

1. OVERVIEW

1.1 INTRODUCTION

The City and County of San Francisco (City) covers the northern portion of the San Francisco Peninsula and encompasses an area of 49 square miles. Small fragments of a unique ecosystem called the Franciscan landscape, part of the larger Bay/Delta region, still exist in San Francisco today (Roof 1989). The Franciscan landscape developed in the wildlands that once extended from San Bruno Mountain to the Golden Gate Headlands. Its unusual combination of climatic, floristic, and geologic features supported the development of a biologically diverse assemblage of plants and animals, some of which were unique to the area. Most of the remnant fragments of the Franciscan landscape are included in the Significant Natural Resource Areas (Natural Areas). These areas are preserved and protected by the Natural Areas Program (NAP) of the San Francisco Recreation and Park Department (SFRPD).

1.2 SIGNIFICANT NATURAL RESOURCE AREAS

The 31 Natural Areas are scattered mostly throughout the central and southern portions of the City (Figure 1-1) and constitute approximately 4 percent of the total City area. They range in size from less than 1 acre (i.e., 15th Avenue Steps) to almost 400 acres (i.e., Lake Merced) and include such popular locations as Twin Peaks and portions of Glen Canyon Park (Table 1-1). Many of these areas support sensitive plant and animal species and habitats. Others include striking geologic formations. Most are used as recreational open spaces by residents and visitors. While mostly owned by the SFRPD, some remnant natural areas are managed by other public and private entities. Some of these properties may eventually be transferred to SFRPD.

1.3 NATURAL AREAS PROGRAM (NAP)

The NAP is the branch of SFRPD responsible for managing the City's Natural Areas. The mission of the Program is two-fold: to preserve, restore, and enhance remnant Natural Areas, and to develop and support community-based site stewardship of these areas. The initial impetus for the Program came from several local grassroots environmental organizations that recognized the value of the "Significant Natural Resource Areas" as plant and wildlife habitats, ecosystem functions, socioeconomic values, living museums protecting natural heritage, and as outdoor classrooms. Recognizing the functions and value of these Natural Areas and the need to protect and restore them, SFRPD agreed to support and develop a community-based habitat restoration program, today known as the NAP. SFRPD's commitment to this project was formalized in the SFRPD Commission's adoption of the Significant Natural Resource Areas Management Plan (SNRAMP) in 1995 (SFRPD 1995a). In 1997, SFRPD hired the first staff for the Program and has been steadily building a team of natural resource managers and a base of volunteers. In 2004,

the Natural Areas team was composed of nine full-time staff who worked with thousands of volunteers on habitat restoration and environmental education.¹

1.4 MANAGEMENT PLAN BACKGROUND AND OBJECTIVES

BACKGROUND

A critical component of the NAP is the development of a restoration and management plan for the City's Natural Areas. The purpose of this plan is to provide a scientifically sound planning framework for the implementation of the Program. Several planning and policy efforts have preceded the development of this plan and form the foundation of its goals and recommendations.

Policy 2.13 (Policy 13) of the General Plan

The Open Space Element of the City's General Plan (as amended in 1991) requires the City to preserve and protect the Significant Natural Resource Areas (Policy 13). Policy 13 includes natural resource areas and naturalistic areas as potential protection and preservation areas. The policy identifies the following criteria used to determine a Significant Natural Resource Area: (1) relatively undisturbed remnants of San Francisco's original landscape that either support diverse and significant indigenous plant and wildlife habitats or contain rare geologic formations or riparian zones; (2) sites that contain rare, threatened, or endangered species or areas likely to support these species; and (3) areas that are adjacent to other protected natural resource areas. The policy further stipulates that management plans be developed for each of the natural areas. Specifically, the policy describes the need to:

- identify natural areas and inventory them;
- identify the presence of natural resources;
- describe practices such as exotic plant species removal; and
- identify policies governing access and recreational uses to ensure that natural resource values are not diminished by public use.

¹ Approximately 13,000 volunteer hours were logged in 2004.

1995 SNRAMP

In 1995, the Recreation and Parks Commission adopted the SFRPD's staff report on the SNRAMP. This document further refined the objectives, policies, and management actions for Natural Areas and identified 28 parks or portions of parks considered candidates for designation as Natural Areas. The parks identified as Natural Areas have been refined from the 1995 SNRAMP according to the criteria presented above. The objectives from the 1995 SNRAMP provide a framework for the general and park-specific recommendations in this plan (Table 1-2). Prior to the adoption of the SNRAMP by the Commission, a public hearing was held.

The City's Sustainability Plan

In 1997, many of the goals and objectives described in the SNRAMP were adopted and further refined in the Sustainability Plan for the City (City and County of San Francisco 1997). This document, which describes actions the City can take to create biologically diverse and sustainable Natural Areas, was adopted by the City of San Francisco Board of Supervisors (Resolution 692-97). The biodiversity section, which includes 39 specific actions, addresses the goals of increased ecological understanding, protection, and restoration of remnant natural ecosystems; increased habitat value in developed and naturalistic areas²; and collection, organization, and development of historic information on habitats and biodiversity.

SFRPD Strategic Plan

Finally, SFRPD's Strategic Plan identifies sustainability as one of its core values. Stated policy recommendations in the Strategic Plan that pertain to Natural Areas and the NAP include ensuring acquisition and protection of sensitive plant and wildlife habitats, expanding sustainable landscaping, and becoming a leader in environmental education.

OBJECTIVES

The objectives of this Final Draft Plan are:

- to present the inventory of biological resources in Natural Areas, which will inform planning, restoration, and management activities;
- to present a Geographic Information System (GIS) database containing baseline information for each of the Significant Natural Areas;
- to identify issues and impacts adversely affecting ecosystem functions and biological diversity;
- to identify and prioritize restoration and management actions designed to promote the functioning of San Francisco's native ecosystem, including the maintenance of native biodiversity;

² For purposes of this plan, naturalistic areas are defined as planted landscapes that are relatively self-sustaining, composed of naturalized vegetation and/or which mimic natural systems.

- to identify and prioritize monitoring activities of natural resources to support an adaptive management approach (Section 2.3);
- to provide guidelines for passive recreational uses compatible with the City’s natural resources; and
- to provide guidelines for educational, research, and stewardship programs.

1.5 PLAN SCOPE AND DEFINITIONS

In the 1995 SNRAMP document, Significant Natural Areas were initially ranked as A, B, or C based on overall size, diversity of native habitats and species present, and the potential to restore and preserve this biodiversity in the future. Site-specific recommendations were made for all Rank A and B areas, and general recommendations were made for the Rank C sites in the Citizen Task Force Draft (EIP 2002). For the Public Draft and this Final Draft, all the Significant Natural Areas are treated at the same level of detail; Critical Areas have been removed.³ Also, this Final Draft considers only Natural Areas that are owned or managed by the SFRPD.⁴ Therefore, this document presents site-specific management plans for 31 Natural Areas encompassing more than 1,105 acres (Table 1-1) (Section 6). Of these, approximately 868 acres are in the City of San Francisco (including over 251 acres of open water at Lake Merced). The remaining acreage is within Sharp Park in the City of Pacifica.

Management Areas

This Final Draft defines and delineates “Management Areas”, which represent differing levels of sensitivity, species presence, and habitat complexity within the 31 Natural Areas. Three levels of MAs have been defined as MA-1, MA-2 and MA-3, and all Natural Areas are categorized into one of these three categories. The MA-1, MA-2, and MA-3 areas include approximately 18, 39, and 43 percent of the total Natural Areas respectively. In general, MA-1 represents the priority areas for conservation and management activities. Management of these areas will provide the greatest conservation benefit. As additional resources become available, such as grants, volunteer groups, capital funds, etc., management activities may shift to MA-2 or MA-3 areas.

Natural Areas (or portions thereof) to be designated MA-1 are those areas that:

- support listed species or special-status species⁵;

³ Management Areas replace the Critical Areas from the June 2002 draft of this plan (EIP 2002).

⁴ Natural Areas covered in this plan include those owned or managed by SFRPD under an interagency agreement (e.g., Public Utilities Commission at Lake Merced, San Francisco Unified School District at Brooks Park, and various Department of Public Works (DPW) rights-of-way). For purposes of the plan, lands adjacent and within contiguously owned SFRPD Natural Areas under the City’s DPW jurisdiction, designated as unaccepted streets or open space, are assumed to be a part of the Natural Area site. SFRPD and DPW are negotiating separately terms of such a management agreement, but for planning purposes SFRPD’s responsibilities for planting and vegetation removal are assumed.

⁵ The term “special-status species” (or sensitive species) refers to species that are: 1) federally listed as endangered, threatened, candidate, or food plants for those species; 2) state-listed as endangered, rare, threatened, California fully protected, species of special concern, or food plants for these species; 3) listed on the California Native Plant Society *Inventory of Rare and Endangered Vascular Plants of California* (Tibor 2001); 4) on the National Audubon Society’s Watch List; or 5) under threat of local extirpation as determined

- support habitat for a significant number of sensitive species of plants or animals;
- contain a relatively high portion of native plants or plant richness;
- contain unique remnant native vegetation (e.g., native grasslands, wetlands);
- contain habitats or species most likely to be impacted by human use;
- may support vegetation assemblages of limited distribution (locally or regionally); or
- contain erosion-prone areas.

Management actions within areas designated MA-1 may include:

- the most focused restoration work, possibly to the degree of manipulating individual plants and vegetation series;
- reintroduction of sensitive species;
- tree removal in conformance with forestry statements;
- implementation of erosion-control measures as problems arise, including the closure of informal and social trails; and
- prohibition on planting of non-native species.

Because the areas designated MA-1 are so sensitive to human-generated disturbance, they are subject to the most restrictions on recreational use; i.e., restrictions necessary to protect habitats and species of conservation concern. However, some MA-1 areas also provide the greatest opportunity for environmental education and community outreach. On-trail restrictions would be required in such circumstances. Some MA-1 areas may require installation of elevated boardwalks or permanent fences.

Areas designated MA-2 areas are comparatively more resilient to human disturbance than MA-1 areas. Criteria for designation as MA-2 include:

- important habitats (coastal scrub, wetlands, native grasslands, etc.);
- remnant native vegetation of otherwise widespread plant communities (e.g., coyote brush scrub, blackberry scrub);
- habitats or species moderately susceptible to human impact;
- habitat for local native wildlife species, i.e., resident and migratory bird species;
- native vegetation with some non-native elements; or
- buffer areas for MA-1s.

Management actions within areas designated as MA-2 may include:

- a management focused on maintenance of native plant communities;
- reintroduction of sensitive plants;

by the Yerba Buena chapter of the California Native Plant Society, or the Golden Gate chapter of the National Audubon Society.

- tree removal within the larger framework of tree removal that is limited to a prescribed number of acres and/or trees in compliance with forestry statements;
- implementation of erosion-control measures as problems arise, including the closure of informal and social trails; and
- prohibition on planting non-native species.

MA-2 areas are intended to act as buffers between highly sensitive and intensively managed MA-1 areas and the less sensitive and less intensively managed MA-3 areas. MA-2 areas often are associated with important bird habitat. Relatively fewer use restrictions will be implemented within the MA-2 areas. In general, all passive recreational uses will be allowed in these areas as long as they include on-trail use only and leashed pets. Temporary restrictions on access may be required following restoration activities, but these restrictions are not likely to become permanent.

The remaining lands within the Natural Areas include those that are the least sensitive. They are designated MA-3. Specific criteria for areas to be designated MA-3 include:

- absence (current or historic) of sensitive plants or animals, but support complement of some native plants and habitat for wildlife species;
- predominance of non-native vegetation that serves as a buffer for MA-1 and MA-2 from surrounding developed recreational and other land uses; or
- unusual geological features.

Management actions within areas designated as MA-3 include:

- activities to promote the health and diversity of urban forests and the wildlife habitat they provide;
- prohibition on (re)introduction of sensitive species;
- few restrictions on recreational use (subject to the standard park rules and codes); and
- implementation of erosion-control measures as problems arise, including the closure of informal and social trails.

Management Plan Lifespan

As envisioned, the Final Draft will provide the framework for long-term management of the Natural Areas. One goal is to provide the resource managers, i.e., SFRPD staff, a framework that can be used for the next 20 years. Within this period of time, restoration actions will be taken and monitoring will determine the success of those actions and influence future actions.

1.6 RELATIONSHIP TO OTHER PLANS AND POLICIES

Acquisitions Policy

At this time SFRPD does not have an Acquisitions Policy. However, the Annual Capital Plan delineates which acquisitions will be prioritized in the upcoming year. Until such time as an

Acquisition Policy is adopted by the Commission, the Capital Plan will direct if and when Natural Areas will be acquired or transferred. Priorities and criteria for acquisitions or transfers of Natural Areas will be incorporated into the Department-wide Acquisitions Policy currently in draft, which is expected to be crafted over the next 18 months.

The scope of the Final Draft covers the management of existing Natural Areas as delineated in this document, not lands acquired subsequent to it. Overall acreage of Natural Areas may increase due to acquisitions. Individual management plans for any Natural Area acquired in the future will be incorporated as addenda to the comprehensive management plan. Any acquisitions or change in land use will need to be re-evaluated and approved by the Commission. Subsequent management guidance for newly acquired Natural Areas will be developed in the form of annual work plans until such time as the SNRAMP is amended or a new plan adopted by the Commission.

Dog Policy

The SFRPD's Dog Policy, which was adopted by the Commission on May 8, 2002, is intended to provide designated off-leash dog play areas throughout the city. The Dog Policy sets out a process by which community input is solicited and Dog Play Areas (DPAs) are defined. Areas that are considered incompatible with off-leash recreation are also defined. The adopted SFRPD Dog Policy states that "[w]hile dogs are allowed in most park areas, dogs are not allowed in the following areas...Sensitive Habitat Areas (feeding/nesting grounds for significant animal species)." For purposes of this Final Draft, such sensitive habitats may be designated within MA-1 or MA-2 areas. However, designation as an MA-1 or MA-2 does not necessarily mean dogs on leash will be excluded. No exclusion of dogs on leash will be made in MA-3 areas.

The management plan evaluates existing DPAs adjacent or within Natural Areas and makes recommendations for their continuance, modification, or removal. The Dog Policy sets forth the mechanism by which a DPA can be eliminated. It states that "[i]f, after evaluation by the Advisory Committee, relevant park groups and [SF]RPD, a DPA is determined to be flawed in nature, potential solutions will be developed and implemented, i.e., if an unfenced DPA fails to confine uses, hard barriers may be implemented. If adequate alternatives cannot be identified, or are deemed ineffective, [SF]RPD reserves the right to discontinue the DPA in question." A community meeting would be held in the event that de-certification of a DPA was to occur.

Existing DPAs in parks with Natural Areas include:

- Corona Heights
- Buena Vista Park
- Bernal Hill
- Golden Gate Park (Northeast and Southeast)
- Pine Lake
- McLaren Park (Shelley Loop, Geneva, Crocker Amazon)

- Lake Merced

As discussed in site specific chapters only, no changes are recommended for DPAs at Golden Gate Park Southeast, McLaren-Geneva, McLaren-Crocker Amazon, Pine Lake and Corona Heights. Bernal Heights and McLaren Park Shelley Loop DPAs are recommended for modification. The Golden Gate Park Northeast and Buena Vista DPAs are recommended for monitored usage to ensure that increasing popularity does not create conflicts that have not yet arisen at these sites. Should increased use create new conflict, the plan recommends first restricting use to trail only and then, if ineffective, closing or relocating the DPA to another area of the park. SFRPD should investigate relocating the DPA at Lake Merced; however, until a new location is identified, the Lake Merced DPA should remain open and be monitored.

Policies Affecting Removal or Management of Trees

Forestry Statements are included in the plan for MA-1 and MA-2 areas in which an urban forest stand exists (Appendix F). Both the positive and negative effects of the Forestry Statement are defined and discussed. Each species, total number of trees to be removed, and the approximate acreage of that removal area are described. Tree species to be planted as replacements also are provided. Preparation of a Forestry Statement does not waive the posting requirement for all trees proposed for removal. Recommendations for management of urban forests within MA-3 areas are discussed in Section 5 (see GR-14).

SFRPD's tree posting policy requires that all trees over 6 inches diameter at breast height, and designated for removal, be posted at least 30 days before the removal date. The public is invited to make comment to SFRPD about the proposed removal and SFRPD may or may not modify its plans based on public input.

Capital Plan and Projects

SFRPD's Annual Capital Plan is required by ordinance. For Natural Areas, a Capital Project is defined as a project involving physical changes to the landscape, such as retaining walls, large scale plant removal, large scale erosion control, trail development or rehabilitation, etc., that is valued at over \$50,000. Such projects are distinct from maintenance activities, which are covered in this Final Draft. Each Capital Project that is initiated by SFRPD includes a public input and outreach process during the conceptual and design phases.

SFRPD currently has several Natural Area Capital Projects underway, including Glen Canyon Park, Pine Lake, and McLaren Park, Lake Merced, India Basin and Balboa Natural Area. These are considered Phase I projects. Future potential capital projects are listed in the following text.⁶ Actual dates of improvements are unknown, but Phase II projects will not be initiated until after all Phase I projects are funded. Similarly, Phase III projects will not begin before Phase II projects are funded.

⁶ Each year the Capital Plan is revised, therefore the list of Capital Projects and phasing may change.

Phase II priorities include:

- Edgehill Mountain
- Grandview Park
- Mount Davidson
- Twin Peaks
- Lake Merced Phase II
- Buena Vista Oak Woodlands
- Glen Canyon Park Phase II
- Bernal Hill
- Bayview Park
- McLaren Phase II
- Sharp Park

Phase III

- Oak Woodlands Golden Gate Park
- Interior Greenbelt
- Billy Goat Hill

Park Master Plans

This management plan is written to be consistent with recent Park Master Plans and Improvement Plans. Master Plans for the following parks have been reviewed and incorporated, where appropriate, into this plan: McLaren Park, Buena Vista, Pine Lake, Glen Canyon Park, and Golden Gate Park. If elements of this management plan are found to be in conflict with other plans, the Commission will resolve the conflict by amending one or both of the documents. Future Park Master Plans should conform to the management plan as outlined within.

1.7 PUBLIC INPUT, OUTREACH, AND NEXT STEPS

PUBLIC COMMENTS AND SCIENTIFIC REVIEW OF THE DRAFT PLAN

A public draft of this Management Plan was published in June 2005. This plan was available for comment from June 10 through July 28, 2005. Three public workshops were held on June 22, 28, and 30, 2005. At the public workshops, NAP staff explained the background and organization of the Plan and the public was invited to ask questions and comment on park-specific plans. Outreach fliers for the public workshops were sent to all residents within 300 feet of the project area, to the Mayor's Office of Neighborhood Groups, SFRPD's list of neighborhood groups, and other interested parties. Announcements were also posted at all Natural Area sites.

Public comments were received and individual comments within each letter were identified. In all, 2,682 comments were received. Editorial comments resulted in a change to the Management Plan that is reflected in this version. Comments that addressed more substantive changes were discussed by the team developing the management plan (including SFRPD staff) and incorporated as appropriate. A catalog of all comments with responses has been prepared under separate cover and will be presented to the Commission for their consideration.

Three independent scientific reviews of the Public Draft Management Plan were conducted in August 2005. Dr. Lynn Huntsinger and James W. Bartolome reviewed the entire June 2005 draft plan and provided a detailed report to the SFRPD (Huntsinger and Bartolome 2005). The goal of the independent review was to assess the scientific basis for the plan and evaluate the goals, issues, and recommendations. Additionally, the reviewers were asked to determine if the Plan was feasible to implement and if implementation of the proposed management activities would result in the desired outcome. The review reached the following overall conclusions:

- The Plan was based on sound science and was a reasonable compromise between ideals, practicality, and competing uses.
- The management goals (conservation, restoration, education, stewardship, recreation, and monitoring) are consistently addressed throughout the Plan.
- The proposed actions and monitoring seemed generally feasible.

The review did suggest revisions to the recommendations dealing with management of the urban forest understory, grasslands (see GR-3 in Section 5), and butterfly host plants (see GR-10). The general recommendations referenced by these comments have been revised and updated. The review also suggested minor changes to the Monitoring protocols (Section 7) which were implemented.

A second review was conducted by Roy A. Woodward, PhD. Dr. Woodward made comments on and suggested edits to the text, particularly as it related to the Monitoring Plan and Protocols. The Plan was revised per these edits as appropriate.

A third review was conducted by Peggy Fiedler, PhD. Dr. Fiedler concluded that the Plan in general succeeded in its goals and “strikes a balance between natural resource protection and the needs of citizens in a highly urbanized, densely populated, highly ethnically diverse, overall well-educated area.” Dr. Fiedler made many comments regarding clarity, content, organization, editing, format and consistency. To the extent possible, these clarity and organizational comments, as well as her specific technical comments, were incorporated into the Final Draft.

ANNUAL WORK PLANS

Each year management activities will be identified from the broader prescriptions of the management plan for implementation. NAP Work Plans will be developed annually to reflect site-specific objectives and resources, such as staffing, volunteer groups, grants, capital funds, or other resources, available for that year. In general, NAP Annual Work Plans will prioritize

activities (Appendix J) in MA-1 areas above actions in MA-2 or MA-3 areas. Each year Natural Areas Work Plans will be presented to the public at SFRPD's Annual Capital Planning Fair. This yearly event will be an opportunity for the public to understand and comment on SFRPD's priorities for Natural Areas improvements for the coming year, as well as its activities in the past year. In addition, NAP Work Plans and the results of monitoring activities will be available for posting on the internet. Periodic tours of restored areas will be conducted for the general public's education as resources are available.

ENVIRONMENTAL REVIEW

This Final Draft Management Plan will be subject to review under the California Environmental Quality Act (CEQA). Preparation of a CEQA document includes public scoping meeting(s), public hearing(s), comment periods on the Notice of Preparation and draft documents that provide opportunities for public comment on the management plan. Comments received during the public comment period of the environmental review process are addressed in preparation of the final document. Following the conclusion of the CEQA process, the Final Draft Plan and Environmental Impact Report (EIR) will be considered for adoption by the Recreation and Park Commission.

FUTURE USE CHANGES IN NATURAL AREAS

If a plant or animal species, plant community or specific wildlife habitat of sufficient import is discovered that is not identified in the management plan, then the Recreation and Park Commission must approve any significant change in allowable uses or tree removal or approve any change in allowable access deemed necessary for protection or enhancement of the newly identified area.

Similarly, if (re)introductions result in a proposed change of management classification from a less restrictive one to a more restrictive one, such as MA-3 to MA-2 or MA-2 to MA-1, then SFRPD will seek approval for any change in Management Areas affecting land use, access, or tree removal to the Commission prior to changing the classification.

The SFRPD will conduct public outreach programs to local and citywide stakeholders (including park visitors and neighbors) whenever a change is proposed to the allowable land uses, access, or tree removal as delineated in the plan. Outreach techniques and programs may include mailings, signage and on-site meetings. Should conflict with natural area protection lead the Dog Advisory Committee (DAC) to decertify one of the adjacent DPAs, a community meeting in the immediate neighborhood would be hosted by the DAC and the process would be subject to the Dog Policy's rules.

1.8 PLAN PARTICIPANTS

EIP Associates was contracted by SFRPD to prepare this management plan. EIP worked closely with NAP staff, three subconsultants (Geotopo Inc., Merrill Morris Partners, and San Francisco

State University), other community stakeholders, and numerous community volunteers to prepare this document. Faculty and students from SFSU assisted in all phases of the work (Appendix A). A scientific advisory board (Appendix A) consisting of experts in related fields provided direction and advice during the project's planning and preparation. Members of the Citizens Task Force also reviewed and commented on portions of a draft version of this plan offered in 2002. The NAP, Citizens Advisory Committee (NAPCAC) was created by the San Francisco Board of Supervisors in July 2002. While the NAPCAC did not comment specifically on the Management Plan, relevant comments were considered in the development of the public draft. In early 2005, an ad hoc group composed of interested public and SFRPD staff convened several times to discuss the revision process of this Management Plan.

1.9 MANAGEMENT PLAN ORGANIZATION

This Management Plan is divided into eight major sections and includes 10 appendices. The first two sections provide background information on the Natural Areas, including a discussion of the policies that mandate the creation of this Plan (Section 1) and the management goals (Section 2). Section 3 describes the existing conditions within the Natural Areas on a landscape level. Section 4 presents Integrated Pest Management procedures that will be implemented and applied to all the Natural Areas discussed in this plan.

During preparation of this document, it became clear that several management actions apply across the entire Natural Areas system. Examples of these actions include urban forest management protocols, grassland management actions, measures to protect and enhance habitat for birds, and recommendations for management of formal and social trails. These universal actions are discussed in Section 5 and references to these system-wide management actions are discussed within the site-specific management plans. Section 6 presents individual management plans for all 31 Natural Areas. Each of the site-specific plans begins with a discussion of existing socioeconomic values and ecosystem functions and then summarizes potential site improvements that would result from plan implementation. The site-specific chapters include a presentation of existing conditions, which is followed by management issues and recommendations.

Implementation of the recommendations within this Final Draft would require monitoring as discussed in Section 7. Full citations for all literature cited are included in Section 8. The 10 appendices (A-J) present acknowledgements, reference site data, plant and animal species lists, major habitat types, keys to the map codes for soils, land features and trails, historic plant distribution information, urban forestry statements, a glossary of common terms used throughout this plan, typical stair and fence designs, more detailed monitoring protocols and work plans.

Table 1-1. Acreage of Significant Natural Areas and total park acreages.

Significant Natural Area	Total Park Acreage	Natural Area Acreage
15th Avenue Steps	0.3	0.3
Balboa Natural Area	1.8	1.8
Bayview Park	43.9	43.9
Bernal Hill	24.3	24.3
Billy Goat Hill	3.5	3.5
Brooks Park	3.5	2.0
Buena Vista Park	36.1	6.1
Corona Heights	12.6	9.6
Dorothy Erskine Park	1.5	1.5
Duncan-Castro	0.5	0.5
Edgehill Mountain	2.3	2.3
Fairmount Park	0.7	0.7
Glen Canyon Park	68.8	60.0
Golden Gate Heights Park	6.0	0.8
Golden Gate Park (Oak Woodlands, including Lily Pond, Strawberry Hill, and Whiskey Hill)	1,021.0	26.2
Grandview Park	4.0	4.0
Hawk Hill	4.5	4.5
India Basin Shoreline Park	11.8	6.2
Interior Green Belt	19.4	16.5
Kite Hill	2.5	2.5
Lake Merced	614.0	395.0
Lakeview/Ashton Mini Park	0.5	0.5
McLaren Park	312.6	165.3
Mount Davidson	40.2	40.2
O'Shaughnessy Hollow	3.8	3.8
Palou-Phelps	2.5	2.1
Pine Lake	30.3	8.4
Rock Outcrop	1.6	1.6
Sharp Park	411.0	237.2
Tank Hill	2.9	2.9
Twin Peaks	34.1	31.1
Total	2,722.5	1,105.3

Table 1-2. Summary of policies and management actions from 1995 SNRAMP.

Vegetation
Maintain/promote indigenous plant species
Control/remove invasive species
Provide fire breaks where appropriate and maximize indigenous vegetation for fire control
Use indigenous vegetation for erosion control
Protect species listed as rare, threatened or of special concern
Remove exotic plants which adversely affect indigenous plant growth
Enhance riparian areas
Reforest/replant areas to maintain diversity
Preserve habitat which supports wildlife
Wildlife
Monitor wildlife
Consult with other agencies on habitat enhancement
Cooperate with other agencies to address issues of feral cats, domestic dogs, feral geese, etc.
Develop educational programs with other agencies
Water Resources
Maintain/improve water quality
Protect riparian zones from erosion
Maintain drainage and erosion prevention devices along roads and service trails
Control drainage from roads
Establish and maintain tule encroachment zone around lakes
Use proper controls when applying herbicides
Geotechnical/Soils
Minimize erosion along trails
Seed/plant bare soils with indigenous vegetation
Stabilize embankments when not in conflict with habitat
Minimize access on unstable slopes
Work cooperatively with adjacent property owners to minimize erosion and runoff issues
Clear landslide debris on park property
Install retaining devices where necessary to stabilize slopes
Education
Promote natural resource management among RPD staff
Develop nature programs to promote recreational and educational values
Develop education programs aimed at private property owners
Develop education programs with San Francisco Unified School District
Public Use
Develop guidelines for pathways and interpretive signs/trails
Control dirt bike and off-road use
Encourage community participation in a public stewardship program