

6.19 MCLAREN PARK

GENERAL DESCRIPTION AND LOCATION

Originally part of an 1836 Spanish land grant and the site of a planned, but never constructed, sub-division in 1905, John McLaren Park was proposed as a park in 1926. This 312-acre park was purchased by the City of San Francisco and dedicated in 1934 (Alexander no date). At just over 165 acres, McLaren Park Natural Area is the third largest Natural Area after Sharp Park (Section 6.4) and Lake Merced (Section 6.1). The park is near the southeast corner of San Francisco (Figure 1-1). It is bisected east-west by Mansell Street. The southern half of the park is crossed by Sunnydale and Visitacion Avenues, and the northern half by John F. Shelley Drive. Elevations in McLaren Park range from approximately 100 and 125 feet above mean sea level in the southern and northern corners of the park to just over 525 feet above mean sea level along Mansell Street. Recreational facilities within McLaren Park include over 11 miles of trails, tennis courts, ball fields, a golf course, picnic areas, overlooks, and an amphitheater. Designated Dog Play Areas (DPA) exists within the John F. Shelley Drive loop and at Geneva Avenue in the southeast corner of the grassland below Sunnydale Drive. A third DPA is located next to the Natural Area and adjacent to Crocker Amazon Park. The Natural Areas at McLaren Park are composed of grassland, scrub, and tree-dominated vegetation series (Figure 6.19-1). As one of the largest Natural Areas in the City, McLaren Park has high natural resource and recreation values for San Franciscans. These values include: high levels of recreational use on over 11 miles of trails; scenic views; complex assemblage of grassland, scrub, and forest habitats; population of sensitive plants, mission blue butterflies (*Icaricia icarioides missionensis*), and San Francisco forktail damselfly (*Ischnura gemina*); suitable habitat for a variety of resident and migratory bird species, including raptors and California quail (*Callipepla californica*); extensive grasslands providing habitat for butterflies and other insects; and excellent educational opportunities.

GEOLOGY, HYDROLOGY, AND TRAILS

McLaren Park is part of the same ridge that forms Bayview Park (Section 6.17) to the east. Mansell Street generally follows the ridge line through McLaren Park and is the dividing line between the north and south watersheds. Sunnydale Creek, a feeder of Yosemite Creek, once received water from springs on the south slope of McLaren Park. Historically, the creek flowed into Visitacion Bay south of Bayview Park (SFFO 2001). Slopes to the north of Mansell Street are slightly less steep than those on the south. There are three springs on this northern slope that once provided the main water source for Yosemite Creek (SFFO 2001). Numerous small springs, seeps, and wet areas that fed the two creeks remain, but all the lakes in the park are artificial.

The trail system at McLaren Park reflects the overall size of this Natural Area. All trails and roads within the Natural Area combined cover over 11 miles, more than twice that found in any

other Natural Area. Secondary trails make up most of this distance (4.4 miles), but paved roads and trails contribute almost 2 miles. There is less than one mile each of primary earthen trails and dirt roads. Social trails account for 3 miles of the total within the Natural Areas.

Northern Park Area - North of Mansell Street

The areas bounded by, and east of, John F. Shelly Drive typically contain loamy soils of varying depths (Figure 6.19-2). These soils are developed on undifferentiated recent sediments composed mainly of sand and silt. Soils north and west of the drive generally are composed of partially decomposed Franciscan bedrock (mapped during field visits on August 16, 1999, as thin rock soils over bedrock). Exposures of bedrock are lacking in most of the northern park areas, but the U.S. Geological Survey has mapped greenstone (an altered volcanic rock) along the western slope of Mansell Street, serpentine near the top of the ridge, and sandstone along most of the eastern slope (Bonilla 1971). Serpentine is exposed in the escarpment in the northeast corner of the park (extending southwest from the end of Burrows Street). The knolls along the ridge top are denuded of vegetation and are eroding. Part of the northwestern boundary of the park (near the fire suppression tank) is formed by a sandstone quarry face approximately 30 feet high. Trails around the fire suppression tower, the playing fields, and ball courts all show signs of soil erosion and gulying.

Some of the east-facing slopes north of John F. Shelley Drive exhibit signs of soil creep, possibly the result of over-watering. Water was observed flowing in an adjacent drainage channel in August, and sprinklers are the apparent source. This drainage channel terminates in Yosemite Marsh, a small pond with a surface area of approximately 100 square feet near Beacon Street. Drainage culverts near the larger ponds exhibit both erosion and standing water conditions. The other water feature within the Natural Area is Gray Fox Creek, which originates near the ridgeline at Mansell Street and flows to the north past the amphitheater, eventually emptying into McNab Lake.

Southern Park Area - South of Mansell Street

The area south of Mansell Street is characterized by the same thin rocky soils as observed in the northern portion of McLaren Park (Figures 6.19-3 and 6.19-4). In addition to this, there are numerous outcrops of greenstone and sandstone scattered across the area. There are two small serpentine outcrops along the Visitacion Avenue road-cut, south of Mansell Street (Figure 6.19-3). The extreme southwest corner of the park contains terraces that appear to be related to old quarrying activities (Figure 6.19-4).

The slope south and east of the main parking area (on the southeast side of the intersection of Mansell Street and Visitacion Avenue) contains extensive animal burrows and burns periodically (Figure 6.19-3). This has created soil slip over an area of old road fill. At the base of the hill near two outcrops of mélangé (conglomerate) the continuation of the soil slip encompasses a possible seepage area that supports a dense grass cover (Figure 6.19-3). South and west of the main

parking area, seepage is evident and an eroding gully has formed. In an effort to curb erosion, cut brush was placed into the gully and willows were staked in the gully. Additionally, concrete rubble has been placed at the toe of the gully near Visitacion Avenue. At the base of the slope, just west of the eroding gully, is another seepage area. There are at least two other trails in this area that run straight up the hill near the point at which the fire road meets Visitacion Avenue. Both of these are exhibiting signs of erosion.

The Gleneagles International Golf Course comprises a major part of the southern portion of McLaren Park. A cluster of greenstone outcrops occurs south of Mansell Street, near the golf course. This is not a high-use area, and trails and access routes are stable. South and west of the golf course is an open area with several shallow terraces (Figure 6.19-4). There is an area of erosion at the top of the terrace scarp. The southernmost edge of the park contains an extensive hillside soil slump area. Water seepage was observed on steps and a trail south of the picnic area there.

VEGETATION

The vegetation of McLaren Park was classified into 28 series (Table 6.19-1; Figures 6.19-5 to 6.19-7). These series are within six subformations: approximately 57 percent of the area is grassland; 35 percent is forest; 5 percent is scrub; 2 percent is mosaic; less than 1 percent is wetland; and 1 percent is classified as “other” (developed, bare ground, and rock outcropping). Eleven of these series are dominated by native species.

Forest

Seven forest series were mapped within the Natural Areas at McLaren Park. The mixed exotic and blue gum forest series are the most abundant, accounting for 29.42 and 25.67 acres, respectively. Small areas, generally less than 1 acre, of cypress, pine, eucalyptus, coast live oak, and redwood forest, round out the forest series. Point sampling data within the invasive forests at McLaren Park resulted in observation of 100 plant species, 65 of which were native; however, invasive species accounted for 75 percent of the cover.

Scrub

Of the four scrub series that were mapped at McLaren Park, French broom scrub (2.55 acres), willow scrub (2.86 acres), and coyote brush scrub (1.85 acres) account for over 92 percent of the total scrub habitat. The remaining scrub series, Himalayan blackberry scrub (0.61 acres), is of limited size and distribution. Two series, coyote brush scrub and willow scrub, are dominated by native species.

Wetland

Two wetland series, all dominated by native species, were mapped within McLaren Park, making it the third most diverse Natural Area in terms of wetlands, following Sharp Park (7 series) and

Lake Merced (5 series) (Table 3-3). However, unlike these other areas, wetland habitats at McLaren Park account for less than one-half acre. The cattail marsh off Beacon Street (0.33 acres) is the largest wetland in McLaren Park. Even though this area is not very big, it accounts for 91 percent of this type of habitat in SFRPD Natural Areas. The other series is rush meadow (0.14 acres).

Grassland

Ten grassland and herbaceous series were mapped at McLaren Park and cover over 93 acres. The largest series mapped was wild oat grassland (79.22 acres). Relatively large areas were mapped as purple needlegrass prairie (5.10 acres), wild oat/rattlesnake grassland (4.69 acres), and fennel (2.92 acres). In addition to the purple needlegrass habitats, other series dominated by native vegetation include California oat grass prairie (0.54 acres), red fescue prairie (0.09 acres), and tall fescue grassland (0.25 acres). Of these native-dominated grasslands, the Natural Areas of McLaren Park are the only place within the Natural Areas System that support California oat grass prairie and tall fescue prairie. Point sampling within the grasslands at McLaren Park reveal the diversity of these habitats. Of the 118 plant species observed in grasslands, 63 were native; however, invasive species accounted for the majority of the cover (67 percent).

Mosaic

The two mosaic series mapped at McLaren Park are both dominated by native coyote brush. Wild oat/coyote brush mosaic (2.97 acres) and exotic herb/coyote brush mosaic (0.08 acres) combined account for approximately 2 percent of the vegetation coverage within the Natural Areas at McLaren Park.

Other

Three series were mapped as “other” habitats at McLaren Park: developed, ornamental vegetation, and rock outcrop. Developed areas account for the largest coverage within this series (1.91 acres), and include all of the roads and other structures within the Natural Areas. Ornamental vegetation consists of 0.36 acres of landscaping throughout the Natural Areas. The rock outcrops (0.03 acres) are mostly the result of road cuts that exposed the underlying bedrock.

Sensitive Plant Species

Six species of sensitive plants have been documented within McLaren Park (Table 6.19-2). Johnny-tuck (*Triphysaria eriantha* var. *rosea*) is perhaps the most sensitive of these because this variant is an unusual subspecies, and this population is the only one within San Francisco. Johnny-tuck, along with big squirrel tail (*Elymus multisetus*) and Johnny-jump-up (*Viola pedunculata*), are all found in the grassland habitat south of Mansell Street (Figure 6.19-9). Johnny-jump-up is considered a sensitive species within San Francisco because it serves as a larval food plant for the San Francisco silverspot butterfly (*Speyeria callippe callippe*), a

federally endangered species. Wild cucumber (*Marah oreganus*) is a locally significant species, located just north of the rock outcrop south of Sunnydale Drive in the fennel vegetation subformation. Another locally significant species, skunkweed (*Navarretia squarrosa*), has been reported from McLaren Park but location information is unavailable. Historically, coast rock cress (*Arabis blepharophylla*), short-leaved evax (*Hesperivax sparsiflora* var. *brevifolia*), and checkerbloom (*Sidalcea malvaeflora*) were all reported from McLaren Park (Wood 1996), but none of these species have been observed recently and are not expected to currently exist within this Natural Area. The California Natural Diversity Data Base (CNDDB) does not report the occurrence of any sensitive plant species at McLaren Park (CNDDB 2005).

Invasive Plant Species

Out of approximately 163 acres within the Natural Area covered by vegetation, 15 vegetation series dominated by invasive species cover approximately 148 acres at McLaren Park. Wild oat grassland (79.22 acres), mixed exotic forest (29.42 acres), and blue gum forest (25.67 acres) account for the largest areas covered by invasive species. The next most common invasive species are wild oat/rattlesnake grass grassland (4.69 acres), fennel (2.92 acres), and French broom scrub (2.55 acres). The remaining invasive vegetation series are of limited size and significance.

WILDLIFE

Birds

The diversity of vegetation in McLaren Park provides suitable foraging, nesting, and roosting habitat for a wide variety of species. The grassland and scrub habitats of McLaren Park provide foraging habitat for raptors, while the forests provide potential nesting habitat for these species. Habitat for smaller birds such as sparrows, finches, and flycatchers is available in the scrub and mosaic habitats throughout the park. The small amounts of riparian habitat along the water courses within the Natural Areas may be a factor limiting bird diversity. As with many Natural Areas, the eucalyptus forests are relatively monotypic with sparse vegetation in the understory and therefore relatively poor habitat for birds.

Sensitive Bird Species and Important Bird Habitat

Of the bird species designated as sensitive for the entire Natural Areas, 24 species have been documented at McLaren Park (Table 6.19-2). Of these, 10 species nest within the Natural Area. The forest habitat of McLaren Park provides nesting habitat for red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), and American kestrel (*Falco sparverius*). These species forage in the grasslands of McLaren Park. Other species that nest within McLaren Park include American goldfinch (*Carduelis tristis*), lesser goldfinch (*Carduelis psaltria*), barn swallow (*Hirundo rustica*), tree swallow (*Tachycineta bicolor*), hooded oriole (*Icterus cucullatus*), and pygmy nuthatch (*Sitta pygmaea*). A wrenit

(*Chamaea fasciata*) was reported singing from an area near the twin water tanks between Mansell Street and the golf course (Figure 6.19-9) on July 1, 2001 (Freed 2001). Wrentits may be extinct as a breeding population within San Francisco (Murphy 2000; SFFO 2001). Other passerines are likely to use the park, but specific occurrence of sensitive species is unknown. The CNDDDB does not report the occurrence of any special-status species of birds from McLaren Park (CNDDDB 2005).

The variety of habitats available within McLaren Park help maintain the diversity of bird life. Sixteen areas of important bird habitat have been delineated within this Natural Area (Figure 6.19-8 to 6.19-10). Most of these areas are grasslands that support species such as the western meadowlark (*Sturnella neglecta*) and American and lesser goldfinch. These areas also provide foraging areas for raptors that nest within the forests. Four other areas are primarily riparian willow thickets that provide habitat for Wilson's warbler (*Wilsonia pusilla*), orange-crowned warbler (*Vermivora celata*), and Hutton's vireo (*Vireo huttoni*). Scrub and forest habitats near the golf course and the outdoor theater in the central portion of the Natural Area have been mapped as important habitat for California quail. This species is rapidly vanishing from San Francisco and McLaren Park represents one of the last remaining viable habitats for this species. These areas may also provide habitat used by wren, Bewick's wren (*Thryomanes bewickii*), Swainson's thrush (*Catharus ustulatus*), and spotted towhee (*Pipilo maculatus*). Other areas of important bird habitat include the forests that support nesting red-tailed and red-shouldered hawks and American kestrel.

Mammals

Surveys of small mammals were conducted at McLaren Park in summer 2000 (Paquin and Reading 2000). An array of 48 live traps was placed in south-facing grassland habitats at dusk and serviced the following morning. This pattern was repeated for four consecutive nights (192 trap nights) on August 7 to 11, 2000. Trapping resulted in the capture of six harvest mice (*Reithrodontomys megalotis*) and one house mouse (*Mus musculus*). One broad-footed mole (*Scapanus latimanus*) was found outside the trapping area (road kill). A carcass of a California meadow vole (*Microtus californicus*) was found in the southeastern grasslands (EIP field visit, October 27, 2001). It was within 6 feet of a relatively new brush pile that had been created within the grassland. Larger mammals found in McLaren Park such as raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*) and Virginia opossum (*Didelphis virginiana*) are typical of urbanized parks in general. The skeleton of a raccoon was found south of Mansell Street (EIP field visit, October 27, 2001). The CNDDDB does not report the occurrence of any special-status species of mammals from McLaren Park (CNDDDB 2005).

Reptiles/Amphibians

Eight surveys for reptiles and amphibians, totaling approximately 36 hours of field effort, were conducted at McLaren Park in spring 2000 (Paquin and Reading 2000). During these surveys, conducted by walking transects, one Pacific chorus frog (*Pseudacris (Hyla) regilla*), 116 juvenile

and adult bullfrogs (*Rana catesbeiana*), and one red-ear slider (*Trachemys scripta*) were observed in Yosemite Marsh and McNab Lake. Numerous juvenile and adult bullfrogs and three red-ear sliders were also observed (EIP field visit, April 12, 1999). The grasslands at McLaren Park may be large enough to support common reptiles such as Pacific ring-neck snake (*Diadophis punctatus*), Pacific gopher snake (*Pituophis melanoleucus*), California alligator lizard (*Elgaria multicarinata*), and northwestern fence lizard (*Sceloporus occidentalis*). Observations of the bullfrogs are important because bullfrogs can have negative impacts on native frog populations. The CNDDDB does not report the occurrence of any special-status reptiles or amphibians at McLaren Park (CNDDDB 2005).

Invertebrates

Sensitive Invertebrate Species

The mission blue butterfly, a special-status species, occurs within the City of San Francisco. At least three other special-status species of butterflies potentially occur within the City of San Francisco: San Bruno elfin butterfly (*Incisalia mossii bayensis*), San Francisco silverspot, and bay checkerspot butterfly (*Euphydryas editha bayensis*). San Bruno Mountain, just south of McLaren Park, supports populations of all these species. Larval host plants for the mission blue and bay checkerspot butterflies are relatively common at McLaren Park. Eggs and larvae of the mission blue butterfly were found on lupines in the southernmost grassland of McLaren Park (near Geneva Avenue) in 1988 (Arnold 1988). This is the slope that faces San Bruno Mountain and where colonization of McLaren Park is the most likely. The larval host plant for the silverspot, Johnny-jump-up, can be found on the south-facing grasslands (Figure 6.19-9). The larval host plant for the San Bruno elfin is stonecrop (*Sedum spathulifolium*) which does not occur in McLaren Park. None of the other sensitive butterfly species have been reported from McLaren Park.

A population of San Francisco forktail damselfly was discovered at a small wetland and pond, known as Yosemite Marsh, in the northern portion of McLaren Park in 1998 (Hafernik 1999). Yosemite Marsh is located in a picnic area at the intersections of Bacon and Oxford streets (Figure 6.19-8). This marsh has been dredged recently to remove excess sediment and improve habitat for the damselfly. Small isolated populations of this species become extinct most often because of rapid changes in habitat conditions typically associated with the growth of emergent aquatic vegetation and the loss of open water areas.

MANAGEMENT AREAS

Management Areas (MAs) at McLaren Park fall into three general categories: grassland, scrub, and forested areas (Figure 6.19-11 to 6.19-13). In the northern portion of the Natural Area, four MA-1 areas encompass sensitive riparian (MA-1a), rich grasslands (MA-1b and MA-1d), and marsh habitats (MA-1c) (Figure 6.19-11). In the central and southern portion of McLaren Park, a single MA-1 area (MA-1e) encompasses the most diverse grasslands that support sensitive plant

species (Figure 6.19-12 and 6.19-13). Surrounding most of the MA-1 areas is an MA-2 area which may also contain sensitive species and habitats, but which also provides a buffer between the adjacent urban forests and the MA-1 areas. These MA-2 buffer areas are active restoration areas where the public is most likely to see changes in the park landscape, such as tree and shrub removal and native planting. Within McLaren Park, the MA-3a areas are entirely urban forest. The MA-3b areas are grassland habitats that provide foraging habitat for birds. The MA-3c areas are forest-grassland mosaics. The following text presents issues and recommended management actions by Management Area.

ISSUES AND RECOMMENDATIONS

Several conservation and recreation-related issues have been identified for McLaren Park. Recommendations developed for each of these issues will guide restoration, enhancement, and maintenance work. In the following discussion, system-wide issues and recommendations (GR-1 for example; see Chapter 5) that apply to the entire Natural Area at McLaren Park are presented first within each topic area, followed by site-specific issues and recommendations. Site-specific recommendations are keyed to the Management Area in which they should occur.

Site Improvements – Implementation of management recommendations at McLaren Park would not change significantly the overall look of the park and would result in:

- establishment of a stable boundary between the eucalyptus and grassland habitats;
- thinning of sapling and mature eucalyptus and replacement with higher wildlife value native vegetation;
- improved health and diversity of the urban forest;
- maintenance of city views;
- enhanced habitat diversity and connectivity through restoration of native scrub and grassland habitats;
- improved riparian, coastal scrub, and marsh habitats;
- creation of artificial pool habitats to improve wildlife habitat;
- restoration of viable California quail habitat;
- beautification of some park entry points with designed native plant gardens;
- increased and more sustainable populations of sensitive plants;
- improved public access on designated trails;
- reduction of erosion;
- continued maintenance of off-leash dog use in McLaren Park, but protection of sensitive habitat areas through reduction of the existing DPA by approximately 14 percent; and
- improved educational opportunities.

Implementation of the following recommendations at McLaren Park will result in the protection and enhancement of native grasslands and coastal scrub habitats within McLaren Park. These

habitats may eventually be comparable to the coastal scrub and grassland habitat on the eastern slopes of San Bruno Mountain. Stabilization of the boundary between the urban forest and scrub or grassland will allow effective restoration of grassland and scrub habitats. As the grassland and scrub habitats improve, an increase in wildlife diversity and abundance will follow. Urban forest management will create higher-quality habitat as the forest diversity increases.

Vegetation

Issues relating to vegetation management at McLaren Park involve the protection of sensitive species and habitats, typically through the control of invasive plants (GR-1), management of sensitive species and vegetation series of limited distribution (GR-2), and long-term grasslands management (GR-3). Issues relating to the general safety of visitors and surrounding homes, fire hazards posed by vegetation and trees, and illicit activities must be considered during management of the Natural Areas (GR-13). Management of the urban forests at McLaren Park will follow the general urban forest management practices (GR-15). In addition to these general recommendations, the following site-specific issues should be addressed.

Issue MP-1: Native grasslands, rare habitat types (e.g., purple needlegrass prairie, California oatgrass prairie, and red fescue grassland), and populations of sensitive plant species are at risk of diminishing or being extirpated at McLaren Park because of habitat loss and invasive species. Invasive vegetation such as blue gum eucalyptus (*Eucalyptus globulus*), French broom (*Genista monspessulana*), European grasslands, and Himalayan blackberry (*Rubus discolor*), etc. occurs throughout McLaren Park and threatens the long-term survival of the grassland and scrub habitats, as well as sensitive species that persist there.

Recommendation MP-1a: Reduce and contain herbaceous invasive weeds throughout such as Algerian ivy (*Hedera canariensis*), poison hemlock (*Conium maculatum*), wild radish (*Raphanus sativus*), burclover (*Medicago* sp.), Capeweed (*Arctotheca calendula*), Himalayan blackberry, Bermuda buttercup (*Oxalis pes-caprae*), cotoneaster (*Cotoneaster* spp.), vetch (*Vicia* sp.), invasive thistle, field mustard (*Brassica rapa*), French broom, Cape ivy (*Delairea odorata*), sweet fennel (*Foeniculum vulgare*), and European grasses in all MA-1, MA-2 and MA-3 areas except for MA-3b. Allow some invasive plants such as mallow (*Malva* sp.), radish, thistles, plantain (*Plantago* sp.), and fennel that are important nectar, seed, and larval habitat for wildlife to persist within MA-3b; but monitor these species to ensure that they do not encroach on sensitive habitats, and manage them accordingly. Understory plants in MA-3 urban forests may also be reduced in order to improve tree health and wildlife habitat (see GR-15).

Recommendation MP-1b: In order to enhance the sensitive species habitat that persists in the urban forest understory and at the forest-scrub-grassland ecotone, invasive trees will be removed in select areas. Coastal scrub and grassland communities require additional light to reach the forest floor in order to persist. Approximately 809 of an overall 19,500 trees within the McLaren Park Natural Area would be removed from MA-1 and MA-2

areas (Appendix F). Not all trees in MA-1 and MA-2 areas will be removed. In fact, no tree removal will occur in MA-1b. Some scattered large individuals will remain in order to minimize large scale disturbance and disruption to wildlife and to promote a gradual conversion to scrub and grassland habitats. However, invasive tree seedlings and saplings will not be allowed to establish in any MA-1, MA-2, or in MA-3b. In grasslands, focus tree removal in areas where a small number of invasive trees are separating areas of existing grassland habitat. This procedure would connect grasslands and thus increase their functional size, and enhance their wildlife value. Manage all MA-3a and MA-3c areas as urban forests (GR-15). The short- and long-term impacts of tree removal are discussed in Appendix F. Below is a description of where tree removal would occur (see also Figure 6.19-11 to 6.19-13):

- Remove approximately 50 eucalyptus from MA-1a.
- Remove approximately 5 trees from MA-1c.
- Remove approximately 20 trees from MA-1d.
- Remove approximately 60 trees from MA-1e.
- Remove approximately 40 outlying trees from MA-2a.
- Remove approximately 600 trees while leaving a few large eucalyptus from within MA-2b.
- Remove approximately 4 trees from the edge of MA-2c.
- Remove approximately 30 trees from MA-2e.

Recommendation MP-1c: In MA-1 and MA-2 areas where invasive plants have been removed, revegetate using appropriate native plants. Existing grasslands and coastal scrub habitats areas shall be enhanced and diversified as appropriate (MA-1b, MA-1d, MA-1e, MA-2a, and MA-2b). Using diversity, cover, and density targets generated from reference sites within and around San Francisco, plant native grassland and scrub species (see Appendix B). In MA-3 areas, plant the understory and forest gaps in accordance with the recommendations of the Urban Forest Management Plan (GR-15). Modify the planting palette at park entrances and areas adjacent to traditionally landscaped areas by favoring showy native perennials (e. g., at the park entrance south of Sunnydale in the MA-2a).

Recommendation MP-1d: In order to prevent extinction of existing rare or uncommon grassland plant species at McLaren Park, consider augmenting existing sensitive plants such as flowering quillwort (*Lilaea scilloides*) (MA-1c), big squirrel tail (MA-1e), Johnny-tuck (MA-1e), wild cucumber (Ma-2a and MA-2b), and Johnny-jump-up (MA-1e, MA-2a).

Recommendation MP-1e: In order to reduce the potential for local extinction of sensitive species in San Francisco, consider reintroduction of rare plants as specified in Table 6.19-3.

Wildlife

Wildlife issues at McLaren Park involve the protection and enhancement of habitat, food sources, and shelter. Implementation of recommendations in MP-1 will improve wildlife habitat at McLaren Park. Vegetation management during the breeding season can impact nesting birds (GR-4); however, vegetation management also can provide materials to create artificial habitat for ground-dwelling birds, small mammals, and reptiles (GR-9). Artificial nesting structures may benefit some species, especially cavity nesters such as titmice, chickadees, and woodpeckers (GR-6). Installation of plants required by California's native butterflies can help increase these populations (GR-10). Finally, reduction in predation pressures will benefit all animals within the Natural Area (GR-7). In addition to these general recommendations, the following site-specific issues should be addressed.

Birds

Issue MP-2: Coastal scrub and willow riparian areas are limited within McLaren Park. These habitats provide important nesting, resting and foraging habitat for a variety of birds, including many of those considered sensitive for this project. Where this habitat does exist within the Natural Areas, it is not structurally diverse. In some areas, routine human use has reduced the habitat quality and can disturb sensitive wildlife, especially ground-dwelling birds (see MP-8).

Recommendation MP-2a: Increase the patch size of willows and coastal scrub by removing invasive species that border these areas and allowing natural recruitment into the newly opened areas (MA-1a, MA-1c, MA-2b, and MA-2c). Isolated patches of shrubs shall be connected with plantings and brush piles. Larger habitat units would create interior habitats that are more sheltered from outside disturbance.

Recommendation MP-2b: Increase the structural diversity of the existing habitats by installing native plants that are different in height from the existing habitats (MA-1a, MA-1c, MA-2b, and MA-2c). For example, planting red alder (*Alnus rubra*), coast twinberry (*Lonicera involucrata*), or elderberry (*Sambucus* spp) within the willow patches would enhance structural and food diversity.

Recommendation MP-2c: Restrict foot traffic in the 0.6-acre Gray Fox Creek area (MA-1a). This sensitive habitat area is one of the few creek riparian habitats with above-ground water available for wildlife. The willow trees and surrounding scrub are habitat for California quail.

Issue MP-3: Late season fruiting vegetation such as Himalayan blackberry is an important source of food for resident and wintering birds within McLaren Park. Vegetation management activities that results in the removal of these plants can reduce habitat complexity and available food.

Recommendation MP-3a: Within all the MA-1 and MA-2 areas, remove fruiting plants in the very early spring before nesting starts, but after most wintering birds have left. To ensure that a suitable food supply remains, fruit-bearing native species shall be planted as replacements, preferably before the invasive species are removed. Additionally, removal of fruit-bearing invasive species should only occur in relatively small discontinuous areas at any one time to preserve habitat integrity and minimize disruption. Dense thickets of blackberry in MA-1a that function as cover habitat for quail shall not be removed.

Reptiles/Amphibians

Issue MP-4: Amphibian breeding habitat is limited in distribution in SFRPD Natural Areas. The Natural Areas within McLaren Park have multiple springs and seeps that may be improved to provide water naturally for these species. Based on the quality of shoreline habitat, Yosemite Marsh, the only pond area within the Natural Area at McLaren Park, provides minimal breeding habitat. Pacific chorus frogs were observed at McLaren Park and improvements that create potential breeding sites for this species could help them spread through the Natural Area.

Recommendation MP-4a: Consider installation of spring boxes or small artificial pool habitats associated with the springs and seeps as appropriate within MA-1e, MA-2a, and MA-2c areas (Figures 6.19-2 to 6.19-4). Prior to the installation of small artificial water sources, it should be ensured that they will not be located in areas, such as near trails or within off-leash DPAs, that would be easily accessible to off-leash dogs or undesirable human use. These activities could potentially render the artificial water sources unusable to birds, amphibians, and other wildlife, thus defeating their purpose. Artificial water sources should be able to be drained periodically in order to remove bullfrogs that would prey on smaller animals using the water sources. Planting riparian and/or wetland vegetation associated with the water features would further enhance the habitat for amphibians and a variety of other wildlife.

Invertebrates

Issue MP-5: Yosemite Marsh is one of two areas in the SFRPD Natural Areas System where the San Francisco forktail damselfly still exists (Sharp Park is the other; see Section 6.4). The habitat of the marsh provides suitable breeding, rearing, and foraging habitat for all life stages of this species. The three main pressures facing the damselfly at this location are encroachment of cattails into the marsh, shading by nearby trees, and sedimentation. Additional pressures may come from recreational users or maintenance activities of San Francisco Recreation and Park Department (SFRPD) staff who are unaware of this population. Sedimentation issues are currently being addressed through a Capital Project at Yosemite Marsh. Active management of this area is necessary to ensure that this population remains stable. The following recommendations were based in part by those made by Hafernik (1999) and apply to the Yosemite Marsh (MA-1c) only.

Recommendation MP-5a: Continue to control emergent vegetation within the marsh to prevent cattails from completely clogging the open water areas. These activities shall be conducted either in the early spring before the cattails start growing, or during late spring or summer and again in the winter dormant season. During all removal efforts, care shall be taken to avoid damage to adjacent open sunny habitats.

Recommendation MP-5b: Continue to allow the development of an unmowed grass buffer along the channel between the marsh and the recreational area. This would help limit disturbance and provide roosting and feeding sites. This area needs to be checked twice annually to make sure that the vegetation has not grown tall enough to shade the water. This buffer shall be cut as necessary to maintain sunlight to the surface of the pond. Hafernik (1999) recommends reducing the coverage of the horsetail ferns (*Equisitum telmateia* spp. *braunii*) on the northern slope because they do not provide much foraging habitat for damselflies.

Recommendation MP-5c: Conduct routine monitoring of this population to assess its continued survival.

Recommendation MP-5d: Create an educational program for all SFRPD staff who work at McLaren Park. Items that shall be discussed include the importance of protecting amphibians and San Francisco forktail damselfly, identification of these species, and their preferred habitats.

Recommendation MP-5e: To protect the existing population of San Francisco forktail damselfly at Yosemite Marsh, no fish of any kind should be added to this pond. This includes mosquito fish, which would prey on the damselfly larvae (Moyle 2002), and any other fish from any other source. If mosquito control at Yosemite Marsh is desirable, use of a biocontrol agent such as *Bacillus thuringiensis israeliensis* (BT) would be the preferred methodology and should not affect the damselfly population (see Section 5).

Issue MP-6: Mission blue butterflies have been documented using the southern slope of McLaren Park (Arnold 1988). This grassland provides suitable breeding and foraging habitat for this federally listed endangered species. San Bruno Mountain, where a population of mission blues and other sensitive butterfly species exists, is approximately 1 mile south, making natural recolonization of McLaren Park a realistic possibility.

Recommendation MP-6a: Conduct an annual evaluation of the populations of sensitive butterflies within McLaren Park, focusing on the grasslands above Geneva Avenue where they have been historically reported (MA-1e, MA-2a-c).

Recommendation MP-6b: Install larval host plants and nectar sources as part of revegetation efforts (MA-1e, MA-2a-c).

Soils, Erosion, and Public Use

The erosion and soil issues at McLaren Park generally relate to the trail system and public use. An extensive network of roads and designated and social trails winds through all Management Areas at McLaren Park (Figure 6.19-2 through 6.19-4). This plan proposes to improve and maintain 3.9 miles of trails, retain an additional 4.4 miles of unimproved trails, and close almost 3 miles of social trails within McLaren Park. The issue of erosion and habitat impacts related to social trails is addressed through implementation of GR-11 and GR-12. Interpretive signs regarding the ecosystem of McLaren Park should also be considered (GR-14). The issues noted previously about the slope above Yosemite Marsh that is slipping are being addressed through an SFRPD Capital Project that is currently underway at Yosemite Marsh.

Issue MP-7: The occasional use of the Natural Area by people riding off-road motorcycles and mountain bikes continues to occur. This activity damages sensitive habitats and species. While such use may be infrequent, the damage caused by a single trip could significantly impact plants and animals on the brink of survival at McLaren Park.

Recommendation MP-7a: To protect the sensitive resources of the Natural Area, signs and temporary barriers should be installed along the roadway. Increased enforcement of these regulations should help minimize disturbance. However, if these solutions are ineffective, installation of a permanent barrier along the roadway may be required (MA-1e and MA-2a).

Issue MP-8: In addition, habitat for the federally endangered mission blue butterfly is a sensitive habitat in McLaren Park (South of Sunnydale Avenue and east of Visitation Valley Road). Off-leash and off-trail activities can degrade this habitat and harm host plants. On-trail use with on-leash dogs would greatly reduce this impact; however, leash laws are currently rarely enforced (GR-8).

Recommendation MP-8a: There are approximately 0.4 acres of mission blue butterfly habitat in McLaren Park located next to or surrounding trails. If park users (and dogs) stay on trails, no further access restrictions or fencing would be required. However, if lack of enforcement and compliance with leash laws continues and/or damage to sensitive habitat areas is observed, SFRPD should consider restricting access to these sensitive habitat areas, as described in the dog policy, including physical barriers. Permanent physical barriers are viewed as a last resort to be used only after signage and other soft solutions have been shown to be ineffective. If fences are installed, public access would still be allowed on designated trails; however, low trailside fencing would be installed (approximately 500 linear feet) to discourage people and dogs from drifting off-trail (see Appendix H for examples of low rustic fencing).

Issue MP-9: There are three existing DPAs within McLaren Park. One is located along Geneva Avenue in the southeast corner of the grassland below Sunnydale Drive (Figure 6.19-13, MA-

3b). Another is located northeast of the Crocker Amazon Ballfields in an area adjacent to the Natural Areas. These two DPAs do not conflict with any of the Natural Area goals and use of the area does not impact sensitive resources. The Shelly Loop DPA is the 59-acre area bounded by the John F. Shelley Drive loop off of Mansell Street; this area includes lands within and outside of the Natural Area. Gray Fox Creek flows through this DPA near the Amphitheater. This area supports sensitive habitats (restored riparian areas and wetlands). One of the goals of the restoration project is to create suitable habitat for California quail, a sensitive species, and other wildlife species that are dependent on the creek riparian habitat.

Recommendation MP-9a: To protect the sensitive habitat along the creek it is recommended that dog access to a 0.6-acre portion of the creek be eliminated. In addition, to protect sensitive habitat, the area around Gray Fox Creek should be converted to an on-leash on-trail use area. This action would affect 7.7 acres (MA-1a).

Recommendation MP-9b: Small areas of native grassland and wildflower sites within the remaining off-leash area of the Shelley Loop DPA should be monitored for impacts associated with off-leash use (MA-1b and MA-1d). If monitoring indicates off-leash activities are impacting these resources, SFRPD should consider measures to minimize impacts to the area, including signs and low naturalistic trailside fencing.

Table 6.19-1. Vegetation series mapped at McLaren Park.

	Vegetation Series	Total Acreage
Forest	coast live oak forest*	0.30
	blue gum forest	25.67
	cypress forest	0.89
	eucalyptus forest	0.55
	giant sequoia forest	0.25
	mixed exotic forest	29.42
	pine forest	0.87
	Subtotal	57.95
Scrub	coyote brush scrub*	1.85
	willow scrub*	2.86
	French broom scrub	2.55
	Himalayan blackberry scrub	0.61
	Subtotal	7.88
Mosaic	wild oat/coyote brush mosaic*	2.97
	exotic herb/coyote brush mosaic*	0.08
	Subtotal	3.05
Grassland	Italian ryegrass grassland	0.31
	wild oat grassland	79.22
	wild oat/rattlesnake grassland	4.69
	California oat grass prairie*	0.54
	red fescue prairie*	0.09
	purple needlegrass prairie*	5.10
	tall fescue grassland*	0.25
	velvet grass grassland	0.16
	Subtotal	90.36
Other Herbaceous	fennel	2.92
	pampas grass	0.21
	Subtotal	3.13
Wetland	cattail marsh*	0.33
	rush meadow*	0.14
	Subtotal	0.47
Other	developed	1.91
	ornamental	0.36
	rock outcrop	0.03
	Subtotal	2.30
Grand Total		165.14

* Indicates vegetation type is dominated by native species.

Table 6.19-2. Sensitive species historically and presently known to occur at McLaren Park.

Species	Common Name	Status Federal, State, CNPS	Occurrence Status
ANIMALS			
<i>Icaricia icarioides missionensis</i>	Mission Blue Butterfly	FE	Reported in 1988, current status unknown.
<i>Callipepla californica</i>	California Quail	LS	Historically occurred in this park
<i>Ischnura gemina</i>	San Francisco Forktail Damselfly	-	Presently occurs in Yosemite Marsh.
<i>Bubo virginianus</i>	Great Horned Owl	SLC	Presently breeds
<i>Carduelis tristis</i>	American Goldfinch	SLC	Presently breeds
<i>Falco sparverius</i>	American Kestrel	SLC	Presently breeds
<i>Hirundo rustica</i>	Barn Swallow	SLC	Presently breeds
<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	-	Presently occurs
<i>Anas strepera</i>	Gadwall	SLC	Winter resident
<i>Icterus cucullatus</i>	Hooded Oriole	SLC	Presently breeds
<i>Vireo huttoni</i>	Hutton's Vireo	SLC	Presently occurs
<i>Carduelis psaltria</i>	Lesser Goldfinch	SLC	Presently breeds
<i>Vermivora celata</i>	Orange-crowned Warbler	SLC	Presently occurs
<i>Pandion haliaetus</i>	Osprey	SLC	Presently occurs
<i>Empidonax difficilis</i>	Pacific-slope Flycatcher	SLC	Presently occurs
<i>Carpodacus purpureus</i>	Purple Finch	SLC	Presently occurs
<i>Sitta pygmaea</i>	Pygmy Nuthatch	SLC	Presently breeds
<i>Loxia curvirostra</i>	Red Crossbill	SLC	Winter Resident
<i>Sitta canadensis</i>	Red-breasted Nuthatch	SLC	Winter Resident
<i>Buteo lineatus</i>	Red-shouldered Hawk	SLC	Presently breeds
<i>Buteo jamaicensis</i>	Red-tailed Hawk	SLC	Presently breeds
<i>Sayornis saya</i>	Say's Phoebe	SLC	Winter resident
<i>Pipilo maculatus</i>	Spotted Towhee	SLC	Presently occurs
<i>Catharus ustulatus</i>	Swainson's Thrush	SLC	Presently occurs
<i>Tachycineta bicolor</i>	Tree Swallow	SLC	Presently breeds
<i>Wilsonia pusilla</i>	Wilson's Warbler	SLC	Presently occurs
<i>Chamaea fasciata</i>	Wrentit	SLC	Reported July 2001, breeding status unclear, assumed to still occur.

PLANTS			
<i>Elymus multisetus</i>	Big Squirrel Tail	LS	Presently occurs
<i>Lilaea scilloides</i>	Flowering Quillwort	LS	Likely extirpated
<i>Marah oreganus</i>	Wild Cucumber	LS	Presently occurs
<i>Navarretia squarrosa</i>	Skunkweed	LS	Presently occurs
<i>Triphysaria eriantha</i> var. <i>rosea</i>	Johnny-Tuck	LS	Presently occurs (1 population)
<i>Viola pedunculata</i>	Johnny-Jump-Up	-	Larval food plant for San Francisco silverspot butterfly, presently occurs

Status Key:

Federal Status

- FE* Endangered. Species in danger of extinction throughout all or significant portion of its range.
- FT* Threatened. Species likely to become endangered within foreseeable future throughout all or
- FPE* Proposed for listing as endangered.
- FC* Candidate for listing as endangered. Candidate information now available indicates that listing may be appropriate with supporting data currently on file.
- FSC* Species of Concern. Former Category 2 Candidate for listing as endangered.
- FPD* Proposed de-listing.

California State Status

- SE* Endangered. Species whose continued existence in California is jeopardized.
- ST* Threatened. Species, although not presently threatened with extinction, that is likely to become endangered in the foreseeable future.
- SSC* Species of Concern.
- SFP* State Fully Protected under Sections 3511 and 4700 of the Fish and Game Code.
- Sens* Considered a sensitive species by the California Department of Forestry.

California Native Plant Society

- 1A* Plants presumed extinct in California
- 1B* Plants that are rare or endangered in California and elsewhere.
- 2* Plants that are endangered in California, but more common elsewhere.
- 3* Plants about which more information is needed.
- 4* Plants of limited distribution (a watch list).
- LS* Locally Significant.

Golden Gate Audubon Society

- SLC* Species of Local Concern

Table 6.19-3. Management Areas at McLaren Park and sensitive plant species to consider for reintroduction within those Management Areas.

Management Area	Species
MA-1a	wood rose (<i>Rosa gymnocarpa</i>) and canyon gooseberry (<i>Ribes menziesii</i>)
MA-1b	Iris leaf rush (<i>Juncus xiphioides</i>) and coastal black gooseberry (<i>Ribes divarcatum</i>)
MA-1c	Coastal black gooseberry and yellow-eyed grass (<i>Sisyrinchium californicum</i>)
MA-1d	broadleaf aster (<i>Aster radulinus</i>), star lily (<i>Zigadenus fremontii</i>), Coast larkspur (<i>Delphinium decorum</i>), leafy daisy (<i>Erigeron foliosus</i>), climbing bedstraw (<i>Gallium porrigens</i>), California saxifrage (<i>Saxifraga californica</i>), western goldenrod (<i>Euthamia occidentalis</i>), and common stickyseed (<i>Blennosperma nanum</i> var. <i>nanum</i>)
MA-1e	common fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>), milkvetch (<i>Astragalus gambellianus</i>) (south of Mansell), purple owl's clover (<i>Castilleja exserta</i> ssp. <i>exserta</i>) (south of Sunnydale), Coast larkspur, shooting star (<i>Dodecatheon hendersonii</i>), leafy daisy, blue violet (<i>Viola adunca</i>), star lily, wild cucumber (<i>Marah oreganus</i>), grassland gilia (<i>Gilia clivorum</i>), Scouler's large campion (<i>Silene scouleri</i> ssp. <i>grandis</i>), and bladder parsnip (<i>Lomatium utriculatum</i>)
MA-2a	common fiddleneck, and hummingbird sage (<i>Salvia spathacea</i>)
MA-2b	wood rose, Coastal black gooseberry, silk tassel bush (<i>Garrya elliptica</i>), Islais cherry (<i>Prunus ilicifolia</i>), western choke cherry, and hummingbird sage (east of John F. Shelley Drive and south of Mansell Street).
MA-2c	broadleaf aster, Coast larkspur, Islais Creek cherry, western choke cherry (<i>Prunus virginiana</i>), coastal black gooseberry, canyon gooseberry, hummingbird sage, and wood rose
MA-2e	fiesta flower (<i>Pholistoma auritum</i> var. <i>auritum</i>)



- - - Natural Area Boundary
- — — SFRPD Jurisdiction (SF City Property)
- - - Other City Jurisdiction (SF City Property)
- Natural Area Boundary and SFRPD Jurisdiction (SF City Property)
- Shared property boundary between SFRPD and Other City Jurisdiction (SF City Property)
- — — 20-Foot contour line

NOTE: 20-foot contours used to view vegetation better.



Source: Aerial photography San Francisco Department of Public Works, 2002, Orthophoto - San Francisco - 1-foot resolution, 2001; property boundary data derived by San Francisco Recreation and Park Department (RPD) 2005 from data provided by San Francisco Department of Telecommunications and Information Services, 2002; natural area boundary data created by San Francisco State University Institute for GISc from information provided by RPD's Natural Areas Program (NAP), 2005; contour lines provided by San Francisco Department of Conservation; all data are California State Plane Zone III, NAD 83.

Created by Debra Dwyer, San Francisco State University, Institute for GISc, May 5, 2002, revised August 24, 2005.

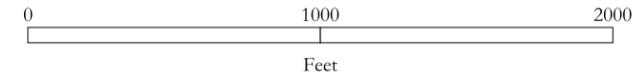
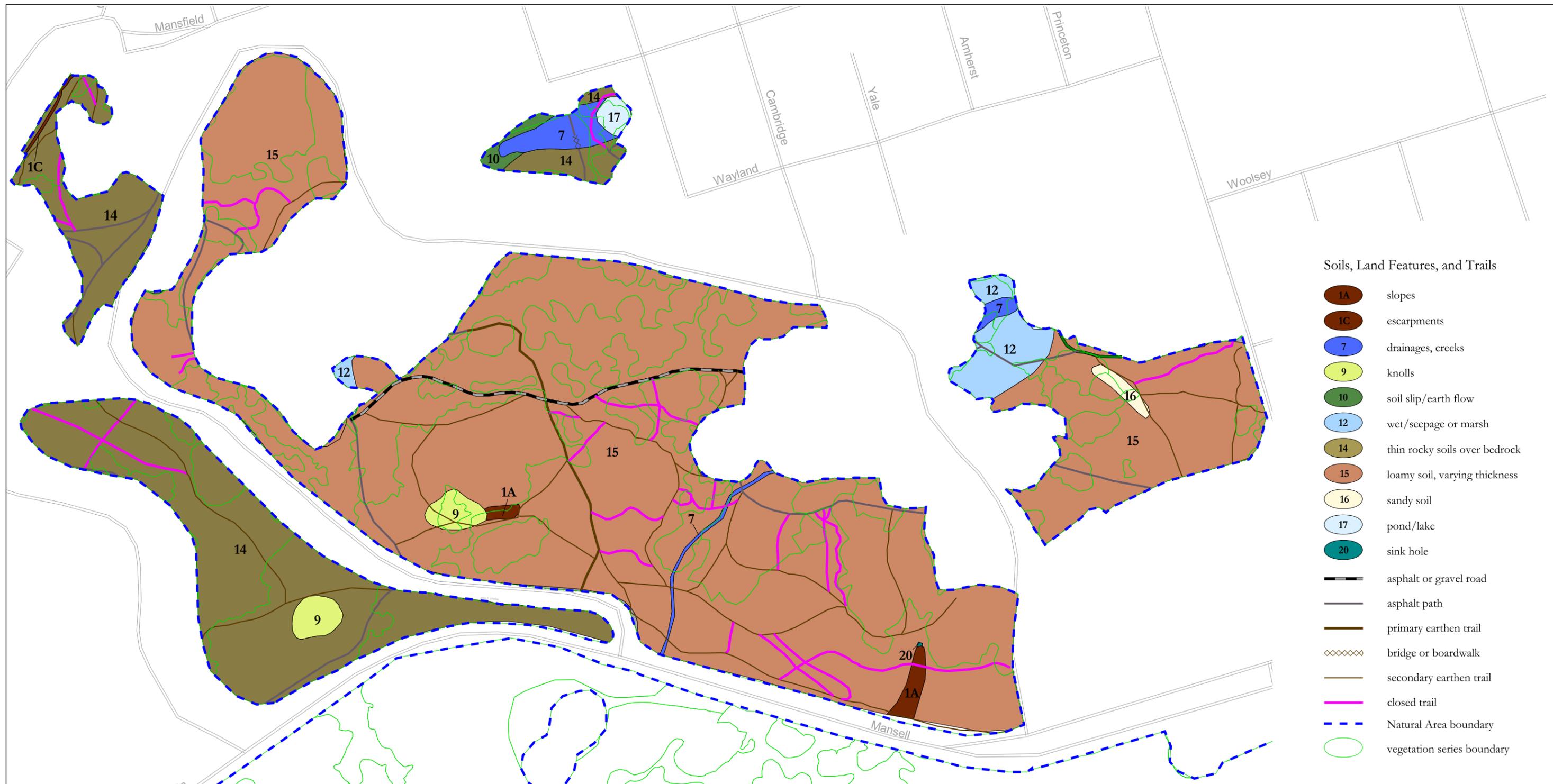


FIGURE 6.19 - 1
AERIAL PHOTOGRAPH, PROPERTY BOUNDARIES, AND NATURAL AREAS
McLaren Park
 Significant Natural Resource Areas
 Management Plan
 San Francisco, California



Soils, Land Features, and Trails

- 1A slopes
- 1C escarpments
- 7 drainages, creeks
- 9 knolls
- 10 soil slip/earth flow
- 12 wet/seepage or marsh
- 14 thin rocky soils over bedrock
- 15 loamy soil, varying thickness
- 16 sandy soil
- 17 pond/lake
- 20 sink hole
- asphalt or gravel road
- asphalt path
- primary earthen trail
- bridge or boardwalk
- secondary earthen trail
- closed trail
- Natural Area boundary
- vegetation series boundary

Source: Soils and land features data collected by EIP Associates, 1999-2002; trail data collected by San Francisco Recreation and Park Department Natural Areas Program (NAP) 2005, digitized by San Francisco State Institute for GISc; vegetation data collected by NAP, San Francisco State University Biology Department and EIP Associates, 1999-2000; data layers digitized by Geotopo, Inc., 2000; edited and corrected by SFSUIGIS, 2000-2002; natural area boundary created by SFSUIGIS based on a determination by NAP, 2005; streets data excerpted from ArcView StreetMap 2000, copyright 1998-2000, Environmental Systems Research Institute, Inc., (ESRI).

Created by Debra Dwyer of San Francisco State University Institute for GISc October 24, 2001, revised December 11, 2005.

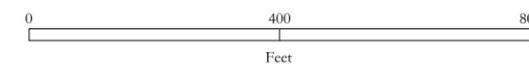
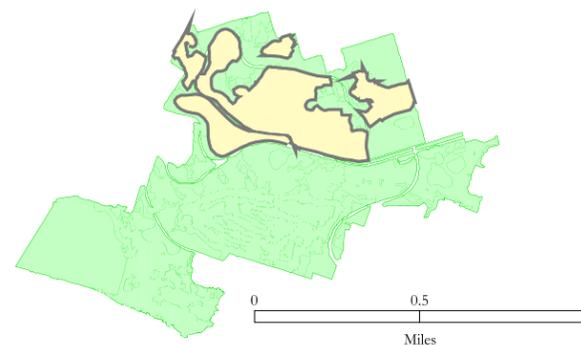
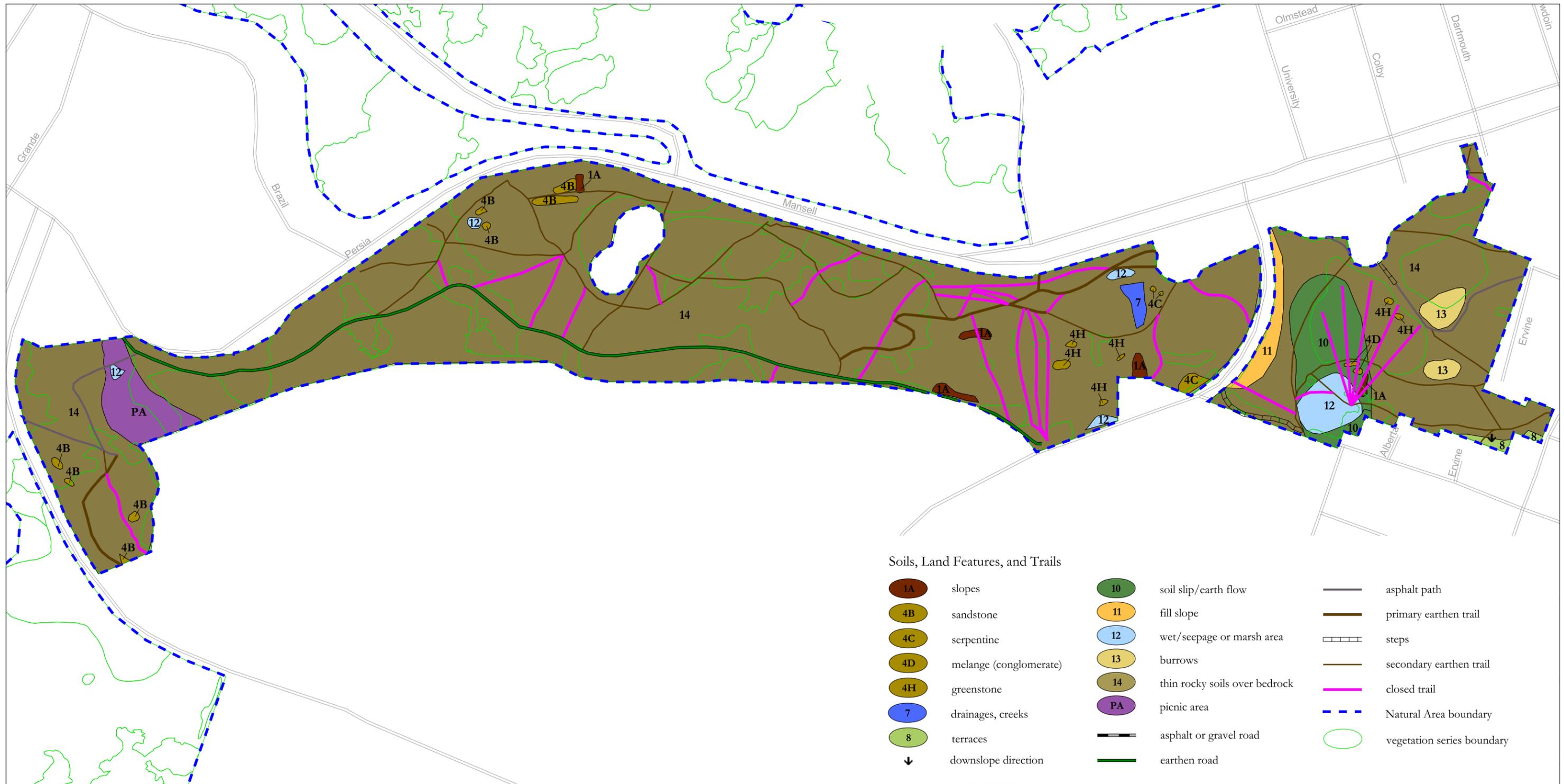


FIGURE 6.19 - 2
SOILS, LAND FEATURES,
AND TRAILS

McLaren Park

Significant Natural Resource Areas
Management Plan

San Francisco, California



Soils, Land Features, and Trails

- | | | | | | |
|----|------------------------|----|-------------------------------|--|----------------------------|
| 1A | slopes | 10 | soil slip/earth flow | | asphalt path |
| 4B | sandstone | 11 | fill slope | | primary earthen trail |
| 4C | serpentine | 12 | wet/seepage or marsh area | | steps |
| 4D | melange (conglomerate) | 13 | burrows | | secondary earthen trail |
| 4H | greenstone | 14 | thin rocky soils over bedrock | | closed trail |
| 7 | drainages, creeks | PA | picnic area | | Natural Area boundary |
| 8 | terraces | | asphalt or gravel road | | vegetation series boundary |
| | downslope direction | | earthen road | | |



Source: Soils and land features data collected by EIP Associates, 1999-2002; trail data collected by San Francisco Recreation and Park Department Natural Areas Program (NAP) 2005, digitized by San Francisco State Institute for GISc; vegetation data collected by NAP, San Francisco State University Biology Department and EIP Associates, 1999- 2000; data layers digitized by Geotopo, Inc., 2000; edited and corrected by SFSUIGIS, 2000 - 2002; natural area boundary created by SFSUIGIS based on a determination by NAP, 2005; streets data excerpted from ArcView StreetMap 2000, copyright 1998-2000, Environmental Systems Research Institute, Inc., (ESRI).

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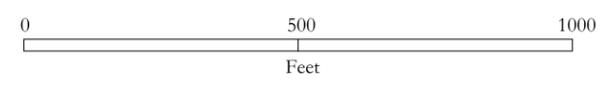
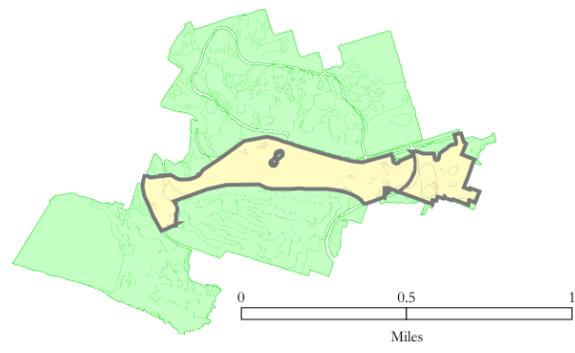
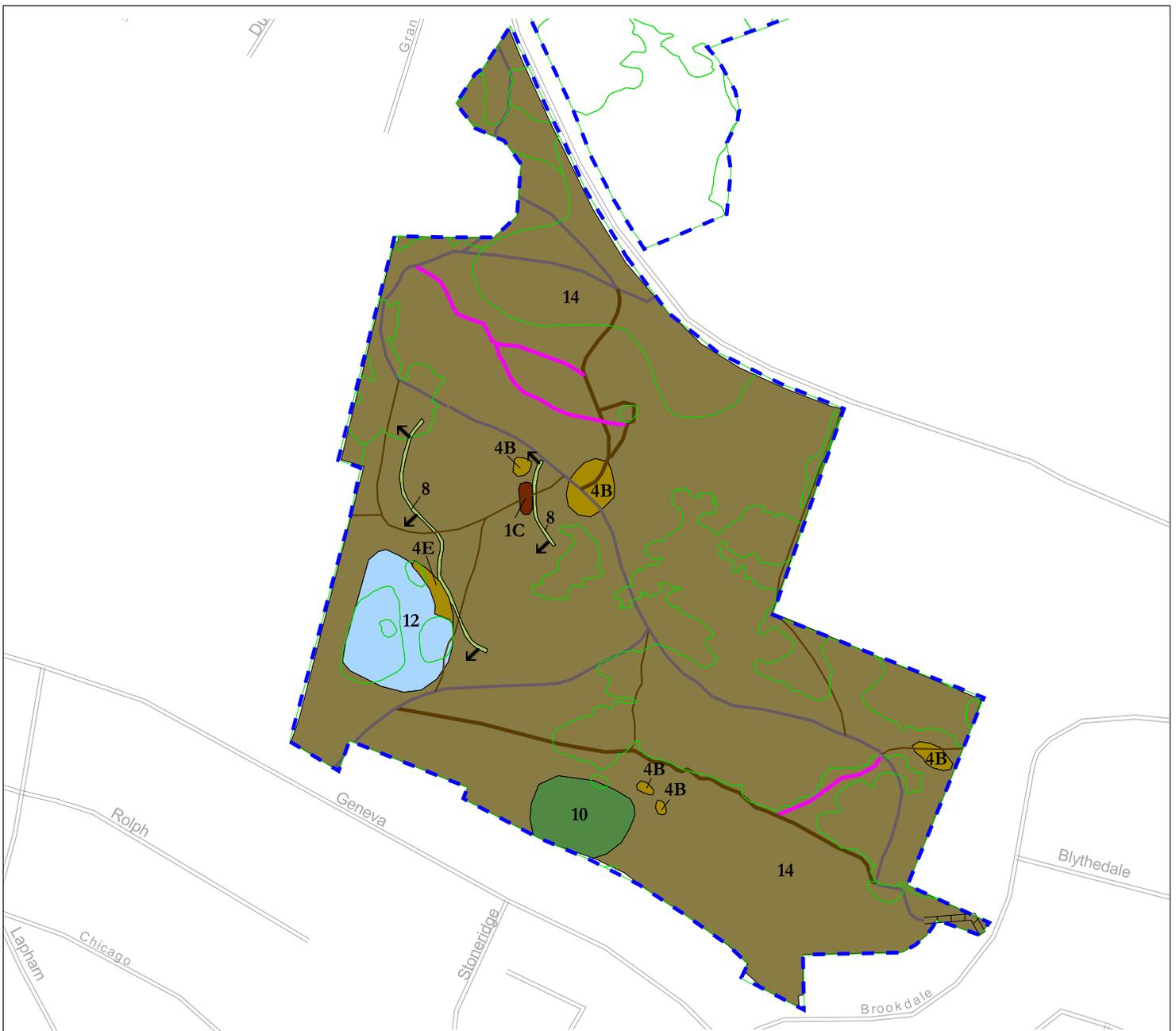
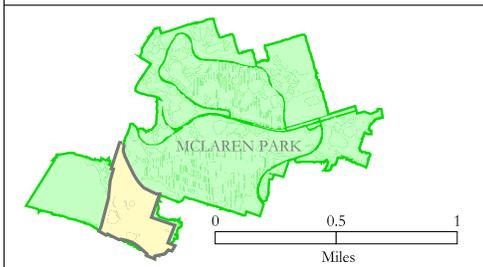


FIGURE 6.19 - 3
SOILS, LAND FEATURES, AND TRAILS
McLaren Park
 Significant Natural Resource Areas Management Plan
 San Francisco, California



Soils, Land Features, and Trails

- | | | | |
|----|---------------------------|----|-------------------------------|
| 1C | slopes | 14 | thin rocky soils over bedrock |
| 4B | sandstone | | asphalt path |
| 4E | quarry floor | | primary earthen trail |
| 8 | terraces | | steps |
| | downslope direction | | secondary earthen trail |
| 10 | soil slip/earth flow | | closed trail |
| 12 | wet/seepage or marsh area | | Natural Area boundary |
| | | | vegetation series boundary |



Source: Soils and land features data collected by EIP Associates, 1999-2002; trail data collected by San Francisco Recreation and Park Department Natural Areas Program (NAP) 2005, digitized by San Francisco State Institute for GISc; vegetation data collected by NAP, San Francisco State University Biology Department and EIP Associates, 1999-2000; data layers digitized by Geotopo, Inc., 2000; edited and corrected by SFSUIGIS, 2000-2002; natural area boundary created by SFSUIGIS based on a determination by NAP, 2005; streets data excerpted from ArcView StreetMap 2000, copyright 1998-2000, Environmental Systems Research Institute, Inc., (ESRI).

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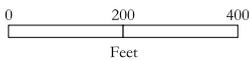
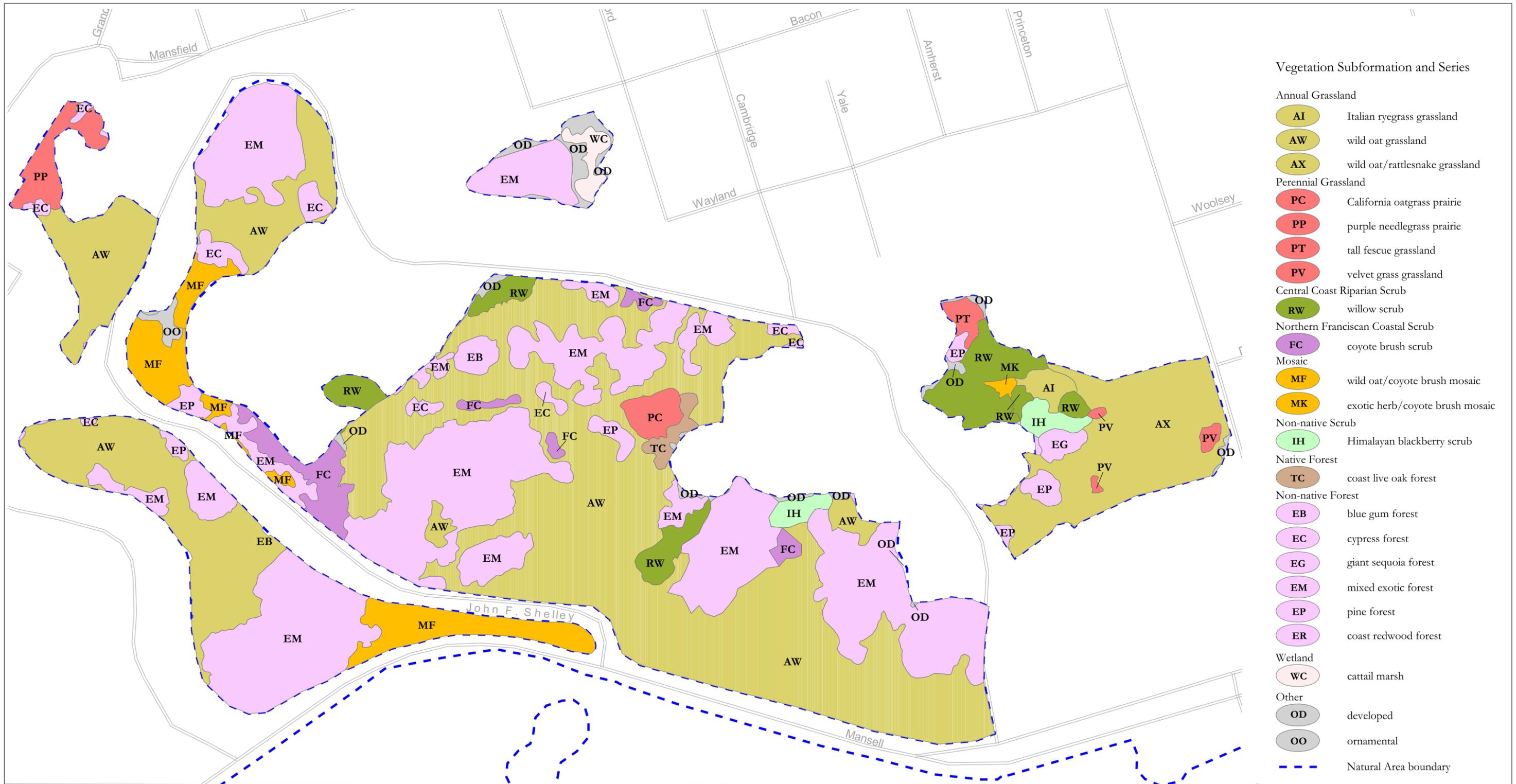


FIGURE 6.19 - 4
SOILS, LAND FEATURES,
AND TRAILS
McLaren Park
 Significant Natural Resource Areas
 Management Plan
 San Francisco, California



Vegetation Subformation and Series

- Annual Grassland
 - AI Italian ryegrass grassland
 - AW wild oat grassland
 - AX wild oat/rattlesnake grassland
- Perennial Grassland
 - PC California oatgrass prairie
 - PP purple needlegrass prairie
 - PT tall fescue grassland
 - PV velvet grass grassland
- Central Coast Riparian Scrub
 - RW willow scrub
- Northern Franciscan Coastal Scrub
 - FC coyote brush scrub
- Mosaic
 - MF wild oat/coyote brush mosaic
 - MK exotic herb/coyote brush mosaic
- Non-native Scrub
 - IH Himalayan blackberry scrub
- Native Forest
 - TC coast live oak forest
- Non-native Forest
 - EB blue gum forest
 - EC cypress forest
 - EG giant sequoia forest
 - EM mixed exotic forest
 - EP pine forest
 - ER coast redwood forest
- Wetland
 - WC cattail marsh
- Other
 - OD developed
 - OO ornamental
- - - Natural Area boundary



Source: Vegetation data collected by San Francisco Recreation and Park Department Natural Areas Program (NAP), San Francisco State University Biology Department, and EIP Associates, 1999-2000; vegetation digitized by Geotopo, Inc., 2000; edited and corrected by San Francisco State University Institute for GISc (SFSU IGIS), 2000; natural area boundary created by SFSU IGIS from data determined by NAP, 2005; streets data excerpted from ArcView StreetMap by Environmental Systems Research Institute, Inc. ESRI, copyright 1998-2001.

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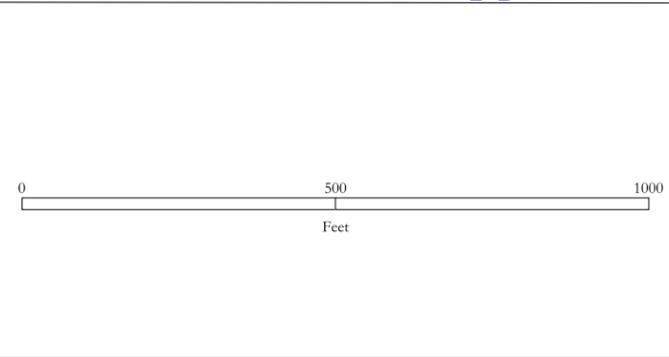
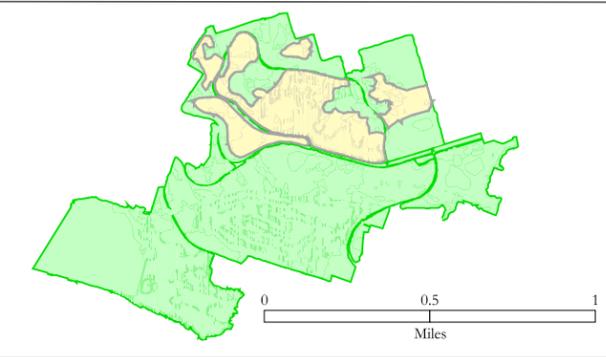
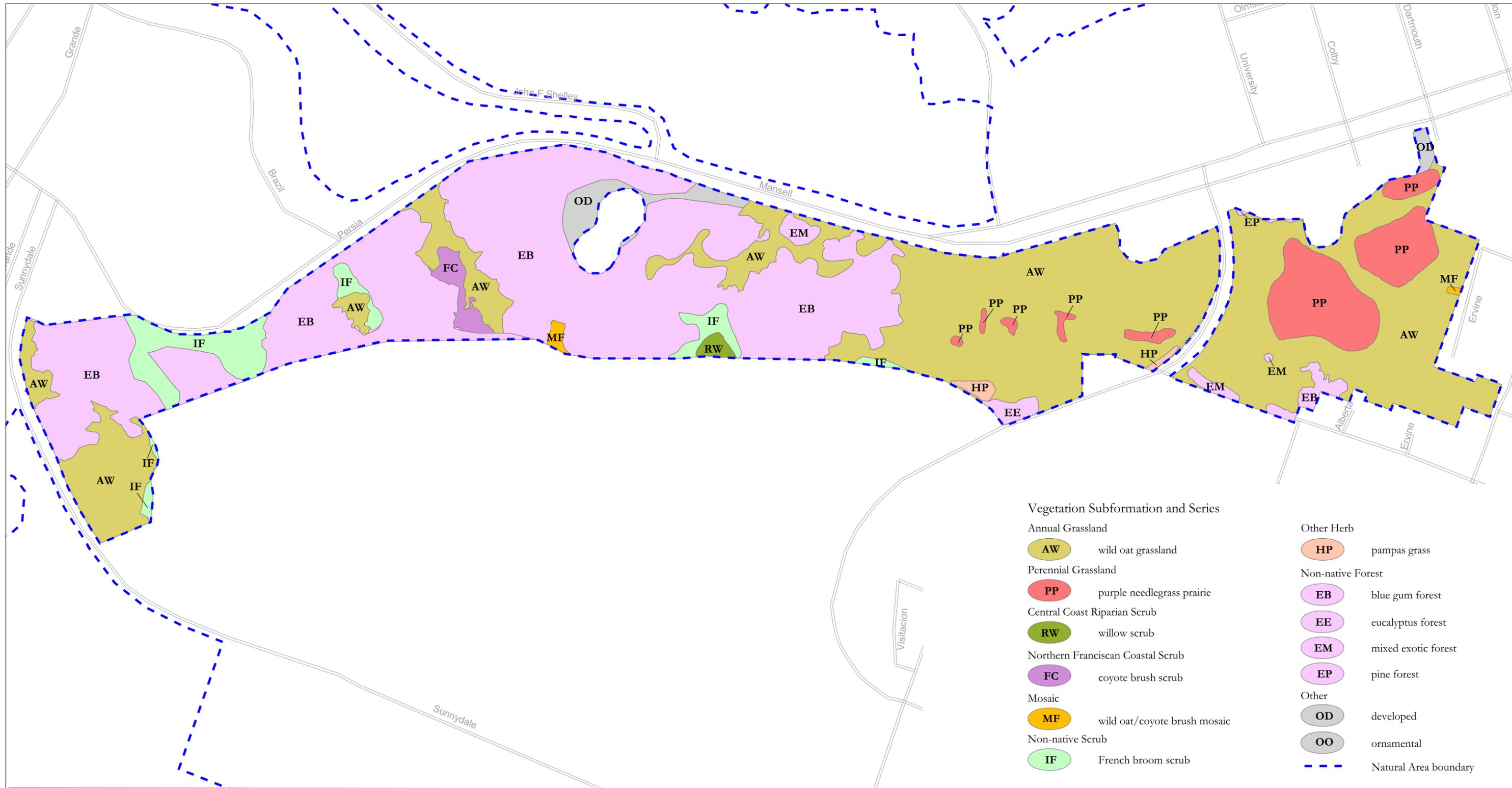


FIGURE 6.19 - 5
VEGETATION
McLaren Park
 Significant Natural Resource Areas Management Plan
 San Francisco, California



Source: Vegetation data collected by San Francisco Recreation and Park Department Natural Areas Program (NAP), San Francisco State University Biology Department, and EIP Associates, 1999-2000; vegetation digitized by Geotopo, Inc., 2000; edited and corrected by San Francisco State University Institute for GISc (SFSU IGIS), 2000; natural area boundary created by SFSU IGIS from data determined by NAP, 2005; streets data excerpted from ArcView StreetMap by Environmental Systems Research Institute, Inc. ESRI, copyright 1998-2001.

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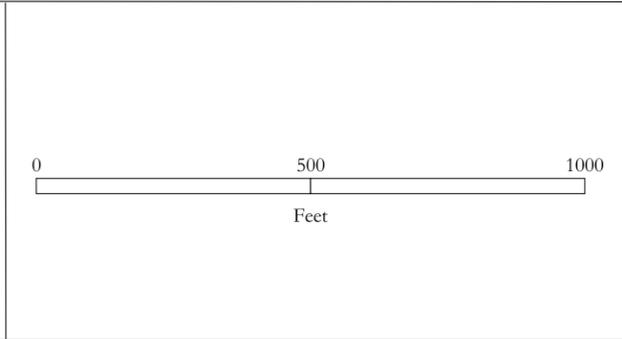
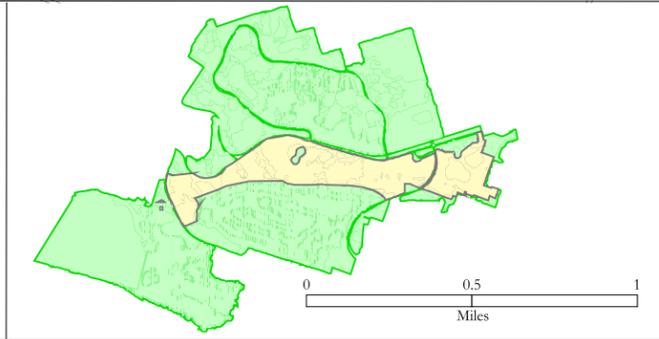
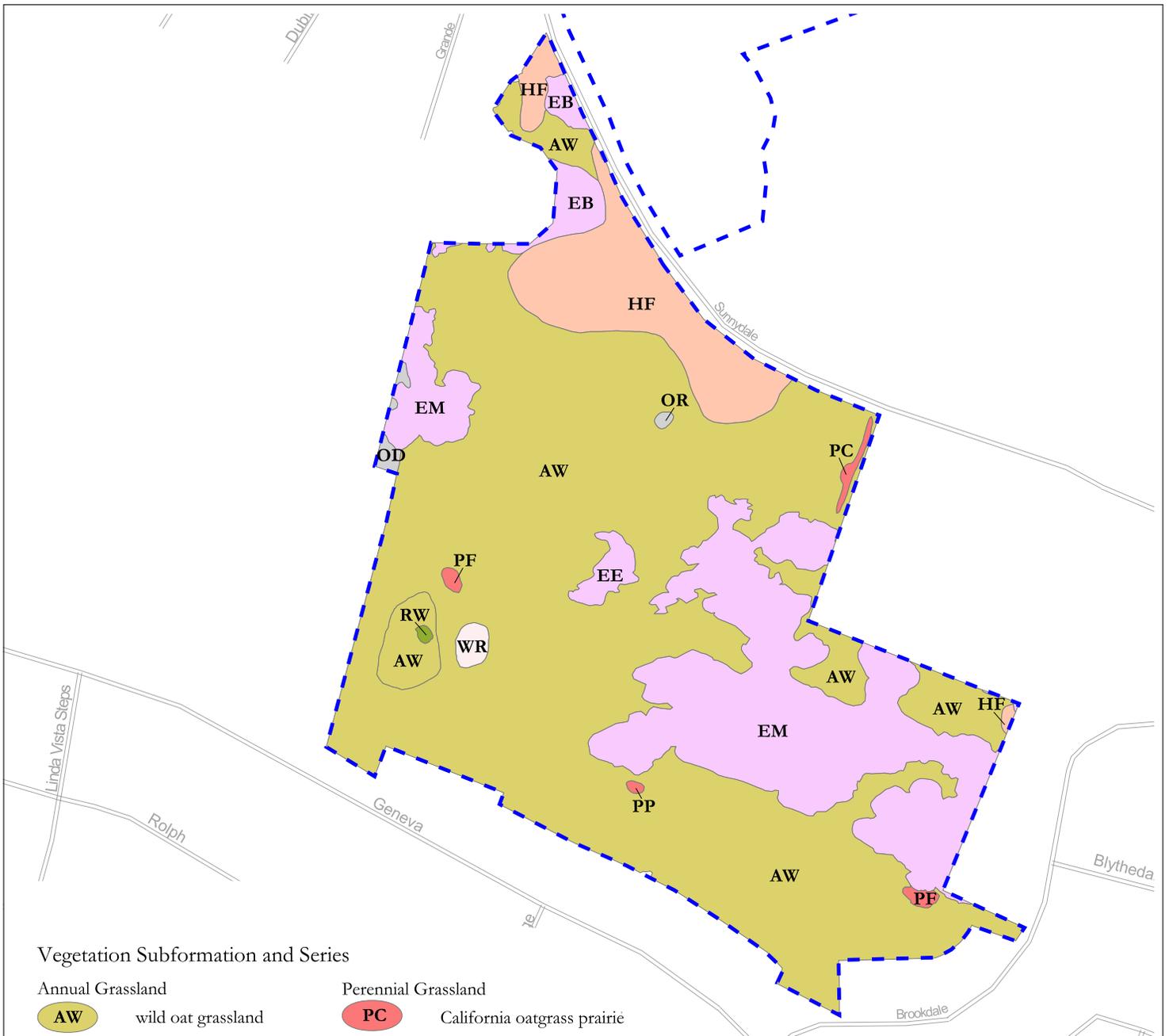
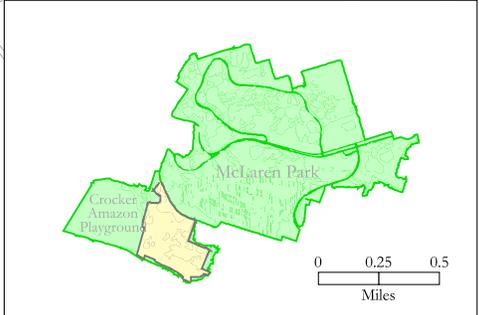


FIGURE 6.19 - 6
VEGETATION
McLaren Park
 Significant Natural Resource Areas Management Plan
 San Francisco, California



Vegetation Subformation and Series

- | | |
|-------------------------------------|---------------------------------------|
| Annual Grassland | Perennial Grassland |
| AW wild oat grassland | PC California oatgrass prairie |
| Central Coast Riparian Scrub | PF red fescue prairie |
| RW willow scrub | PP purple needlegrass prairie |
| Non-native Forest | Other Herb |
| EB blue gum forest | HF fennel |
| EE eucalyptus forest | Other |
| EM mixed exotic forest | OD developed |
| Wetland | OR rock outcrop |
| WR rush meadow | - - - Natural Area boundary |



Source: Vegetation data collected by San Francisco Recreation and Park Department Natural Areas Program (NAP), San Francisco State University Biology Department, and EIP Associates, 1999-2000; vegetation digitized by Geotopo, Inc., 2000; edited and corrected by San Francisco State University Institute for GISc (SFSUGIS), 2000; natural area boundary created by SFSUGIS from data determined by NAP, 2005; streets data excerpted from ArcView StreetMap by Environmental Systems Research Institute, Inc. ESRI, copyright 1998-2001.

Created by Debra Dwyer of San Francisco State University, Institute for GISc October 24, 2001; revised August 23, 2005.

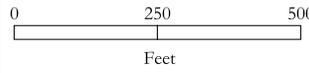
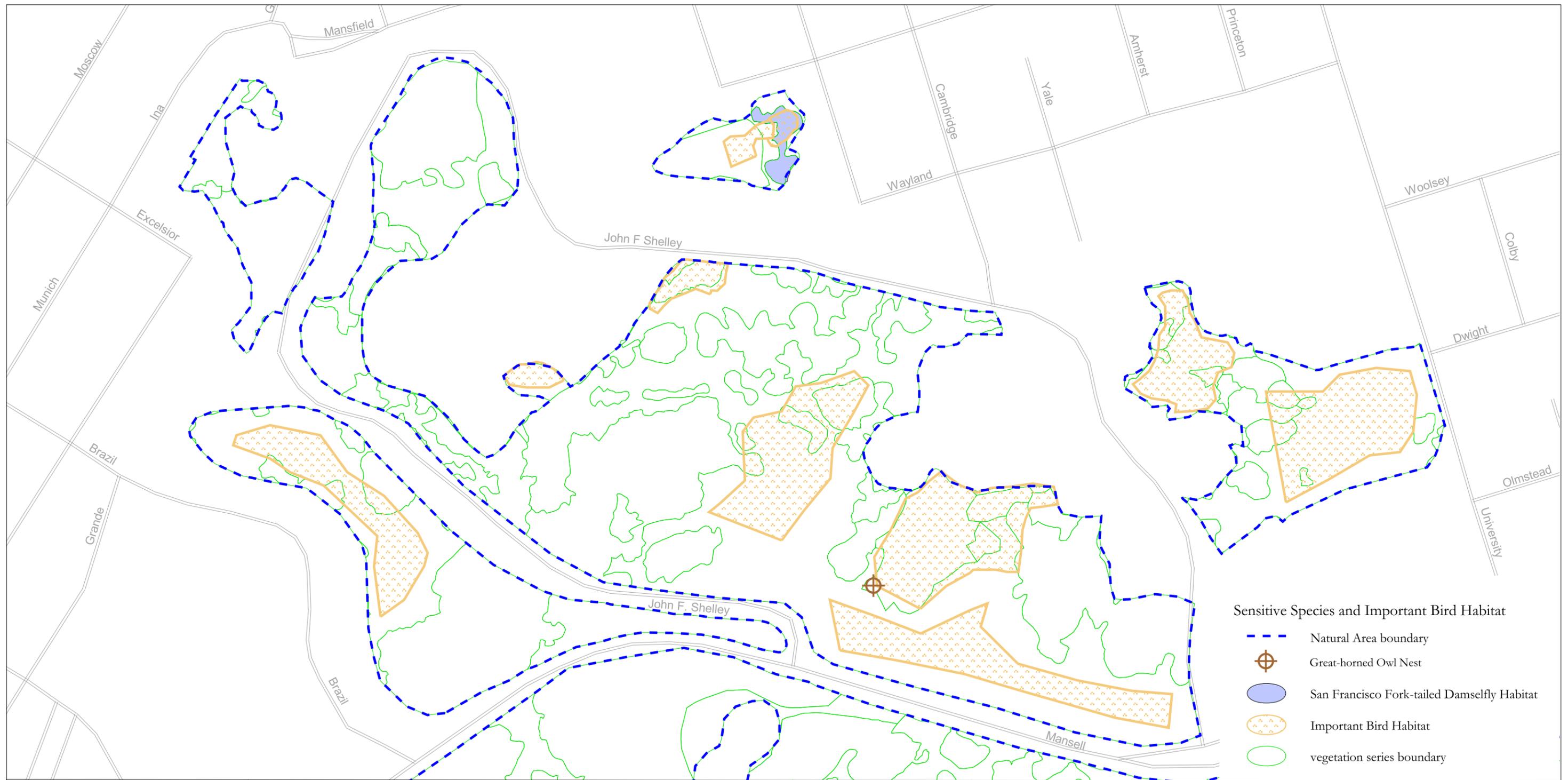


FIGURE 6.19 - 7
VEGETATION
McLaren Park
 Significant Natural Resource Areas
 Management Plan
 San Francisco, California



- Sensitive Species and Important Bird Habitat
- - - Natural Area boundary
 - ⊕ Great-horned Owl Nest
 - San Francisco Fork-tailed Damselfly Habitat
 - Important Bird Habitat
 - vegetation series boundary



Source: Sensitive species data collected by San Francisco Department of Recreation and Park Natural Areas Program (NAP), 2001-2005; vegetation data collected by NAP, San Francisco State University Biology Department, and EIP Associates, 1999-2000; vegetation layer digitized by Geotopo, Inc., 1999 - 2000; edited and corrected by San Francisco State University Institute for GISc (SFSU IGIS), 2000; important bird habitat data digitized by NAP from information provided by the Golden Gate Chapter of the Audubon Society, 2005; natural area boundary created by SFSU IGIS from data determined by NAP, 2005; streets data excerpted from ArcView StreetMap 2000 data, copyright Environmental Systems Research Institute, Inc. (ESRI), 1998-2000.

Created by Debra Dwyer of San Francisco State University, Institute for GISc November 12, 2001, revised August 31, 2005.

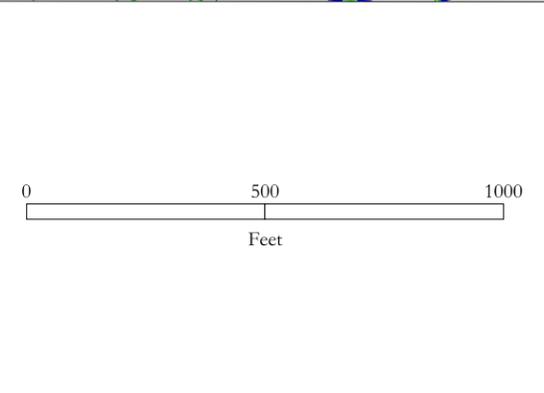
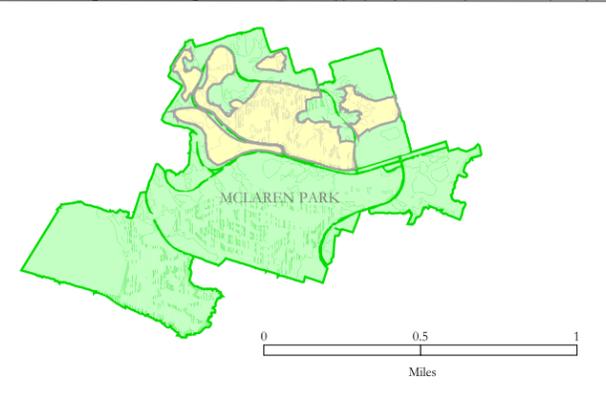
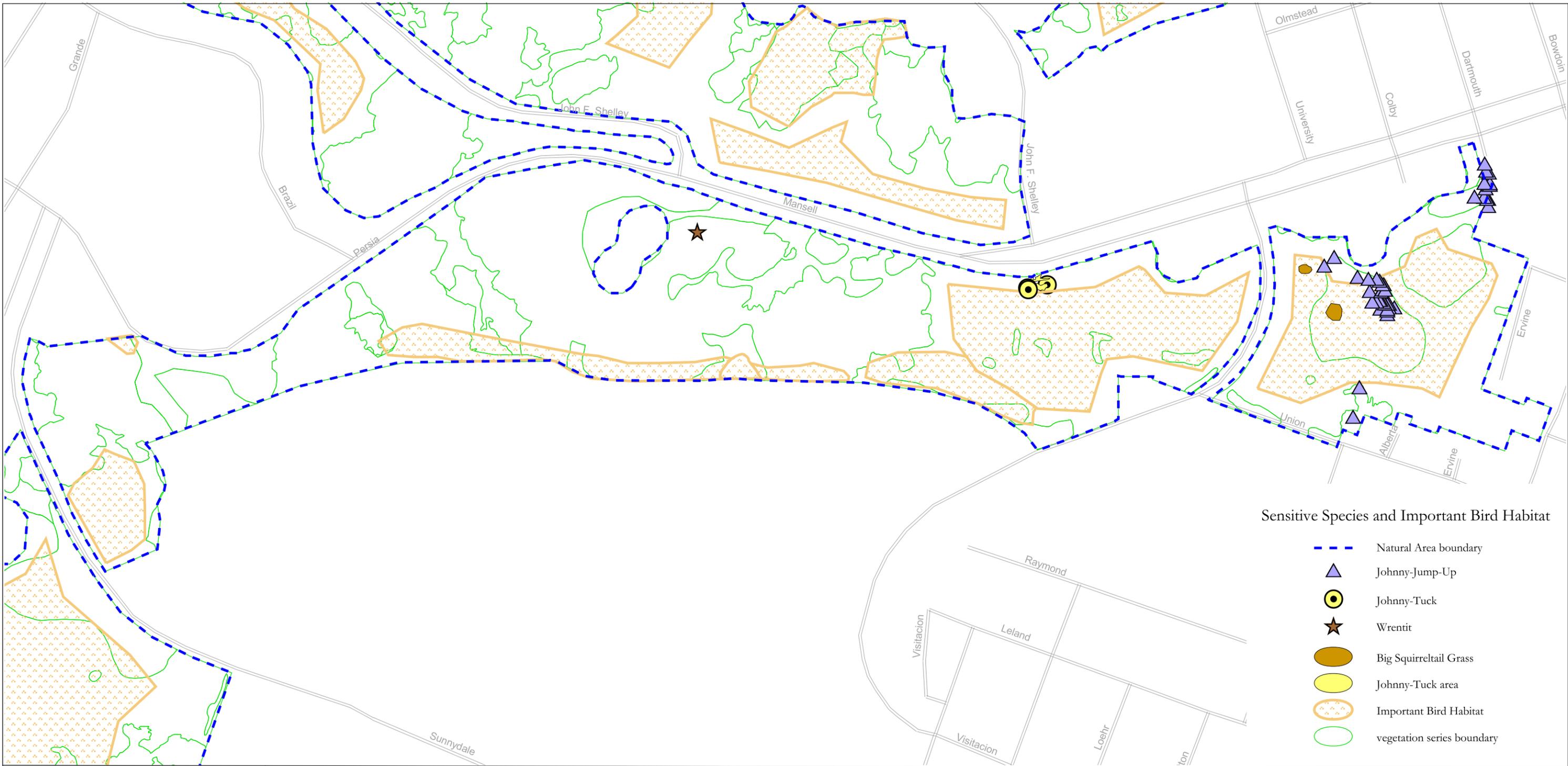


FIGURE 6.19 - 8
SENSITIVE SPECIES AND IMPORTANT BIRD HABITAT
McLaren Park
 Significant Natural Resource Areas Management Plan
 San Francisco, California



Sensitive Species and Important Bird Habitat

- - - Natural Area boundary
- ▲ Johnny-Jump-Up
- Johnny-Tuck
- ★ Wrentit
- Big Squirreltail Grass
- Johnny-Tuck area
- Important Bird Habitat
- vegetation series boundary



Source: Sensitive species data collected by San Francisco Department of Recreation and Park Natural Areas Program (NAP), 2001-2005; vegetation data collected by NAP, San Francisco State University Biology Department, and EIP Associates, 1999-2000; vegetation layer digitized by Geotopo, Inc., 1999 - 2000; edited and corrected by San Francisco State University Institute for GISc (SFSUGIS), 2000; important bird habitat data digitized by NAP from information provided by the Golden Gate Audubon Society, 2005; natural area boundary created by SFSUGIS from data determined by NAP, 2005; streets data excerpted from ArcView StreetMap 2000 data, copyright Environmental Systems Research Institute, Inc. (ESRI), 1998-2000.

Created by Debra Dwyer of San Francisco State University Institute for GISc November 6, 2001, revised June 9, 2005.

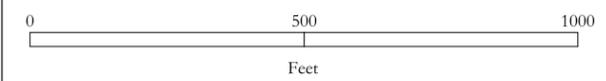
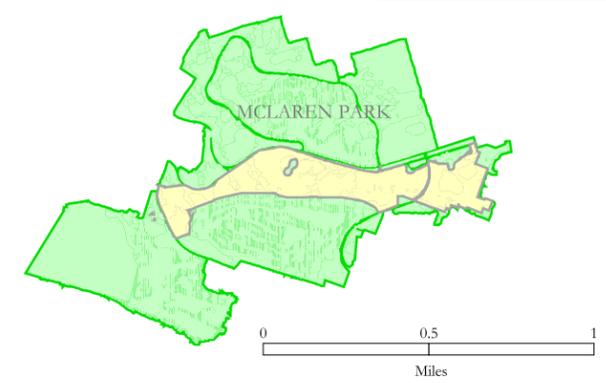
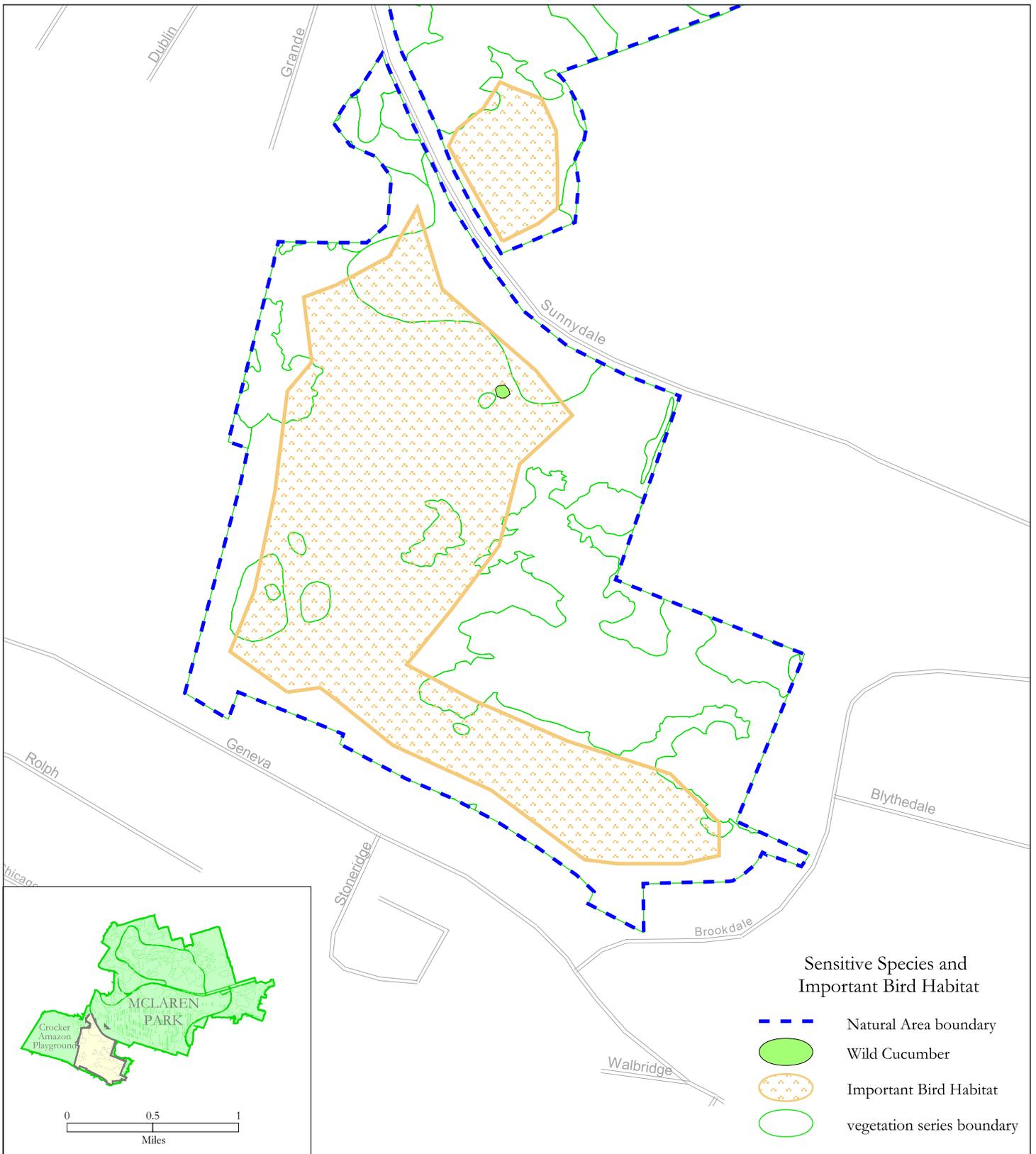


FIGURE 6.19 - 9
SENSITIVE SPECIES AND IMPORTANT BIRD HABITAT
McLaren Park
 Significant Natural Resource Areas Management Plan
 San Francisco, California



Sensitive Species and Important Bird Habitat

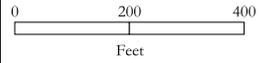
- - - Natural Area boundary
- Wild Cucumber
- Important Bird Habitat
- vegetation series boundary

FIGURE 6.19 - 10
SENSITIVE SPECIES
AND IMPORTANT
BIRD HABITAT

McLaren Park
 Significant Natural Resource Areas
 Management Plan
 San Francisco, California

Source: Sensitive species data collected by San Francisco Department of Recreation and Park Natural Areas Program (NAP), 2001-2005; vegetation data collected by NAP, San Francisco State University Biology Department, and EIP Associates, 1999-2000; vegetation layer digitized by Geotopo, Inc., 1999 - 2000; edited and corrected by San Francisco State University Institute for GISc (SFSUGIS), 2000; important bird habitat data digitized by NAP from information provided by the Golden Gate Audubon Society, 2005; natural area boundary created by SFSUGIS from data determined by NAP, 2005; streets data excerpted from ArcView StreetMap 2000 data, copyright Environmental Systems Research Institute, Inc. (ESRI), 1998-2000.

Created by Debra Dwyer of San Francisco State University Institute for GISc November 6, 2001, revised June 9, 2005.





Source: Management areas and trails data collected by San Francisco Department of Recreation and Park Natural Areas Program (NAP), 2005; trails data digitized by San Francisco State University Institute for GISc (SFSU IGIS), 2005; streets data excerpted from Environmental Systems Research Institute (ESRI), Inc.'s StreetMap 2000 data copyright ESRI 1998-2001; aerial photography San Francisco Department of Public Works, 2002, Orthophoto - San Francisco - 1 Foot Resolution - 2001; City of San Francisco Department of Public Works, San Francisco; all data are in California State Plane Zone III projection, NAD 1983; map produced using ArcGIS 9.0 software by ESRI.

Map created May 29, 2005 by Debra Dwyer, San Francisco State University, Institute for Geographic Information Science; revised August 23, 2005.

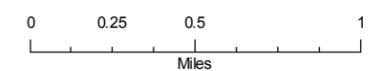
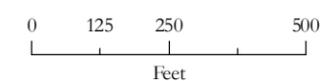
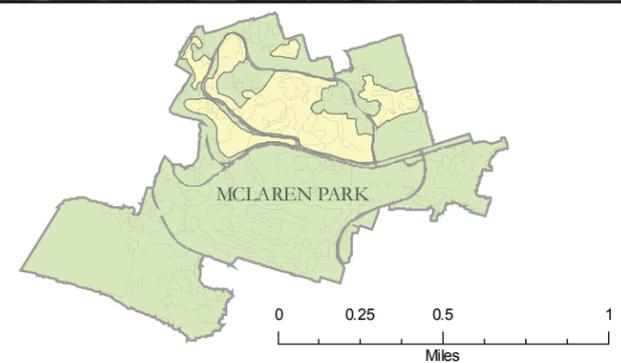
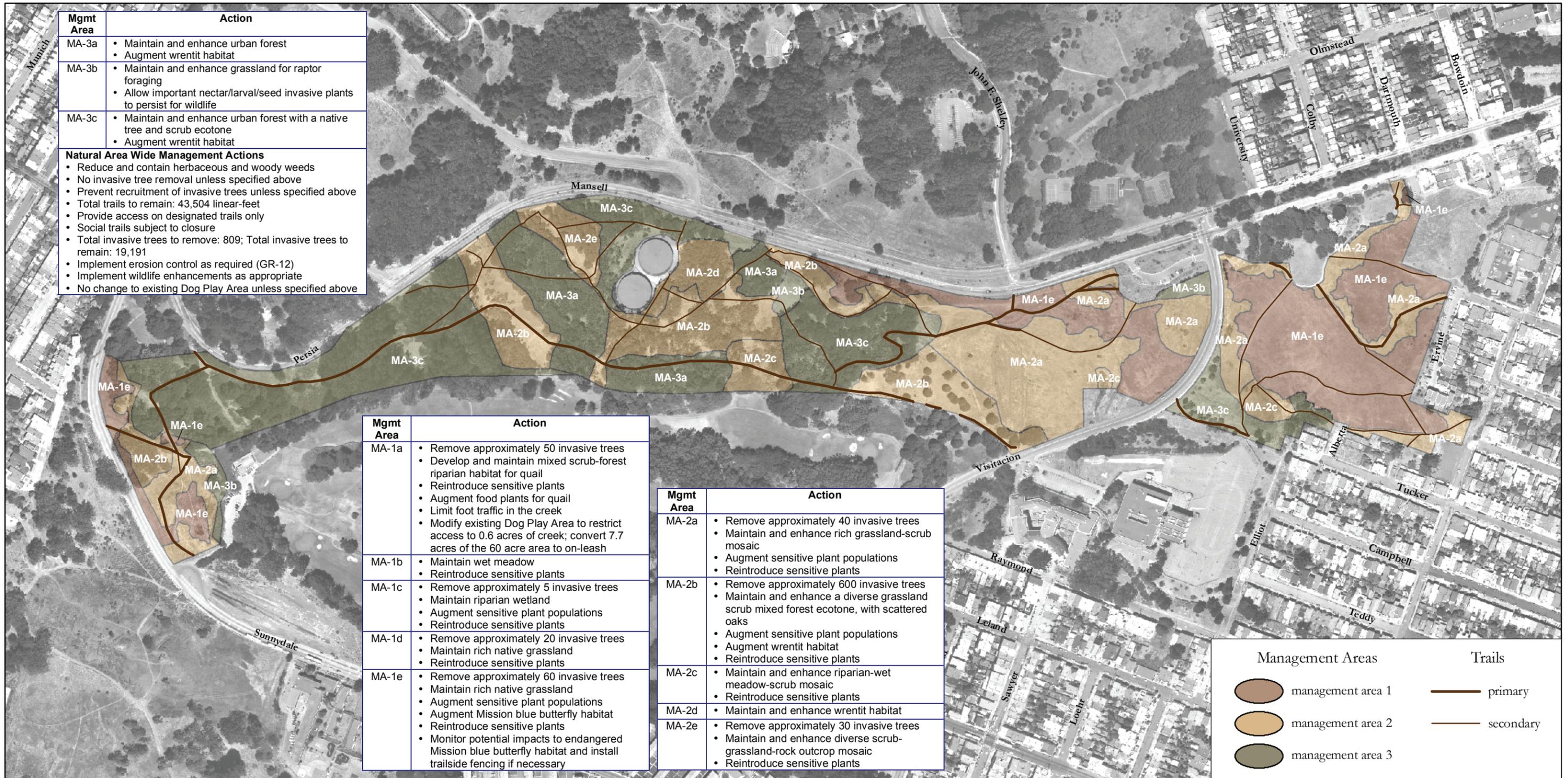


FIGURE 6.19 - 11
MANAGEMENT AREAS AND TRAIL PLAN
 McLaren Park
 Significant Natural Resource Areas Management Plan
 San Francisco, California



Mgmt Area	Action
MA-3a	<ul style="list-style-type: none"> Maintain and enhance urban forest Augment wrentit habitat
MA-3b	<ul style="list-style-type: none"> Maintain and enhance grassland for raptor foraging Allow important nectar/larval/seed invasive plants to persist for wildlife
MA-3c	<ul style="list-style-type: none"> Maintain and enhance urban forest with a native tree and scrub ecotone Augment wrentit habitat

- Natural Area Wide Management Actions**
- Reduce and contain herbaceous and woody weeds
 - No invasive tree removal unless specified above
 - Prevent recruitment of invasive trees unless specified above
 - Total trails to remain: 43,504 linear-feet
 - Provide access on designated trails only
 - Social trails subject to closure
 - Total invasive trees to remove: 809; Total invasive trees to remain: 19,191
 - Implement erosion control as required (GR-12)
 - Implement wildlife enhancements as appropriate
 - No change to existing Dog Play Area unless specified above

Mgmt Area	Action
MA-1a	<ul style="list-style-type: none"> Remove approximately 50 invasive trees Develop and maintain mixed scrub-forest riparian habitat for quail Reintroduce sensitive plants Augment food plants for quail Limit foot traffic in the creek Modify existing Dog Play Area to restrict access to 0.6 acres of creek; convert 7.7 acres of the 60 acre area to on-leash
MA-1b	<ul style="list-style-type: none"> Maintain wet meadow Reintroduce sensitive plants
MA-1c	<ul style="list-style-type: none"> Remove approximately 5 invasive trees Maintain riparian wetland Augment sensitive plant populations Reintroduce sensitive plants
MA-1d	<ul style="list-style-type: none"> Remove approximately 20 invasive trees Maintain rich native grassland Reintroduce sensitive plants
MA-1e	<ul style="list-style-type: none"> Remove approximately 60 invasive trees Maintain rich native grassland Augment sensitive plant populations Augment Mission blue butterfly habitat Reintroduce sensitive plants Monitor potential impacts to endangered Mission blue butterfly habitat and install trailside fencing if necessary

Mgmt Area	Action
MA-2a	<ul style="list-style-type: none"> Remove approximately 40 invasive trees Maintain and enhance rich grassland-scrub mosaic Augment sensitive plant populations Reintroduce sensitive plants
MA-2b	<ul style="list-style-type: none"> Remove approximately 600 invasive trees Maintain and enhance a diverse grassland scrub mixed forest ecotone, with scattered oaks Augment sensitive plant populations Augment wrentit habitat Reintroduce sensitive plants
MA-2c	<ul style="list-style-type: none"> Maintain and enhance riparian-wet meadow-scrub mosaic Reintroduce sensitive plants
MA-2d	<ul style="list-style-type: none"> Maintain and enhance wrentit habitat
MA-2e	<ul style="list-style-type: none"> Remove approximately 30 invasive trees Maintain and enhance diverse scrub-grassland-rock outcrop mosaic Reintroduce sensitive plants



Source: Management areas and trails data collected by San Francisco Department of Recreation and Park Natural Areas Program (NAP), 2005; trails data digitized by San Francisco State University Institute for GISc (SFSU IGIS), 2005; streets data excerpted from Environmental Systems Research Institute (ESRI), Inc.'s StreetMap 2000 data copyright ESRI 1998-2001; aerial photography San Francisco Department of Public Works, 2002, Orthophoto - San Francisco - 1 Foot Resolution - 2001: City of San Francisco Department of Public Works, San Francisco; all data are in California State Plane Zone III projection, NAD 1983; map produced using ArcGIS 9.0 software by ESRI.

Map created May 30, 2005 by Debra Dwyer, San Francisco State University, Institute for Geographic Information Science; revised August 25, 2005.

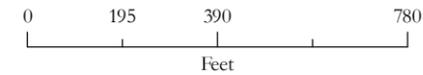
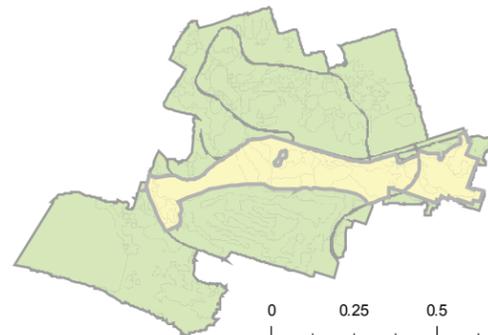
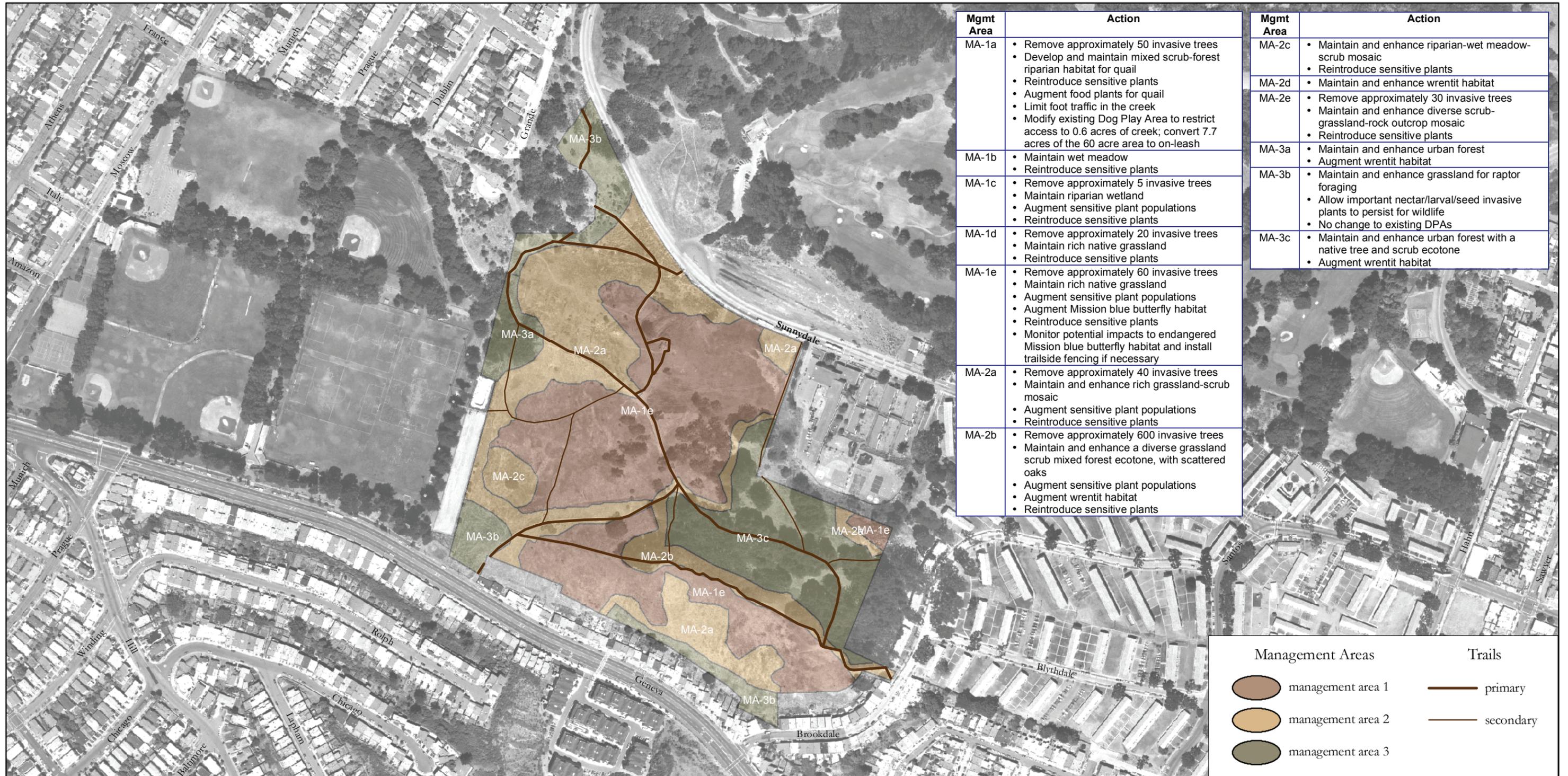


FIGURE 6.19 - 12
MANAGEMENT AREAS
AND TRAIL PLAN
 McLaren Park
 Significant Natural Resource Areas
 Management Plan
 San Francisco, California



Mgmt Area	Action
MA-1a	<ul style="list-style-type: none"> Remove approximately 50 invasive trees Develop and maintain mixed scrub-forest riparian habitat for quail Reintroduce sensitive plants Augment food plants for quail Limit foot traffic in the creek Modify existing Dog Play Area to restrict access to 0.6 acres of creek; convert 7.7 acres of the 60 acre area to on-leash
MA-1b	<ul style="list-style-type: none"> Maintain wet meadow Reintroduce sensitive plants
MA-1c	<ul style="list-style-type: none"> Remove approximately 5 invasive trees Maintain riparian wetland Augment sensitive plant populations Reintroduce sensitive plants
MA-1d	<ul style="list-style-type: none"> Remove approximately 20 invasive trees Maintain rich native grassland Reintroduce sensitive plants
MA-1e	<ul style="list-style-type: none"> Remove approximately 60 invasive trees Maintain rich native grassland Augment sensitive plant populations Augment Mission blue butterfly habitat Reintroduce sensitive plants Monitor potential impacts to endangered Mission blue butterfly habitat and install trailside fencing if necessary
MA-2a	<ul style="list-style-type: none"> Remove approximately 40 invasive trees Maintain and enhance rich grassland-scrub mosaic Augment sensitive plant populations Reintroduce sensitive plants
MA-2b	<ul style="list-style-type: none"> Remove approximately 600 invasive trees Maintain and enhance a diverse grassland scrub mixed forest ecotone, with scattered oaks Augment sensitive plant populations Augment wrentit habitat Reintroduce sensitive plants

Mgmt Area	Action
MA-2c	<ul style="list-style-type: none"> Maintain and enhance riparian-wet meadow-scrub mosaic Reintroduce sensitive plants
MA-2d	<ul style="list-style-type: none"> Maintain and enhance wrentit habitat
MA-2e	<ul style="list-style-type: none"> Remove approximately 30 invasive trees Maintain and enhance diverse scrub-grassland-rock outcrop mosaic Reintroduce sensitive plants
MA-3a	<ul style="list-style-type: none"> Maintain and enhance urban forest Augment wrentit habitat
MA-3b	<ul style="list-style-type: none"> Maintain and enhance grassland for raptor foraging Allow important nectar/larval/seed invasive plants to persist for wildlife No change to existing DPAs
MA-3c	<ul style="list-style-type: none"> Maintain and enhance urban forest with a native tree and scrub ecotone Augment wrentit habitat

Source: Management areas and trails data collected by San Francisco Department of Recreation and Park Natural Areas Program (NAP), 2005; trails data digitized by San Francisco State University Institute for GISc (SFSU IGIS), 2005; streets data excerpted from Environmental Systems Research Institute (ESRI), Inc.'s StreetMap 2000 data copyright ESRI 1998-2001; aerial photography San Francisco Department of Public Works, 2002, Orthophoto - San Francisco - 1 Foot Resolution - 2001: City of San Francisco Department of Public Works, San Francisco; all data are in California State Plane Zone III projection, NAD 1983; map produced using ArcGIS 9.0 software by ESRI.

Map created May 29, 2005 by Debra Dwyer, San Francisco State University, Institute for Geographic Information Science; revised August 23, 2005.

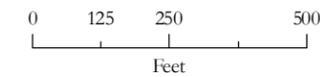
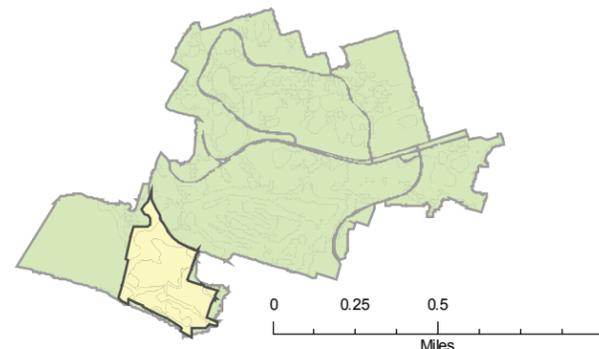


FIGURE 6.19 - 13
MANAGEMENT AREAS
AND TRAIL PLAN

McLaren Park
Significant Natural Resource Areas
Management Plan
San Francisco, California

