necessary.
2. Regularly assess overuse of open space areas in and surrounding the Park (as determined by the Park & Recreation Department). Repair trails, and restore off-trail use areas and areas affected by erosion as soon as feasible.
3. Provide sufficient signage to clearly identify public access to the Park. Barriers such as vegetation, rocks/boulders or fencing may be necessary to protect highly sensitive areas. Use appropriate type of barrier based on location, setting and use. For example, use chain link or cattle wire to direct wildlife movement, and natural rocks/boulders or split rail fencing to direct public access away from sensitive areas. Lands acquired through mitigation may preclude public access in order to satisfy mitigation requirements.
4. Maintain equestrian trails on a regular basis to remove manure (and other pet feces) from the trails and preserve system in order to control cowbird invasion and predation. Design and maintain trails where possible to drain into a gravel bottom or vegetated (e.g. grass-lined) swale or basin to detain runoff and remove pollutants.
5. Coordinate trail and Park development with growth in the planning area to identify the most appropriate access/staging areas.
6. Integrate Park and open space trails wherever possible to provide a continuous open space network, maximizing the utility with use of layout, fencing, signage, and landscape at access points.

7. Create a trail system which links Black Mountain and Los Peñasquitos Canyon Preserve, and that provides reasonable linkage to other trails, loop trails and view points.
8. Provide safe pathways and/or sidewalks through open spaces, public utility easements and along roads.
9. Provide wheelchair accessible trails adjacent to accessible staging for use by wheelchair users and those with mobility difficulties.
10. Secure public rights to hike the CWA's right-of-way.

B. PUBLIC USE GUIDELINES

The following guidelines should be enforced by the Park Ranger as designated by the City of San Diego Park and Recreation Department:

1. All trail users should remain on designated trails for protection of adjacent sensitive resources and for their personal safety. Signs should be used to direct public use to appropriate, designated trails.
2. Horseback riding, hiking, and bicycling are allowed on designated trails only. Signs shall be installed to identify appropriate uses for designated Park trails. All undesignated trails are closed to Park users.
3. Horseback riders should use designated horse rest and grazing areas that are fenced off with pole and chain or hitches when not riding or walking with the horse.
4. Domestic animals shall be on a leash at all times within the Park and will remain on service roads and in public areas. Clean-up after pets is also required.
5. All litter should be placed in garbage cans placed at trail heads and other locations in the Park. Trash receptacles should be emptied on a regular basis.
6. Park rangers shall enforce State law, City ordinances, and Park policies.
7. Regular patrols to identify and control vandalism, off-road vehicle activity, poaching, and illegal encampments shall be conducted.
8. Subsequent to completion of a Notice to Vacate and in accordance with applicable codes, any encampments found shall be removed as soon as possible after consideration of biological concerns.
9. If necessary to remove or discourage illegal uses and encampments, brush and dense vegetation can be thinned or removed, but only during non-breeding/nesting season.

Removal should be done by selective pruning rather than mechanical removal, leaving various amounts of native plant under story.

10. No unauthorized motorized vehicles, except emergency vehicles, Park managers, or maintenance personnel (i.e., CWA, SDG&E, Pacific Bell, AT&T), shall be allowed on any trails or off the trails in the Park without first notifying Park staff. Vehicle use must be restricted to existing access roads as much as feasible to avoid disturbance and/or destruction of habitat.
11. Graffiti and other effects of vandalism shall be removed/repared, within 24-48 hours.
12. Any residential and/or landscape encroachment into the Park should be reported to the City of San Diego Code Enforcement Team.
13. Areas where dumping occurs should be checked regularly and barricaded, if deemed necessary, to discourage dumping.
14. Any identified hazardous waste shall be removed as soon as possible following appropriate hazardous waste material disposal guidelines. Areas should be signed within 24 hours of identification of the problem to indicate the presence of hazardous materials and made off-limits to public use.
15. All Park and Recreation Department BMPs will be followed.
16. Off-road or cross-country vehicle activity is an incompatible use in the Park, except for law enforcement, preserve management or emergency purposes. Restore disturbed areas to native habitat where possible or critical, or allow to regenerate.
17. Limit recreational uses to passive uses such as bird watching, photography and trail use. Locate developed picnic areas near Park edges or specific areas within the Park, in order to minimize littering, feeding of wildlife, and attracting or increasing populations of exotic or nuisance wildlife (opossums, raccoons, skunks). Where permitted, restrain pets on leashes.
18. Provide passive recreation for all ages and levels of disabilities.

C. RECREATIONAL USE GUIDELINES

Below is a list of recreational uses that are approved, conditionally approved, or not approved for the Park. Since all future recreational uses may not have been anticipated, any additional recreational uses that are not listed below must be approved by the Park and Recreation Department before being conducted within the Park. If a wide variety of uses are being proposed within the Park that are not identified in this plan, a recreation council for the Park could be developed to evaluate the proposed recreational uses. Note that the primary use of the 325-acre

Montana Mirador conservation area is species protection. Generally, no recreational uses or development should occur in this area.

APPROVED RECREATIONAL USES

Approved recreational uses within the Park include the following:

1. Hiking, including walking, jogging, wheelchairing, or running, is allowed within the Park on designated trails only.
2. Mountain biking is allowed within the Park on designated trails. Mountain bikers must maintain a safe speed at all times.
3. Equestrian use is allowed within the Park on designated trails. A safe speed must be maintained at all times. Canter and gallop within the Park are prohibited.

RECREATIONAL USES REQUIRING ADVANCE APPROVAL

Recreational uses that require advance approval through the City of San Diego include the following:

1. Hang gliding, paragliding, or radio-controlled model glider operations may be conditionally approved if the requirements of Section 63.0201 of the City of San Diego Municipal Code can be met and discretionary approval can be obtained from the City of San Diego. Note that any person who conducts or participates in any soaring or gliding activity on City of San Diego lands without a permit or in wanton disregard for safety of persons or property is guilty of a misdemeanor under the City of San Diego Municipal Code. The complete section of the City of San Diego Municipal Code addressing this activity is attached as Appendix C. The requirements include:
 - Personal injury and liability insurance in the amount of \$500,000, naming the City of San Diego as an additional named insured;
 - A complete set of flight regulations, rules, and procedures related to safety and operations approved by the Park and Recreation Department. The applicant must agree to abide by all rules and regulations approved by the Park and Recreation Department during flight operations.
 - The applicant must indemnify the City of San Diego harmless from any and all liability; and
 - The Park and Recreation Department must determine that the requested location of the gliding or soaring activity does not endanger the safety of persons or property. If

approved, the City of San Diego will issue a permit valid for 12 months and renewable during the eleventh month of the term.

2. Group hiking activities, foot races, or other group events involving the approved recreational uses listed earlier may be allowed with the approval of the City of San Diego Park and Recreation Department. In some instances, approval from the Mayor's Office will be required. Groups exceeding 75 in number must obtain a Park Use Permit (PUP). A PUP is also required for weddings, athletic events, special park use activities, voice/music amplification, and any request which may require an additional permit from another City department/agency, regardless of the size of the group.

PROHIBITED RECREATIONAL USES

Recreational uses that are prohibited within the Park include the following:

1. Hunting, discharge of firearms, and fireworks are not allowed within the Park.
2. Unauthorized off-road vehicle activity, including motorcycles, automobiles, or any other motorized devices are not allowed in the Park. Authorized vehicles are allowed but must not exceed 10 miles per hour and must stay on designated roads.
3. Fires or camping are not allowed within the Park.

9. MITIGATION OPTIONS AND GUIDELINES

Although the focus of the Park is on natural habitat, necessary structures and some maintenance activities will be required which may impact existing natural habitat and/or cultural resources. Biological and archaeological surveys are required prior to obtaining applicable city, state, and federal permits and any site disturbance. Additionally, all projects should comply with applicable guidelines outlined in this Plan, adopted by San Diego City Council. Approval of project design, implementation and mitigation by City of San Diego San Diego Park and Recreation Department will be required to ensure the guidelines adopted as part of this Plan and the MSCP Subarea Plan are being incorporated.

Impacts should be minimized or eliminated as much as possible during design, planning, and permitting phases. Maintenance activities should be planned in advance using the least physically disturbing methods, avoiding critical bird breeding seasons, using existing access ways, and restricting disturbance to the project area. Prior to any trail addition or other park development, the area to be affected should be surveyed for cultural resources as well as sensitive habitat, plant, and animal species at the appropriate time of year. Only existing access ways are to be used for any maintenance activity in the Park.

All development and mitigation shall be in accordance with the City of San Diego's Land Development Code.

Three hundred twenty-five acres in the southern portion of the site, known as Montana Mirador, were used to mitigate biological impacts associated with the CWA ESP (Figure 1). Management and monitoring of the site is required and shall be conducted in accordance with this Plan once approved by the USFWS (BO 1-6-97-F-13). Any impacts to mitigation lands associated with the CWA ESP would require approval from the CWA, USFWS, and City of San Diego. Additional mitigation will be required to offset any impacts to mitigation lands within this portion of the Park, and impacts to coastal sage scrub habitats in this area, if approved, would require mitigation at a 5:1 ratio.

A. HABITAT MITIGATION

The following habitat mitigation guidelines shall be followed within the Park:

1. No net loss of freshwater marsh, riparian, vernal pool, coastal sage scrub, or native grassland habitat will be allowed without replacement of equal or greater habitat value,

including quality as well as quantity. Mitigation should be provided pursuant to the City of San Diego Biology Guidelines.

2. Proposed development or maintenance projects resulting in impacts should be required to reevaluate their proposed design to avoid the impacts. Grading plans should provide adequate buffer areas to adjacent habitat and/or sensitive areas.
3. Mitigation is required within the Park, preferably on or adjacent to the project site.
4. A Mitigation, Monitoring, and Reporting Program shall be developed for all mitigation projects. The program should outline: what will be done; what criteria will be used to determine success; a schedule of work and monitoring; means of funding the program; penalties for nonperformance, and a plan for remedial measures should they be necessary. As appropriate, the program should also include:
 - A variety of habitat types to encourage diversity of species;
 - Vertical and horizontal plant diversity;
 - Irregular, rather than straight, borders where vegetation is especially dense, extensive, and connected to other habitat areas;
 - Maintenance of wildlife areas of concentration where vegetation is especially dense, extensive, and connected to other habitat areas;
 - Use of only appropriate native plants in revegetation. Appendix B provides native plant lists recommended for revegetation habitats found in the Park;
 - Protection from human impacts in design of revegetation projects, such as the use of thorny shrubs, etc., to limit access to sensitive areas;
 - Temporary irrigation, if necessary, to help establish new vegetation; and
 - Non-native, invasive species removal on a regular basis.
5. A qualified biologist should monitor sensitive areas impacted and/or potentially impacted during construction and oversee mitigation programs. A qualified biologist is defined as “experienced” in state-of-the-art revegetation techniques of wetland and upland habitat. The qualified biologist will: 1) prepare and oversee a detailed revegetation plan, meeting City of San Diego landscape guidelines, project-specific mitigation requirements, and guidelines outlined in this Plan, including species, soil preparation, and site plan; 2) assist a landscape architect, if needed, in preparation of landscape working drawings to assure species comparability, and in review of planting requirements and revegetation

techniques; and 3) develop and oversee a Monitoring, Maintenance, and Reporting program.

6. Prior to implementation, all projects involving revegetation and/or mitigation within the Park must be reviewed and approved by: the City of San Diego Park and Recreation Department (District Manager and Natural Resource Manager). In the case of an SDG&E project, compliance with their “Sub regional Natural Community Conservation Plan” (1995) will be the primary basis for approval.
7. If installation of temporary irrigation is necessary to meet success criteria, it should be removed before the site is determined to have met Mitigation, Monitoring, and Reporting Plan and/or permit requirements.
8. Field checks by a qualified biologist of sensitive areas near the work area will be required prior to work to ensure they have been properly flagged and protected from intrusion.
9. Temporary fencing and/or barriers, if necessary, should be provided to protect revegetation areas from human intrusion until they become well established.
10. Revegetation sites should be monitored regularly by a qualified biologist. Appropriate recommendations should be made for enhancing revegetation efforts to ensure success criteria are met.
11. Streambed crossings require CDFG Streambed Alteration Agreements. Other permits, such as a ACOE Section 404 Permit, may be required if crossing involves fill or dredge material. Any crossing should be done during seasons of low water flow (e.g., summer) to minimize the impacts on the stream.
12. Any disturbance of stream banks that would cause erosion and/or create a potential erosion risk should be mitigated by revegetating the disturbed area as soon after the disturbance as possible. Bank protection, such as mulch, may be required in the interim period.
13. All BMPs for City Park and Recreation Department and any additional BMPs required by the RWQCB, should be implemented to eliminate or contain sediments and pollutants that could degrade water quality.

B. CULTURAL RESOURCE MITIGATION

Development proposed in the Concept Plan that could potentially impact archaeological sites within the Park include: active recreation areas, trails, and visitor centers. Prior to development of plans for any of these or other development, a plot plan showing the area to be developed

should be submitted to South Coast Regional Information Center for comparison with confidential archaeological site maps to identify any potential impacts which could occur to known archaeological resources. The City of San Diego Environmentally Sensitive Lands Ordinance requires that development not be permitted in significant prehistoric or historic sites or resources unless all feasible measures to protect and preserve the site or resource are required as condition of permit approval. Alterations and improvements to prehistoric and historic sites and resources that enhance, restore, maintain, or repair the site or resources and do not adversely affect the special character or value may be permitted. Additional mitigation guidelines include the following:

1. Impacts to cultural resources should be avoided or resolved by capping or data recovery. Conservation easements should be required for sites retained in place.
2. A Research Design and Data Recovery Program addressing a specific site should be developed and implemented by a qualified archaeologist for any activity impacting cultural resources.
3. Review by a “Historic Sites Board” could be necessary depending on the development or maintenance activity proposed.
4. Sites that would potentially be subject to impacts should be tested to assess the extent and nature of the cultural resource site in case the majority of the site’s resources are underground.
5. For potential impacts to Native American archaeological sites, Native American consultation shall occur prior to approval and during implementation of any project component.
6. A qualified archaeologist should be onsite at a development or maintenance project to monitor activity and should have the authority to halt, direct, or divert ground disturbance.
7. Flagging, fencing, or other temporary measures should be provided to prevent accidental damage.

10. ENHANCEMENT AND RESTORATION GUIDELINES

These guidelines are provided for the enhancement and restoration of natural and cultural resources in the Park. For purposes of this Plan, enhancement is defined as those activities that reduce and/or eliminate negative impacts to natural habitat or cultural resources. Restoration is defined as activities that return a disturbed area to its original condition or appropriate native habitat. Areas within the Plan identified for enhancement and/or restoration of habitat are shown in Figure 12. A detailed plan should be prepared in conformance with these guidelines for any restoration projects proposed in the Park.

A. NATURAL RESOURCE ENHANCEMENT

The following guidelines shall guide natural resource enhancement and within the Park:

1. Areas where sensitive bird species are likely to nest (i.e., southern willow scrub habitat, coastal sage scrub, cactus patches) or where sensitive plants are found will be closed to public access. These areas should be posted: “No entry during breeding/nesting season {provide appropriate dates}” or “No entry due to sensitive habitat/plants,” as appropriate.
2. Sensitive animal species should be regularly monitored for abundance, distribution, and identification of new populations.
3. Known locations of MSCP covered sensitive plant species in the Park should be monitored, consistent with the current biological monitoring plan for the MSCP, to determine appropriate and necessary protective management and enhancement measures.
4. The Park database, including plants, sensitive species, avifauna, and large mammals should be updated every three years.
5. Where bridges are not feasible or practical, river and creek crossings should be cobble-lined for protection of the river/creek bed.
6. All the erosion and potential erosion areas should be vegetated with native vegetation or protected by other natural erosion prevention measures.
7. A program to control the spread of noxious plants, such as poison oak, along trails and identified public use areas should be implemented to keep those areas open to visitor use.

8. A program to eradicate non-native vegetation and replace it with native vegetation shall be designed and implemented, as funding permits, for any area currently dominated by exotics, such as ice plant, pampas grass, castor bean, cape ivy, fennel, acacia, Japanese honeysuckle, pyracantha, bottlebrush, sea fig, artichoke thistle, pine tree, tree tobacco, Brazilian pepper tree, eucalyptus, palm, desert artichoke, Virginia creeper (*Parthenocissus quinquefolia*), giant reed (*Arundo donax*), or tamarisk (*Tamarisk* sp.). Aggressive non-native plant species, such as water hyacinth, arundo, tamarisk, pampas grass, artichoke thistle, and Russian thistle, should be surveyed for and removed semi-annually, when present, from biological buffers and sensitive habitats. When working in watersheds, the program should target upstream non-native removal first moving downstream to lower re-infestation. Priorities for which species should be removed first should consider: 1) Biology of the invasive species, such as time of flowering and reproductive capacity; 2) Immediacy of need; and 3) Benefits of invasive removal in increasing land available for sensitive habitats and/or for sensitive species habitats.
9. Research into the most recent information on the most effective eradication method(s) for a particular species should be the basis for development of an exotic species eradication program or initiation of any exotic removal. This information can be obtained through California Invasive Plant Council. Methods of removal requiring heavy equipment or other methods potentially harmful to native species may require some level of environmental review to ensure against impacts to sensitive species.
10. Exotic plant removal activities should be scheduled to avoid sensitive bird breeding and nesting season.
11. Information on invasive plants and animals harmful to the Park should be provided to adjacent residents. Residents should be encouraged to voluntarily remove invasive exotics from their landscaping.
12. Rodeo, or another herbicide approved by USFWS, CDFG, and jurisdictional cities as safe for use in wetland habitat, should be used if a herbicide is needed to control invasive exotic species in wetlands. All safety and environmental regulations shall be followed.
13. If non-native trees die or are removed, they shall be replaced with appropriate native trees with eventual goal of replacing non-native trees with native ones.
14. In areas where cattle, horses, or other animals are kept, an assessment for the need for cowbird trapping should be conducted.

15. Predator control should be initiated as necessary on a case-by-case basis and as funding permits. The following are specific guidelines for predator control.
 - Trapping of non-native predators should be limited to strategic locations where determined feasible to protect ground and shrub-nesting birds, lizards, and other sensitive species from excessive predation.
 - Predator control should be considered to be a temporary, short-term activity.
 - A predator control program should only be implemented to address a significant problem that has been identified and is needed to maintain balance of wildlife in the Park.
 - Predator methods shall be humane. Adequate shade and water should be provided and traps should be checked twice daily.
 - Any domestic animal inadvertently trapped should either be released outside the Park or taken to the nearest animal shelter.
 - If a predator control program becomes necessary, signs at access points should be installed to notify adjacent residents that trapping will occur and how to retrieve their pets.
 - All predator control activities should be coordinated with MSCP staff.
16. Coordinate with other agencies in the watershed to eradicate exotic species effectively. In order to effectively control invasive exotic plants within the Park, the jurisdictions upstream of Park also need to eradicate these species in order to stop re-infestation of downstream areas. Possible methods for establishing such a cooperative effort include a Memorandum of Agreement between involved parties or establishing a Weed Management Area through the County Agriculture Department.
17. Where exotics are removed from stream banks, temporary erosion control precautions may be required, especially if root systems are removed. Removal should occur only at times of low flow and no rainfall. Roots should only be removed if necessary to eradicate exotic species and the area revegetated as soon as possible. Sandbags, brow ditches, or similar erosion control methods should be used to keep sediment out of creeks and drainage courses.
18. Regular monitoring for re-infestation should also be done after initiation of a removal program and remedial treatment taken as necessary.

19. When enhancing or restoring native habitats, plants used for revegetation should be taken from donor sites in close proximity to the site, if possible. Other donor sites may be used if they are of similar ecotone and the site has been approved by the City of San Diego Park and Recreation Department.
20. Establish adequate buffers around sensitive plant populations to avoid trampling. Wherever possible, minimum buffer width should be 100 feet, especially in wetland habitats.
21. In locations where pollution control is needed, detention basins, treatment wetlands, grass filter strips, filtration trenches, and/or similar water quality treatment methods should be used, depending on the location and level of pollution. Grass filter strips, placed in the runoff flow path, should be relatively flat in order to slow and distribute flow. The filter strips should be planted with native, erosion resistant plants, such as close-growing grasses (e.g., beardless wild rye grass (*Leymus triticoides*)).
22. Surveys to monitor deer and possible mountain lion population should be conducted within the Park, as funding and/or staff time permits.
23. Periodic monitoring of known wildlife corridors should be undertaken to determine species usage as identified from track, scat, or other signs.
24. Investigate any “new” corridors discovered to identify usage and degree of importance to wildlife.

B. CULTURAL RESOURCE ENHANCEMENT

A site-specific cultural resource management plan should be prepared by a qualified archaeologist, for all prehistoric and historic resources in the Park and include a data recovery program, individual site inventory, and recommendations for maintenance management and long-term protection of resources. Development and implementation of the proposed cultural resources management plan shall include Native American involvement, where necessary, and include a complete project-specific impact evaluation, including ground surveys, for any grading activities that may threaten cultural resources in the Park. Enhancement of prehistoric and historic sites within the Park should be done in accordance with the Cultural Resource Site Management Plan proposed in the Land Use Proposal Chapter of this document under Cultural Resource Restoration. The Cultural Resource Site Management Plan should evaluate all cultural resources on-site, including the historic mine site. The Plan should include specific site inventory and enhancement and protection guidelines and plans.

C. HABITAT RESTORATION

The following guidelines shall guide habitat restoration activities within the Park:

1. Native vegetation should be restored in damaged or degraded areas. Areas that show signs of excessive activity should be closed and rehabilitated. The following are damaged areas which require restoration with native vegetation:
 - Historical grazing and agricultural areas throughout the Park;
 - The riparian corridor in the northeast portion of the Park;
 - Areas disturbed by encroachment from surrounding land uses;
 - Unauthorized trails throughout the Park; and
 - Any roads determined to be duplicates and/or not to be necessary to serve utility maintenance.
2. Disturbed and upland areas should be planted with native trees where they are known to have existed historically, given appropriate existing conditions.
3. Plans for habitat restoration should consider historical use and habitat types in this area to help guide restoration efforts.
4. When restoring a native habitat, plants used in the revegetation effort should be taken from donor sites in close proximity to the site, if possible. Other donor sites may be used if no significant genetic variation is expected. Seed from outside San Diego County should not be used.
5. Previous agricultural and grazing areas provide excellent opportunities for habitat restoration. Many of these areas are completely covered in artichoke thistle. A comprehensive eradication effort should be explored in areas where no habitat value exists and the entire area is covered with exotics.
6. Riparian and wetland habitats in the Park should be allowed to regenerate naturally, especially after removal of invasive exotics, except where active restoration is specified as a result of monitoring dependent on available funding; as a mitigation requirement; or as a means of reclaiming large areas previously occupied by exotic species if deemed advisable to reduce the threat of re-invasion by exotics.

7. Several unauthorized trails within the 325-acre Montana Mirador conservation area, specifically in the southwest portion of the park, are located in or immediately adjacent occupied California gnatcatcher habitat and should be closed and restored as quickly as possible (see Chapter 6 for management priorities).
8. Portions of the 325-acre Montana Mirador conservation area are being invaded by non-native grasses and other species which displace native habitat (see Management Areas 1 and 3, Figure 12). Special attention is required in these areas to eliminate non-native species and restore habitat as well as monitor the areas to prevent re-invasion.

D. SPECIFIC MANAGEMENT DIRECTIVES

Not all species occurring within the Park are expected to require additional species-specific management. It is expected, rather, that the guidelines provided in the Maintenance, Usage, and Development Guidelines chapter and the guidelines listed earlier in this chapter will provide optimal habitat conditions for most, if not all, species to maintain and/or thrive within the Park. There are some species, however, listed as MSCP covered species which may require additional management measures, as funding and staff permits, if monitoring indicates the general guidelines are not sufficient to maintain acceptable populations levels.

Additionally, there are some non-native invasive animal species that pose serious threats to native species, therefore monitoring and management of this invasive animal species are necessary as part of the management program.

Before conducting any specific management directives, the action shall be evaluated to ensure that the proposed action shall not result in adverse impact to any other population of a MSCP covered species.

Variegated Dudleya (*Dudleya variegata*)

Area Specific Management Directives from the MSCP

Area specific management directives must include species-specific monitoring and specific measures to protect against detrimental edge effects to this species, including effects caused by recreational activities.

MSCP Specific Management Efforts

1. Approved trails should keep an appropriate distance from known populations in order to ensure that there is no trampling of the species by trail users.

2. A count of plants at each known site should be taken in accordance with the current MSCP Biological Monitoring Plan to provide baseline information and the status of the species over time. This plant may not surface during drought years and, therefore, should be re-checked in subsequent years to confirm initial numbers.
3. Non-native weeds should be kept to a minimum near extant populations. Generally, this species occurs in rocky terrain with shallow soils amid coastal sage scrub. Soil disturbance and dense non-native grasses could definitely deter seedling establishment.

San Diego Barrel Cactus (*Ferocactus viridescens*)

Area Specific Management Directives from the MSCP

Area specific management directives must include measures to protect this species from edge effects, unauthorized collection, and include appropriate fire management/control practices to protect against a too frequent fire cycle.

MSCP Specific Management Efforts

1. Approved trails should keep an appropriate distance from known populations. Populations should be monitored in accordance with the current MSCP Biological Monitoring Plan in order to determine if unauthorized collection is taking place. If it is determined that unauthorized collection is occurring, additional steps should be taken to protect the population such as signage, enforcement, and/or trail closures.
2. Non-native weeds should be kept to a minimum near existing populations.
3. If local populations cannot be adequately protected and unauthorized collection is still occurring regardless of enforcement efforts, the San Diego barrel cactus under threat should be transplanted to a more protected location within the park in appropriate coastal sage scrub habitat. Presence of other native cactus is evidence of suitable habitat. Generally, the cactus must be replanted in the same alignment to the sun as the original site. A technique to ensure this is to mark the plants with paint to show true north prior to transplantation and replanted with the mark in the same alignment. Transplanting this species with a root ball of soil from the original site may also help. After transplantation, the plants should be well watered twice monthly for three months.

Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

Area Specific Management Directives from the MSCP

Area specific management directives must address edge effects.

MSCP Specific Management Efforts

The whiptail is still locally common in the Park. However, like most reptiles it is particularly susceptible to urban edge effects. Maintaining habitat quality within coastal sage scrub habitat would likely be the best means of minimizing edge effects. This should include regular removal of introduced trash, limiting unapproved foot trails, and closure of access points that are particularly troublesome in terms of disturbance to native coastal sage scrub.

San Diego Horned Lizard (*Phrynosoma coronatum blainvillii*)

Area Specific Management Directives from the MSCP

Area specific management directives must include specific measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this species.

MSCP Specific Management Efforts

1. The horned lizard is particularly susceptible to predation by feral and domestic cats, as it often relies on coloration rather than escape as a means of survival. This tactic is often not successful with cats. Predator control should be initiated, as needed and as funding becomes available, to control cats (see item #15, above information about predator control). Education of the public, especially neighboring areas, should emphasize how domestic and feral cats who hunt day and night can create an imbalance by over-hunting compared with the native nocturnal cats.
2. The Argentine ant is currently found within the Park. This ant displaces less aggressive species that are the preferred food item form of the horned lizard. Park personnel should be familiar with the identifying characteristics of Argentine ant colonies and should aggressively pursue eradication efforts if this species is observed. Irrigation, trash, and structures should be discouraged since they attract this non-native species.

California Gnatcatcher (*Polioptila californica californica*)

Area Specific Management Directives from the MSCP

Area-specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat

quality including vegetation structure. No clearing of occupied habitat within the MHPA may occur between March 1 and August 15.

MSCP Specific Management Efforts

1. All trails and recreational areas should be kept an appropriate distance from potential breeding habitat of the California gnatcatcher. Vegetation buffers should be considered to exclude hikers from venturing along unapproved trails in the vicinity of historical gnatcatcher use areas. Temporary seasonal trail closures may be appropriate to deter park users from involuntarily harassing birds at a known nest site; temporary trail detours may be appropriate.
2. Surveys in accordance with the current biological monitoring plan should be undertaken to determine presence/absence of the gnatcatcher during the spring (February 15-August 31) if any coastal sage scrub impacts are proposed for the area. Since these birds are resident (unless dispersing juveniles searching for unoccupied and suitable habitat), they will be present all year. Territories expand and contract during the year based on the prevalence of insect prey and the seasonal need to forage over wider areas to provide nestlings with food.
3. Avoid detrimental edge effects, such as noise levels that exceed 60 dBA during the breeding season.
4. Coastal sage scrub should not be cleared during the breeding season (March 1- August 15) unless surveys have determined the area is not occupied by gnatcatchers. Within the MHPA, no coastal sage scrub clearance is allowed during the breeding season.
5. Weedy/bulky non-native plant materials should be culled from the periphery of occupied gnatcatcher territories outside the breeding season to reduce the potential and severity of fires.

California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

Area Specific Management Directives from the MSCP

Area-specific management directives must include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components.

MSCP Specific Management Efforts

Controlled burns may be considered by Park management in the event that a disproportionate amount of the coastal sage scrub within the parklands is senescent and does not retain the open canopy associated with rufous-crowned sparrow habitat.

In addition to species management directives, the City of San Diego MSCP Plan also details Priority 1 MSCP guidelines for the Park. The Priority 1 MSCP guidelines for the Park are as following:

1. Provide clearly marked access areas and well-demarcated trails and post signage to prevent off-trail access and use. Where sensitive or covered species are present, close trails during the breeding and nesting seasons if necessary.
2. Regular biological monitoring, as required by the MSCP Biological Monitoring Plan, will assess if trail closures are necessary to avoid impacts to sensitive species. If it is determined that trail closures are necessary, MSCP staff will work closely with Park and Recreation staff to determine how best to close the trails permanently or seasonally.
- 3 Regularly assess overuse of open space areas in and surrounding the park (as determined by the Park & Recreation Department). Repair trails, and restore off-trail use areas and areas affected by erosion as soon as feasible. Guidelines are given in Chapter 7 on how to best assess trail overuse and to repair or restore trails.

E. BIOLOGICAL MONITORING

Monitoring of the MSCP covered species as well as other sensitive species is necessary to evaluate the status of these species in the Park. The following discusses monitoring that has occurred or is required within the Park, as well as what is recommended.

MSCP MONITORING

MSCP monitoring shall be conducted per the most current MSCP Biological Monitoring Plan (e.g. The Biological Monitoring Plan for the MSCP (Ogden 1996)). The 1996 plan identifies biological monitoring locations for habitat, wildlife corridors, and covered species. Currently, biological monitoring within the boundaries of the Park is being conducted for California gnatcatcher through a regional monitoring effort overseen by the USFWS, for rare plants following the recommendations of McEachern et al (2007) and McEachern et al (DRAFT 2010), and for wildlife corridors by the San Diego Tracking Team. A description of the monitoring techniques for California gnatcatcher utilized previous to the regional monitoring effort currently

used is provided below. Additional monitoring is also suggested within the Park to aid management actions. All monitoring and management conducted is the responsibility of the MSCP Biologist and/or Natural Resource Manager.

All survey and monitoring results for the 325-acre Montana Mirador conservation area should be submitted to the U.S. Fish and Wildlife Service on an annual basis as required per BO 1-6-97-F-13.

Focused surveys for California gnatcatcher were conducted by URS biologists under FWS Recovery Permit No. TE-025582-0 in Spring 2001. Two survey plots were selected at Black Mountain; the western plot is 150 acres in size and the eastern site is 50 acres (Figure 13). One pair of California gnatcatcher and one individual gnatcatcher were detected on the western plot. The gnatcatcher pair was located in the western portion of the site in the California sagebrush dominated area. The gnatcatcher individual was located nearby in black sage dominated scrub. Other sensitive species detected onsite include rufous-crowned sparrow and western whiptail lizard.

No California gnatcatchers were detected at the 50-acre Black Mountain East plot. This site contains dense black sage dominated scrub on the hillsides, and somewhat disturbed flatter areas vegetated by broom baccharis (*Baccharis sarothroides*), California sagebrush, and artichoke thistle. Previous surveys on the three hundred twenty-five acres within Montana Mirador detected eleven pairs and seven individual gnatcatchers (City of San Diego 1993). All monitoring efforts will be submitted to USFWS to fulfill monitoring requirements of the Montana Mirador Conservation Area Acquisition Agreement.

In 2004, 2007 and 2009, the USFWS conducted regional MSCP monitoring for California gnatcatcher.

The City of San Diego conducts annual surveys for Varigated Dudleya (*Dudleya variegata*) within the Park boundary utilizing the most current MSCP protocols.

Figure 13. California Gnatcatcher Monitoring Areas

OTHER SPECIES AND HABITAT MONITORING

Staff conducting management within the Park should be aware of the sensitive species populations within the Park and conduct qualitative monitoring on an annual basis to ensure that the populations are still intact. Any disturbance to sensitive plant species populations should be reported to MSCP staff. It is anticipated that this effort will require only minor data collection and can be conducted as part of the manager's regular patrol duties. In addition, the natural resource manager should note any new exotic species invasions observed, including any Argentine ants, feral cats, or other exotic plant or animal species. Disturbance to habitat should be noted and corrected as soon as possible. Any sensitive animal species observed during the course of normal patrol duties should also be noted.

Any observations should be noted and filed with the Park and Recreation Natural Resource Manager. Management decisions and priorities should be made based on any updated information collected. When a database is developed for the Park, this information should be entered into the database.

As a condition of the Montana Mirador Conservation Area Acquisition Agreement, sensitive species surveys (California gnatcatcher, variegated dudleya) and analysis of population trends should be performed at least every three years. Ecological trend monitoring, including review of species' habitat status and whether any exotic invasions or type conversions are occurring, should be performed every six years within the conservation area. Such activities are recommended in the remainder of the plan.

Additionally, it is recommended that surveys for Hermes Copper, a rare butterfly species endemic to San Diego County which may have experienced population declines following the 2003 wildfires, be performed within the Park as Park and Recreation or MSCP staff time and resources allow. If detected, the species should be monitored periodically.

F. INVASIVE SPECIES CONTROL PROGRAMS

Invasive Plants

A comprehensive weed survey, management and control plan should be developed for the Park. The Plan should be developed in conformance with this Plan and should include species-specific control methods for invasives known to occur in the Park.

Brown-Headed Cowbird

The brown-headed cowbird (*Molothrus ater*) parasitizes the nests of other bird species, deceiving other species into hatching and raising cowbird chicks at the expense of their own offspring. Due to anthropogenic changes in landscapes, the brown-headed cowbird has colonized extensive new areas and poses a serious threat to several native and sensitive bird species (Meuhter, 2003).

Brown-headed cowbirds have been identified in the Park vicinity, therefore a monitoring and control program should be instituted within the Park. Brown-headed cowbird surveys should be performed periodically, at least every six years. If the species is detected on-site, a qualified avian biologist shall determine whether control measures are warranted. If it is determined that control measures are necessary, a qualified avian biologist shall create and implement a control plan.

Bullfrog

The Bullfrog (*Rana catesbeiana*) is a large, non-native amphibian that has caused major declines in native frog and other species' populations in the western U.S. Bullfrogs displace native amphibian species habitat as well as eat native amphibian tadpoles and adults (Rosen, 2003).

Bullfrogs have been identified in the Park vicinity, therefore a monitoring and control program should be instituted within the Park. Bullfrog surveys should be performed periodically, at least every three years. If the species is detected on-site, a qualified biologist shall determine whether control measures are warranted. If it is determined that control measures are necessary, a qualified biologist shall create and implement a control plan.

G. SURVEY/MONITORING SCHEDULE

For all management activities (e.g. habitat restoration, exotics removal, etc.), effectiveness analyses should be performed at appropriate time intervals following the action (e.g. 6 months, 1 year). As part of this process, recommendations for further management actions should be made as part of this process if the management activity is not fully successful.

11. INTERPRETIVE AND RESEARCH GUIDELINES

The natural and cultural resources in the Park provide significant interpretive and research opportunities. An interpretive center and signage throughout the Park would provide educational

opportunities for visitors to learn about the natural and cultural resources present as well as history of the area. The following measures are designed to utilize these opportunities in a wise, non-disruptive manner.

A. INTERPRETIVE AND INFORMATIONAL DISPLAYS AND PROGRAMS

The following guidelines shall be followed for all interpretive and informational displays and programs within the Park:

1. The sign program in the Park should be in keeping with the rustic nature of the park and consistent with the City Park and Recreation Department.
2. Only the official logo, as shown on the cover of this plan, will be used, as appropriate, on signs within the Park.
3. Signs should be used to identify designated Park entries and boundaries.
4. Signs/kiosks at Park entries and major access points should carry the Park logo and provide Park rules, regulations, and any other appropriate information.
5. Signs within the Park interior shall be limited to those necessary for trail identification, Park regulations, and protection and/or interpretation of natural and cultural resources and sited in locations that avoid negative impacts to resources.
6. Signs shall be strategically placed for maximum benefit and designed or placed to avoid increasing the number of perches already available in surrounding habitat for foraging raptors in sensitive species nesting areas.
7. Standard informational and educational signs/kiosks shall be developed for the Park and for its riparian, wetland, coastal sage scrub, and chaparral habitats; sensitive species; and sites of historical/cultural significance.
8. Interpretive displays shall be changed periodically and focus on educating the public about natural resources and systems within the Park, such as historical resources, water quality, evapo-transpiration, habitat and plant identification, sensitive species, seasonal or migratory species, ecosystems, food chains, animal behaviors, and species adaptation.
9. Before sign placement, final approval from the City of San Diego Park and Recreation Department is required. Posting notices on the bulletin board requires approval of Park rangers.
10. Interpretive programs for historic resources should be developed and implemented, including printed material (if desirable) and signs.

11. An “Ecowatch” program (like Neighborhood Watch) that encourages public participation in educating, maintaining, and protecting should be considered for the Park.

B. NATURE TRAILS

The following guidelines shall be followed for all nature trail planning and development within the Park:

1. An overall nature trail system plan shall be maintained, including locations and points of interpretive interest in accordance with the existing Master Plan. Siting of any new trails in the Park shall be consistent with guidelines established in this Plan.
2. Preferably, nature trail loops should be developed for different habitats throughout the Park and wherever possible utilizing existing trails.
3. All nature trails should be self-guided.
4. All nature trail signage shall include signposts with interpretive information and number corresponding to a description in a trail booklet or similar system. Siting for this type of facility should be limited to main trails, access points, and/or nature center.
5. Interpretive information shall include information such as:
 - International signs for trails (hiking, horse, bikes);
 - Identification of key plant and tree species;
 - Physical description of species, growth habit, role in surrounding habitat, and uses by wildlife and man;
 - Description of common wildlife behavior, including feeding, foraging, sleeping, and mating behaviors;
 - Identification of animal tracks;
 - Overall discussion of how the habitats in the area function as an ecosystem, such as food webs;
 - Historical and cultural facts of interest;
 - Historical information about the mining activities on-site;
 - Local Native American history and culture; and/or
 - Discussion of causes of resource degradation (public misuse, urban runoff, exotic plant invasion, overuse, trash, etc.).

6. As appropriate, casting of animals, animal tracks, or animal droppings shall be located with appropriate interpretive display along nature trails and/or nature center as an interpretive resource.

C. INTERPRETIVE FACILITIES

An interpretive facility for the Park has not yet been proposed. However, any facility in the Park should be sited per the guidelines provided in this Plan and be in close proximity to nature trails.

There are several possible configurations for an interpretive facility in the Park. Depending on available space and funding, the facility could be a moderately size building or a large open covered structure. A building could house a Park Ranger Office, a theater for slide and video shows, interpretive exhibits, classroom/lab/meeting room, interpretive material storage, and Park maintenance and management material storage. An open structure should be of adequate size to accommodate bench seating for a classroom presentation, interpretive displays, and Park bulletin board. In addition, lighting at the open structure, the provision for video or slide presentation equipment for evening interpretive events should be considered. Either structure option chosen should be designed to blend with the surrounding natural resources and use natural building materials. The area around the chosen structure should be landscaped with native vegetation and incorporate interpretive opportunities. Interpretive facilities would compliment interpretive centers/facilities already built or planned Countywide in resource-based parks and preserves. Interpretive programs should interface with school curriculum and address community interest and involvement.

It is preferable that an interpretive facility be placed in previously disturbed areas to avoid impacts to habitat. A facility should be staffed by Park and Recreation and may be strategically placed to enhance enforcement of Park Regulations (i.e., in an area where ORV access is known to occur).

Interpretive structures of smaller scale, such as a kiosk-type shelter, also could be considered for interpretive displays and/or programs in areas of the Park that would be some distance from other interpretive facilities. Prevention of vandalism should be taken into account for all interpretive facilities.

D. RESEARCH OPPORTUNITIES

Scientific research within City of San Diego resource-based parks and open space is encouraged. Permission from the City within which the research would occur is required to ensure resources will not be damaged and/or research projects will not conflict with each other. Research proposals for studies to gather unknown information or update existing information on natural

and cultural resources will be reviewed by City of San Diego Natural Resources Planner and Park Rangers. Archaeological research proposals must also be approved by City of San Diego Park and Recreation Natural Resource Planner, and for research involving Native American sites, must include Native American consultation before research activities begin. Any data published should be shared with the City of San Diego's Park and Recreation Natural Resource Planner for inclusion in the Park's research library. Potential funding would come from outside resources, grants, or City funds. If City funds are used, the City would have final decision on which study to fund.

12. IMPLEMENTATION

A. FEDERAL AND STATE AGENCY PERMITS AND AGREEMENTS

The City of San Diego will be the lead environmental review agency for most projects proposed on San Diego land within Park boundaries. Federal and state agencies will be notified during the public review process of all proposed projects affecting natural resources and may require additional state or federal permits. These agencies could include CDFG, CCC, USFWS, RWQCB, and/or ACOE. Mitigation plans and mitigation monitoring reports for individual projects will also be submitted to these agencies for their review and comment.

In some instances, such as streambed alteration or erosion control, another agency may be the lead agency. This is the case when a specific permit must be obtained from CDFG for streambed alteration or erosion control. When pursuing a permit for any deposition of fill or other material into waters of the United States, the ACOE is required to be lead agency. These lead agencies would then consult with other resource agencies for review and comment on the proposed project and mitigation plan, if a mitigation plan is required.

Pursuant to BO 1-6-97-F-13, 325 acres of land in the southern portion of the site, known as Montana Mirador, were used to mitigate biological impacts associated with the CWA ESP. Management and monitoring of the site is required and shall be conducted in accordance with this Plan once approved by the USFWS (BO 1-6-97-F-13).

B. DEVELOPMENT RESPONSIBILITIES

This Plan covers four types of possible projects: 1) Erosion and/or sedimentation control; 2) New Park or adjacent development; 3) Park and utility maintenance activities; and 4) Habitat enhancement and restoration. It will be the responsibility of the City involved or project

applicant to plan, obtain required permits, and develop and implement a Mitigation, Monitoring, and Reporting Plan (if required).

Project Planning: For any erosion control, new structure, or maintenance activity involving impact to habitat, cultural resources, or streambed disturbance, a pre-project, site-specific field survey shall be conducted by a qualified biologist and archaeologist. This survey shall determine the type and extent of impact to natural and/or cultural resources and identify possible mitigation requirements.

If mitigation is required, a qualified biologist, approved by the jurisdictional City, shall develop a Mitigation, Monitoring, and Reporting Plan for approval by lead agency and acceptance by City of San Diego Park and Recreation Department. Revegetation plans shall include the following: a landscape plan which addresses in detail the compensation concept and design criteria; the types and extent of habitats to be developed; grading requirements (if any); plant materials to be used; method of planting; method of irrigation (if needed); and plans for maintenance and monitoring of the revegetation. If cultural resources are also impacted, a qualified archaeologist, approved by the City, shall outline a plan and method(s) for protection and/or salvage of resource to be included in the Mitigation, Monitoring and Reporting Plan. The lead environmental review agency shall review and approve cultural resource mitigation plans and revegetation plans before project approval is granted.

A binding mechanism shall be instituted to ensure a project applicant will implement, maintain, and monitor the mitigation effort as planned and approved. This mechanism can be a bond or other means of assuring funds will be available to complete the mitigation program. In cases where mitigation habitat area is to be purchased from an already existing, approved mitigation bank, the acceptability of the project as a participant in the bank will need to be approved by the City and the required mitigation area purchased prior to project development.

Mitigation Implementation: Mitigation programs shall be implemented according to Mitigation, Monitoring and Reporting plans preceding or coincident with project construction or maintenance activity. This includes the purchase of mitigation area from a mitigation bank. Wherever necessary, exotic or invasive vegetation shall be removed and an irrigation plan shall be implemented to water plants until they have become established.

After project construction or maintenance activity is complete, a second habitat and/or archaeological survey of impacted areas shall be conducted by a qualified biologist and/or archaeologist, as applicable, to ensure the successful implementation of the mitigation plan.

Mitigation Maintenance: Mitigation and enhancement plans shall include a long-term monitoring program to determine the success of the plan and identify maintenance needs. In the first three to five years after plan implementation, monitoring shall be conducted and reports made to the City of San Diego Park and Recreation Department and any other agencies as outlined in applicable permits on a regular basis. The frequency of monitoring shall be determined during the Mitigation, Monitoring and Reporting Plan approval process. During the first three to five years, mitigation sites shall be monitored to obtain information regarding species and quantity and quality of their growth. The reports shall address plant survival, control of non-native plants, vegetative cover, the success of establishing designated habitats, and recommended actions necessary to accomplish full mitigation. Resource agencies and any other agencies listed in permit requirement also shall receive copies of mitigation monitoring reports.

The applicant shall be responsible for maintaining revegetated mitigation sites until mitigation success criteria have been met. Replacement of vegetation and elimination of undesirable species shall be undertaken as part of the mitigation maintenance program. Vegetation should be monitored on a regular basis and replaced as needed to fulfill mitigation plan conditions. In order for mitigation areas to be successfully established, non-native plants that compete with native plants for light and space must be controlled. Non-native species, such as ice plant, eucalyptus, giant reed, tree tobacco, fennel, artichoke thistle, pampas grass, acacia, castor bean, and tamarisk must be removed from all mitigation sites. Once removed, the plants should be appropriately disposed of in a landfill.

C. CITY OF SAN DIEGO RESPONSIBILITIES

The City of San Diego Park and Recreation Department is responsible for the administration of this Plan.

Based on the Final MSCP (1998), estimated costs for land management activities within the City of San Diego are approximately \$47 per acre annually (1996 dollars). The City of San Diego Park and Recreation budget specifically allocated to the then-1,314-acre Park for fiscal year 2004 is \$210,594, or \$160 per acre (Harwell, 2003). Therefore, the allotted \$160 per acre per year is considered sufficient to implement the land management activities outlined in this Plan.

Development Services will review all public, private, and City development proposals for land under City jurisdiction to determine conformity with the Plan, City codes and CEQA. The CEQA process will be applied to determine the environmental impacts of development proposals and identify mitigation measures and alternatives to reduce impacts to the Park natural and cultural resources.

The Park and Recreation Department is responsible for conducting maintenance, resource management, enhancement, and educational activities in the Park in compliance with this Plan. The Park and Recreation Department will review public, private, and City project plans along with revegetation and Mitigation, Monitoring and Reporting Plans to ensure the projects meet the requirements and objectives of the Plan. Enhancements projects, Park improvements, educational programs, and a current data base are also the responsibility of the Park and Recreation department. Park rangers issue site use permits; coordinate volunteer efforts; provide educational programs; monitor and work to solve erosion problems; oversees trail, sign, and fence maintenance and development; provide enforcement of City ordinances; and regularly patrol the Park for problems. The Natural Resources section oversees the overall implementation of the Plan; reviews proposed projects and impacts to check for minimization of impacts and compliance with the Plan; reviews Mitigation, Monitoring and Reporting Plans and is part of the compliance sign-off for meeting success criteria; issues research and data collection permits (in coordination with park ranger); manages sensitive species and their habitat; and oversees implementation of habitat enhancement and restoration projects.

General Services and Public Utilities departments conduct maintenance activities for their infrastructure within the Park. These maintenance activities will be in compliance with the measures outlined in this Plan, as well as CEQA and other City regulations. For routine maintenance in the Park, City utilities shall obtain a “right of entry” permit and consult with Park and Recreation staff as necessary. If emergency work is needed, Park and Recreation staff (Park Ranger and/or Natural Resource Planner) must be notified in advance of repair work, if possible, or within 24 hours of an emergency action of what, why, when, and how repair measures will or were taken. Mitigation Monitoring and Reporting Plans, if necessary, will require a minimum of Park and Recreation approval (Natural Resource Planner) and Development Services approval prior to implementation, as well as sign off to determine when mitigation criteria are met.

Funding for enhancement, management, and preserve maintenance for the Park natural resource system can come from a variety of sources. Items outlined in this management plan are listed below with possible funding sources:

1. Informational, Directive, and Educational Signs/Kiosks. Potential Funding: Coastal Conservancy grant; State Parks and Recreation grant; TransNet grant; possible future state bond initiatives; operating budget; and/or community group fundraising.
2. Interpretive Center Facilities. Includes nature trails, observation platform, structure, fence, and interpretive displays. Potential funding: Coastal Conservancy grant; State Parks and Recreation grant; possible future state bond initiatives; operating budget; and/or community group fundraising.

3. Habitat Enhancement and/or Restoration. Includes restoration of damaged areas, removal of nonnative species, addition of native trees and plants, and stabilization of erosion or potential erosion areas with native vegetation. Potential funding: State Water Resources Control Board grant; National Fish and Wildlife Foundation grant; State Parks and Recreation grant; TransNet Grant; Coastal Conservancy grant; mitigation projects; operating budget; and/or community group fundraising.
4. MSCP Specific Species Management Directives. Includes monitoring, site management, enhancement and restoration. Potential funding: CDFG grant; TransNet grant; developer fees; mitigation projects; Capital Improvement Projects; operating budget; and/or grants.
5. Water Quality Improvement. Includes watershed management and runoff treatment. Potential funding: operating budget; and/or State Water Resources Control Board grant.

D. COMMUNITY GROUP RESPONSIBILITIES

FRIENDS GROUPS

“Friends” groups are non-profit, public interest groups that are part of the City-community interface. These groups make recommendations to the City on management needs, enhancement, and development of City parks and open space. The following are specific ways such a community group could support management and maintenance of the Park:

1. Conduct fundraising activities for Park enhancement and educational and/or interpretive efforts;
2. Provide volunteers needed for Park improvements, environmental education, patrols, and some maintenance activities, primarily for trash cleanup and trails; and
3. Input public views and comment on City or other proposed projects or plans affecting the Park.
4. Investigate and advise on specific goals, standards and recommendations for open space use within the Park.

RECREATIONAL COUNCILS

If recreation uses are being proposed for the Park that are not addressed in this Plan, they should be submitted to the Rancho Penasquitos Recreation Council or, if formed, a Black Mountain Park Recreation Council to make recommendations to the Park and Recreation Department whether the uses should be allowed within the Park. Final approval of the proposed use may need to come from the Mayor’s Office, especially if it may result in additional liability to the

City of San Diego. However, a recommendation from a recreation council will help the City of San Diego determine if the proposed use will result in conflicts with other uses or additional impacts to natural or cultural resources. The following guidelines should be followed in formation of a Park recreation council:

1. A representative from all user groups (i.e. hikers, bikers, equestrians, naturalists) should be invited to sit on the recreation council. Every attempt should be made to ensure that all user groups are adequately represented.
2. The appointment of recreation council members should be coordinated by the City of San Diego Park and Recreation Department.
3. The Park Ranger or other designated City staff member of Park and Recreation must be on the council.

E. TASKS TO BE IMPLEMENTED

This document outlines a variety of tasks which are grouped below according to priority for implementation. These tasks should be implemented as funding becomes available and the emphasis should be on completing all Priority 1 tasks first.

PRIORITY 1

1. Close steep trails that are being used by off-road vehicles and close any volunteer trails in sensitive areas.
2. Provide signage and adequate barriers for trail closures.
3. Provide buffers for sensitive areas.
4. Implement high priority restoration projects, as shown in Figure 12.
5. Identify all illegal encroachments and report to City of San Diego Code Enforcement.
6. Develop baseline inventory data for plants and animals
7. Provide annual reports to the U.S. Fish and Wildlife Service for the 325-acre Montana Mirador Conservation Area as required per BO 1-6-97-F-13 and discussed in Chapter 10.
8. Conduct a comprehensive cultural resources survey.

PRIORITY 2

1. Restore closed trails, including steep trails, preferably using native plants and soil salvaged from a nearby area. Include species that are locally native to the Park in all

restoration efforts (A partial list of species acceptable for restoration efforts within the Park are given in Appendix B).

2. Assess overuse of trails and repair or restore damage (guidance for restoring trails is given in Chapter 7, Section C).
3. Implement medium priority restoration projects, as shown in Figure 12.
4. Work with Fire Department to identify staging areas and access areas as well as sensitive areas to avoid.
5. Conduct updated, comprehensive biological survey for the Park.
6. Conduct volunteer patrols if a volunteer patrol program is established in the Park.

PRIORITY 3

1. Develop stewardship and interpretive program for cultural resources.
2. Develop education program on Park resources for surrounding residents and schools, emphasizing protection and preservation of resources.
3. Implement low priority restoration projects, as shown in Figure 12.
4. Update Park database for plants and animals (every three years).
5. Update Plan (every ten years).

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APPENDIX A

**PLANT AND ANIMAL LISTS OF SPECIES KNOWN
TO OCCUR WITHIN THE
BLACK MOUNTAIN OPEN SPACE PARK**

APPENDIX A

PLANTS

The Black Mountain Open Space plant list is based on Dudek and Associates, Inc. Black Mountain Rare Plant Survey (2001), with input from the Black Mountain Citizens Advisory Committee (Kelly, 2004).

Class LYCOPODIAE

Order SELAGINELLALES

SELAGINELLACEAE - SPIKE-MOSS FAMILY

Selaginella bigelovii - Bigelow's spike-moss

Selaginella cinerascens - ashy spike-moss

Class FILACAE

Order FILICALES

POLYPODIACEAE – FERN FAMILY

Adiantum jordanii – California maidenhair

Dryopteris arguta – coastal wood fern

PTERIDACEAE - BRAKE FAMILY

Cheilanthes newberryi - cotton fern

Pellaea mucronata var. *mucronata* - bird's-foot fern

Pentagramma triangularis ssp. *triangularis* - goldenback fern

Pentagramma triangularis ssp. *viscosa* - silverback fern

Class ANGIOSPERMAE

Subclass MONOCOTYLEDONES

AGAVACEAE – AGAVE FAMILY

Yucca schidigera - Mohave yucca

ALLIACEAE – ONION FAMILY

Allium haematochiton - red-skinned onion

Allium praecox – early onion

Bloomeria crocea var. *crocea* - common goldenstar

Dichelostemma capitatum - blue dicks; wild hyacinth

CYPERACEAE – SEDGE FAMILY

Scirpus robusta – bull tule

IRIDACEAE - IRIS FAMILY

Sisyrinchium bellum - blue-eyed grass

JUNCACEAE - RUSH FAMILY

Juncus acutus - spiny rush

Juncus bufonius - toad rush

LILIACEAE - LILY FAMILY

Brodiaea filifolia – thread-leafed brodiaea

Calochortus weedii var. *weedii* - Weed's mariposa

Fritillaria biflora - chocolate lily

Zigadenus fremontii - Fremont's camas; star lily

ORCHIDACEAE – ORCHID FAMILY

Piperia unalascensis – slenderspire orchid; slenderspire piperia

POACEAE - GRASS FAMILY

Achnatherum coronatum - giant needlegrass
Agrostis gigantea - bent grass
**Aira caryophylla* - silver European hairgrass
Aristida adscensionis - six weeks three-awn
**Avena barbata* - slender oat
**Avena fatua* - wild oat
Bothriochloa barbinodis - beardgrass
Bromus carinatus
**Bromus diandrus* - ripgut grass
**Bromus hordeaceus* - soft chess
**Bromus madritensis* ssp. *rubens* - foxtail chess
**Cynodon dactylon* - Bermuda grass
**Echinochloa crus-galli* - barnyard grass
Elymus glaucus - western wild rye
**Gastridium ventricosum* - nitgrass
**Hordeum murinum* - glaucous foxtail barley
**Lamarckia aurea* - goldentop
Leymus condensatus - giant ryegrass
**Lolium multiflorum* - English ryegrass
Melica imperfecta - California melic
Muhlenbergia microsperma - littleseed muhly
Nassella lepida - foothill stipa; foothill needlegrass
Nassella pulchra - purple needlegrass
**Pennisetum setaceum* - fountain grass
**Phalaris aquatica* - Harding grass
**Polypogon monspeliensis* - rabbit's-foot grass
Vulpia octoflora - six-weeks fescue

TYPHACEAE - CATTAIL FAMILY

Typha sp. - cattail

ZANNICHELLIACEAE - HORNED-PONDWEED FAMILY

Zannichellia palustris - horned-pondweed

Subclass DICOTYLEDONES

AIZOACEAE - CARPET-WEED FAMILY

**Carpobrotus* sp. - ice plant
**Mesembryanthemum nodiflorum* - small-flowered ice plant
**Tetragonia tetragoniodes* - New Zealand spinach

AMARANTHACEAE - AMARANTH FAMILY

**Amaranthus albus* - tumbleweed

ANACARDIACEAE - SUMAC FAMILY

Malosma laurina - laurel sumac
Rhus integrifolia - lemonadeberry
Toxicodendron diversilobum - poison-oak

APIACEAE - CARROT FAMILY

Apiastrum angustifolium - wild celery
**Apium graveolens* - celery

- **Conium maculatum* - poison-hemlock
- Daucus pusillus* - rattlesnake weed
- **Foeniculum vulgare* - sweet fennel
- Lomatium dasycarpum* ssp. *dasycarpum* - woolly-fruit lomatium
- Sanicula arguta* - sharp-toothed sanicle

ASCLEPIADACEAE - MILKWEED FAMILY

- Asclepias fascicularis* - narrow-leaf milkweed

ASTERACEAE - SUNFLOWER FAMILY

- Achillea millefolium* var. *millefolium* – common yarrow
- Achyrachaena mollis* - blow-wives
- Acourtia microcephala* - sacapellote
- Ambrosia psilostachya* var. *californica* - western ragweed
- Artemisia californica* - coastal sagebrush
- Artemisia dracunculus* - tarragon
- Baccharis pilularis* - coyote brush
- Baccharis salicifolia* - mule fat
- Baccharis sarothroides* - chaparral broom
- Brickellia californica* - California brickellbush
- **Carduus pycnocephalus* - Italian thistle
- **Centaurea melitensis* - star thistle
- Chaenactis artemisiifolia* - white pincushion
- Chaenactis glabriuscula* var. *glabriuscula* - yellow pincushion
- Chaetopappa aurea* - golden daisy
- Chamomilla suaveolens* - pineapple weed
- **Chrysanthemum coronarium* - garland chrysanthemum
- **Cotula coronopifolia* - brassbuttons
- **Cynara cardunculus* - cardoon, artichoke thistle
- Encelia californica* - California bush sunflower
- Encelia farinosa* – brittlebush; desert encelia
- Erigeron foliosus* var. *stenophyllus* - leafy daisy
- Eriophyllum confertiflorum* var. *confertiflorum* - long-stem golden yarrow
- **Filago gallica* - narrow-leaf filago
- Gnaphalium bicolor* - bicolor cudweed
- Gnaphalium californicum* - California everlasting
- Gnaphalium canescens* - white everlasting
- Grindelia camporum* - gum plant
- Gutierrezia sarothrae* - broom snake-weed, matchweed
- Hazardia squarrosa* ssp. *grindelioides* (formerly classified as *Happlopappus squarrosus* ssp. *grindelioides*) - saw-toothed goldenbush
- **Hedypnois cretica* - Crete hedypnois
- Helianthus gracilentus* - slender sunflower
- Hemizonia fasciculata* - fascicled tarweed
- **Hesperervax caulescens* - hogwallow starfish
- Heterotheca grandiflora* - telegraph weed
- Holocarpha virgata* - virgate tarweed
- **Hypochaeris glabra* - smooth cat's-ear

Isocoma menziesii var *menaiesii* – goldenbush
Isocoma menziesii var *vernonioides* - goldenbush
 **Lactuca serriola* - prickly lettuce
Lasthenia californica - coast goldfields
Lessingia filaginifolia var. *linifolia* – common sand aster
Microseris douglasii - Douglas's microseris
Osmadenia tenella - rosin-weed
 **Picris echioides* - bristly ox-tongue
Porophyllum gracile - odora
Pluchea odorata - marsh-fleabane
Rafinesquia californica - California chicory
 **Senecio vulgaris* - common groundsel
 **Silybum marianum* - milk thistle
Solidago californica - California goldenrod
 **Sonchus asper* - prickly sow-thistle
 **Sonchus oleraceus* - common sow-thistle
Stephanomeria exigua - small wreathplant
Stylocline gnaphaloides - everlasting nest-straw
Tragopogon porrofolius – salsify, oyster plant
Viguiera laciniata - San Diego County viguiera
Xanthium strumarium - cocklebur

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii - yellow fiddleneck
Cryptantha sp. - cryptantha
Heliotropium curassavicum - wild heliotrope
Pectocarya linearis - slender pectocarya
Plagiobothrys nothofulvus - rusty popcorn flower

BRASSICACEAE - MUSTARD FAMILY

**Brassica nigra* - black mustard
 **Lepidium virginicum* - wild peppergrass
 **Lobularia maritima* - sweet-alyssum
 **Raphanus sativus* - wild radish
Rorippa nasturtium-aquaticum - water cress
 **Sisymbrium irio* - London rocket

CACTACEAE - CACTUS FAMILY

Ferocactus viridescens - San Diego barrel cactus
Opuntia littoralis - coastal prickly-pear
Opuntia prolifera - coast cholla

CAMPANULACEAE - BELLFLOWER FAMILY

Triodanis perfoliata var. *biflora*

CAPPARACEAE - CAPER FAMILY

Isomeris arborea - bladderpod

CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

Lonicera subspicata var. *denudata* - southern honeysuckle
Sambucus mexicana - Mexican elderberry

CARYOPHYLLACEAE - PINK FAMILY

**Cerastium flomeratum* - sticky mouse-ear

**Silene gallica* - common catchfly

Silene laciniata - fringed-Indian pink

**Spergularia villosa* - villous sand-spurrey

**Stellaria media* - common chickweed

CHENOPODIACEAE - GOOSEFOOT FAMILY

Atriplex lentiformis- big saltbush, quail brush

**Atriplex semibaccata* - Australian saltbush

**Chenopodium murale* - nettle-leaved goosefoot

**Salsola tragus* - Russian-thistle

CONVOLVULACEAE - MORNING-GLORY FAMILY

Calystegia macrostegia - western bindweed; morning glory

**Convolvulus arvensis* - bindweed

Dichondra occidentalis - western dichondra

CRASSULACEAE - STONECROP FAMILY

Crassula connata - dwarf stonecrop

Dudleya edulis - ladies-fingers

Dudleya lanceolata - lanceleaf dudleya

Dudleya pulverulenta - chalk dudleya

CUCURBITACEAE - GOURD FAMILY

Cucurbita foetidissima - coyote-melon, calabazilla

Marah macrocarpus - wild cucumber

CUSCUTACEAE - DODDER FAMILY

Cuscuta californica - California dodder

ERICACEAE - HEATH FAMILY

Xylococcus bicolor - mission manzanita

EUPHORBIACEAE - SPURGE FAMILY

Chamaesyce albomarginata - rattlesnake spurge

Croton californicus - California croton

Eremocarpus setigerus - doveweed

**Ricinus communis* - castor-bean

FABACEAE - PEA FAMILY

Astragalus didymocarpus var. *Didymocarpus* – white dwarf locoweed

Astragalus trichopodus - Santa Barbara locoweed

Lathyrus laetiflorus - wild sweet pea

**Lotus corniculatus* - bird's-foot lotus

Lotus purshianus - Spanish-clover

Lotus salsuginosus var. *Salsuginosus* – coastal lotus

Lotus scoparius var. *scoparius* - deerweed

Lotus strigosus - strigose deerweed

Lupinus bicolor ssp. *microphyllus* - lupine

Lupinus excubitus - grape soda lupine

Lupinus hirsutissimus - stinging lupine

Lupinus succulentis - arroyo lupine

Lupinus truncatus - collar lupine

**Medicago polymorpha* - California burclover

- **Melilotus alba* - white sweet-clover
- **Melilotus indica* - yellow sweet-clover
- Pickeringia Montana* – chaparral pea
- Trifolium wormskjoldii* - cow clover
- **Vicia benghalensis* - purple vetch

FAGACEAE - BEECH FAMILY

- Quercus agrifolia* - coast live oak
- Quercus berberidifolia* - scrub oak
- Quercus x chasei* – scrub oak hybrid

GENTIANACEAE - GENTIAN FAMILY

- Centaurium venustum* - canchalagua

GERANIACEAE - GERANIUM FAMILY

- **Erodium botrys* - broad-lobed filaree
- **Erodium cicutarium* - red-stemmed filaree

GROSSULARIACEAE - CURRANT FAMILY

- Ribes indecorum* - winter currant
- Ribes speciosum* - fuschia-flowered gooseberry

HYDROPHYLLACEAE - WATERLEAF FAMILY

- Eriodictyon crassifolium* - thick-leaved yerba santa
- Eucrypta chrysanthemifolia* - common eucrypta
- Phacelia cicutaria* - caterpillar phacelia
- Phacelia distans* - blue fiddleneck
- Pholistoma auritum* - fiesta-flower

LAMIACEAE - MINT FAMILY

- **Marrubium vulgare* - horehound
- Salvia apiana* - white sage
- Salvia columbariae* - chia
- Salvia mellifera* - black sage
- Stachys ajugoides* var. *rigida* - rigid hedge-nettle

MALVACEAE - MALLOW FAMILY

- Malacothamnus fasciculatus* var. *fasciculatus* - mesa bushmallow
- **Malva parviflora* - cheeseweed
- Sidalcea malvaeflora* ssp. *sparsifolia* - checker mallow; checker bloom

MYOPORACEAE - MYOPORUM FAMILY

- **Myoporum laetum* - myoporum

MYRTACEAE - MYRTLE FAMILY

- **Eucalyptus* sp. - eucalyptus

NYCTAGINACEAE - FOUR O'CLOCK FAMILY

- Mirabilis californica* var. *californica* - California wishbone-bush; wishbone plant

ONAGRACEAE - EVENING-PRIMROSE FAMILY

- Clarkia purpurea* - winecup clarkia
- Epilobium canum* - California fuchsia

OXALIDACEAE - WOOD-SORREL FAMILY

- **Oxalis corniculata* - creeping wood-sorrel

PAEONIACEAE - PEONY FAMILY

- Paeonia californica* - California peony

PAPAVERACEAE - POPPY FAMILY

Eschscholzia californica - California poppy

Stylomecon heterophylla - wind poppy

PLANTAGINACEAE - PLANTAIN FAMILY

Plantago erecta - dot-seed plantain

**Plantago lanceolata* - English plantain

**Plantago major* - common plantain

**Plantago virginica* - dwarf plantain

PLATANACEAE - SYCAMORE FAMILY

Platanus racemosa - western sycamore

POLEMONIACEAE - PHLOX FAMILY

Navarretia atractyloides - holly-leaf skunkweed

Navarretia hamata - hooked navarretia

POLYGONACEAE - BUCKWHEAT FAMILY

Chorizanthe fimbriata - fringed turkish rugging

Chorizanthe staticoides - turkish rugging

Eriogonum fasciculatum ssp. *fasciculatum* – flat top buckwheat

Polygonum arenastrum - common knotweed

Pterostegia drymarioides - California threadstem

**Rumex crispus* - curly dock

PORTULACACEAE - PURSLANE FAMILY

Calandrinia ciliata var. *menziesii* - redmaids

Claytonia perfoliata var. *perfoliata* - miner's-lettuce

PRIMULACEAE - PRIMROSE FAMILY

**Anagallis arvensis* - scarlet pimpernel

Dodecatheon clevelandii - shooting star

RANUNCULACEAE - CROWFOOT FAMILY

Clematis sp. - ropevine

Thalictrum polycarpum - many-fruit meadow-rue

RESEDACEAE - MIGNONETTE FAMILY

**Reseda luteola* - Dyer's rocket; reseda

RHAMNACEAE - BUCKTHORN FAMILY

Adolphia californica - California adolphia; California spinebush

Ceanothus tomentosus ssp. *olivaceus* - woolly-leaved ceanothus; mountain lilac

Rhamnus californica - California coffeeberry

Rhamnus crocea - redberry

Rhamnus ilicifolia - holly-leaf redberry; holly leaf coffeeberry

ROSACEAE - ROSE FAMILY

Adenostoma fasciculatum - chamise

Cercocarpus minutiflorus - smooth mountain-mahogany; coastal mountain mahogany

Chamaebatia australis – San Diego mountain misery

Heteromeles arbutifolia - toyon

RUBIACEAE - MADDER FAMILY

Galium angustifolium ssp. *angustifolium* - narrow-leaved bedstraw

Galium aparine – common bedstraw

- Galium nuttallii* - Nuttall's bedstraw
- RUTACEAE - RUE FAMILY**
- Cneoridium dumosum* - bushrue, coast spicebush
- SALICACEAE - WILLOW FAMILY**
- Populus fremontii* - Fremont's cottonwood
- Salix lasiolepis* var. *lasiolepis* - arroyo willow
- SAURURACEAE - LIZARD'S-TAIL FAMILY**
- Anemopsis californica* - yerba mansa
- SAXIFRAGACEAE - SAXIFRAGE FAMILY**
- Jepsonia parryi* - mesa saxifrage
- SCROPHULARIACEAE - FIGWORT FAMILY**
- Antirrhinum coulterianum* - white snapdragon
- Antirrhinum kelloggii* - climbing snapdragon
- Antirrhinum nuttallianum* - Nuttall's snapdragon
- Castilleja exserta* - common owl's clover
- Castilleja affinis* - coast paintbrush
- Cordylanthus rigidus* - dark-tipped bird's-beak
- Keckiella cordifolia* - heart-leaf penstemon
- Linaria canadensis* - toadflax
- Mimulus aurantiacus* - bush monkeyflower
- Mimulus brevipes* - wide-throat monkeyflower
- Scrophularia californica* var. *floribunda* - coast figwort; California bee plant
- SOLANACEAE - NIGHTSHADE FAMILY**
- Datura wrightii* - western jimsonweed
- **Nicotiana glauca* - tree tobacco
- Solanum douglasii* - white nightshade
- Solanum parishii* - Parish's nightshade
- TAMARICACEAE - TAMARISK FAMILY**
- **Tamarix* sp. - tamarisk
- URTICACEAE - NETTLE FAMILY**
- Urtica dioica* - giant creek nettle
- **Urtica urens* - dwarf nettle
- VERBENACEAE - VERVAIN FAMILY**
- Verbena lasiostachys* - western verbena
- VIOLACEAE - VIOLET FAMILY**
- Viola pedunculata* - johnny jump-up

*signifies introduced (non-native) species

ANIMALS

Class AMPHIBIA (Amphibians)

BUFONIDAE - True Toads

Bufo boreas - western toad

HYLIDAE - Treefrogs and Relatives

Pseudacris cadaverina - California chorus frog

Pseudacris regilla - Pacific chorus frog

RANIDAE - True Frogs

Rana Catesbeiana - bullfrog

Class REPTILIA (Reptiles)

PHYRYNOSOMATIDAE

Phrynosoma coronatum blainvillii - San Diego horned lizard

Sceloporus occidentalis - western fence lizard

Uta stansburiana - side-blotched lizard

TEIDAE - Whiptails and Relatives

Cnemidophorus hyperythrus - orange-throated whiptail

Cnemidophorus tigris - western whiptail

ANGUIDEAE - Alligator Lizards and Relatives

Elgaria multicarinata - southern alligator lizard

COLUBRIDAE - Colubrids

Thamnophis hammondi - two-striped garter snake

VIPERIDAE - Vipers

Crotalus ruber - red diamond rattlesnake

Crotalus viridis - western Pacific rattlesnake

Class AVES (Birds)

PHASIANIDAE - Quails, Pheasants, and Relatives

Callipepla californica - California quail

ARDEIDAE – Herons and Bitterns

Ardea herodias - great blue heron

VULTURIDAE / CARTHARTIDAE

Cathartes aura - turkey vulture

ACCIPITRIDAE - Hawks, Old World Vultures, and Harriers

Accipiter cooperii - Cooper's hawk

Accipiter striatus - sharp-shinned hawk

Buteo jamaicensis - red-tailed hawk

Buteo lineatus - red-shouldered hawk

Circus cyaneus - northern harrier

Elanus caeruleus - black-tailed kite

FALCONIDAE - Caracaras and Falcons

Falco sparverius - American kestrel

CHARADRIIDAE - Plovers

Charadrius vociferous - killdeer

COLUMBIDAE - Pigeons and Doves

Columba livia - rock dove

Zenaida macroura - mourning dove

CUCULIDAE - Typical Cuckoos

Geococcyx californianus - greater roadrunner

APODIDAE - Swifts

Aeronautes saxatalis – white throated swift

TROCHILIDAE - Hummingbirds

Calypte anna - Anna's hummingbird

Calypte costae - Costa's hummingbird

Selasphorus rufus – rufous hummingbird

TYRANNIDAE - Tyrant Flycatchers

Myiarchus cinerascens - ash-throated flycatcher

Sayornis nigricans - black phoebe

Sayornis saya – Say's phoebe

Tyrannus vociferans - Cassin's kingbird

Tyrannus verticalis - western kingbird

CORVIDAE - Jays, Magpies, and Crows

Apelocoma californica – scrub jay

Corvus brachyrhynchos - American crow

Corvus corax - common raven

ALAUDIDAE - Larks

Eremophila alpestris - horned lark

HIRUNDINIDAE - Swallows

Hirundo pyrrhonota - cliff swallow

Hirundo rustica - barn swallow

Stelgidopteryx serripennis - northern rough-winged swallow

AEGITHALIDAE - Bushtit

Psaltriparus minimus - bushtit

TROGLODYTIDAE - Wrens

Thryomanes bewickii - Bewick's wren

MUSCICAPIDAE - Old World Warblers, Gnatcatchers, Kinglets, Thrushes, Bluebirds, and Wrentits

Chamaea fasciata - wrentit

Polioptila caerulea - blue-gray gnatcatcher

Polioptila californica - California gnatcatcher

TURDIDAE - Thrushes

Turdus migratorius – American robin

MIMIDAE - Mockingbirds and Thrashers

Mimus polyglottos - northern mockingbird

Toxostoma redivivum - California thrasher

STURNIDAE - Starlings

Sturnus vulgaris - European starling

PTILOGONATIDAE – Silky flycatchers

Phainopepla nitens - phainopepla

PARULIDAE – Wood warblers

Dendroica coronata – yellow rumped warbler
Geothlypis trichas – common yellowthroat
Wilsonia pusilla – Wilson’s warbler

THRAUPIDAE - Tanagers

Piranga ludoviciana – western tanager

EMBERIZIDAE - Warblers, Sparrows, Blackbirds and Relatives

Agelaius phoeniceus - red-winged blackbird
Aimophila ruficeps - rufous-crowned sparrow
Ammodramus savannarum – grasshopper sparrow
Amphispiza belli belli - Bell’s sage sparrow
Melospiza melodia - song sparrow
Pipilo crissalis - California towhee
Pipilo maculatus – spotted towhee
Spizella atrogularis – black chinned sparrow
Zonotrichia leucophrys – white-crowned sparrow

CARDINALIDAE – Cardinals, Grosbeaks, and Buntings

Passerina amoena – lazuli bunting
Pheucticus melanocephalus – black-headed grossbeak

ICTERIDAE - New World Blackbirds and Orioles

Euphagus cyanocephalus – Brewers blackbird
Icterus bullockii – Bullock’s oriole
Icterus cucullatus - hooded oriole
Molothrus ater – brown-headed cowbird
Sturnella neglecta – western meadowlark

FRINGILLIDAE - Finches

Carduelis psaltria - lesser goldfinch
Carduelis tristis - American goldfinch
Carpodacus mexicanus - house finch

PASSERIDAE - Weaver Finches

Passer domesticus - house sparrow

Class MAMMALIA (Mammals)

DIDELPHIDAE - Opossums

Didelphis virginiana - Virginia opossum

LEPORIDAE - Rabbits and Hares

Lepus californicus - black-tailed jackrabbit
Sylvilagus audubonii - desert cottontail

SCIURIDAE - Squirrels, Chipmunks, and Marmots

Spermophilus beecheyi - California ground squirrel

GEOMYIDAE - Pocket Gophers

Thomomys bottae - Botta's pocket gopher

MURIDAE - Rats, mice, and voles

Peromyscus sp. - mouse
Neotoma - woodrat

CANIDAE - Foxes, Wolves, and Relatives

Canis latrans - coyote

PROCYONIDAE - Raccoons and Relatives

Procyon lotor - raccoon

FELIDAE – Cats

Felis concolor – mountain lion

Lynx rufus – bobcat

CERVIDAE – Deer

Odocoileus hemionus – mule deer

APPENDIX B

NATIVE PLANTS RECOMMENDED FOR REVEGETATION PROJECTS IN PARK

NATIVE PLANTS RECOMMENDED FOR REVEGETATION/RESTORATION PROJECTS WITHIN BLACK MOUNTAIN OPEN SPACE PARK

The following list is provided for general guidance in choosing plants for remedial or enhancement planting in the various botanic communities found in the Park. Any revegetation/restoration plant palette should be based on the species that are located in the areas immediately surrounding the project area; species may include, but are not limited to, the plants listed here. All plant materials (seeds, cuttings, etc.) used for revegetation/restoration projects should be collected within the Park whenever possible in order to maintain genetic integrity of the local flora.

Any revegetation plan will require approval by City Park and Recreation Department, as appropriate, prior to implementation. The use of endangered, threatened, or sensitive species is encouraged where appropriate.

Diegan Coastal Sage Scrub Components

Adolphia californica – California adolphia
Artemisia californica – California sagebrush
Baccharis sarothroides – broom baccharis
Dudleya variegata – variegated dudleya
Encelia californica – California encelia
Eriogonum fasciculatum var. *foliolosum* – flat-top buckwheat
Eriophyllum confertiflorum – golden yarrow
Ferocactus viridescens – San Diego barrel cactus
Malosma laurina – laurel sumac
Mimulus aurantiacus – San Diego red monkeyflower
Nassella lepida – foothill stipa
Opuntia littoralis – coastal prickly pear
Opuntia prolifera – coastal cholla
Rhamnus crocea -- redberry
Rhus integrifolia – lemonadeberry
Salvia apiana – white sage
Viguiera laciniata – San Diego County sun flower
Yucca schidigera – Spanish bayonet

Native Perennial Grassland

Achnatherum diegoensis – San Diego County needlegrass
Allium praecox – early onion
Astragalus trichopodus – coast locoweed
Bloomeria crocea – common goldenstar
Calochortus kennedy var. *kennedy* – mariposa lily
Calochortus splendens – splendid mariposa
Fritillaria biflora – chocolate lily
Harpagonella palmeri – Palmer's grapplinghook
Holocarpha virgata – graceful tarplant
Isocoma menziesii var. *decumbens* – decumbent goldenbush
Lupinus bicolor – dove lupine
Nassella pulchra – purple needlegrass
Sidalcea malviflora – checkerbloom
Sisyrinchium bellum – blue-eyed grass-iris
Stachys ajugoides var. *rigida* – hedge nettle
Viola cornuta – johnny jump ups
Zigadenus fremontii – star lily

Chaparral

Adenostoma fasciculatum – chamise
Ceanothus tomentosus – ceanothus
Cercocarpus minutiflorus – smooth mountain mahogany
Heteromeles arbutifolia – toyon
Malosma laurine – laurel sumac
Xylococcus bicolor – mission manzanita

Riparian

Artemisia douglasiana – California mugwort
Platanus racemosa – western sycamore
Salix lasiolepis – arroyo willow
Typha sp. - cattail
Clarkia purpurea – purple clarkia
Calystegia macrostegia – western bindweed; morning glory
Plagiobothrys acanthocarpus – adobe popcornflower

APPENDIX C

MUNICIPAL CODE REGULATIONS FOR HANG GLIDING

APPENDIX D

MUNICIPAL CODE FOR BRUSH MANAGEMENT

APPENDIX E

REPRESENTATIVE PHOTOGRAPHS OF BLACK MOUNTAIN OPEN SPACE PARK